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IITG

ANNUAL REPORT  
2018-2019



Indian Institute of Technology Guwahati





*A top view of the campus from View Point (pc- Amartya)*



*A view of the Hostels ,Sports Facilities and Part of the Institutional Area*

# **ANNUAL REPORT**

## **2018–2019**



**Indian Institute of Technology Guwahati**

Guwahati 781039, INDIA





## Indian Institute of Technology Guwahati

Indian Institute of Technology Guwahati is the sixth member of the IIT family. Indian Institute of Technology–Assam Society was formed in February 1989. The foundation stone of IIT Guwahati was laid in July 1992 in Guwahati. The Institute of Technology (Amendment) Act 1994, passed by the Parliament, was notified in the Gazette of India on May 26, 1994, by which the IIT Guwahati–Assam Society was made into IIT Guwahati. By the Gazette of India notification of the Ministry of Human Resource Development dated September 1, 1994, the Central Government declared September 1, 1994, as the date on which the Institute of Technology (Amendment) Act 1994 (No. 35 of 1994) came into force and IIT Guwahati was established. Enrollment of students started in 1995.





# Annual Report 2018–2019: Highlights

<b>Growth</b>			
<b>Particulars</b>	<b>2017-2018</b>	<b>2018-2019</b>	<b>Growth in %</b>
Student Strength	5817	6117	5.16
Faculty Strength	422	412	-2.37
R&D Funds Received (In crores of `)	87.52	105.12	20.11
Total Research Publication	1988	2516	26.56

## **Major R&D Projects Received:**

- o FIST in the subject area Chemical Sciences; CHEMISTRY; DST; ` 594 lakh
- o FIST Grant; CIVIL; DST; ` 334 lakh
- o Fabrication Facility for Silicon Photonics and Microelectronic Devices; EEE; DST; ` 260 lakh
- o Development of enantiomeric-Lactic acid Polymer based Pilot Plant; CHEMICAL; K P Tech Machine Pvt. Ltd.; ` 237.69 lakh
- o Re-purposing of FDA approved drugs for tuberculosis treatment; BIOTECH; DBT; ` 211.88 lakh
- o Rural Technology Action Group ( RuTAG); Cente for Rural Technology; DST; ` 165.57 lakh
- o Strengthening of research facilities in the department; BIOTECH; DST; ` 144 lakh
- o NIRMAN 3D- Novel minimally invasive implants for reconstructive surgery using materials providing mechanical instruction and prepared by 3D printing; BIOTECH; DBT; ` 123.64 lakh
- o DBT-TERI Center of Excellence Project Integrated Production of Advanced Biofuels and Biocommodities; CHEMICAL; DBT; ` 114.22 lakh

## **Major Conference Held:**

- o 11th Young Investigators' Meeting (YIM 2019), March 6–10, 2019
- o International Conference on Functional Nanomaterials (ICFNM-2019), February 22–25, 2019
- o 20th Indo-US Flow Cytometry Symposium Cum Workshop on "Applications of Flow Cytometry in Biotechnology," 13–16 March 2019
- o International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), in association with IIT Guwahati and International Plant Propagators' Society (IPPS), February 11–13, 2019
- o International Conference on Nutraceuticals and Chronic Diseases, September 14–16, 2018
- o Recent Advances in Biomedical Research-2019, March 26–27, 2019
- o Frontiers in Chemical Sciences 2018 (FICS 2018), December 6–8, 2018
- o The 13th International Conference and Workshops on Algorithms and Computation (WALCOM 2019), February 27–March 02, 2019.

# Annual Report 2018–2019: A Quick Look

Department/Centre	
Academic Department	11
Academic Centre	5
Service Centre	5

Grants ( ₹ in crores)		
MHRD	Revenue: 309.87	Capital: 50.00
<b>Total</b>	<b>₹ 359.87 crores</b>	

Students Admitted	
Preparatory	
BTech/BDes	720
MTech/MDes	461
MSc/MA	171
PhD	372
MS (R)	14
Dual Degree	3
<b>Total</b>	<b>1741</b>

Students Strength	
Preparatory	6
BTech/BDes	2737
MTech/MDes	864
MSc/MA	329
PhD	2125
MS (R)	26
DUAL Degree	30
<b>Total</b>	<b>6117</b>

Number of Degrees Awarded 20 <sup>th</sup> Convocation (25 June 2018)	
BTech/BDes	629
MTech/MDes	412
MSc	140
MA	26
MS(R)	11
PhD	232
<b>Total</b>	<b>1303</b>

Faculty/Staff Strength	
Faculty	412
Scientific Staff (Group A)	47
Officers (Group A)	39
Support Staff (Group B & C)	428
<b>Total</b>	<b>926</b>

Research Papers	
Journal Papers	1738
Conference Papers	778
<b>Total</b>	<b>2516</b>

Consultancy Projects	
New Projects	168
Outlay ( ₹ in crore)	7.5

Sponsored Research Projects	
New Projects	123
Outlay ( ₹ in crore)	55.9







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Chemical Engineering	70
Chemistry	79
Civil Engineering	88
Computer Science and Engineering	100
Design	111
Electronics and Electrical Engineering	117
Humanities and Social Sciences	129
Mathematics	137
Mechanical Engineering	145
Physics	157

### **ACADEMIC CENTRES**

Centre for Energy	170
Centre for the Environment	178
Centre for Linguistic Science and Technology	184
Centre for Nanotechnology	187
Centre for Rural Technology	199

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## **PART I**

Organisation

IIT Council

Board of Governors

Senate

Finance Committee

Building and Works Committee

Executive Summary







# Organisation

Chairman, Council of IITs

**Shri Prakash Javadekar**

Hon'ble Minister of Human Resource Development  
Govt. of India, Shastri Bhawan, New Delhi

Chairman, Board of Governors

**Dr. Rajiv I. Modi**

Chairman & Managing Director  
Cadila Pharmaceuticals Limited  
Cadila Corporation Campus  
Sarkhej-Dholka Road, Bhat  
Ahmedabad 382 210, Gujarat

Director

**Prof. Gautam Biswas**

Deputy Director

**Prof. P.S. Robi**

Dean, Academic Affairs

**Prof. M. G. P. Prasad**

Dean, Faculty Affairs

**Prof. A. Srinivasan**

Dean, Research and Development

**Prof. Gopal Das**

Dean, Students' Affairs

**Prof. S.N. Bora** (from 09.04.2018)

**Prof. C. Mahanta** (up to 08.04.2018)

Dean, Infrastructure, Planning and Management

**Prof. S. K. Kakoty** (up to 30.12.2018)

**Prof. Sharad B. Gokhale** (from 31.12.2018)

Dean, Alumni and External Relations

**Prof. R. M. Punekar** (up to 31.12.2018)

**Prof. Rakhi Chaturvedi** (from 01.01.2019)

Dean, Outreach Education Programme

**Prof. S. Basu**

Associate Dean, Academic Affairs

**Prof. S. Senthilvelan**

**Dr. K.V. Krishna** (up to 31.07.2018)

**Prof. P. Padmanavan** (from 01.08.2018)

Associate Dean, Faculty Affairs

**Prof. S. Natesan** (up to 31.07.2018)

**Prof. U. Bora** (from 01.08.2018)

Associate Dean, Research and Development

**Prof. G. Krishnamoorthy**

**Prof. Sreedeeep S.**

Associate Dean, Students' Affairs

**Prof. Hemangee K. Kapoor**

**Dr. Mallikarjuna C.** (from 15.05.2018)

**Prof. A. Perumal** (up to 14.05.2018)

Associate Dean, Infrastructure, Planning and Management

**Prof. Sharad Gokhale** (up to 30.12.2018)

**Prof. M.K. Bhuyan** (from 31.12.2018)

Associate Dean, Alumni Affairs and External Relations

**Prof. R. Chaturvedi** (up to 31.07.2018)

**Prof. A.N. Panda** (from 01.08.2018)

Registrar

**Mr. U. C. Das**

Head, Department of Biosciences and Bioengineering

**Prof. K. Pakshirajan** (up to 22.01.2019)

**Prof. L. Rangan** (from 23.01.2019)

Head, Department of Chemical Engineering

**Prof. B. Mandal**

Head, Department of Chemistry

**Prof. T. Punniyamurthy**

Head, Department of Civil Engineering

**Prof. Chandan Mahanta**

Head, Department of Computer Science and Engineering

**Prof. S.V. Rao**



Head, Department of Design

**Prof. D. Udaya Kumar** (from 01.05.2018)

**Prof. Utpal Barua** (up to 30.04.2018)

Head, Department of Electronics and Electrical Engineering

**Prof. Rohit Sinha**

Head, Department of Humanities and Social Sciences

**Prof. M.K. Dutta**

Head, Department of Mathematics

**Prof. N. Selvaraju**

Head, Department of Mechanical Engineering

**Prof. S.K. Dwivedy**

Head, Department of Physics

**Prof. S. Ghosh**

Head, Centre for Energy

**Prof. V.S. Moholkar**

Head, Centre for the Environment

**Prof. Mihir K. Purkait** (from 15.05.2018)

**Prof. Vikash Kr. Dubey** (up to 14.05.2018)

Head, Centre for Nanotechnology

**Dr. D. Bandyopadhyay** (from 05.06.2018)

**Prof. Roy P. Paily** (up to 04.06.2018)

Head, Central Instruments Facility

**Prof. Mohd. Qureshi**

Head, Centre for Educational Technology

**Prof. S. K. Khijwania**

Head, Computer & Communication Centre

**Prof. Kalpesh Kapoor**

Head, Centre for Linguistic Science and Technology

**Prof. S. Nandi**

Head, Centre for Career Development

**Prof. K. Rakesh Singh** (from 23.04.2018)

**Prof. Kaustubha Mohanty** (up to 22.04.2018)

Head, Centre for Rural Technology

**Prof. S. K. Kakoty**

Head, Centre for Creativity

**Dr. Manoj Majhi**

Head, Centre for Sports and Healthcare Engineering

**Prof. S. Dandapat**

Librarian, Lakshminath Bezbaroa Central Library

**Dr. T. Guha**



## IIT Council

Minister in charge of Technical Education in the Central Government (Ex-Officio)	<b>Chairman</b>
Chairman of Board of Governors of all Indian Institutes of Technology (Ex-Officio)	<b>Member</b>
Director of all Indian Institutes of Technology (Ex-Officio)	<b>Member</b>
Chairman, University Grants Commission (Ex-Officio)	<b>Member</b>
Director General, Council of Scientific and Industrial Research (Ex-Officio)	<b>Member</b>
Chairman, Indian Institute of Science, Bangalore (Ex-Officio)	<b>Member</b>
Director, Indian Institute of Science (Ex-Officio)	<b>Member</b>
Three nominees of the Central Government	
To represent the Ministry concerned with Technical Education	<b>Member</b>
To represent the Ministry of Finance	<b>Member</b>
To represent any other Ministry	<b>Member</b>
Nominee of the All India Council for Technical Education (AICTE)	<b>Member</b>
Nominees of the Visitor (minimum 3 and maximum 5)	<b>Member</b>
Three Members of Parliament (two from Lok Sabha and one from Rajya Sabha)	<b>Member</b>
Secretary to the Council	<b>Secretary</b>





## Board of Governors

### Chairman

#### **Dr. Rajiv I. Modi**

Chairman & Managing Director  
Cadila Pharmaceuticals Limited  
Cadila Corporation Campus  
Sarkhej-Dholka Road, Bhat  
Ahmedabad 382 210, Gujarat

### Member (Ex-Officio)

#### **Prof. Gautam Biswas**

Director  
IIT Guwahati

### Member-Nominees of the IIT Council

#### **Dr. Chitra Dutta**

Head, Structural Biology and Informatics Division  
CSIR - Indian Institute of Chemical Biology  
Kolkata 700 032

#### **Prof. S.K. Srivastav** (from 10.07.2018)

Vice-Chancellor  
North Eastern Hill University  
Shillong 793 022

#### **Dr. S.S. Sandhu** (from 10.07.2018)

Additional Secretary (TE)  
Ministry of HRD, Shastri Bhawan  
New Delhi

#### **Prof. Varadraj B. Bapat** (from 10.07.2018)

Faculty in Accounting and Finance  
SIM School of Management  
Indian Institute of Technology Bombay  
Powai, Mumbai-400 076

#### **Prof. M. K. Chaudhuri** (up to 09.07.2018)

Vice-Chancellor  
Tezpur University  
Napaam, Tezpur 784 028

#### **Mr. Pydah Venkatanarayana** (up to 09.07.2018)

Member, Pydah Educational Academy  
3-16B-115, Santhi Nagar  
Kakinada 533 003

#### **Dr. D. B. Goel** (up to 09.07.2018)

Former Professor, IIT Roorkee  
268/5, 16 Civil Lines  
Roorkee 247 667

### Member-Nominee of the Govt. of Assam

Commissioner and Secretary to the Govt. of Assam  
Higher Education (Technical) Department  
Dispur, Guwahati 781 006

### Member-Nominee from North Eastern Region

#### **Er. Vikeduosie Kehie**

Retired Engineer-in-Chief (NPWD)  
House No.174, Kohima Science College Road  
JOTSOMA, Kohima, Nagaland

### Member-Nominees of the Senate

#### **Prof. Bhaba Kumar Sarma**

Professor  
Department of Mathematics  
IIT Guwahati

#### **Prof. Anoop Kr. Dass** (up to 31.12.2018)

Professor  
Department of Mechanical Engineering  
IIT Guwahati

#### **Prof. Bishnupada Mandal** (from 01.01.2019)

Professor  
Department of Chemical Engineering  
IIT Guwahati

### Secretary (Ex-Officio)

#### **Mr. U. C. Das**

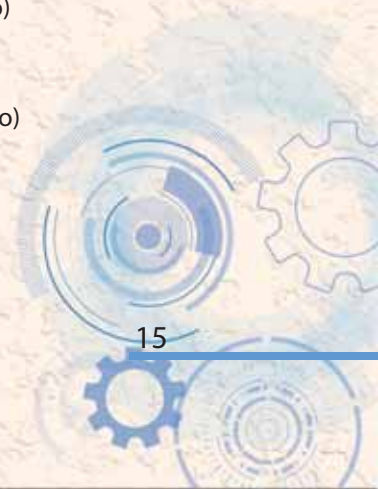
Registrar  
IIT Guwahati



# Senate

## Composition of the Senate

- |  |                         |
|--|-------------------------|
| 1. <b>The Director</b>   | Chairman (Ex-Officio)   |
| 2. <b>The Deputy Director</b>  | Member (Ex-Officio)     |
| 3. <b>All Professors of the Institute</b>  | Members (Ex-Officio)    |
| 4. <b>Three persons, not being employees of the Institute, to be nominated by the Chairman, BOG in consultation with the Director, from among educationists of repute, one each from the fields of science, engineering and humanities</b> | Board Nominated Members |
| <p>Prof. H. K. Das<br/>           Pro. Vice Chancellor, Assam Down Town University<br/>           House No. 1, 2nd Bye Lane<br/>           Baranchal Road, Bamunimaidam<br/>           Guwahati 781 021</p>                                |                         |
| <p>Prof. Anil Kumar Goswami<br/>           137, U. N. Bezbarooah Road<br/>           Silpukhuri, Guwahati 781 003</p>  |                         |
| <p>Prof. Birendranath Datta<br/>           Chandrabala Barooah Lane<br/>           104, G.N.B. Road, Silpukhuri<br/>           (near SBI Evening Branch)<br/>           Guwahati 781 003</p>   |                         |
| 5. <b>Head of the Academic Departments and Academic Centres</b>  | Members (Ex-Officio)    |
| 6. <b>Librarian of the Institute</b>   | Member (Ex-Officio)     |
| 7. <b>Chairman, Hostel Affairs Board</b>   | Member                  |
| 8. <b>Registrar of the Institute</b>   | Secretary (Ex-Officio)  |



# Finance Committee

**Dr. Rajiv I. Modi**

Chairman & Managing Director  
Cadila Pharmaceuticals Limited  
Cadila Corporation Campus,  
Sarkhej-Dholka Road, Bhat,  
Ahmedabad 382 210

**Chairman (Ex-Officio)**

**Prof. Gautam Biswas**

Director  
IIT Guwahati

**Member (Ex-Officio)**

**Director (IITs)**

Department of Higher Education  
Ministry of Human Resource Development, Govt. of India  
Shastri Bhavan, New Delhi 110 115

**Member**

**Director (Finance)**

Integrated Finance Division, Department of Higher Education  
Ministry of Human Resource Development, Govt. of India  
Shastri Bhavan, New Delhi 110 115

**Member**

**Prof. Gautam Barua**

Director, IIIT Guwahati  
Ambari, GNB Road, Guwahati-781001

**Member**

**Mr. Mukesh M. Shah**

Chartered Accountant and  
Founder and Managing Partner, Mukesh M. Shah & Co.  
7th Floor, Heritage Chambers  
Nehru Nagar, Ahmedabad 380 015

**Member**

**Mr. U. C. Das**

Registrar  
IIT Guwahati

**Secretary (Ex-Officio)**



## Building and Works Committee

**Prof. Gautam Biswas**

Director  
IIT Guwahati

**Chairman (Ex-Officio)**

**Superintending Engineer (CPWD), Assam**

Assam Central Circle-II, CPWD Complex  
Garchuk, Guwahati 781 035

**Member (Ex-Officio)**

**Chief Engineer (Buildings), PWD, Assam**

PWD, Govt. of Assam  
Chandmari, Guwahati 781 003

**Member (Ex-Officio)**

**Prof. D.N. Buragohain**

Professor Emeritus, IIT Guwahati

**Member**

**Shri Mrinal R. Das**

Former Secretary, PWD, Govt. of Assam

**Member**

**Prof. P. S. Robi**

Deputy Director and Professor,  
Department of Mechanical Engineering, IIT Guwahati

**Member (Ex-Officio)**

**Prof. S. K. Kakoty**

Dean, Infrastructure, Planning and Management and  
Professor, Department of Mechanical Engineering, IIT Guwahati

**Member (Ex-Officio)**

**Prof. Sharad Gokhale**

Associate Dean, Infrastructure, Planning and Management and  
Professor, Department of Civil Engineering, IIT Guwahati

**Special Invitee**

**Mr. U. C. Das**

Registrar, IIT Guwahati

**Member Secretary (Ex-Officio)**





# Executive Summary



## INTRODUCTION

The year 2018 saw the IIT Guwahati's twentieth batch of students taking their degrees in the month of June. The Institute takes pride in the achievements of its students and gladly announces that almost all the passed out students have been well placed in various government organisations and multi-national companies in India and abroad. All the achievements in academic and research areas have been successful only because of the relentless efforts of dedicated faculty members and the commendable cooperation of all other non-teaching employees of the Institute.

Here is a brief report on the activities and achievements of the Institute during the year 2018-19.

## THE BOARD OF GOVERNORS

Prof. Bishnupada Mandal, Department of Chemical Engineering, IIT Guwahati joined the Board in January 2019 as a nominee of the Senate. Prof. Anoop Kr. Dass, Department of Mechanical Engineering, has completed his tenure as the nominee of the Senate in December 2018. On behalf of the Board, I welcome Prof. Mandal to the Board and thank Prof. Dass for his valuable contributions.

## ACADEMIC ACTIVITIES

The Institute has 11 academic departments, 5 interdisciplinary academic centres and 5 extramural centres.

The Department and Centres are –

### Departments

Biosciences and Bioengineering (BSBE), Chemical Engineering (CL), Chemistry (CH), Civil Engineering (CE), Computer Science and Engineering (CSE), Design (DD), Electronics and Electrical Engineering (EEE), Humanities and Social Sciences (HSS), Mathematics (MA), Mechanical Engineering (ME) and Physics (PH).

### Academic Centres

Centre for Energy, Centre for the Environment, Centre for Nanotechnology, Centre for Rural Technology and Centre for Linguistic Science and Technology.

### Extramural Centres

Computer and Communication Centre, Central Instruments facility, Centre for Educational Technology, Centre for Career Development and Centre for Creativity.

The Institute offers academic programmes covering a wide range of science, engineering and humanities disciplines as given below:

**Bachelor of Technology (BTech) Programmes in** Biotechnology (BT), Chemical Engineering (CL), Chemical



Science and Technology (CT), Civil Engineering (CE), Computer Science and Engineering (CS), Electronics and Communication Engineering (EC), Electronics and Electrical Engineering (EE), Engineering Physics (EP), Mathematics and Computing (MC), and Mechanical Engineering (ME);

**Bachelor of Design (BDes) programme** in Design (DD);

**Master of Technology (MTech) programmes** in BT, CL, CE, CS, EE, ME, RT;

**Master of Design (MDes) programme** in Design;

**Master of Science by Research [MS(R)] programme** in Energy (EN)

**Master of Science (MSc) programmes** in Chemistry (CH), Mathematics and Computing (MC), and Physics (PH);

**Master of Arts (MA) programme** in Development Studies (DS) in the Department of Humanities and Social Sciences (HS);

**Doctor of Philosophy (PhD) programmes** in all the Departments and in the Centre for Energy (EN), Centre for the Environment (EV), Centre for Nanotechnology (NT), Centre for Rural Technology (RT) and Centre for Linguistic Science and Technology (CLST);

**Dual (MTech + PhD) programme** in the Department of Computer Science and Engineering (CS); and

**Dual [MS (Eng.) + PhD] programme** in Electronics and Electrical Engineering (EE)

**The total number of enrolled students** in 2018-19 is 6117. Of these, 55.16% are postgraduate students.

The detailed break up is –

Course	2017-18	2018-19
Preparatory	4	6
BTech and BDes	2626	2737
MTech and MDes	845	864
MSc	285	266
MA	60	63
MS	32	26
Dual Degree (MTech+PhD)	31	30
PhD	1934	2125
<b>Total</b>	<b>5817</b>	<b>6117</b>

### Twentieth Convocation

In the Twentieth Convocation held on 25 June 2018, a total number of 1450 students received their BTech, BDes, MA,



Shri Satyapal Singh, Hon'ble Minister of State for Human Resource Development, Higher Education, Govt. of India; Dr. Rajiv I. Modi, Chairman, BoG, IIT Guwahati; Chairman & Managing Director, Cadila Pharmaceuticals Limited; Prof. Gautam Biswas, Director, IIT Guwahati, along with the Gold and Silver Medal winners in the 20th Convocation





Shri Satya Pal Singh presenting the President of India Gold Medal to Mr. Abheek Ghosh at the 20th Convocation



Dr. Rajiv I. Modi presenting the Dr. Shankar Dayal Sharma Gold Medal to Mr. Sujeet Saurav at the 20th Convocation

MSc, MTech, MDes and PhD degrees as given below:

Programme	Nos.
<b>BTech/BDes</b>	
Biotechnology	40
Chemical Engineering	58
Chemical Science and Technology	35
Civil Engineering	53
Computer Science and Engineering	85
Design	45
Electronics and Communication Engineering	84
Electronics and Electrical Engineering	44
Engineering Physics	46
Mathematics and Computing	55
Mechanical Engineering	84
<b>Total</b>	<b>629</b>
<b>MSc</b>	
Chemistry	50
Mathematics and Computing	44
Physics	46
<b>Total</b>	<b>140</b>
<b>MA</b>	
Development Studies	26
<b>Total</b>	<b>26</b>

Programme	Nos.
<b>MTech/MDes</b>	
Biotechnology	35
Chemical Engineering	48
Civil Engineering	83
Computer Science and Engineering	41
Design	24
Electronics and Electrical Engineering	59
Mechanical Engineering	116
Rural Technology	6
<b>Total</b>	<b>412</b>
<b>MS(R)</b>	
Centre for Energy	11
<b>Total</b>	<b>11</b>
<b>PhD</b>	
Biosciences and Bioengineering	20
Chemical Engineering	25
Chemistry	24
Civil Engineering	28
Computer Science and Engineering	10
Design	9
Electronics and Electrical Engineering	29
Humanities & Social Sciences	20
Physics	21



Programme	Nos.
Mathematics and Computing	9
Mechanical Engineering	25
Centre for Energy	3
Centre for the Environment	2
Centre for Nanotechnology	7
<b>Total</b>	<b>232</b>

### MHRD-NIRF India Rankings 2019

A major achievement for the Institute came through the announcement of the Ministry of Human Resource Development (MHRD) National Institutional Ranking Framework (NIRF) India Rankings 2019 in which IIT Guwahati ranked **seventh** among the engineering institutions and **ninth** among all the participating universities and institutions in the country. The credit for this success goes entirely to the faculty members, students, research scholars as well as the officers, staff members and well-wishers of the Institute. The Institute shall tirelessly strive in the coming days to achieve higher rank.

### Swachhta Ranking 2018

The Indian Institute of Technology Guwahati has been ranked second in the Swachh Campus Ranking 2018 of

Higher Educational Institutions. IITG jumped 3 places in the 'Swachhta Ranking' from the 5th position last year.

### THE World University Ranking

Young University Ranking 2018: 101–150

Emerging Economics University Rankings 2018: 114

Asia University Rankings 2018: 112

World University Rankings 2018: 601–800

### QS Rankings

QS World University Ranking 2019: 472

QS World Ranking in Engineering and Technology 2019: 278

QS Top 50 Under 50 Ranking 2019: 61–70

### Navodaya Regional Science Congress

The Regional Science Congress, comprising all the 83 Navodaya Vidyalayas (NVs) in the North East of India was conducted from the 2nd to the 7th of December, 2018 at IIT Guwahati. About 160 students and several teachers participated in and co-organized the event, which was attended by the Asst. Commissioner of the NVs along with 30 Principals. The program included special lectures by eminent faculty from different Departments and Centers—Physics, Chemistry, Biology, Mathematics,



Prof. S.K. Kakoty, Dean, Infrastructure Planning & Management (IPM) and Prof. P.K. Iyer, Faculty-in-charge, Peer Review & Institute Ranking receiving the Certificates of Swachh Campus Ranking 2018





*Prof. Gautam Biswas, Director, IIT Guwahati and Prof. P.K. Iyer, Faculty-in-charge, Peer Review & Institute Ranking receiving Certificates and Plaque of the NIRF-India Rankings 2019*

Computer Science, Design, Nanoscience and Energy. Visits were conducted to research labs such as the DST Organic Electronic Laboratory and the DBT program support laboratory, providing students with lab sessions, hands-on exercises and experimental demonstrations. Along with this, various in-house programmes such as model and poster presentations by the students and quizzes also took place.

The students and organizers from the Navodaya Vidyalaya stayed on campus and were part of sports and extracurricular activities such as star gazing conducted by the Astronomy Club of IITG. A Regional Congress was also organized to introduce students to advancements and opportunities in science and technology as well as to develop ingenious curiosity and motivate them to think innovatively.

#### **TISS AESDII Eastern CSR Conclave**

The TISS AESDII Eastern CSR Conclave was conducted from the 4th to the 6th of December, 2018 at IIT Guwahati to mentor the participating start-ups and deliberate upon policies and mechanisms for developing entrepreneurship opportunities in the North East of India. Along with the participants from the North-Eastern states, Start-ups from Karnataka, Tamil Nadu, West Bengal, Bihar, Chhattisgarh and Odisha participated in the event. The event was graced

by a diversity of speakers representing the academia, industry, civil society, government, funding agencies, grassroot organizations along with eminent citizens, policy makers and industrialists over three days.

Global Initiative of Academic Networks (GIAN), an initiative of the Govt. of India for Higher Education, was started in 2016. The major aim of GIAN is to tap the international pool of talented scientists/entrepreneurs with an objective to encourage their engagement with the institutes of higher education in India. The initiative is focused upon augmenting the country's existing academic resources, accelerate the pace of quality reforms, and elevate India's scientific and technological capacity to global excellence. In the reporting year, 7 such courses were conducted by erudite scholars from international universities/institutions at the Institute.

The Institute is also engaged in creating e-course contents for the MHRD flagship program Central Sector Scheme-Massive Open Online Courses (CSS-MOOCs) where 36 video courses were delivered through the NPTEL online portal under the reporting year.

The Institute organized seven teacher training programs under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)—an MHRD, Govt. of India Initiative—for in-service teachers of Assam and other states of India.



## ACADEMIC INFRASTRUCTURE DEVELOPMENT

A number of new equipment have been added to the laboratories of the Departments and Centres. Some of the major equipment and facilities acquired by the Institute during the year under report are:

- Powder X-Ray Diffractometer System Model  
` 262 lakh
- Field Emission Scanning Electron Microscope  
` 256 lakh



- Gait and Motion Analysis System  
` 214 lakh
- All-Electric Axial-Torsional Static cum Fatigue UTM with Server and Software for Data Transfer  
` 146 lakh
- Single Crystal X-Ray Diffractometer  
` 85 lakh
- GPU Server  
` 70 lakh
- Wearable wireless EEG/Brain Computer Interface System, Tread Mill  
` 59 lakh
- 600 MHz NMR spectrophotometer and accessories  
` 45 lakh

The Lakshminath Bezbaroa Central Library, being a major service center of the Institute, provides library and information services to support teaching, learning, research activities by creating state-of-the-art facilities and offering innovative services. The library has a fast growing collection of books, journals, magazines both in print and digital format.

The library has a collection of about 1.76 lakhs of printed books and bound volumes of journals, 1.88 lakhs of

e-books, and 50 print and 27,492 online journals along with a substantial number of other documents. During the reporting year, the library has subscribed to some of the world's most renowned abstract/full-text database like Scopus, INSPEC, EBSCO Discovery Service, EBSCO Business Source Complete, IEC Standards, IMF eLibrary, eHRAF among others and some well-known national level databases such as CMIE ProweesIQ, Economic Outlook, BIS Standards, and EPWRF Time Series.

For better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Presently the library subscribes to 16,601 journal titles across all academic areas of which 16,552 are online journals. In addition, the Institute has access to 8,824 online journals through the 'e-ShodhSindhu Consortium' and the 'DeLCON: DBT- Electronic Library Consortium'.

The library has also subscribed to Turnitin, a plagiarism-detection software, during the reporting period. The library has also developed a reasonably good collection of Assamese language books and the literary works of Sahityarathi Lakshminath Bezbaroa and a special collection of Mahatma Gandhi's works during the reported period.

The Computer and Communication Centre has augmented its facilities to provide better service in connectivity. The Centre also acts as a nodal centre for various network related activities of the North-Eastern states. Projects of the National Knowledge Network and the ERNET are being actively pursued at the Centre.

## RESEARCH AND DEVELOPMENT

The total number of PhD students on campus has grown from 1934 last year to 2125 this year. The current faculty to PhD students' ratio is 5.16. The research publication record per faculty is more than 4 and is among the best in the country. The number of graduating PhD students is 230 which is similar to the previous year.

The other component of our research program is sponsored (or directed) research. There are 382 research projects in progress with a total sanctioned value of about ` 312.5 crore. In the year under report, we received 123 new projects with a sanctioned value of ` 55.9 crore. The R&D projects are mainly sponsored by Government Ministries and Departments with major support coming from the Ministry of Human Resource Development (MHRD), the Departments of Science and Technology (DST) and Biotechnology (DBT), the Science and Engineering Research Board (SERB), the Board of Research in Nuclear



Sciences (BRNS), the Defence Research and Development Organisation (DRDO), and the Indian Council of Medical Research (ICMR). We also have a considerable number of industry-supported research projects. 305 personnel are engaged in various research projects at the Institute with 110 Principal Investigators involved.

The Institute has applied for 26 patents in 2018–2019.

Some of the major research projects received during the year are:

Project Title	Department/ Centre	Funding Agency	Amount (` in lakhs)
FIST in the subject area Chemical Sciences	CHEMISTRY	DST	594
FIST Grant	CIVIL	DST	334
Fabrication Facility for Silicon Photonics and Microelectronic Devices	EEE	DST	260
Development of enantiomeric-Lactic acid Polymer based Pilot Plant	CHEMICAL	K P Tech Machine Pvt. Ltd	237
Re-purposing of FDA approved drugs for tuberculosis treatment	BIOTECH	DBT	211
Rural Technology Action Group (RuTAG)	Centre for Rural Technology	DST	165
Strengthening of research facilities in the department	BIOTECH	DST	144
NIRMAN 3D- Novel minimally invasive implants for reconstructive surgery using materials providing mechanical instruction and prepared by 3D printing	BIOTECH	DBT	123
DBT-TERI Center of Excellence Project Integrated Production of Advanced Biofuels and Biocommodities	CHEMICAL	DBT	114

**Table-1**

*DST – Department of Science and Technology, Govt. of India*  
*DBT – Department of Biotechnology, Govt. of India*

In addition to sponsored research projects, IIT Guwahati undertakes consultancy assignments for various State Government Departments, the Railways, the National

Highways Authority of India, the Oil and Gas Sector, construction and infrastructure companies, the power sector, educational institutes, health and pharmaceutical industries and financial institutions.

Consultancy projects make significant contributions to the industrial, economic and social growth of the country with special emphasis on this region.

A total of 168 new consultancy projects were carried out during the year. The total value of consultancy projects undertaken during this year is ` 5.20 crores and ` 7.57 crores was received for all consultancies.

IIT Guwahati has a Technology Incubation Centre (IITG-TIC) which facilitates new start-ups. Presently twenty-three incubating companies are working in the center. The IITG-TIC has been appreciated for its role in Start-up India initiative of Govt of India.

### **IIT Guwahati Research Park**

IIT Guwahati facilitates established companies to set up their R&D centres inside the Institute campus for industry-academia collaboration. The following four new companies



*Inauguration of a new laboratory at the Centre of Excellence Sustainable Polymers by Shri P. Raghavendra Rao, Secretary, Dept. of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilisers, Govt. of India*

have started their operations during the reporting year:

- Caliche Private Limited (OIL Funded): Oil and gas wells
- Alvin Engineering Private Limited (OIL Funded): Electricity generation from heat
- Viridi Industria Techno Solutions Pvt. Ltd.: Production of ammonia from non-toxic urea
- Apshisht Management & Environmental Research Pvt. Ltd.: Biogas digester



## FACULTY AND STAFF

The faculty strength at the end of March 2019 was 412. The number of non-teaching staff at the end of March 2019 was 514.

## RESEARCH PUBLICATIONS

The faculty members of the Institute have been actively publishing research papers in international and national journals as well as in conference proceedings. The number of publications during the past one year is:

Papers in Journals: 1738 (Scopus 2018)

Papers in Conference Proceedings: 778



*Inaugural Session of International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)*

In the previous year 1576 papers in journals and 665 papers in conference proceedings were published by the faculty of the Institute. The increase in research papers in journals is encouraging.

## CONFERENCES/WORKSHOPS/SYMPOSIA

Various conferences, seminars and workshops were organized by the Departments and Centers of the Institute during the year. A few of them are—

1. 11th Young Investigators' Meeting (YIM 2019), March 6–10, 2019
2. International Conference on Functional Nanomaterials (ICFNM-2019), February 22–25, 2019
3. 20th Indo-US Flow Cytometry Symposium Cum Workshop on "Applications of Flow Cytometry in Biotechnology," 13–16 March 2019
4. International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), in association with IIT Guwahati and International Plant Propagators' Society (IPPS), February 11–13, 2019



*Participants of Methodology Workshop organized by Department of Humanities and Social Sciences, IIT Guwahati*

5. International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019), in association with IIT Guwahati and the Plant Tissue Culture Association-India (PTCA-I), February 14–16, 2019
6. International Conference on Nutraceuticals and Chronic Diseases, September 14–16, 2018
7. Recent Advances in Biomedical Research-2019, March 26–27, 2019
8. Recent Advances on Bio inspired Nanomaterials for Environmental Applications, December 18, 2018
9. Frontiers in Chemical Sciences 2018 (FICS 2018), December 6–8, 2018
10. The 13th International Conference and Workshops on Algorithms and Computation (WALCOM 2019), February 27–March 02, 2019.
11. 5th Annual Conference of Cognitive Science, October 10–12, 2018

The Institute has also organized 77 short-term courses, workshops, and training programs under the Technical Education Quality Improvement Program (TEQIP), Electronics and ICT Academy and under the Virtual Lab projects funded by the Govt. of India.

## INTERNATIONAL COLLABORATIONS



*Delegation of the European Union to India led by Dr. Tania Friederichs had a meeting with the Director, Dean Alumni and External Relations, Associate Dean and the Faculty members of IIT Guwahati*

### Visit of the Ambassador of the European Union

The Ambassador of the European Union Mr. Tomasz Kozolowski visited IIT Guwahati on Tuesday, April 10, 2018 and interacted with the Director, deans, and heads



of Departments as part of the EU Day Celebration. The Ambassador and the visiting delegation emphasized strengthening the various mobility programs to the EU such as the Erasmus+ program and to utilize various EU-member funding agencies such as DAAD for student and faculty mobility. The visiting delegation also made a presentation on various academic and funding opportunities in Europe.

#### **Delegation of the French Embassy**

Dr. Bertrand de Hartingh, Counsellor for Cooperation & Cultural Affairs at the Embassy of France, Mr Damien Syed, Consul General of France in Kolkata, Mrs Alice Brunot, Cultural Attachée, Ms Laetitia Lompeche, Attachée for French language cooperation, and other officials of the

French Embassy visited IIT Guwahati on 09 May, 2018. The objective of the visit was to explore possibilities of collaboration in sustainable energy, green energy initiatives, and technology incubation. The delegation had an extensive tour of the facilities in the campus such as the Centre of Excellence for Sustainable Polymers (CoESPol), Department of Design, Central Instruments facility.

#### **NAMASTE+**

In view of the existing relations between IITG and German universities and with the aim of strengthening the cooperation through the exchange of students and faculty, and research collaboration, IIT Guwahati has become a part of the NAMASTE+ project coordinated by the Georg-



*Prof. Nora De Leeuw, Pro Vice-Chancellor, Cardiff University UK interacting with Prof. Gautam Biswas, Director, IIT Guwahati and other Faculty Members of the Institute*

August-Universität Göttingen (UGOE), Germany. The NAMASTE+ will be submitted to DAAD Germany within the framework of A New Passage to India–German-Indian Higher Education Cooperations. IIT Guwahati will provide all the necessary support for the incoming students and faculty from UGOE and to outgoing students to UGOE. Tuition fee will be waived for the students enrolled at the host university under NAMASTE+.

#### **Collaboration with Universities in the UK:**

Following the visit of Prof. Nora De Leeuw, Pro Vice-Chancellor, Cardiff University UK, IIT Guwahati had established further communication with Cardiff University through the Department of Chemistry. The Department of Chemistry has invited Prof. Nora De Leeuw and Prof. Thomas Wirth as keynote speakers in the Frontiers in Chemical Sciences Conference held in December 2018.

#### **University of Central Lancashire**

IIT Guwahati signed an agreement with the University of Central Lancashire, UK, on April 2018 valid for the year 2018.

#### **Collaboration with Universities in Europe**

**Joint Masters-PhD Program with Heidelberg University and DBT:** The above is a unique program to be funded by DBT whereby 15 postgraduate students from 6 premier Indian institutions will be selected to undertake their 4th semester of the Masters Program at the University of Heidelberg, Germany out of which 10 will be eventually selected for a Joint-PhD program in Big Data Analysis with the University. This year, the DBT Heidelberg Summer School was held at Allahabad University from 31 March 2019 to 05 April 2019. Five students and 4 faculty members from IIT Guwahati attended the meet.





*Agreement for a 'Collaborative Doctoral Programme' between IIT Guwahati and Curtin University, Australia signed on 29th June, 2018 in Adelaide, Australia. The agreement was signed in the presence of Shri Prakash Javadekar, Hon'ble Minister of Human Resource Development, Govt. of India, and Mr. Simon Birmingham, Hon'ble Minister of Education, Australia.*

#### **DAAD Selections**

Four students of IIT Guwahati have been selected for the DAAD-India IIT Masters Sandwich Program to three universities of Germany for the academic year 2018–19.

#### **Shastri Indo Canadian Institute**

Following the mobility program announced by SICI, five faculty, researchers and students have been selected for various programs under the Shastri Indo-Canadian Institute fellowships.

**Curtin University of Technology, Australia:** IIT Guwahati has signed an MoU for a collaborative PhD program between IIT Guwahati and Curtin University in May 2018.

#### **University of Texas at El Paso, United States**

IIT Guwahati signed an agreement with UTEP in May 2018. The agreement is a result of an initiative by Dr. Anjan Kumar S, Dept. of Civil Engineering.

#### **Fayoum University and Kalfresheikh University, Egypt**

Dr. Ajaikumar B. Kunnumakkara, Dept of BSBE, initiated the signing of a general MoU with 2 Universities in Egypt namely Kalfresheikh University and Fayoum University.

IIT Guwahati formalized the signing of the MoU with Kalfresheikh and Fayoum in May and June 2018 respectively.

**Heritage Network:** The First Heritage Workshop was organized on the theme of Smart Cities as part of the General Assembly meet. The Follow up meet of researchers of the 20 participating institutions was organized at UnivTechnico Madrid, Spain. Prof. Ravi Mokashi Punekar was elected as Vice President of the Heritage Network during the General Assembly meet of the network.

**Spring School 2019:** The Board of Governors IIT Guwahati and the IIT Guwahati Senate have approved the proposal for establishing an International Joint Master's Program in Food Science & Technology and a PhD program in Food Science & Technology and Integrated Mechanical Engineering with Gifu University, Japan. To promote and strengthen the program, IIT Guwahati hosted the 'Spring School Programme' in IIT Guwahati for the first time in March 2019. 5 undergraduate students from Gifu University Japan along with 2 faculty members visited IIT Guwahati under the program, which involved various academic activities such as seminars, lectures, lab visits, industry visits, and cultural interactions.





Representatives from top Universities in Japan with Prof. Gautam Biswas, Director, IIT Guwahati during Japan Education Fair in collaboration with the University of Tokyo, New Delhi Office on 31.10.2018

### Collaboration with Universities in Japan:

#### Japan Education Fair

IIT Guwahati organized the Japan Education Fair in collaboration with the University of Tokyo, New Delhi

Office on October 31, 2018. The event saw an enthusiastic response by students and faculty of IIT Guwahati. The event, billed as the first of its kind by the speakers, focused on areas related to higher studies in Japan, student exchange programs, and internships. The event



The students and faculty of Gifu University, Japan who attended a two-week long Spring School were being welcomed by Prof. Gautam Biswas, Director, IIT Guwahati at the Orientation Programme held on 11 March 2019.



saw participation from various universities in Japan and industry representatives of Japanese companies such as the Yokohama National University; the Ritsumeikan University; the Saitama University; the University of Tokyo; Gifu University; the Embassy of Japan, New Delhi; and Hitachi, India.

#### **IIT Guwahati-Yokohama National University Japan— Joint Symposium**

IIT Guwahati in association with Yokohama National University, Japan held a bilateral symposium on October 30, 2018. The symposium witnessed paper presentations from faculty members of Yokohama National University and IIT Guwahati. IIT Guwahati and Yokohama National University also formally shared the MoU signed on September 13th, 2018 for research collaboration, student and faculty exchange purposes.

#### **Kyushu University, Japan**

IIT Guwahati signed an MoU with Kyushu University in April 2018 and valid for a period of 5 years. The agreement is for student/faculty mobility and research collaborations. This MoU is a result of the Director's visit to Kyushu University to deliver a keynote lecture in an international conference in February 2018.

**Collaboration with Indo-Taiwan University:** The Indo-Taiwan bilateral workshop held on the sidelines of the ASP Conference resulted in another major collaborative outreach for IIT Guwahati. IIT Guwahati will now partner with Ming Chi University of Technology, Taiwan to explore joint research collaborations. Ming Chi University of Technology, Taiwan, is renowned for its industrial connections and the present MoU will lay the foundation for a robust collaboration between the two institutions.

#### **National Chung Hsing University Taiwan**

An agreement was signed with NCHU Taiwan in May 2018. Prof. Rakhi Chaturvedi, Dept. of BSBE, IIT Guwahati had initiated the signing of an MoU with NCHU Taiwan.

### **MEMORANDA OF UNDERSTANDING (MoUs)**

The Institute signed 18 new MoUs with various educational and research institutes in Japan, Taiwan, Portugal, Mexico, France, UK, Spain, the Czech Republic, Australia, USA and 21 new MoUs with universities within the country during the year under report.

IIT Guwahati, at present, has 131 national and international collaborations aimed at facilitating research collaborations, student and faculty exchange, joint PhD supervision, and other research related activities.

### **INTERNATIONAL STUDENTS**

A substantial number of international students from top universities visit IIT Guwahati every year to pursue full time masters, doctoral and short-term courses as exchange students and interns. Presently, there are 37 international students studying in the campus including exchange students.

There are also a large number of students, faculty and staff of IIT Guwahati who have visited other institutions for exchange programs, internships or under flagship programs such as the DAAD, MITACS, Erasmus+ and KA-107.

### **ALUMNI ACTIVITIES**

The Graduate Tea Party 2018 turned out to be one of the most memorable events for the graduating batch of 2018. This event, which is an annual affair, saw a huge turnout of nearly 1200 graduating students. Prof. Gautam Biswas, Director IIT Guwahati, delivered the keynote address in presence of the deans and other senior functionaries of the Institute.

IIT Guwahati has accepted the proposal sent by the MHRD to take membership of the IIT Alumni Centre Bengaluru (IITACB). To that effect, the subscription amount of ` 1 crore to be given by the Institute was approved by the Board of Governors IIT Guwahati in its meeting held in March 2018.

The Alumni Mentorship Program is a program in which the alumni of the Institute act as mentors to currently-registered students. This initiative was ideated during July-Dec 2017 during which the data regarding the alumni who wished to act as mentors was taken. The program was implemented in January 2018. The program has run successfully thereafter.

AER office with the support of its Student Alumni Interaction Linkage (SAIL) initiated a series where the alumni of each hostel were asked to make a video describing their experiences in the campus, especially in their respective hostels. These videos were aimed at familiarizing incoming freshers with the campus in general and their hostels in particular.

The Pan IIT Student Alumni Meet (SAM) was conducted in Singapore by SPARC (the Student Pan Alumni Relations Cell) to provide a platform to students from various IITs residing in Singapore, to meet and interact with each other. The event was conducted on July 7, 2018, with the help of the Singapore chapter of the All IIT Alumni Association.



The Fresher's Orientation was conducted on August 21, 2018, with the objective of creating awareness among the incoming batch of students about the working and functionalities of the SAIL team as well as the Alumni and External Relations office. It was an interactive session including a live Q&A session with one of our well-known alumna, Ms. Diti Sood, MBA, Harvard.

Alumni of IITG were contacted to offer webinars for current campus students, to provide them with a holistic view in various domains. These webinars were conducted live, with the students enjoying the flexibility to attend them from their hostel rooms while simultaneously being able to ask questions and get their doubts clarified. The various domains covered via these webinars include blockchain technology, placement strategies, and many more.

#### **Alumni Talk Series:**

Talk on Engineering Technology in Finance by Snigdha Aggarwal.

Talk on Design Career Opportunities by Uddipana Baishya.

Panel Discussion on Career in the Civil Services by Abhishek Sinha and Shekhar Singh on March 31, 2019.

A blog series, an initiative by the SAIL team to capture the expertise and journeys of various alumni from IITG into a blog post, was implemented. These resources, unlike the live webinars, are available to students at all times, thus benefiting future batches too. At the time of reporting, the blog series contains the following:

- a. Vantage Point
- b. Engineering is not the end of life
- c. Journey of Vikram Rana
- d. Journey of Bhupinder Kumar
- e. Journey of Antriksh Singh
- f. Journey of Aashish Goel.

#### **Inter IIT Sports Meet 2018:**

The 53rd edition of the Inter IIT Sports Meet including the 34th Inter-IIT Aquatics Meet (October 3–7, 2018) was successfully organized by IIT Guwahati during December 13–21, 2018. With over 3500 participants, more than 50 events and 500+ matches, this edition was one of the biggest throughout the history of the Inter IIT Sports Meet. It was also the first time when the talent of the differently-abled individuals was acknowledged with the inclusion of para-powerlifting among other competitive sports. IIT Delhi was the overall champion of the event.

The subsequent 24th edition of the Inter IIT Staff Sports Meet was also organized by IIT Guwahati during December 24–28, 2018 in which around 800 staff and faculty members from almost all the IITs participated. IIT Guwahati was judged the Joint Champion in Men's Category along with IIT Delhi. IIT Bombay was judged as the Overall Champion as well as Champion in Women's Category.

Our heartiest congratulations to all of them.



*Glimpse of 53rd edition of the Inter IIT Sports Meet hosted by IIT Guwahati*





Glimpse of 53rd edition of the Inter IIT Sports Meet hosted by IIT Guwahati

## FACULTY ACHIEVEMENTS

A number of faculty members received awards and brought accolades for the Institute during the year. Some of them are:

- Prof. T. Punniyamurthy, Dept. of Chemistry has been selected as Fellow, The National Academy of Sciences, 2018.
- Prof. A. Paul, Dept. of Chemistry has been selected as Fellow of Royal Society of Chemistry (FRSC), 2019.
- Prof. Gautam Biswas was conferred the Honorary Doctorate on November 02, 2018 by Aristotle University of Thessaloniki, Greece.
- Dr. U. Manna, Dept. of Chemistry has been selected as Emerging Investigators in Journal of Materials Chemistry A (RSC), 2018 and NASI-Young Scientist Platinum Jubilee Award (NASI, Allahabad, India), 2018. He has also been selected as Associate of the IAS (Indian Academy of Science, Bengaluru, India), 2018.
- Prof. Parameswar K. Iyer, Dept. of Chemistry has been inducted as an Editorial Board Member of the RSC journal Materials Chemistry Frontiers for a period of two years beginning January 2019.
- Prof. Parameswar K. Iyer, Dept. of Chemistry has been conferred with the Chemical Research Society of India (CRSI) Bronze Medal in recognition of his contributions to research in chemistry.
- Dr. Souptick Chanda, Dept. of BSBE received the Fulbright-Nehru Academic and Professional Excellence Fellowship 2019-20 to carry out research at Harvard Medical School, Boston, USA.
- Dr. Pranjal Chandra, Dept. of BSBE received the Young Scientist Award 2017–2018 by the Biotech Research Society of India. He also received the Young Engineers Award–2018 by the Senior Engineers Forum, Guwahati.
- Dr. Kusum Kumari Singh, Dept. of BSBE received the Biotechnology Overseas Associateship for NER Scientists Award 2018, Department of Biotechnology, Ministry of Science and Technology, Govt. of India.
- Dr. Ajaikumar B. Kunnumakkara, Dept. of BSBE received the Faculty award for outstanding achievements in science from Kafr El-Sheikh University, Egypt, April 2018. He also received the Honorary Chair Professor Award, Mahatma Gandhi University, Kottayam, Kerala, July 2018. He was also awarded the Sakura Exchange Program by JST, Japan.
- Prof. V. S. Moholkar, Dept. of Chemical Engg. has been elected as Fellow of the International Society for Energy, Environment and Sustainability (FISEES), IIT Roorkee
- Dr. Bhubaneswar Mandal, Dept. of Chemistry was selected for Overseas Associateship from DBT, Govt. of India.
- Dr. M. Sarma, Dept. of Chemistry has been selected as Associate Member of the Royal Society of Chemistry (AMRSC), November 2018.
- Prof. Pradeep Yammiyavar, Dept. of Design was conferred the National Award for Teaching Innovation of MHRD—GOI for Innovation in Higher Education under PMMMNMTT. (Selected in 2016–17. Conferred on Jan 14, 2019)
- Dr. Sambit Mallick, Dept. of HSS received Life Member, Indian Science Congress Association, May 2017
- Dr. Debapriya Basu, Dept. of HSS, was awarded the Moore Institute Fellowship 2018–19 at the National University of Galway, Ireland
- Prof. Bipul Bhuyan, Dept. of Physics has been elected as the General Secretary of Physics Academy of Northeast (PANE) for the duration of 2019–2021.
- Prof. B. R. Boruah, Dept. of Physics has received senior membership of Optical Society of America (OSA) and SPIE, 2018.



Prof. Vimal Katiyar and Dr. Arvind Gupta received 8th National Awards for Technology Innovation in Petrochemicals & Downstream Plastic Processing Industry (2017-18) from Hon'ble Vice President of India, Shri M. Venkaiah Naidu for innovation in new Polymer Development "Heat Stable Poly(lactic acid)" sponsored by Ministry of Chemicals and Fertilizers, Govt. of India





Glimpse of 53rd edition of the Inter IIT Staff Sports Meet hosted by IIT Guwahati

- Dr. D. Borah, Dept. of Physics received Associateship, Indian Academy of Sciences for the period 2018–2021.
- Prof. P.K. Giri, Dept. of Physics received Visiting Research Fellowship, University of Birmingham, United Kingdom, June–July 2018.
- Prof. A. Perumal, Dept. of Physics received Japan Society for the Promotion of Science (JSPS) Invitational Fellowship for Research in Japan (long term FY2018) for collaborative work in Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan with Prof. Kazuhiro Hono.
- Prof. M. K. Purkait, Centre for the Environment, has got Herdillia Award for Excellence in Basic Research in Chemical Engineering for the year 2018 from Indian Institute of Chemical Engineers (IICHE).
- Dr. Debabrata Sikdar, Dept. of EEE has been awarded the prestigious Marie Sklodowska-Curie Individual Fellowship on smart electro variable nano plasmonic metadevices for pursuing research at the Imperial College London.
- Dr. Chandan Kumar and Dr. Sanjib Ganguly were elevated to IEEE senior membership.
- Dr. Binota Thokcham, Inspire Faculty, Centre for Nanotechnology received BRICS Young Scientist Award, 2019.
- Dr. Dipankar Bandyopadhyay, Centre for Nanotechnology has been nominated as member of RSC, ACS and IICHE.

Congratulations to all.

## CONSTRUCTION AND CAMPUS DEVELOPMENT

The Institute has been continuously developing since its inception and the infrastructure is also being strengthened to meet the current as well as future needs effectively.

### Projects completed during the last financial year:

**(a) Classroom Complex:** A classroom complex comprising 30 halls of 120 capacities each and 6 halls of 200 capacities each is under construction. Out of these, 18 halls of 120 capacities each have been completed and put to use while the remaining 12 halls of 120 capacities and 6 halls of 200 capacities are structurally complete but finishing works are ongoing. Floor area constructed in this phase is 9875 sqm.

**(b) Research Building:** The Institute took up construction of a G+9 storied building to house research facilities. Internal finish with HVAC, electrical works and lifts were completed upto G+3 floor in March 2018. Each floor has ten laboratories of 100 sqm each. However, considering the increasing demand for requirement of space, internal finishing of another two floors was further completed in October 2018.

**(c) Guest House 2:** The Institute started construction of second Guest House in response to an increased number of visitors. The new guesthouse is a G+5 storied building housing 165 rooms (8 VIP rooms and 157 general rooms). The building is ready and 32 rooms are already being used for the accommodation of guests.





IIT Guwahati organised 'Vigyan Jyoti' programme for 11th Class meritorious girl students from Government schools of North East states. 'Vigyan Jyoti' - an initiative of Department of Science & Technology (DST), Govt. of India, aims to create gender-enabling S&T ecosystem and to inculcate scientific temperament among school girls.

#### Ongoing projects:

**(a) Construction of Boys' Hostel 11:** The 11th boys' hostel, which was started in March 2015 with a capacity of 1152 students is under construction. Works of 580 rooms have been completed and 290 rooms are under occupation since December 2018. Remaining works including kitchen and dining hall area are expected to be completed by October 2019.

**(b) Expansion of Academic Complex Phase V:** Under this phase, the work comprises two parts (i) Vertical extension over the existing buildings of DoD, CSE, Chemical Engineering, HSS and Mathematics and (ii) Construction of the Centre for Nanotechnology along with Clean Rooms. Works of extension Work have been completed and handing over of the completed parts in phases is going on. The development of a Nano Centre is also going on.

**(c) Construction of 160 units of F-type residential quarters:** In order to meet the growing requirement of residential quarters for faculty members, the Institute took up construction of a G+9 storied building with 160 units of F-type residential quarters in 4 blocks having 40 units in each tower and possessing all basic amenities. The approved cost of the project was ₹ 13686.01 lakhs. The work has been awarded to Uttar Pradesh Rajkiya Nirman Nigam Limited (UPRNNL) in May, 2018. The execution of the work started in July, 2018. The piling work has already been completed and the raft foundation, plinth beam work

is in progress. The total progress achieved so far is 20%. The scheduled date of completion of the towers is March 2021.

**(d) Residential Quarters C-type:** A proposal for 40 units of C-type residential quarters was approved in the 84th B&WC meeting held on September 8, 2018 for an amount of ₹ 2228.26 lakhs. The Institute has already applied for a loan from the HEFA.

**(e) Boundary Wall Phase V:** The construction of boundary walls to secure the campus has been in progress in phases. The construction of boundary walls phase V (Group A & B) of 10 ft. height from the main entrance gate to the Ghorajan Nallah near the Sewerage Treatment plant is in progress. The work is expected to be completed within December 2019.

**(f) Electrical infrastructure:** The IITG 33KV sub-station was commissioned in the year 2002 with initial capacity of 2X5MVA. With the growth of the Institute, to cater to present and future demand of electrical and HVAC-air conditioning load, a 7.5MVA 33/11KV transformer was installed. The present capacity of the sub-station is 17.5MVA. Similarly, in the secondary power distribution system i.e., the augmentation of all 10 11KV sub-stations, are also completed. The total enhanced capacity of all 10 sub-stations is 16.650MVA.

As per the instruction of the MHRD, under the Building Energy Efficient Program and as a part of the energy conservation drive, conventional fluorescent tube lights



have been replaced by retrofitted LED luminaires in the hostel areas. All the 150W SON and 120W MH lamps of IITG street lighting system have been replaced by energy efficient LED luminaires. In addition to this, the Institute has also installed solar water heater system in Lohit hostel. IITG also installed 450KW capacity solar power plants in Brahmaputra and Dhanshiri hostels in a phased manner. Another solar plant of nearly 500KW capacity is installed and commissioned in the classroom complex, the research building, the Department of Design building and Lohit hostel.

**(g) AC infrastructure:** With the rapid expansion of the Institute including the academic complex, one 1200TR capacity air cooled screw chiller new HVAC Plant was installed and commissioned in the year 2011 besides the existing 1800TR capacity HVAC Plant-1. The increased demand for air conditioning has also necessitated augmentation of HVAC PLANT-1, which is in progress. In addition to this, another VRV energy efficient dedicated central air conditioning system of total capacity 1050TR has been installed in the New SAC, the New Guest House and research buildings. Additional air conditioning of 1000TR, comprising window, split and ductable AC have been installed in Administrative building, Central workshop, D-type community hall, Technology complex, old guesthouse and various R&D project areas.

**(h) Dormitory for Security:** In order to provide security personnel accommodation, dormitories have been constructed at different places inside the campus. Out of the two buildings constructed for the purpose, one building has been handed over to the Security Section for occupation. The other building was modified for temporary accommodation of faculty members because of shortage of accommodation facilities and was converted to 12 quarters.

**(i) Maintenance of Internal Road:** The rectification and maintenance of internal roads of the IIT Guwahati campus was entrusted to the Assam Public Works Department (APWD), NH Works in phase I and II and almost 90% of the work has been completed till date. The completion time of the work has further been extended to June 2019 due to some ongoing construction at the execution area.

**(j) Estate Office:** The Engineering Section along with the Maintenance Section, plays a very important role in the infrastructure development and maintenance activities of the Institute. In order to create administrative as well as functional synergy, an estate office is under construction to accommodate both the sections. Although the building has been planned as a G+3 structure, a G+2 structure will

be completed first. The building is expected to be ready by July 2019.

**(k) Dormitory for Guest House:** A G+2 dormitory building is under construction to be used as accommodation for the workers of both the Guest Houses. Almost 80% works have been completed and the remaining work is expected to be completed by August 2019.

### INSTITUTE EXPENDITURE

The details of expenditure (provisional) during the year 2018–2019 are as follow (in crores of `):

Revenue expenditure:	310.10
Capital:	163.25
R&D:	93.25
Total Expenditure:	566.6

In comparison, in 2017–2018, ` 603.41 crores were spent.

### EQUAL OPPORTUNITIES

IIT Guwahati is extending all its best efforts to implement “Accessible India Campaign (Sugmaya Bharat Abhiyan)” launched by the Ministry of Social Justice & Empowerment.

IIT Guwahati complies with Rights of Person with Disabilities Act 2016 (RPwD Act, 2016), and in the reporting year, based on the recommendation of the committee constituted to conduct an accessibility audit in campus, various infrastructural facilities were provided to Persons with Disabilities (PWDs).

IIT Guwahati coordinated with the National Institute for Locomotor Disabilities, Kolkata and the ME Dept. to organize a National Conference on “Disability and Social Inclusion—The Role of Technology” during January 10–11, 2019 in IIT Guwahati.

A humble effort was also made to spread social message amongst youth in the field of disability issues during the annual cultural function Alcheringa on 3rd February 2019. On this occasion two workshops were held on “Rehabilitation Services—Community Based Inclusive Development” & “Unfolding abilities—Challenging the Challenges.” The speakers were invited from Mobility India, Bengaluru and TISS, Mumbai.

The Institute has taken steps especially for PWD students based on their requirement to arrange transport for their smooth movement in campus.

The Para Powerlifting event was included for the first time in the 53rd edition of the inter-IIT Sports Meet hosted by IIT Guwahati in December 2018. Participants from IIT



Dharwad, Madras, BHU, Kanpur and Guwahati took part in the event.

A Soft Skills Training Program for Non-Teaching SC/ST employees was arranged in coordination with E&ICT Academy IIT Guwahati. The aim of the training was to enable staff members to harness soft skills and to provide public/citizen centric services.

A talk on legal awareness was also held for SC/ST employees and students. Mr. Rajib Bhattacharyya, Legal Assistant to Legal Remembrance and Under Secretary to the Government of Assam was the resource person.

### STUDENTS' ACTIVITIES

Alcheringa, the annual cultural festival of IIT Guwahati, was held during 31 January–3 February this year. Alcheringa is now regarded as a much anticipated students' cultural event in the North East in which thousands of students from across the country take part in various youth oriented competitions, workshops, seminars and informal events. The performances of musicians and performing artistes of repute are the real crowd pullers. In the past Alcheringa has featured some exhilarating performances from some of the biggest names in the entertainment industry.



An enthralling performance during Alcheringa 2019

Techniche 2018—the twentieth edition of annual techno-management festival of the Institute—was held during 30 August–2 September 2018. Techniche has been an extraordinary platform to showcase the latest inventions, exhibitions and technological advances from all over the globe. The student teams organize a plethora of events and competitions all designed to make the participants step outside their comfort zones and challenge the institution of conventional thinking. In this edition of Techniche IIT Guwahati hosted Michael Barrat, Astronaut, NASA; Murzy Jhabvala, Chief Engineer, NASA; Deependran B, Project Director, VSSC-ISRO; Manfred Krammer, HoD, Experimental Physics, CERN; V. K. Saraswat, former Director, DRDO; Simi

Sabhaney, CEO, DENTSU; Krishnakumar Ramanathan, Virtual Markets and Chief Customer Officer, SIEMENS and others, who held interactive discussions with the students.



Murzy Jhabvala, Chief Engineer, NASA; Michael Barrat, Astronaut, NASA; Deependran B, Project Director, VSSC-ISRO, were the penalist in the Lecture Series of Techniche

Other regular student events like Manthan, Spirit, Spardha were successfully organized by the students during the year. Moreover, there have been regular events and competitions organized by the various clubs and societies of the Institute.

### STUDENTS' ACHIEVEMENTS

- Mr. Shivram N Gowtham, 4th year BTech CSE & Mr. Aayush Sanjay Agarwal, 3rd year BTech CSE have been selected for the prestigious Tower Research Capital Scholarship 2019. The scholarship amount is ₹ 2,00,000/- per student per year.
- Mr. Aditya Rajesh Patil, 1st year BTech, CSE & Mr. Vikarmaditya Paidi Vajjalla, 1st year BTech, ME student of the Institute have been selected by Aditya Birla Group for the prestigious Aditya Birla Scholarship 2018 and are among the best 15 best students from IITs/ BITS in engineering streams. The scholarships amount is ₹ 1,00,000/- per annum and cover a large part of academic fees as well as other fees.
- Mr. Suyash Pati Tripathi, 4th year BTech, Electrical has been selected for the prestigious OPJEMS Scholarship 2018.
- Gaurav Agarwal, BTech ME has been recommended by the Institute for the prestigious ONGC Gold Medal. The medal includes ₹ 1,00,000/- and a gold plated medallion. The ONGC Gold Medal is awarded to the topper of BTech, ME branch.
- Bishal Raj Gayan, BTech ME, N Munikumar, MTech ME, Sanjay Shukla, MSc Physics and Debasmita Paul, MSc Chemistry, have been recommended by the Institute for the prestigious ONGC Scholarship.



- Sanjay Shukla, MSc, Physics, Debasmita Paul, MSc, Chemistry, Deepa Antony, MSc, M&C, Srijani Roy, MA, Development Studies have received the Jadav Prasad Chaliha Award for Academic Excellence & Mayank Prasad, BTech, CL has received the Jadav Prasad Chaliha Award for the Differently Abled for the year 2018.
- Siddhartha Karmakar, MSc, Physics; Sarupa Roy, MSc, Chemistry; Himanshu Pandey, MSc, M&C; Rashmirekha Pandit, MA, Development Studies have received the Jadav Prasad Chaliha Merit-cum-Means Award.
- A research story titled “Unravelling the mysteries of CRISPR memory generation” written by Yoganand. K. N. R., from the Dept. of Bio-Sciences and Bio-Engineering (BSBE) has been selected for the AWSAR (Augmenting Writing Skills for Articulating Research) awards, 2018 by the Department of Science and Technology, Government of India.
- Mr. Pratik Nag, Dept. of BSBE was selected for the Prime Minister’s Research Fellowship (PMRF).
- Ms. Debika Datta, Dept. of BSBE, was awarded a travel grant by the American Peptide Society to attend the American Peptide Symposium 2019 at Monterey, California.
- Phurpa Dema Thungon, a PhD student of the Dept. of BSBE has received the prestigious Overseas Visiting Doctoral Fellowship (OVDF) from the SERB (DST)-UAlberta Partnership scheme to carry out her thesis research at the University of Alberta, Canada for a period of one year (May 2019–April 2020).
- Sanjay M, MTech (BSBE), secured the 1st position and received a cash prize of ₹ 25000 for his model “Optisense—a smartphone based malaria detection platform” in the Redstart-All India Startup Challenge, Research Conclave 2019, organized by IIT Guwahati during March 14–17.
- Mr. Shwetank Panwar, BTech Trainee Student, received a research assistantship at the Montreal Neurological Institute (MNI), McGill University, Canada.
- Yogendra Pratap Singh, Dept. of BSBE has been awarded the Newton Bhabha PhD Placement Program 2017–18 by Department of Biotechnology, Government of India and the British Council, UK, to carry out research work with Dr. Chris Holland at The University of Sheffield, UK, for a period of 4 months (October 2018 to January 2019). He was also awarded the Raman-Charpak fellowship 2017–18 by the Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA) to carry out research at the Institute for Regenerative Medicine and Biotherapy (IRMB, INSERM U1183), Montpellier, France.
- Janani G, Dept. of BSBE has been awarded the “Fulbright Nehru Doctoral Research Fellow” and visited the University of Pittsburgh for 9 months.
- Varun Saxena, PhD Scholar, Dept. of BSBE has been awarded the CSC split site scholarship for a tenure of 1 year under Dr. K. H. Aaron Lau at the University of Strathclyde, UK.
- Jahnu Saikia, Dept. of BSBE received the Graduate and Professional Student Council (GPSC) Travel Award to attend the 63rd Annual Biophysical Society Meeting in Baltimore, Maryland.
- GM Kumar received Best Research Scholar Award at the Indian Plant Science Congress (IPSC’19).
- Ms. Amrita Khwairakpam Devi, Mr. Kishore Banik and Mr. Krishan Kumar Thakur, Dept. of BSBE, were chosen to join an invitation program carried out under the framework of the Japan Asia Youth Exchange program in Science (Sakura Exchange Program in Science) administered by the Japan Science and Technology Agency.
- Ms. Harsha Choudhary, Ms. Sosmitha Girisa and Ms. Devivasha Bordoloi, Dept. of BSBE, were selected for the ‘DBT STAR training program’ for an advanced training in advanced areas of Biotechnology and visited Japan.
- Mr. Kushagra Agrawal, research scholar, Dept. of Chemical Engg., was awarded first position, research scholar category at the International Conference on Recent Advances in Fluid and Thermal Sciences (iCRAFT 2018) in Dubai.
- Dr. Prodyut Dhar, Dept. of Chemical Engg., has been selected for the ‘Graduate Student Award’ for his PhD research work on ‘Cellulose Nanocrystals’ by the American Chemical Society.



A scene from *Chuhal*, performed by Xpressions - The Dramatics Society of IIT-Guwahati



- Mr. Adil Majeed Rather and Ms. Dibyangana Parbat, Dept. of Chemistry, received the Tertiary Prize in the ISBE Bionic Innovation Competition, China.
- Mr. Krishnakanta Bhattacharya, Dept. of Physics, has been awarded the distinguished student FIP-APS travel award from the APS (American Physical Society).
- Mr. Dudul Das, Centre for Energy, has received the Bhaskara Advanced Solar Energy Fellowship by the Department of Science and Technology, Govt. of India.
- Mrinal Bhowmik, PhD student of the Centre for Energy received the best paper award at the International Conference on Computational Methods for Thermal Problems (THERMACOMP-2018).
- Shyamali Sarma, Centre for Energy received the Young Researcher award in the BioSD conference at IICT Hyderabad.
- Amit Kumar Baghel (PhD, EEE), Shashank Satish Kulkarni (PhD, Energy), Deepak Kumar Sahoo (MTech, EEE) and Utkarsh Jaiswal (BTech, EEE) received third prize (₹ 1,00,000 with IIT Madras) in Aero India 2019 jointly organized by the MHRD and the Ministry of Defense in Bengaluru.
- Mr. P. Anoop, EEE Dept., received the best paper award in the IEEE-INAE Workshop on Electromagnetics (IIWE 2018).
- Ms. Jinti Hazarika, EEE, received the “Nripendra Nath Biswas Best Student Paper Award” and cash prize of ₹ 35,000 at the 32nd International Conference on VLSI Design and the 18th International Conference on Embedded Systems (VLSID-2019) held at New Delhi.
- Gaurav Talukdar, Dept. of Civil Engg., has received the best paper award in Hydro 2018.
- Mr. Sahil Jagnani and Mr. Rahul Patel, BTech in Chemical Engg., presently CEO and partner of Primary HealthTech Private Limited won a ₹ 25 lakhs Start-up Grant in the iPEACH event

of Villgro jointly supported by the Technology Development Board Gol, and UK Government, November 2018..

Congratulations to all of them.

### CAMPUS PLACEMENT

The placement scenario of the Centre for Career Development at IIT Guwahati for the year 2018–19 has been impressive. A total of 170 companies/organizations from various categories participated in the recruitment process. The total number of registered students for campus placement in the year 2018–19 is 1000. The overall placement of BTech and BDes students is 84.12%. For BTech and BDes, the total number of jobs offered is 477 for 567 students. An average package offered for BTech and BDes students is ₹ 17.85 lakhs per annum (treated as CTC).

The overall placement of MTech and MDes students is 49.06%. For MTech and MDes, the total number of jobs offered is 158 out of 322 students. An average package offered for MTech and MDes students is ₹ 13.02 lakhs per annum (treated as CTC). For MSc programs, 7 (Mathematics 5, Chemistry 2) students have been placed out of 52 registered candidates. For MS(R) program, 1 student has been placed out of 8 registered candidates. For the MA program, 1 student has been placed out of 9 registered candidates.

For PhD programs, 16 PhD students (Electronics and Electrical Engg. 7, Mechanical Engg. 3, Physics 1, Chemical Engineering 1, Nanotechnology 2, Civil Engg. 1, Mathematics 1) have received job offers out of 42 registered candidates. This is mainly in the education and research sectors.

The total no. of international offers is 9 (BTech 7 and PhD 2).

Overall placement of all programs (BTech and BDes, MTech and MDes, MSc, MSR, MA, PhD) is 66.00%.





## **PART II**

### **ACADEMIC DEPARTMENTS**

Biosciences and Bioengineering

Chemical Engineering

Chemistry

Civil Engineering

Computer Science and Engineering

Design

Electronics and Electrical Engineering

Humanities and Social Sciences

Mathematics

Mechanical Engineering

Physics

### **ACADEMIC CENTRES**

Centre for Energy

Centre for the Environment

Centre for Linguistic Science and Technology

Centre for Nanotechnology

Centre for Rural Technology

### **EXTRAMURAL CENTRES**

Lakshminath Bezbaroa Central Library

Centre for Education Technology

Central Instruments Facility

Computer and Communication Centre







# DEPARTMENT OF BIOSCIENCES AND BIOENGINEERING

## The Department at a Glance

**Year of Establishment:** 2002

**Academic Programmes Offered:**

Bachelor of Technology (BTech)

Master of Technology (MTech)

Doctor of Philosophy (PhD)

**Total Faculty Strength: 39**

- Professor: 17
- Associate Professor: 13
- Assistant Professor: 9

**Total Student Strength: 514**

BTech: 201

MTech: 85

PhD: 228

**New Students Joined in 2018-2019: 120**

BTech: 49

MTech: 44

PhD: 27



**LABORATORY FACILITIES**

- i. MAB (Mechanistic Approaches to Biology) Lab (Dr. B. Anand): The laboratory employs a combination of approaches encompassing Bioinformatics & Computational Biology, Biochemical and Biophysical approaches and X-ray crystallography. The current research interest of the lab pertains to RNA Biology and Molecular Evolution.
- ii. BERL (Bioengineering Research Laboratory) (Prof. Utpal Bora): The research interests of this laboratory include Biomedical Engineering, Seri-biodiversity, Seri-bioinformatics and Bio-entrepreneurship.
- iii. Molecular Networks and Recombinant Therapeutics (Dr. Biplab Bose): The lab is interested in understanding the inter-connected cellular communication systems. Particularly, the lab is interested to know the effect of architecture, kinetics and integration of the molecular pathways on vital cellular processes. The lab uses experimental as well as theoretical tools to understand how information is carried and processed in such signaling networks. The lab is also involved in developing molecules that can target particular signal transduction pathway. Such a molecule can be used to modulate an aberrant pathway involved in a particular disease.
- iv. Dr. Pranjal Chandra lab: The lab is interested to combine biotechnology, nanotechnology, material science, and electroanalytical chemistry, approaches to address problems of biomedical significance, human health, and environmental monitoring. Specifically, the lab is interested to develop novel and commercially viable bioanalytical methods for diagnostics applications. The major research work is focused on: (i) Clinical Diagnostics (Cancer cells, DNA, RNA, bio-markers) using electroanalytical methods such as cyclic voltammetry, chronoamperometry, impedance spectroscopy, (ii) Nano-biosensors (Aptamer, antibody, enzyme) based biological phenomenon investigation, (iii) Porous silicon based label free self-reporting optical Nano sensors, (iv) Microfluidics and Nano machines.
- v. Plant Tissue Culture & Secondary Metabolite Production Lab (Prof. Rakhi Chaturvedi): The tree species with long generation cycle are mostly highly heterozygous in nature due to strict cross pollination and are considered to be recalcitrant (difficult to regenerate in vitro). The genetic improvement of these plants and development of homozygous lines (pure) is either very challenging or impossible using the conventional methods, because the cross pollination is a rule. This limitation has completely been overcome by the research group of Dr Chaturvedi while working on two complex tree species, Neem (*Azadirachta indica*) and Tea (*Camellia* species). Prof. Chaturvedi's laboratory has also involved in developing Plant Cell Culture Technology as an alternative to whole plant extraction for the production of secondary metabolites of medicinal and commercial values. Although these compounds can also be isolated from naturally grown whole plants, continued destruction of plants for the purpose may pose a major threat to species getting extinct. Her research group is able to identify, purify and isolate three main categories of bioactive metabolites: essential oils, coumarins and alkylamides from in vitro elite cell lines of medicinal plants. Some of these compounds are complex triterpenoids which are difficult to synthesize chemically. The focused research work in the laboratory are: (i) Mass multiplication by micropropagation/clonal propagation of medicinally and economically valuable plants, (ii) In vitro haploid and doubled haploid plant production to generate homozygous (pure) lines to produce hybrid vigour for improved plant yield, (iii) Triploid plant production to develop seedless variety, (iv) Somatic embryogenesis for synthetic seed production, (v) Protoplast isolation and regeneration for single cell cloning and isolation of mutants, (vi) Cytological and Histological studies of in vitro raised cultures to understand their ploidy, development and origin, (vii) Cell biomass production in shake-flask for screening, characterization and quantification of medicinally and commercially useful plant metabolites and their scale-up in photo-bioreactors.
- vi. Biophysical Chemistry Lab (Dr. Nitin Chaudhary): The laboratory focuses on understanding the molecular self-assembly and amyloid diseases, protein/peptide membrane interactions and developing peptide based antibiotics.
- vii. Bioprocess Development Lab (Prof. Debasish Das): Bioprocess Development Lab majorly focuses on developing and demonstrating sustainable technologies towards renewable fuels. We are currently working on developing sustainable technologies towards biocrude production from microalgal isolates, butanol production from *Clostridium* sp, ethanol fermentation from adapted *Z. mobilis* strains. We have ventured towards plant tissue culture and demonstration on a pilot scale facility with industrial collaboration.
- viii. Prof. V. V. Dasu lab: The laboratory focuses on Bioprocess development (upstream to downstream), metabolic engineering, and bioenergy.
- ix. Laboratory of Protein Biochemistry & Biochemical Parasitology (Prof. Vikash Kumar Dubey): The



- laboratory focuses on understanding protein structure and function, molecular aspects of parasitology, and drug discovery. The lab has been recognised as “Unit of excellence in Molecular and Biochemical Parasitology” by Department of Biotechnology, Government of India.
- x. Prof. Siddhartha Sankar Ghosh lab: The laboratory focuses on development of new generation gene therapy vectors. This mainly includes development of suicide gene therapy for cancer. The lab has also set up infrastructure facilities for interdisciplinary collaborative research in the field of nanoscience and nanotechnology supported by extramural funding at the Centre for Nanotechnology, IIT Guwahati. The major area is to develop new nanoparticles, nanocomposites and nanocarriers and evaluate their antimicrobial and anticancer activities. The lab is perusing research to understand molecular mechanisms of nanoparticle mediated cell cytotoxicity. Other areas, such as, bioimaging using C-dots, metal nanoclusters, gene delivery using quantum dot embedded nanocarriers are also being pursued. The lab is also interested in understanding the molecular pathways involving drug resistance.
- xi. Biosensor and Biofuel Cell Research Lab (Prof. Pranab Goswami): The lab is involved in the development of novel bio-recognition system and their applications for developing biosensors and biofuel cells. DNA aptamers, catalytic as well as non-catalytic proteins have been investigated as biorecognition elements for some clinical applications targeting to operate in point-of-care and resource limited environments. Focus has been given on the rapid detection of acute myocardial infarction (AMI), cholesterol, alcohol, bilirubin and malaria due to their obvious importance in diagnostic sector.
- xii. Prof. Arun Goyal Lab: The lab research interests include Microbial Biotechnology, Molecular Biology, Protein Engineering, Structural & Functional studies of carbohydrate enzymes.
- xiii. Neural Engineering Lab (Dr. Cota Navin Gupta): Broadly the research lab's current focus is in the areas of brain computer interfaces, imaging genetics for psychiatric disorders, multimodal/multivariate algorithm development and designing wearable medical solutions for patient mobility.
- xiv. Stem Cell and Cancer Biology Group (Dr. Bithiah Grace Jaganathan): Stem cell and cancer biology group focuses on the identification of factors affecting the differentiation of mesenchymal stem cells and the role of cancer microenvironment in cancer chemoresistance.
- xv. Structural and Computational Biology Laboratory (Dr. Shankar Prasad Kanaujia): The lab uses the knowledge of various techniques such as molecular biology, structural biology (X-ray Crystallography) and biophysical and biochemical studies to understand the mechanism of different biological functions. In addition, the lab applies the molecular dynamics simulations to further corroborate the results obtained from various experiments. Currently, the lab is focusing on investigating into the mechanisms involved in protein translation initiation, ABC transporters and their role in multidrug resistance.
- xvi. Molecular Microbiology Laboratory (Dr. Manish Kumar): The research interests of the lab include (i) Molecular interaction of host-pathogen-vector of infectious diseases, (ii) Gene expression analysis of Spirochete, *Leptospira interrogans* and *Borrelia burgdorferi*, (iii) Development of vaccine against outer membrane protein of *Leptospira interrogans* and *Borrelia burgdorferi*, and (iv) Vector borne diseases of Zoonotic importance.
- xvii. Viral Immunology lab (Dr. Sachin Kumar): The paramyxoviruses include viruses that are isolated from many species of terrestrial, avian and aquatic animals. The group includes many important pathogens of humans such as measles virus, human respiratory syncytial virus, human parainfluenza viruses, Nipah virus and Hendra virus and animals such as canine distemper virus and Newcastle disease virus. Newcastle disease virus (NDV) is the prototype member of this family and is a leading cause of respiratory disease in avian species. It leads to huge economic losses to the poultry industry in India. The laboratory focuses mainly on understanding the biology of avian paramyxovirus and development of vaccine against them using reverse genetics system.
- xviii. Cancer Biology Laboratory (Dr. Ajaikumar B. Kunnumakkara): The research interests of the lab include (i) Role of inflammatory pathways in cancer development, (ii) Identification of novel biomarkers for cancer diagnosis and prognosis, (iii) Cancer drug discovery, and (iv) Development of transgenic and gene knockout mouse models for biomedical research.
- xix. The Molecular Endocrinology lab (Dr. Anil Mukund Limaye): The laboratory focuses on the following research themes: (i) Hormone regulation of gene expression, (ii) Role of estrogen in breast tumor invasion and metastasis, (iii) Regulation of cystatin A expression and its role in breast cancer, (iv) HoxB2 in breast cancer, (v) GPR30/GPER-1 biology, (vi) Mechanisms of anticancer activity of EGCG, (vii) Karanjin and its biological effects.



- xx. Dr. Soumen Kumar Maiti Laboratory: The research interests of the lab include Biochemical Engineering, Biofuel, Bioprocess modeling, control, optimization, Metabolic engineering, Downstream processing, Membrane separation, Bioremediation.
- xxi. Biomaterial and Tissue Engineering laboratory (Dr. Biman B. Mandal): Tissue engineering has emerged as a potential way to treat tissue damage or organ failure as a result of injury or disease. Our laboratory "Biomaterials and Tissue Engineering Laboratory", a DBT-Unit of Excellence, majorly focus on developing affordable lab grown tissue/organ replacements for human transplantation. The lab focus on the following areas of importance i.e. Cell Based Tissue Engineering of Grafts and Implants, Human Stem Cell Based Regenerative Medicine, Biomaterials, 3D Bioprinting, Drug Delivery Systems, 3D Disease Tissue Models, Bioinstrumentation.
- xxii. Organelle Biology and Cellular Ageing Lab (Dr. Shirisha Nagotu): The lab focusses on understanding the biogenesis of organelles and the inter-organelle communication within a cell. The lab tries to understand the effect of ageing on organelle biology and the role of organelles in cellular ageing.
- xxiii. Prof. Kannan Pakshirajan's laboratory: The research interests of the lab are Environmental Biotechnology, Biological removal and recovery of inorganic compounds from wastewaters, Biofuels and other Biotechnological Products: production, process design, kinetics and environmental applications.
- xxiv. Bio-interface & Environmental Engineering Lab (Dr. Lalit Mohan Pandey): The laboratory focuses on the following research aspects: (i) Surface and interfacial science particularly in the area of Bio-interfaces and Biomaterials (Design of Biocompatible surfaces): The surfaces are modified using various Self-Assembled Monolayers (SAMs) and their interactions with water, bio macromolecules i.e. polymers, proteins and cells are studied, (ii) Protein's adsorption and aggregation: The lab investigates the adsorption behavior and properties of various adsorbed proteins on surfaces with different wettabilities by forming mono, mixed and hybrid SAMs. The role of surface chemistry at the nanometer scale on aggregation of various therapeutic proteins is studied, (iii) Environmental Biotechnology: The lab focuses on 3Rs, Reduce waste generation, recycle the treated waste and reuse waste as by-product or recover energy from the waste.
- xxv. Prof. Sanjukta Patra laboratory: The research interests of the lab include enzyme applications, biotransformation, and biosensors.
- xxvi. Prof. Aiyagari Ramesh laboratory: The research interests of the lab include Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors.
- xxvii. Molecular Informatics and Design Group (Dr. Vibin Ramakrishnan): Molecular Informatics and Design Group integrates diverse disciplines of science and engineering in the design and development of advanced materials. The lab's approach to a research problem is 'idea centric' with a clear emphasis on the design phase, adopting modeling and informatics tools. The lab experiments a reductionist approach in understanding the interaction between molecules resulting in assembled architectures at nano and micro scale, and further employ it in the design of future materials. An information based modeling approach has been employed in the design and generation of tumor homing and cell penetrating molecules to test their efficacy as future drug delivery vehicles.
- xxviii. Applied Biodiversity Laboratory (Prof. Latha Rangan): The group tries to address the research questions in areas of Applied Biodiversity with special reference to bioresources of Northeast India using an integrative approach.
- xxix. Translational Crop Research Laboratory (Prof. Lingaraj Sahoo): Pathogens, insects and abiotic stresses cause major losses in yield and quality of crops. The discoveries in basic plant research play a vital role in meeting these challenges by developing technologies to improve agriculture by introducing important traits to crop of interest. The lab employs integrated approaches to identify genes with significant agronomic impact in both model (Arabidopsis) and crops (grain legumes and oil seeds), understand the mechanism by which they function and using this knowledge, develop designer crops for diverse plant abiotic (drought, salinity and nutrient deficiency or toxicity) and biotic (viral and insect) stress conditions, useful for growers, industry and consumers. Besides, the lab is working on biofortification in Asiatic grain legumes for healthcare applications and manipulation of key oil biosynthesis genes yield in Jatropha, a tropical perennial biofuel crop to improve oil quality and oil.
- xxx. Prof. Gurvinder Kaur Saini laboratory: The laboratory works in fungal biotechnology. The various aspects that are studied include (i) secondary metabolite production, (ii) development of hyper virulent strains of *Metarhizium anisopliae* and *Beauveria bassiana* using scorpion and spider neurotoxins, (iii) gene stacking in entomopathogenic fungi.
- xxxi. Computational Structural Biology laboratory (Dr. Priyadarshi Satpati): Working in the area of

- biomolecular interactions using computational methods (e.g., Molecular Dynamics, Electronic Structure Calculations). The main interest of the lab is in understanding accuracy in biological processes, including ligand binding (MTB selective drug design), protein-protein (DJ-1 dimerization and Parkinson's disease), protein-DNA (DNA recognition by spo0A during transcription) and Protein-RNA (release factor binding to mRNA), RNA-RNA (Group II introns) interactions, viral RNA recognition by RIG-I etc.
- xxxii. Bio Process Analytical Technology (BioPAT) Laboratory (Dr. Senthilkumar Sivaprakasam): The lab develops PAT technology for recombinant therapeutic proteins and value added compounds such as biopolymers, organic acids etc. PAT is defined as 'System for designing (process development), analysing and controlling manufacturing process, based on timely measurements of critical quality and performance attributes of raw material, in process materials and processes with the goal of ensuring final product quality'. PAT methodology envisages the identification of Critical Process Parameters (CPPs) and Critical Quality Attributes (CQAs) for every process. The CPPs are the indication of the overall reliability that a process proceeds in the desired direction. Therefore, their monitoring and control establishes the uniform product quality. 'Quality by design' in the PAT emphasizes that monitoring to be accomplished not only during the process, but should begin from raw material characterization, its processing, upstream process, product recovery, downstream process and till the polishing step. Therefore, this reduces the much effort emphasized by regulatory authorities on ensuring quality.
- xxxiii. Dr. Kusum Kumari Singh's Laboratory: The laboratory focuses on the RNA-binding proteins that are involved in the splicing machinery. During splicing of premature mRNA, the spliceosome deposits a multiprotein complex termed exon-junction complex (EJC) onto the mRNAs. The subunits that form the core EJC are eukaryotic translation initiation factor 4A3 (eIF4A3), Y14, MAGOH and barentsz (BTZ, CASC3, and MLN51). Many proteins interact with the core EJC and the focus of study is a protein complex termed as Apoptosis- and Splicing-Associated Protein (ASAP). Components of both ASAP and EJC have been found to function in a wide range of activities pertaining to RNA metabolism including splicing, translation, nonsense-mediated mRNA decay (NMD) and apoptosis. The current focus are on the following research areas: Understanding the functions of ASAP with respect to EJC in mRNA metabolism. Elucidating the molecular involvement of RNA-binding proteins (RBPs) in various human diseases such as cancers, neurodevelopmental disorders. Exploring the post-transcriptional gene regulations of different RBPs.
- xxxiv. Protein Biophysics Lab (Prof. R. Swaminathan): The main research focus in this lab is to investigate the structure, function and dynamics of proteins using spectroscopic techniques like UV-Visible spectroscopy and Fluorescence spectroscopy. Protein charge transfer spectra in the 250--800 nm region arising from charged amino acids like Lys and Glu is of special interest.
- xxxv. Neurospora Research Group (Dr. Ranjan Tamuli): The lab is interested to understand the molecular mechanism of calcium signaling pathway using the model filamentous fungus *Neurospora crassa*. Calcium ion is a universal second messenger molecule that impacts almost all cell processes in eukaryotes. The lab hopes to extend its research to understand the role of calcium signaling in memory, learning, and other related areas in future.
- xxxvi. Laboratory for Stem Cell Engineering and Regenerative Medicine (Dr. Rajkumar P. Thummer): Autologous cell-based therapy is a promising alternative to achieve repair or regenerate damaged cells and/or tissue without any immune rejection. The laboratory "Stem Cell Engineering and Regenerative Medicine", mainly focuses on generation of human cells using safe, integration-free reprogramming approaches to derive clinical-grade cells for transplantation. The outcome of the research will bring patient-specific cell therapy closer to clinic for treatment of various debilitating.
- xxxvii. Malaria Research Group (Prof. Vishal Trivedi): The research interests of the lab include Anti-Malarial Drug Discovery, Immunotoxicity studies in Macrophages, Regulation of Innate Immune Response, Endothelial Cells-RBC cytoadherence during Cerebral Malaria, Designing immunostimulatory and Anticancer agents.
- xxxviii. Dr. Selvaraju Narayanasamy Lab: The research interest of the lab includes Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering.
- xxxix. Biomechanics and Simulations lab (Dr. Souptick Chanda): The Lab is primarily engaged in design and optimization of various orthopaedic implants based on in vitro and in silico biomechanical testing/validations. Simulations for surgery and patient examinations training are also being envisaged at this laboratory.
- xl. Computational lab: The computational lab is used for carrying out the Bioinformatics and Computational Biology Lab, a lab course of the BTech curriculum.



- xli. Experimental Teaching laboratory: The laboratory is used to conduct the experimental course of the BTech and MTech curricula.

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

- Electroencephalogram setup for Brain Computer Interfaces;
- Gas Chromatography (Thermo Scientific);
- FTIR (Fourier-transform infrared spectroscopy); HPLC;
- Atomic Emission Spectrometer; Circular Dichorism (CD) Polarimeter;

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Cell signalling, Systems Biology, Protein Biochemistry, Molecular Biology, Immuno Parasitology, Biofuel, Biochemical Engineering, Tissue Engineering and Biomaterials, Stem Cell Biology, Cell Therapy & Regenerative Medicine, Organelle Biology, Inter-organelle Communications, Cellular Ageing, Bio-interfaces and Biomaterials, Environmental Biotechnology, Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors, Stem cell engineering and regenerative medicine, Molecular Parasitology, Computational Biology, Plant Biotechnology, RNA Biology, Structural Biology, Fungal Biotechnology, Molecular Endocrinology, Systems Biology, Bioprocess Engineering, Cancer Biology, Bio/Physio Sensors and Nanobioengineering, Biosensors and bio-fuel cells, Neural Engineering.

**MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT**

- i. Dr. Biplab Bose: Dr. Bose and his group have identified a novel network motif in a well established cell signaling network that helps cells to discriminate different input signals. We have also developed methods to perform phenotypic lineage identification from cellular imaging and have used that to understand the dynamics of phenotypic change during Epithelial to Mesenchymal transition.
- ii. Dr. Pranjal Chandra: Biosensing approaches are now a major area of research worldwide due to its simple yet tremendous potential to detect analyte at many fold below nano-molar concentrations. In the “Laboratory of Bio/Physio Sensors and Nanobioengineering”, Dr. Chandra and his group mainly work on development of novel materials for diverse applications in nano-biotechnology, electrochemical/optical biosensing approaches to detect wide range of molecules,

starting from free radicals to pathological proteins and organisms, which has a direct application in clinical, food safety as well as other industrial areas. The successful completion of these works would lead to simple methods, prototypes, or products to be used by an ordinary man to help in his day-to-day life.

- iii. Prof. Debasish Das: Development of a pilot scale facility for the ONGC Pan-IIT Centre for Bioenergy and the DBT-Unit of Excellence in Bioenergy. This pilot scale facility is a demonstration of biofuel production from microalgal Biomass in 100 L parallel plate photobioreactor, 1000 L photovoltaic airlift photobioreactor and open ponds (scaling up from 500 L to 1000 and 2000 L).
- iv. Prof. Pranab Goswami: (a) A portable kit was developed for onsite determination of formaldehyde in aqueous sample  
(b) An instrument free aptamers based kit for detection of pan malaria and Plasmodium falciparum malaria has been developed.
- v. Prof. Arun Goyal: A bifunctional chimeric enzyme (CtGH1-L1-CtGH5-F194A) from endoglucanase (CtGH5) mutant F194A and  $\beta$ -1,4-glucosidase (CtGH1) from Clostridium thermocellum with enhanced activity and structural integrity was developed.
- vi. Dr. Cota Navin Gupta: A real-time Brain Computer Interface system was implemented wherein a person can spell a letter using electroencephalogram (i.e brain signals). Three demo sessions were conducted and the spelling device was displayed at IIT Guwahati Research Conclave 2019 (On Institute open day).
- vii. Dr. Selvaraju Narayanasamy: Dr. Narayansamy and his group have successfully prepared biosorbents which can potentially sequester heavy metals such as Chromium, Copper and Cobalt and various cationic and anionic dyes.
- viii. (a) Dr. Ajaikumar B. Kunnumakkara’s Laboratory which was inaugurated as DAILAB (DBT-AIST International Laboratory for Advanced Biomedicine) on May 8th 2017 was upgraded to DAICENTER on July 26th 2018 by DBT, Govt. of India and AIST, Govt. of Japan due to the excellent performance and productivity of the lab.  
(b) Dr. Kunnumakkara’s laboratory discovered a new protein (NGAL) that is downregulated in oral cancer which leads to its development and also discovered a drug that restores its expression in this cancer.  
(c) Dr. Kunnumakkara’s laboratory discovered a new target for oral cancer which is FDA approved.

**CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Dr. Souptick Chanda	2nd World Congress & Expo on Biotechnology and Bioengineering, June 25-27, 2018	Dubai	23 Jun 2018	International

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Dr. Pranjal Chandra	DST/DBT Joint Conclave of Ramanujan, Ramalingaswamy, and Inspire Fellows	Jaipur	8-10 Jun 2018	National
Dr. Pranjal Chandra	Platinum Jubilee International Conference on Biotechnological Research and Innovation for Sustainable Development	Indian Institute of Chemical Technology Hyderabad	22-25 Nov 2018	International
Dr. Pranjal Chandra	International Conference on Frontiers in Chemical Sciences (FICS - 2018)	IIT Guwahati	6-8 Dec 2018	International
Dr. Pranjal Chandra	New Horizon in Food Processing Technology and Nutrition (NHFPTN-2019) during SLIETCON-2019, Under TEQIP - III (Twinning Program)	S.L. Institute of Engg. & Technology (MHRD, Govt. of India), Punjab	1-2 Mar 2019	National
Dr. Pranjal Chandra	International Conference on Computational Methods in Manufacturing (ICMM 2019)	IIT Guwahati	8-9 Mar 2019	National
Dr. Nitin Chaudhary	National Workshop on Fluorescence and Raman Spectroscopy (FCS2018)	Delhi	12-17 Nov 2018	National
Prof. Pranab Goswami	Bio-fuel cell: An Emerging Green Technology for Biosensors and Bioremediation Applications	Assam Engineering College, Guwahati	18 Dec 2018	National
Prof. Pranab Goswami	Bio-fuel cell	Tezpur University	14 Dec 2018	National
Prof. Arun Goyal	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention	CSIR- Indian Institute of Chemical Technology (CSIR-IICT) Hyderabad	22-25 Nov 2018	International
Prof. Arun Goyal	Bioprocessing India 2018	IIT Delhi	16-18 Dec 2018	National
Prof. Arun Goyal	3rd International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC)	IIT Roorkee	18-21 Dec 2018	International
Prof. Arun Goyal	CARBO-XXXIII, Sweet '18: Glycochemistry, Biology and Technology (SGBT)	Indian Institute of Science Education and Research (IISER) Kolkata	19-21 Dec 2018	International
Dr. Bithiah Grace Jaganathan	3rd scientific workshop on the hematological tumor microenvironment and its therapeutic targeting	London, UK	24-26 Feb 2019	International
Dr. Manish Kumar	VIBCON 2018	Medziphema, Nagaland	13-15 Dec 2018	National
Dr. Anil M. Limaye	38th annual convention of the Indian Association for Cancer Research	Chandigarh	1-3 Mar 2019	National
Dr. Anil M. Limaye	Indo-Japan symposium on Recent Advances in Cancer Research	Guwahati	28 Mar 2019	National



<b>Name of Faculty</b>	<b>Name of Conf./Workshop</b>	<b>Place</b>	<b>Date</b>	<b>International/ National</b>
Dr. Biman B. Mandal	International Conference on Functional Nanomaterials (ICFNM-2019)	IIT- BHU	22-25 Feb 2019	International
Dr. Biman B. Mandal	International Conference on Advances in Polymer Science & Technology	Kathmandu, Nepal	1-3 Nov 2018	International
Dr. Biman B. Mandal	Indian Biophysical Society International Conference	IISER Kolkata	15-17 Mar 2019	International
Dr. Biman B. Mandal	4th Annual Conference 2018, Research Society for the Study of Diabetes in India, Assam Chapter	Guwahati, Assam	25-26 Aug 2018	National
Dr. Biman B. Mandal	International Symposium of Functional Nanomaterials (ISFM)	Chandigarh University	13-15 Apr 2018	International
Dr. Biman B. Mandal	3rd Annual Conference of ISNM "Nanobiotech-2018"	IIT Delhi and AIIMS, New Delhi	24-27 Oct 2018	International
Dr. Biman B. Mandal	International conference on Biomedical Engineering and Technology: Roadway from Laboratory to Market	NIT Raipur	20-21 Dec 2018	International
Dr. Biman B. Mandal	National Symposium on "From Genes to Network: Recent trends in Cell Signaling"	Amity University, Haryana	14-15 Dec 2018	National
Dr. Biman B. Mandal	Indo-Egyptian symposium meeting, BSBE Department, IIT Bombay	BSBE Department, IIT Bombay	30-31 Jan 2019	International
Dr. Biman B. Mandal	4th Annual Conference organized by Assam Endocrine Society	Gauhati Medical College, Guwahati	15-16 Mar 2019	National
Dr. Shirisha Nagotu	Zeiss Microscopy conclave 2019	Bangalore, India	14-16 Feb 2019	National
Prof. Kannan Pakshirajan	6th Bioprocessing India Conference (BPI 2018)	IIT Delhi, New Delhi,	16-18 Dec 2018	International
Prof. Kannan Pakshirajan	International Conference in Challenges in Environmental Science & Engineering (CESE-2018)	Bangkok, Thailand	4-8 Nov 2018	International
Prof. Kannan Pakshirajan	International Conference on Sustainable Water Resources - Innovation and Impacts (TECHNOSCAPE-2018)	Vellore, Tamil Nadu	6-8 Sep 2018	International
Prof. Kannan Pakshirajan	Go Green Conference	Puttaparthi, Andhra Pradesh	25-26 Jul 2018	International
Dr. Lalit M Pandey	Bioinspired Nanomaterials 2019	University of Strathclyde, United Kingdom	18-19 Mar 2019	International
Prof. Aiyagari Ramesh	8th ASM Conference on Biofilms	Washington DC, USA	7-11 Oct 2018	International

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Dr. Rajkumar P. Thummer	Recent Trends and Advancements in Regenerative Medicine and The Role of Omics and Biomarkers in Health	University of Kerala, Thiruvananthapuram	28 Feb - 2 Mar 2019	National
Prof. Rakhi Chaturvedi	1st Rural Dialogue jointly organized by Innovior, Delhi and Centre for Rural Technology, IIT Guwahati, India	IIT Guwahati, Guwahati	6-7 Jul 2018	National
Prof. Lingaraj Sahoo	International Conference on Trends in Plant Sciences and Agrobiotechnology-2019 (ICTPA-2019)	IIT Guwahati	14-16 Feb 2019	International
Prof. Lingaraj Sahoo	Assam Botany Congress (ABC-01)	Gauhati University	4-6 Feb 2019	International
Prof. Lingaraj Sahoo	International Plant Physiology Congress	Lucknow, Uttar Pradesh	2-5 Dec 2018	International
Prof. Utpal Bora	Tailoring physical properties of materials for nerve regeneration	CNRS & UNIVERSITÉ PARIS-SUD, Paris, France	22-24 Oct 2018	International

#### INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./ Org.	Place	Date
Dr. B. Anand	CRISPR-Cas System: From Genome Defence to Tinkering Genome	DBT Workshop on Genome Engineering, IISc Bangalore	Bengaluru	26 Jun 2018
Dr. B. Anand	CRISPR-Cas System: Some Hard Facts on its Biology and Hot Air on its Genome Engineering Applications	IN-YAS-Frontier of Science Brainstorming Meeting, Indian National Young Academy of Sciences (IN-YAS)	Hyderabad	10 Dec 2018
Prof. Utpal Bora	Modern Biology in Homeopathy	NEIAH, Shillong	Shillong	10 April 2018
Prof. Utpal Bora	Insect Genomics and Translational Research	Sikkim University	Gangtok	28-29 May 2018
Prof. Utpal Bora	Genomics of Silkworms	Nowgong College	Nagaon, Assam	4-5 Oct 2018
Prof. Utpal Bora	Genomics of Silkworms	UGC Refresher Course in Life Sciences, UGC –HRDC - Gauhati University	Assam	20 Jul 2018
Prof. Utpal Bora	Aptamers in India	University of Bordeaux,	Bordeaux, France	17-19 Oct 2018
Prof. Utpal Bora	Evolution of Butterfly and Moths with Angiosperms	Max Planck Institute of Evolutionary Biology	Plon, Germany	26-29 Oct 2018
Prof. Utpal Bora	Bioentrepreneurship, Challenges and Opportunities	GUIST	Guwahati, Assam	17 Nov 2018
Prof. Utpal Bora	Understanding the evolutionary relationship between angiosperms and Lepidoptera	Gauhati University	Assam	5 Feb 2019
Prof. Utpal Bora	Panelist	Amity University Kolkata Campus (Organized jointly by DST & ASCI)	Kolkata	14 Feb 2019



Name of Faculty	Name of Lecture	Name of Inst./ Org.	Place	Date
Prof. Utpal Bora	Literature Search and Identification of Research Problem	North Eastern Institute of Ayurveda and Homeopathy	Shillong	21 Feb 2019
Prof. Utpal Bora	Climate Change: Challenges, Opportunities, Adaptability and Sustainability	IIT Madras	Madras	02 Mar 2019
Dr. Biplab Bose	Data, More Data, and Personalized Medicine	ACBICON 2018	Goa	Oct 2018
Dr. Biplab Bose	Looking Beyond Average: Exploring Cellular Heterogeneity	International Conference On Trends in Plant Sciences And Agrobiotechnology, 2019	Guwahati	Feb 2019
Dr. Biplab Bose	Cellular State Transition Dynamics in EGF-induced in Epithelial-Mesenchymal Transition	IACR 2019	Chandigarh	Feb 2019
Dr. Biplab Bose	Do More with Your Flow Cytometry Data: Look Beyond MFI	Indo-US Flow Cytometry Workshop, IIT Guwahati	Guwahati	Mar 2019
Dr. Biplab Bose	Exploring Cellular Heterogeneity & Subpopulation Dynamics	Indo-US Flow Cytometry Workshop, Cachar Cancer Hospital	Silchar	Mar 2019
Dr. Bithiah Grace Jaganathan	BMP and ERK Pathways in Imatinib Resistance of Chronic Myeloid Leukemia	Indo-US Flow Cytometry Workshop, IIT Guwahati	Guwahati	Mar 2019
Dr. Bithiah Grace Jaganathan	Chemoresistance of Chronic Myeloid Leukemia	Symposium on "Recent Advances in Cancer Research"	Guwahati	28 Mar 2019
Dr. Pranjal Chandra	Design of Miniaturized Nanobiosensing Prototypes for Diverse Applications	Indian Institute of Chemical Technology Hyderabad	Hyderabad	22-25 Nov 2018
Dr. Pranjal Chandra	Design and development of miniaturized biosensor for onsite clinical and food safety application	Indian Institute of Technology Guwahati	Guwahati	6-8 Dec 2018
Dr. Pranjal Chandra	Electrochemical sensing systems for clinical application	Indian Institute of Technology Bhubaneswar	Bhubaneswar	26 Jan 2019
Dr. Pranjal Chandra	Nano-bioengineered based commercially viable electronic sensor systems for onsite food safety and clinical applications	S.L. Institute of Engg. & Technology (MHRD, Govt. of India), Punjab	Chandigarh	1-2 Mar 2019
Dr. Pranjal Chandra	NanoBio-Engineering Methods for Development of Commercially Viable Sensor	Indian Institute of Technology Guwahati	Guwahati	8-9 March 2019
Prof. Rakhi Chaturvedi	In vitro anther culture and haploid plant production in Camellia species to generate homozygous plants with the possibilities of accumulation of bioactive metabolites	State Innovation and Transformation Aayog of Assam (SITA), Tea Conclave	Khanapara, Guwahati	7-8 Mar 2018
Prof. Rakhi Chaturvedi	Studies on nutrient uptake and culture conditions for synthesis of Caffeine, (+)-Catechine, (-)-Epicatechin and (-)-Epigallocatechin gallate in anther derived haploid cell lines of tea [Camellia sinensis (L.)]	National Chung Hsing University (NCHU)	Taichung, Taiwan, R.O.C.	30-31 Mar 2018

Name of Faculty	Name of Lecture	Name of Inst./ Org.	Place	Date
Prof. Rakhi Chaturvedi	Plant cell suspension cultures: an engineering consideration for enhanced metabolite production	2018 In Vitro Biology Meeting by Society for In Vitro Biology (SIVB)	St Louis, Missouri, USA	2-6 Jun 2018
Prof. Rakhi Chaturvedi	Possibilities on accelerating the endogenous production of medicinally useful metabolites in <i>Camellia</i> spp. via androgenesis and haploid plant production in vitro	2018 Western Region Annual Meeting: The Pacific Rim Conference by International Plant Propagators' Society (IPPS)	Kona, Hawaii, USA	28 Jul - 4 Aug 2018
Prof. Rakhi Chaturvedi	Totipotency and regeneration in tissue cultures of <i>azadirachta indica</i> (neem) - a versatile tree.	International Association for Plant Biotechnology (IAPB) Congress	Dublin, Ireland	19-24 Aug 2018
Prof. Rakhi Chaturvedi	Introduction of plant tissue culture concepts to the Ayurveda realm	Workshop on "Ayurveda for Public Health" by North Eastern Institute of Ayurveda & Homoeopathy (NEIAH), Ministry of Ayuh, Govt. of India	Shillong, Meghalaya, India	2 Nov 2018
Prof. Rakhi Chaturvedi	Plant Tissue Culture: An Engineering Consideration for Enhanced Metabolite Production	88th Annual Session of the Academy (NASI) & Symposium by NASI, India	Chitrakoot, Satna, M.P., India.	6-8 Dec 2018
Prof. Rakhi Chaturvedi	In vitro callus and cell suspension cultures from different plant parts for metabolite production and scale-up	6th Bioprocessing India (BPI) conference 2018 by IIT Delhi	Delhi, India	16-18 Dec 2018
Prof. Rakhi Chaturvedi	Application of plant tissue culture techniques for bioresources conservation and recovery	Assam botanical and international conference on plant science by botanical society of Assam, in association with department of Botany, Gauhati University and PCRf, Calcutta	Guwahati	4-6 Feb 2019
Prof. Rakhi Chaturvedi	Biotechnological interventions for bioresources conservation and recovery	National Conference on Stakeholders on Conservation, Cultivation, Resource Development and Sustainable Utilization of Medicinal Plants of North Eastern India by Nagaland University and Society for Conservation & Resource Development of Medicinal Plants, New Delhi	Lumami, Nagaland	6-7 Mar 2019
Prof. Rakhi Chaturvedi	Biotechnological tools for bioresources conservation and metabolite production	Biotechnology Research in India: Current status and Future Prospects By Jamia Hamdard (Hamdard University)	New Delhi	26-27 Mar 2019
Prof. S. S. Ghosh	Emergence of Cancer Nanotheranostics	National Conference on recent advances in applied biological sciences	NEHU (Shillong)	4-5 May 2018
Prof. S. S. Ghosh	Nanotheranostics to 'POC' Device	An Interdisciplinary Approach in Characterization & Applications of Nanostructured Materials	University of Kalyani	1-10 Aug 2019



Name of Faculty	Name of Lecture	Name of Inst./ Org.	Place	Date
Prof. S. S. Ghosh	Theranostics 'POC' Device	TEQIP3-IITG	IIT Guwahati, Guwahati	21 Sep 2019
Prof. S. S. Ghosh	Nanotheranostics to 'POC' Device	International Conference on Functional Nanomaterials (ICFNM-2019)	IIT BHU, Varanasi	23-25 Feb 2019
Prof. S. S. Ghosh	Flow cytometry in Nanotheranostics Devices	The 20th Indo-US Flow Cytometry Workshop and Symposium on Advanced Molecular Techniques	IIT Guwahati, Guwahati	13 Feb 2019
Prof. S. S. Ghosh	Prospective Nanotheranostic Devices	National Conference on Chalcogenide Compounds	Defence Institute of Advanced Technology, Pune	14 Feb 2019
Prof. Arun Goyal	Green process of degumming of jute fiber and bioscouring of cotton fabric by alkaline pectinases from Clostridium thermocellum	National Conference on Recent Trends and Advancements in Chemical Sciences	University of Delhi	29-31 Mar 2019.
Prof. Arun Goyal	Recombinant chondroitin AC lyase (PsPL8A) from Pedobacter saltans and its applications in therapeutics and functional foods	12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET)	Mizoram University, Aizawl, Mizoram	12-14 Nov 2018
Prof. Arun Goyal	Protein engineering of hydrolytic enzymes for enhancing activity for improved saccharification	DBT National Workshop on Bioenergy, IIT Roorkee	IIT Roorkee, Roorkee	6-7 July 2018
Dr. Cota Navin Gupta	TEQIP-III Sponsored Short Term Course on Fundamentals of Robotics and Artificial Intelligence	IIT Guwahati	Guwahati	4-8 Feb 2019
Dr. Cota Navin Gupta	QIP - Short Term Course on "Current Status and Requirements of Biomedical Devices"	IIT Guwahati	Guwahati	28 Mar 2019
Dr. Ajaikumar B Kunnumakkara	Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases	Fayoum University,	Egypt	12 Apr 2018
Dr. Ajaikumar B Kunnumakkara	Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases	Delta University	Egypt	14 Apr 2018
Dr. Ajaikumar B Kunnumakkara	New Trends in Cancer Therapy	Mansoura University	Egypt	15 Apr 2018
Dr. Ajaikumar B Kunnumakkara	Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases	Mansoura University	Egypt	16 Apr 2018
Dr. Ajaikumar B Kunnumakkara	New Trends in Cancer Therapy	Kfr El-Sheikh University	Egypt	17 Apr 2018

<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./ Org.</b>	<b>Place</b>	<b>Date</b>
Dr. Ajaikumar B Kunnumakkara	Role of Nanotechnology in the development of safe, efficacious and affordable drugs for the prevention and treatment of cancer	Mahatma Gandhi University	Kottayam, Kerala	11 Jul 2018
Dr. Ajaikumar B Kunnumakkara	Curcumin: The Indian Solid Gold for the Prevention and Treatment of Different Chronic Diseases	NIPER Guwahati	Guwahati	25 Aug 2018
Dr. Ajaikumar B Kunnumakkara	The potential of natural products in the prevention and treatment of oral cancer	3rd International Conference on Nutraceuticals and Chronic Diseases". Organized by Swami Rama Himalayan University	Rishikesh	15 Sep 2018
Dr. Ajaikumar B Kunnumakkara	The Role of Nutraceuticals in the Prevention and Treatment of Chronic Diseases	Department of Pharmaceutical Biotechnology, Manipal Institute of Higher Education	Manipal, Karnataka	24 Sep 2018
Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and Nature Based Solutions	National Institute of Advanced Industrial Science and Technology,	Tsukuba, Japan	17 Oct 2018
Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and Nature Based Solutions	Biyani College	Jaipur	27 Nov 2018
Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and Nature Based Solutions	Indian Institute of Chemical Technology	Hyderabad	24 Nov 2018
Dr. Ajaikumar B Kunnumakkara	Isoform Specific Role of Akt in Oral Cancer	Center for Cellular and Molecular Biology	Hyderabad	23 Nov 2018
Dr. Ajaikumar B Kunnumakkara	CME Talk-Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Bangalore	8 Dec 2018
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Kanpur	13 Dec 2018
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Lucknow	14 Dec 2018
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Jaipur	15 Dec 2018
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Agra, Uttar Pradesh	16 Jan 2019
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	Big Brother Nutra Care Pvt Ltd	Jhansi, Uttar Pradesh	17 Jan 2019



<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./ Org.</b>	<b>Place</b>	<b>Date</b>
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	Big Brother Nutra Care Pvt Ltd	Bhopal, Madhya Pradesh	18 Jan 2019
Dr. Ajaikumar B Kunnumakkara	CME Talk- Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	Big Brother Nutra Care Pvt Ltd	Ujjain, Madhya Pradesh	19 Jan 2019
Dr. Ajaikumar B Kunnumakkara	Role of Store Operated Calcium Channels and Oral Cancer	Guru Nanak Dev University	Amritsar, India	22 Feb 2019
Dr. Ajaikumar B Kunnumakkara	Turmeric: The Indian Solid Gold for the Prevention and Treatment of Different Chronic Diseases	International AYUSH Conclave Govt. of Kerala	Thiruvana-thapuram, Kerala	16 Feb 2019
Dr. Ajaikumar B Kunnumakkara	Isoform Specific Development of Akt Inhibitors for the Treatment of Oral Cancer	CSIR-NIIST	Thiruvana-thapuram, Kerala	27 Feb 2019
Dr. Ajaikumar B Kunnumakkara	An Investigation on the Interplay between Tumor Necrosis Factor- $\alpha$ Induced Protein 8 (TNFAIP8/TIPE) Family and Progression of Oral Squamous Cell Carcinoma (OSCC)	Kerala University	Thiruvana-thapuram, Kerala	28 Feb 2019
Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and natural Solutions	IIT Delhi	Delhi	18 Feb 2019
Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and natural Solutions	Recent Advances in Biomedical Research, IIT Guwahati	Guwahati	27 Mar 2019
Dr. Ajaikumar B Kunnumakkara	Role of Nutraceuticals in the prevention and treatment of cancer	Recent Advances in Cancer Research, IIT Guwahati	Guwahati	28 Mar 2019
Dr. Ajaikumar B Kunnumakkara	Fusion genes and cancer	Recent Advances in Cancer Research, IIT Guwahati	Guwahati	28 Mar 2019
Dr. Anil M. Limaye	Interplay of estrogen regulation and DNA methylation dependent silencing in the intron-2 of Cystatin A gene in breast cancer cells	Dept. of MBBT, Tezpur University	Tezpur	26 Mar 2019
Dr. Biman B. Mandal	Invited Popular Science Lecture on Tissue Engineering to Undergraduate students at Jagadis Bose National Science Talent Search, (JBNSTS), Kolkata	Jagadis Bose National Science Talent Search, (JBNSTS)	Kolkata	29 Mar 2019
Dr. Biman B. Mandal	Invited Popular Science Lecture on Tissue Engineering at IIT Guwahati	Research Conclave 2019, IIT Guwahati	Guwahati	14-17 Mar 2019
Dr. Biman B. Mandal	Invited Popular Science Lecture to Top 1% 10+ students of West Bengal	Jagadis Bose National Science Talent Search, (JBNSTS)	Kolkata	17 Mar 2019
Dr. Biman B. Mandal	Invited lecture at 4th Annual Conference organized by Assam Endocrine Society	Department of Endocrinology, Gauhati Medical College	Kaziranga, Assam	15-16 Mar 2019

<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./ Org.</b>	<b>Place</b>	<b>Date</b>
Dr. Biman B. Mandal	Invited lecture at Indian Biophysical Society International Conference	IISER Kolkata	Kalyani, West Bengal	15-17 Mar 2019
Dr. Biman B. Mandal	Invited lecture at Indo-Egyptian symposium meeting, BSBE Department, IIT Bombay	BSBE Department, IIT Bombay	Mumbai	30-31 Jan 2019
Dr. Biman B. Mandal	Invited lecture at National Symposium on "From Genes to Network: Recent trends in Cell Signaling"	Amity University	Haryana	14-15 Dec 2018
Dr. Biman B. Mandal	Invited lecture at International conference on Biomedical Engineering and Technology: Roadway from Laboratory to Market"	Department of Biomedical Engineering, NIT Raipur	Raipur	20-21 Dec 2018
Dr. Biman B. Mandal	Invited Popular Lecture conducted by The National Academy of Sciences, India (NASI), NER Chapter	St. Edmund's College, Shillong	Shillong	24 Nov 2018
Dr. Biman B. Mandal	Invited lecture at 3rd Annual Conference of ISNM "Nanobiotech-2018"	IIT Delhi and AIIMS	New Delhi	24-27 Oct 2018
Dr. Biman B. Mandal	Invited lecture at 4th Annual Conference 2018, Research Society for the Study of Diabetes in India, Assam Chapter	Research Society for the Study of Diabetes in India, Assam Chapter	Guwahati	25-26 Aug 2018
Dr. Biman B. Mandal	Invited lecture at International Symposium of Functional Nanomaterials (ISFM)	Chandigarh University	Chandigarh	13-15 Apr 2018
Dr. Biman B. Mandal	Invited lecture at International Conference on Advances in Polymer Science & Technology	Kathmandu, Nepal.	Kathmandu, Nepal.	1-3 Nov 2018
Prof. Kannan Pakshirajan	Syngas fermentation for biohydrogen production and biodesulfurization	S.S.N. College of Engineering,	Chennai, Tamil Nadu	14-15 Feb 2019
Prof. Kannan Pakshirajan	Value added products from biomass gasification waste – a biorefinery approach	Assam Engineering College	Guwahati	17-21 Dec 2018
Prof. Kannan Pakshirajan	Waste biorefinery for sustainable circular economy	IIT Guwahati	Guwahati	26-30 Nov 2018
Prof. Kannan Pakshirajan	Cost-effective and large scale production of biosurfactants for sustainable agriculture	North-Eastern Hill University	Shillong, Meghalaya	10-12 Sep 2018
Prof. Kannan Pakshirajan	Environmental pollution: causes, effects and control	IIT Guwahati	Guwahati	30 Aug -19 Sep 2018
Prof. Kannan Pakshirajan	Writing and publishing first quality scientific manuscripts	University of Science & Technology	Meghalaya	21-25 May 2018
Prof. Kannan Pakshirajan	Biological treatment of oil and gas industry wastewater for value addition and resource recovery	IIT Guwahati	Guwahati	4 April 2018



<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./ Org.</b>	<b>Place</b>	<b>Date</b>
Prof. Aiyagari Ramesh	"Probiotic Lactic Acid Bacteria in Antibacterial Therapy: Techniques and Applications"	CSIR - Central Food Technological Research Institute	Mysuru	1 Mar 2019
Prof. L Rangan	Mining of bioactives from seeds of Karanj.	IICT Hyderabad	Hyderabad, India	22-24 Nov 2018
Prof. L Rangan	Estimation of nuclear genome size and its correlation with Ty1-copia like LTR retrotransposon and cell phenotypic traits.	Global Plant and Molecular Biology Conference (GPMB)	Rome	20-23 Sep 2018
Prof. L Rangan	Combining the old with the new- "Nature is our prototype"- New Positives of Research in Field of Applied Biodiversity	Symbiosis	Pune, India	31 Aug 2018
Prof. L Rangan	Maintaining Biodiversity in North-eastern India: Ethno-medicinal usage of Zingiberaceae.	Biovision Alexandria	Egypt	20-22 Apr 2018
Prof. Lingaraj Sahoo	Biotechnology for Insect Pest and Virus Management in Cowpea	Gifu University, Japan	Gifu, Japan	23 May 2018
Prof. Lingaraj Sahoo	Industrial Application of Biological Pesticides and Genetically Modified Plants	Japan Bioindustry Association Meet	Tokyo, Japan	25 May 2018
Prof. Lingaraj Sahoo	Plant and Algal Bioresource based Biofuel	JDA talk at Gifu University, Japan	Gifu, Japan	28 May 2018
Prof. Lingaraj Sahoo	Application of Plant Biotechnology – Crop Protection	UGSAS, Gifu University	Gifu, Japan	29 May 2018
Prof. Lingaraj Sahoo	Improvement of Minor Grain Legumes – from Genes to Field	National Seminar on Plant Sciences by Tripura University	Agartala, Tripura	07 Jun 2018
Prof. Lingaraj Sahoo	RNA Interference mediated Crop Protection	College of Veterinary Science, Assam Agricultural University	Khanapara, Guwahati	9 Aug 2018
Prof. Lingaraj Sahoo	New Age Agriculture - Learning from Nature	The University of Science and Technology (USTM), Meghalaya	Khanapara, Meghalaya	18 Aug 2018
Prof. Lingaraj Sahoo	Climate Smart Agriculture - Learning from Nature	UGC-HRDC, Gauhati University	Guwahati	27 Sep 2018
Prof. Lingaraj Sahoo	Field performance of RNAi-transgenic cowpea lines resistant to MYMIV	ICTPA 2019, IIT Guwahati	Guwahati	15 Feb 2019
Dr. Senthilkumar Sivaprakasam	Enhanced Production of Human Interferon $\alpha 2b$ (huifn $\alpha 2b$ ) in Glycoengineered Pichia Pastoris Cell Factory: Process Analytical Technology (PAT) Enabled Process Monitoring and Control	IIT Delhi	Delhi	17 Dec 2018
Prof. Rajaram Swaminathan	Intrinsic fluorescence from protein charge transfer states: photochemical features and application	JNU	New Delhi	16 Nov 18

Name of Faculty	Name of Lecture	Name of Inst./ Org.	Place	Date
Dr. Rajkumar P. Thummer	An Insight into a DNA-free Reprogramming Approach to Generate Integration-Free Induced Pluripotent Stem Cells for Prospective Biomedical Applications	Dept. of Zoology, University of Kerala	Thiruvananthapuram	2 Mar 2019
Dr. Souptick Chanda	Invited lecture for QIP short term course on "Current Status and Requirements of Biomedical Devices". Topic: Muscle Contraction Dynamics: A Modeling Approach	IIT Guwahati	Guwahati	25 Mar 2019

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Dr. Vinay Mandati	Scripps Research Institute	Emerging Tumor Suppressor Mechanisms of Hippo Core Components	14 Aug 2018
Prof. Krishnamachar Sreenivasan	CIT Kokrajhar	Stability of Multi Layered Vehicular & Clop Flow	25 Sep 2018
Dr. Ajay Dixit	Univ. of Minnesota	Understanding the immune dynamics in inflammation and cancer	5 Oct 10.2018
Dr. Saurav Haldar	NIH, Bethesda	New insights in influenza viral fusion	2 Nov 2018
Prof. John N. Giannios	World Genomic Translational Medicine Organization	Eradication of chemoresistant metastatic cancer stem cells mediated by nanosurgery	13 Nov 2018
Dr. Farid Badria	Mansoura University Natural Products: Preclinical and Clinical Applications of Untapped sources for Human Health Welfare	Natural Products: Preclinical and Clinical Applications of Untapped sources for Human Health Welfare	15 Nov 2018
Dr. Raushan Singh	Univ. of Massachusetts Medical School	SWR1C: A nucleosome editing machine	16 Nov 2018
Dr Rashmi Panigrahi	Univ. of Alberta, Canada	Making sense of chaos in membrane proteins	19 Dec 2018
Dr. Hemant Agrawal	DENOVO software, USA	FCS Express: An introduction to flow cytometry data analysis-getting the most out of your data in record time	29 Jan 2019
Prof. Claus-Michael Lehr	Helmholtz Institute of Pharmaceutical Research	Drug Delivery Technologies for Combatting and Preventing Infectious Diseases	5 Feb 2019
Dr. Arnab Datta	NIH, USA Quantitative Protein Mass Spectrometry: A systems Biological Approach for the Discovery and Validation of Potential Therapeutic Targets and Biomarkers for Human Diseases	Quantitative Protein Mass Spectrometry: A systems Biological Approach for the Discovery and Validation of Potential Therapeutic Targets and Biomarkers for Human Diseases	6 Feb 2019
Prof. Philip Cohen	Univ. of Dundee	The interplay between protein phosphorylation and ubiquitylation in regulating the innate immune system	7 Feb 2019



Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Dr. Raunak Kumar Das	VIT Vellore	Epithelio-Mesenchymal Transition in oral precancers and its induction by viruses	12 Feb 2019
Dr. Pooja Kumari	Univ. of Oslo	Distinct RNA elements repurpose LIN4 mediated RNA regulation during cell-fate decisions	13 Mar 2019
Prof. Kelath Murali Manoj	Satyamjayatu-the Science Foundataion	Why is oxygen the elixir of life? How does cyanide kill so quickly?" Criticism of standing textbook ideas on cellular respiration and explanations by murburn concept, a new paradigm in biochemistry	11 Mar 2019
Dr. King Hang Aaron Lau	University of Strathclyde, United Kingdom	Invited speaker	18 Dec 2018
Dr. Aruna Ivaturi	University of Strathclyde, United Kingdom	Invited speaker	18 Dec 2018
Prof. Vinay Juvekar	IIT Bomaby, India	External Ph.D. Thesis Examiner	13 Nov 2018
Prof. Akio Ebihara	Gifu University, Gifu	Lab Visit	22 Sep 2018
Dr. S.S. Sandhu, Additional Secretary	Ministry of Human Resource Development, Gol	Lab Visit	30 Nov 2018
Shri Kailash Soni	Member of Parliament, Rajya Sabha	Lab Visit	16 Aug 2018
Ms. Juri Gogoi	United Health Group, US	Lab Visit	29 Nov 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International / National	No. of participants
Dr. B. Anand	11th Young Investigators' Meeting (YIM 2019)	DBT, Wellcome-DBT India Alliance, Springer Nature, Thermo Fisher Scientific, CSIR-IICB	6-10 Mar 2019	International	150
Dr. Cota Navin Gupta, Dr. Souptick Chanda, Dr. Selvaraju Narayanasamy	Computational Modeling and Simulation for Bioengineering Applications.	DBT	09 Jun 2018	National	40
Dr.Cota Navin Gupta (Session Co-Chair)	The twelfth national frontiers of engineering	INAE	17-18 Sep 2018	National	150
Kumar S	Diagnostic Approaches in Virology: Recent Advancements	DBT	4-6 Mar 2019	National	35
Dr. Biman B. Mandal (IITG) And Dr. Avانش Parmar Singh (IIT BHU)	International Conference on Functional Nanomaterials (ICFNM-2019)	DST/DBT/ICMR	22-25 Feb 2019	International	250
Kannan Pakshirajan	Global Initiative of Academic Networks (GIAN) course on Biofuel Cell Technology: Fundamentals and Applications	MHRD, Government of India	23-27 Apr 2018	National	40

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International / National	No. of participants
Dr. Lalit M Pandey and Prof. Animes K Golder	Recent advances in bioinspired nanomaterials for environmental applications	DST-UK India educated and research initiative	18 Dec 2018	International	40
L. Rangan (Chairperson and principle Convener)	20th Indo-US Flow Cytometry Symposium Cum Workshop on "Applications of Flow Cytometry in Biotechnology	ISAC, TETC	13-16 Mar 2019	International	38
Rakhi Chaturvedi	Vigyan Jyoti 2018	Department of Science and Technology (DST) India.	29 Aug-14 Sep 2018	National	60
Rakhi Chaturvedi	International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), in association with IIT Guwahati and International Plant Propagators' Society (IPPS)	DBT, NEC and other private sponsors	11-13 Feb 2019	International	175
Rakhi Chaturvedi	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019), in association with IIT Guwahati and Plant Tissue Culture Association-India (PTCA-I)	DBT, NEC and other private sponsors	14-16 Feb 2019	International	350
Dr. Ajaikumar B Kunnumakkara (Chairman)	International Conference on Nutraceuticals and Chronic Diseases	Society for Nutraceuticals and Chronic Diseases	14-16 Sep 2018	International	500
Dr. Ajaikumar B Kunnumakkara (Convener)	Recent Advances in Biomedical Research-2019	Department of Biotechnology, Govt. of India	26-27 Mar 2019	International	90
Dr. Ajaikumar B Kunnumakkara (Convener)	Recent Advances in Cancer Research-2019	Department of Biotechnology, Govt. of India	28 Mar 2019	National	80

## PATENTS

Name of Faculty and Co-researcher	Name	Date Applied/ Granted	Application No.
Gargi Goswami, Ankan Sinha, Ratan Kumar, , Harender Singh, B.C. Dutta, Debasish Das	Process for enhancing biomass productivity by high density cultivation of microalgae	2 Nov 2018	201811041629



Name of Faculty and Co-researcher	Name	Date Applied/Granted	Application No.
Mayurketan Mukherjee, Gargi Goswami and Debasish Das	Media and process for biosynthesis of Butanol	13 Feb 2019	201931005755
Barman U, Ghosh SS and Paily R P	Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor for Detection of Cancer	2018	201831031884
Das M, Goswami U, Ghosh SS, Chattopadhyay A	A composition for filtration of microorganism and heavy metals and process thereof	2018	201831016639
Iyer PK, Dey A, Singh A, Dutta D, Ghosh SS	An ultra-low voltage operated organic field effect transistor (OFET) based bio-sensing system and a method for fabricating the same	2018	201831000478
Pranab Goswami and Lightson Ngashangva	Portable kit for onsite determination of formaldehyde in aqueous sample	5 Nov 2018	201831041908
Pranab Goswami, Naveen Kumar Singh, Phurpa Dema Thungon, Vinay Bachu	A modified syringe for detection of various enzymes for various instrument free detection	17 Aug 2018	201831030902
Dr. Biman B. Mandal and Dimple Chouhan	Silk hydrogels for treatment of burn wounds.	12 Jun 2018	201831022013
Dr. Biman B Mandal and G. Janani.	Urokinase production through fiber reinforced silk scaffold using high density perfusion culture.	27 Jun 2018	201831024035
Dr. Biman B Mandal and Jadi Praveen Kumar	Silk sericin for skin care application and its process of preparation.	20 Apr 2018	201831026915
Dr. Biman B Mandal, Y.P. Singh, A. Bandyopadhyay, S. Mehrotra, J.C. Moses, B.K. Bhunia, G. Janani, D. Chouhan	Development of silk based bioinks for 3D printing and uses thereof.	12 Oct 2018	201831038727
Dr. Biman B Mandal and Suvro Kanti Choudhury	Nutritious Tissue Engineered Edible Meat and Methods of Production Thereof.	19 Dec 2018	201831047999
Dr. Biman B Mandal, Dimple Chouhan, Bibrita Bhar and Rajiv Borah	Silk fibroin-Aloe-Vera matrices for wound healing.	5 Feb 2019	201931004617
Dr. Biman B Mandal and Ankit Gangrade	Injectable nanocomposite silk hydrogel for targetted and controlled delivery of therapeutic agents.	6 Feb 2019	201931004799
Vibin Ramakrishnan, Gaurav Pandey, Harshal B. Nemade, Jahnu Saikia, Sajitha S, & Nitin Chaudhary.	Therapeutic devices	10 Jul 2018	International Patent (PCT) No. WO/2019 /012556
Subbi Rami Reddy Tadi, Ganesh Nehru, Senthilkumar Sivaprakasam	Methods for the increased production of D (-) Pantothenate in Bacillus megaterium	2018	201831039883
Chandan K. Jana, Ajaikumar B. Kunnumakkara, Md Ashraf Haque, Bethsebie L Sailo, Ganesan Padmavathi	Novel carbotetracycles having anti-cancer properties and a method of synthesis thereof	13 Oct 2018	201831038926

**AWARDS AND HONOURS**

i. Dr. Souptick Chanda received Fulbright-Nehru Academic and Professional Excellence Fellowship 2019-20 to carry out research at Harvard Medical

School, Boston, USA.

ii. Dr. Pranjal Chandra received Outstanding Reviewer Award for Contribution to the quality of the journal "Vacuum" (Elsevier, Amsterdam, The Netherlands), June

- 2018 and for Contribution to the quality of the journal "Energy Conversion and Management" (Elsevier, Amsterdam, The Netherlands), September 2018
- iii. Dr. Pranjal Chandra was awarded the coveted honor of the Young Scientist Award 2017-2018 by the Biotech Research Society of India. Award comes with citation, award certificate, and cash prize. Delivers the award lecture at the CSIR Indian Institute of Chemical Technology-Platinum Jubilee International Conference on Biotechnological Research and Innovation for Sustainable Development 22-25 November, 2018
  - iv. Dr. Pranjal Chandra received Young Engineers Award – 2018 by the Senior Engineers Forum–Guwahati, held at the Institution of Engineers Building, Panbazar, Guwahati.
  - v. Dr. Pranjal Chandra was made the expert reviewer of Indo-French Centre for the Promotion of Advanced Research (IFCPAR/ CEFIPRA) under Department of Science and Technology (DST), Gol and Centre National de la Recherche Scientifique (CNRS) of France
  - vi. Dr. Pranjal Chandra served as "Judge for Oral presentations" of the participants in the National conference on "Ethno-medicine and Traditional Health Practices in Northeast region of India" held on 25 August 2018 at NIPER-Guwahati
  - vii. Prof. Pranab Goswami received Outstanding Reviewer Award from Elsevier, Amsterdam, The Netherlands, in recognition for contribution to the quality of the journal, Journal of Photochemistry and Photobiology B: Biology.
  - viii. Prof. Pranab Goswami was nominated as DBT-NER steering committee member for a period of 3 years from December 2018.
  - ix. Prof. Pranab Goswami was nominated as Director's nominee for the Institute Academic Disciplinary Committee (IADC) from 2018 to 2020.
  - x. Prof. Pranab Goswami was nominated as External expert of Research Review Committee of Assam down town University for the period of 2018-2021.
  - xi. Prof. Pranab Goswami is serving as a member of Scientific Advisory Council (SAC) of IASST, Guwahati from 2017 to 2020.
  - xii. Prof. Pranab Goswami was nominated as Member of the Expert panel for the selection processes of scientist at IASST, Guwahati during 11-12 January 2019.
  - xiii. Prof. Pranab Goswami evaluated the PhD thesis received from NIT Raipur.
  - xiv. Prof. Pranab Goswami evaluated the PhD thesis received from Gauhati University and conducted viva-voce exam on 18th February 2019.
  - xv. Prof. Pranab Goswami evaluated the PhD thesis received from Tezpur University (EEE department) and conducted viva-voce exam on 14th December, 2018.
  - xvi. Prof. Pranab Goswami evaluated the PhD thesis received from Tezpur University (Physics department) and conducted viva-voce exam on 28th November, 2018.
  - xvii. Prof. Pranab Goswami evaluated the PhD thesis received from NEHU, Shillong.
  - xviii. Prof. Pranab Goswami's work: Singh, et al. on Capacitive malaria aptasensor using Plasmodium falciparum glutamate dehydrogenase as target antigen in undiluted human serum, Biosensors and Bioelectronics, 117,246-252 (2018), was highlighted in Current Science, 115,(8), 25 October 2018.
  - xix. Prof. Arun Goyal was invited to be a member, Board of Studies at College of Engineering and technology (CET), Bhubaneswar, Odisha.
  - xx. Prof. Arun Goyal evaluated the Applications for promotion of Assistant Professor at King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia in February 2019.
  - xxi. Prof. Arun Goyal evaluated Applications for Shastri Indo-Canadian Institute Fellowships in January 2019.
  - xxii. Prof. Arun Goyal was invited as an Expert member, committee for promotion of Faculty member, Department of Bioengineering, BIT Mersa, Ranchi on 12 Jan 2019.
  - xxiii. Prof. Arun Goyal was nominated as Member, Technical Expert Committee for DBT-NER by DBT in the area Energy, Environment and Biodiversity from Dec 2018 for 3 years.
  - xxiv. Prof. Arun Goyal was invited to Chair in Rapid Fire Session to Judge Best oral presentation at 3rd International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC) during 18-21 December 2018 at IIT Roorkee.
  - xxv. Prof. Arun Goyal was invited to Chair a session and to Judge Best Poster award at International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention. CSIR-Indian Institute of Chemical Technology (CSIR-IICT) during 22-25 November at Hyderabad.
  - xxvi. Prof. Arun Goyal was invited to serve as member for National Selection Committee (STEM) for 2019-2020 Fulbright-Nehru Academic and Professional Excellence Fellowships on 16 November 2018.
  - xxvii. Prof. Arun Goyal was invited to Judge Best Poster award at 12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), during 12-14 November 2018 at Aizawl, Mizoram.
  - xxviii. Prof. Arun Goyal was invited as a selection committee member for Faculty member, Department of Biotechnology, North Bengal University, Camp Office Kolkata on 13 August 2018.



- xxix. Prof. Arun Goyal was invited to Chair a session and to Judge Best Poster award at DBT workshop on Bioenergy during 6-7 July 2018 at IIT Roorkee.
- xxx. Prof. Arun Goyal was invited as a selection committee member for Associate Professor, Department of Biotechnology, Delhi Technical University, Delhi, June 28-30, 2018.
- xxxii. Prof. Arun Goyal was invited as Distinguished member for preparing MTech Course Curriculum, Department of Bioengineering, NIT Agartala, May 26, 2018.
- xxxiii. Prof. Arun Goyal was invited to be a member, Board of Studies, for approval of syllabi of BE (Biotechnology), M.Tech (Biotechnology) and M.Sc (Biotechnology) at Department Bioengineering, Birla Institute of Technology (BIT), MESRA, Ranchi, Jharkhand.
- xxxiiii. Dr. Shankar Prasad Kanaujia received the Early Career Research (ECR) Award 2019, Science and Engineering Research Board (SERB), Department of Science and Technology, Govt. of India.
- xxxv. Dr. S Kumar received first award in oral presentation at annual conference of IAAVR, West Bengal for presenting paper "Innovative Progress in Animal Health and Production for Safe and Secured Food Under One Health Perspective" in February, 2019
- xxxvi. Dr. Biman B. Mandal was awarded Outstanding Reviewer Certificate (Top 25) by Royal Society of Chemistry (RSC, Journal of Materials Chemistry: B) in view of significant contribution (based on the number, timeliness and quality of the reports) to RSC journal in 2018.
- xxxvii. Dr. Biman B. Mandal's work on silk based tissue engineering was highlighted in Cover Pages (03) in "ACS Biomaterials Science & Engineering", "ACS Applied Bio Materials" and "JMC-B".
- xxxviii. Dr. Biman B. Mandal's numerous Research works were highlighted in leading International, National Newspapers, Magazines and News Channels: e.g. The Hindu, The Hindu BL, Nature India, The Caravan, Down To Earth, Indian Science Journal Scroll, BiotechTimes, BioVoice etc.
- xxxix. Prof. L Rangan was inducted member for NASI North-Eastern Chapter for 2019-2020
- xl. Prof. L Rangan was nominated as Scientific Board Member- Scientific Advisory Committee of SDNB Vaishanv College for Women 2018-2020
- xli. Dr. Kusum Kumari Singh received Biotechnology Overseas Associateship for NER Scientists Award 2018, Department of Biotechnology, Ministry of Science and Technology, Govt. of India.
- xlii. Prof. R Swaminathan was elected as a member of the Executive Council in the Indian Biophysical Society for the year 2019-2020 starting from April 2019.
- xliii. Prof. Ranjan Tamuli was appointed as Research Advisor of Nan Yang Academy of Sciences (Singapore) with effect from 22 October 2018.
- xliv. Prof. Rakhi Chaturvedi organized and Chaired a session on 'Elicitation of Secondary Metabolites in Plants and Metabolite Engineering' in 2018 In Vitro Biology Meeting organized by Society for In Vitro Biology (SIVB) at St Louis, Missouri, USA during 2-6 June 2018.
- xlv. Dr. Ajaikumar B. Kunnumakkara received Faculty award for outstanding achievements in science from Kfr El-Sheikh University, Egypt in April 2018.
- xlvi. Dr. Ajaikumar B. Kunnumakkara received Honorary Chair Professor Award, Mahatma Gandhi University, Kottayam, Kerala in July 2018.
- xlvii. Dr. Ajaikumar B Kunnumakkara was awarded the Sakura Exchange Program by JST, Japan.
- xlviii. Prof. Latha Rangan served as Co-Chair in First Indian Plant Science Congress during 23-25 January 2019 at SRMIST, Kattankulathur, Chennai.
- xlix. Prof. Latha Rangan chaired the Plenary Session on Plant Genetic Contributions to Plant microbe interactions on 24 January 2019 at SRMIST, Kattankulathur, Chennai
- l. Prof. R. Swaminathan chaired a session at National workshop on fluorescence and Raman spectroscopy organized by JNU and IIT Delhi during 12-17 November 2018.
- l. Dr. Surajbhan Sevda was awarded "Shastri-Canadian Travel support" for Canada Travel. He worked as visiting scientist, department of biological science, University of Calgary, Canada from 16 December 2018 to 10 January 2019.

#### STUDENTS' ACHIEVEMENTS

- i. Research story entitled "Unravelling the mysteries of CRISPR memory generation" written by Yoganand. K.N.R was selected for AWSAR (Augmenting Writing Skills for Articulating Research) awards – 2018 by the Department of Science and Technology, Government of India.
- ii. Pratik Nag got selected for the Prime Minister's Research Fellowship (PMRF).
- iii. Debika Datta was awarded travel grant by American peptide society to attend the American peptide symposium 2019 at Monterey, California.
- iv. Phurpa Dema Thungon, PhD student, received the prestigious Overseas Visiting Doctoral Fellowship (OVDF) from SERB (DST)-UAlberta Partnership scheme to carry out her thesis work at University of Alberta, Canada for a period of one year (May 2019-April 2020).
- v. Sanjay M, M. Tech student, secured the 1st position and received a cash prize of Rs 25000 for his model "Optisense- a smartphone based malaria detection platform" in the Redstart-All India Startup Challenge,

- Research Conclave 2019, organized by IIT Guwahati during 14-17th March.
- vi. Smita Das, PhD student, secured the 1st position in the oral presentation event for the paper "Development of an aptasensor for the detection of Plasmodium lactate dehydrogenase, presented at Research Conclave 2019 organized by IIT Guwahati during 14-17th March and she was also selected as the best oral presentation across both internal and external participants in the department and received gift voucher of EUR 100 by springer at Research Conclave 2019 organized by IIT Guwahati during 14-17th March.
  - vii. Pooja Rani Kuri, PhD student, bagged the best poster award for the paper "Two dimensional micro pad for alcohol detection" in the Research Conclave 2019 organized by IIT Guwahati during 14-17th March and she also received consolation prize in three minutes thesis presentation (3MT) for the paper "Obesity: Not just a cosmetic problem" held on 8th February, 2019 at IIT Guwahati.
  - viii. Naveen Kumar Singh, PhD student, received the Best poster award in International Conference on Advancement in Science and Technology (ICAST-2018) organized by JSPS society, Japan held at Visva-Bharati, Santiniketan, West Bengal, India during the time period 3-4 September 2018, travel grant for Shastri Indo Canadian International Conference held in New Delhi, 7-8 July 2018 from Shastri Indo Canadian Institute, New Delhi and he also won Third prize with prize money Rs 20,000 in North East Bio start talent search contest conducted by Guwahati Biotech Park during 2018.
  - ix. Kedar Sharma, Carlos M.G.A. Fontes, Shabir Najmudin and Arun Goyal (2019) won 2nd Best Poster Award for Molecular organization and protein stability of the Clostridium thermocellum glucuronoxylan endo- $\beta$ -1,4-xylanase of family 30 glycoside hydrolase in solution at Research Conclave, 2019 organised by IIT Guwahati during 14-17 March.
  - x. Abhijeet Thakur and Arun Goyal (2019) won 3rd Best Poster Award for Efficient saccharification of finger millet stalk by a new thermostable  $\alpha$ -L-arabinofuranosidase (PsGH43A) from Pseudopedobacter saltans at Research Conclave, 2019 organised by IIT Guwahati during 14-17 March.
  - xi. Shweta Singh, Arun Dhillon and Arun Goyal (2018) won the Best Poster Award for Ultraviolet irradiation of Bacillus amyloliquefaciens SS35 for producing hyperactive mutant strain for improved cellulase activity. International Conference on Biotechnological Research and Innovation for Sustainable Development in 15th BRSI convention organized by CSIR- Indian Institute of Chemical Technology (CSIR-IICT) Hyderabad during 22-25 November 2018.
  - xii. Samyak Singh, BTech Student, got placed at Wipro Ltd.
  - xiii. Arup Kumar Pal, MTech Student, got placed at MasterCard Inc.
  - xiv. Shwetank Panwar, BTech Trainee Student, got research assistantship at Montreal Neurological Institute (MNI), McGill University, Canada
  - xv. Monika Chandravanshi received the Best Poster Merit Award at National Seminar on Crystallography (NSC-46) during 27-29 June 2018 at NIMHANS Bangalore, India.
  - xvi. Suraj Kumar Mandal received the Best Oral Presentation Award at National Seminar on Crystallography (NSC-46) during 27-29 June 2018 at NIMHANS Bangalore, India.
  - xvii. Md Saddam Hussain received 3rd prize in poster presentation at "Research conclave'19" at IITG
  - xviii. Sudhir M R won Best Poster award for NDV mediated apoptosis and migration inhibition of human oral cancer cells: A probable role of Beta-catenin and MMP7 at Research Conclave 2019.
  - xix. Ferrin Antony won Best Poster award for Inhibitory effect of NTZ on NDV: A possible repurposing of drug VIBCON in Nagaland in December, 2018.
  - xx. Manisha Shah won Best Poster award for Chicken viperin inhibits NDV infection: A probable interaction with viral matrix protein in INTER VIROCON 2018, CHANDIGARH.
  - xxi. Yogendra Pratap Singh has been awarded Newton Bhabha PhD Placement Programme 2017-18 by Department of Biotechnology, Government of India and British Council, UK to carry out research work with Dr. Chris Holland at The University of Sheffield, UK for a period of 4 months from October 2018 to January 2019 and Raman-Charpak fellowship 2017-18 by Indo-French Centre for the Promotion of Advanced Research (IFCPAR/ CEFIPRA) to carry out research with Prof. Daniele Noel at the Institute for Regenerative Medicine and Biotherapy (IRMB, INSERM U1183), Montpellier, France for a period of 6-months from February to August 2018.
  - xxii. Janani G was awarded "Fulbright Nehru Doctoral Research Fellow", financed by United States India Education Foundation (USIEF) and Institute of International Education (IIE) New York and visited University of Pittsburgh for 9 months from August 2018 to May 2019).
  - xxiii. Dimple Chouhan was awarded the Student Travel Assistance Fund (cash award of 20,000 INR) by IIT Guwahati for participation in 'International conference on advances in polymer science and technology, Nepal', during 1-3 November 2018.



- xxiv. Dimple Chouhan, Biman B. Mandal, got 4th prize with a cash award of 15,000 INR for the work on "Smart and affordable wound dressings for treatment of chronic diabetic foot ulcers" in 'Talent Search Contest on Innovative Research Ideas Leading to Entrepreneurial Venture in Biotechnology and Allied Areas' organized by Guwahati Biotech Park, Assam on 5 April 2018.
- xxv. Team (Silk-Bots) led by Yogendra Pratap Singh, Bibhas Bhunia, Shreya Mehrotra, Souradeep Dey and Ashutosh Bandyopadhyay received the Best project from IIT Guwahati for the work on "3D Bioprinting" in TechExpo 2018 organized during Techniche 2018 at IIT Guwahati during 30th August to 2nd September 2018.
- xxvi. Team members – Bibhas Bhunia, Shreya Mehrotra, Souradeep Dey and Ashutosh Bandyopadhyay, received the 3rd Prize in Model Presentation for the model on "3D Bioprinted Human Tissues" at Research Conclave-2019, organized at IIT Guwahati during 14th to 17th March, 2019.
- xxvii. Prerak Gupta, Katherine L. Lorentz, Darren G. Haskett, Eoghan M. Cunnane, Aneesh Ramaswamy, Justin S. Weinbaum, David A. Vorp, Biman B. Mandal received the 1st prize in oral presentation for "In vitro and in vivo evaluation of bi-layered tubular silk scaffolds for vascular tissue engineering applications" in ICFNM-2019, IIT BHU, Varanasi, India during 22-25 February 2019.
- xxviii. Bibhas K. Bhunia, Biman B. Mandal received the Best Poster Award for "Exploring in situ gelling and physicochemical behavior of bioresponsive silk hydrogel for nucleus pulposus tissue engineering" at International Conference on Functional Nanomaterial (ICFNM) 2019 organized by Department of Physics, Indian Institute of Technology (BHU) Varanasi, during 22-25 February 2019.
- xxix. Prerak Gupta, Katherine L. Lorentz, Darren G. Haskett, Eoghan M. Cunnane, Aneesh Ramaswamy, Justin S. Weinbaum, David A. Vorp, Biman B. Mandal received 1st prize in poster presentation for "Functional in vivo performance of adipose stem cells seeded small diameter silk vascular grafts" at Research Conclave-2019, IIT Guwahati, India during 14-17 March 2019.
- xxx. Shreya Mehrotra, Su Ryon Shin, Biman B. Mandal received 2nd prize in poster presentation for "Evaluation of Silk as a Bioink Component for 3D Printing of Mechanically Robust Hierarchical Cardiac Tissues" at Research conclave- 2019, IIT-Guwahati during 14-17 March 2019.
- xxxi. Joseph Christakiran Moses, Triya Saha and Biman B. Mandal received 3rd prize in poster presentation for "Silk based bioinks for 3D bioprinting of hierarchically relevant osteochondral interface" at Research conclave-2019, IIT-Guwahati during 4-17 March 2019.
- xxxii. Dimple Chouhan, Biman B. Mandal received 1st prize in oral presentation for "Silk fibroin hydrogel as an affordable alternative solution for treatment of third degree burn wounds", International conference on advances in polymer science and technology, Nepal, during 1-3 November 2018.
- xxxiii. Rachayeeta Deb, Ph D student, received 2nd prize for poster presentation for the poster titled "Investigating the role of PEX25 in peroxisome biogenesis in *Saccharomyces cerevisiae*" at the Research Conclave, IIT Guwahati, during 14-17 March 2019.
- xxxiv. Arindam Sinharoy received the 3rd Best Poster Award at 6th Bioprocessing India Conference held at IIT Delhi, New Delhi during 16-18 December 2018.
- xxxv. Tanushree Paul received the 2nd Best Poster Award at Research Conclave 2019 held at IIT Guwahati during 14-17 March 2019.
- xxxvi. Tanushree Paul received the Best Poster Award at International Conference on Bioprocess for Sustainable Environment and Energy (ICBSEE-2018) held at National Institute of Technology, Rourkela during 6-7 December 2018.
- xxxvii. Varun Saxena, PhD Scholar, has been awarded with CSC split site Scholarship for a tenure of 1 year under Dr. K. H. Aaron Lau at University of Strathclyde, UK.
- xxxviii. Ghadir Nofal awarded with Third Prize for poster presentation at Research Conclave held at IIT Guwahati during 14-17 March 2019.
- xxxix. Ruchika Goyal honored with 'Best Poster Presentation Award' at 20th Indo-US Flow Cytometry Symposium cum Workshop on 'Applications of Flow Cytometry in Biotechnology' held at IIT Guwahati during 13-16 March 2019. she also received 'Certificate of Competence' for Hands on Training on Laboratory Animals for Handling, Care and Procedures, in Hands on Workshop on Handling and Care of Laboratory Animals, School of Life Sciences, Jawaharlal Nehru University, New Delhi during 4-7 February 2019.
- xl. Vivek Prakash was awarded '3rd prize in Poster Presentation' at Research Conclave 2019 held at IIT Guwahati during 14-17 March 2019.
- xli. Trishna Anand was honored with 'Best Poster Presentation Award' at 20th Indo-US Flow Cytometry Symposium cum Workshop on 'Applications of Flow Cytometry in Biotechnology', held at IIT Guwahati during 13-16 March 2019. She was also awarded '2nd prize in Poster Presentation' at Research Conclave 2019 held at IIT Guwahati during 14-17 March 2019.
- xlii. Renu Sharma was awarded '3rd prize in Poster Presentation' at Research Conclave 2019 held at IIT Guwahati during 14-17 March 2019.

- xliii. Jahnu Saikia was awarded the Graduate and Professional Student Council (GPSC) Travel Award to attend 63rd Annual Biophysical Society Meeting in Baltimore, Maryland.
- xliv. GM Kumar, L Rangan\* (2019) received the Best Research Scholar Award for 3,5-dihydroxy-4'-7'-dimethoxyflavone: Structural characterization, enzyme kinetics, and in-silico approach against melanogenic activity in Indian Plant Science Congress (IPSC'19) during 23– 25 January 2019.
- xlv. Ganesh N received the Best Poster Award at BioprocessingINDIA (BPI2018): Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment held at IIT Delhi during 16-18 December.
- xlvi. Subbi Rami Reddy Tadi received the Best Poster Award at Recent Advancements in Biochemical Engineering and Biotechnology (RABEB -2019) held at IIT (BHU) Varanasi during 15-16 March.
- xlvii. Darshana Baruah, a Ph D student, received Best Poster Presentation Award for the poster titled "Understanding the interactions of phospholipase C-1, secretory phospholipase A2, and Ca<sup>2+</sup> / H<sup>+</sup> exchanger in circadian regulated conditions, development, and cell survival in *Neurospora crassa*" by Baruah D and Tamuli R, at the Research Conclave, IIT Guwahati during 14-17 March 2019.
- xlviii. Chandrima Dey (PhD student) was awarded a travel grant for "Training program in Generation and Maintenance of Human iPS cells" scheduled from 7-13 November 2018 organized by "The Accelerating the application of Stem cell technology in Human Diseases (ASHD)" a program supported by Department of Biotechnology (DBT), Government of India and The Centre for iPS Cell Research and Application (CiRA), Kyoto University, Japan.
- xlix. Gloria Narayan, PhD student was selected for a workshop (partially funded) on "Human induced pluripotent stem cells (iPSCs)" organized by Centre for Stem Cell Research, Christian Medical College Campus, Bagayam, Vellore during 18-23 February 2019.
- i. Poulomi Adhikari, MTech student, was selected for a workshop (partially funded) on "Human induced pluripotent stem cells (iPSCs)" organized by Centre for Stem Cell Research, Christian Medical College Campus, Bagayam, Vellore during 18-23 February 2019.
- ii. Ruchira Bajpai a PhD student, under the supervision of Prof. Rakhi Chaturvedi, received Best Interactive Poster Presentation Award on title "Plant regeneration via repetitive secondary embryogenesis from androgenic embryos in suspension cultures of *Camellia assamica* ssp. *assamica* and clonal fidelity assessment using RAPD marker" at an International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), held at IIT Guwahati, during 11-13 February 2019.
- iii. IMNANARO, an M.Tech student, under the supervision of Prof. Rakhi Chaturvedi, received Best Interactive Poster Presentation Award on title 'Exploring totipotency in *Musa balbisiana* (Bhimkol) as a method for development of clonally propagated viable plants' at the International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019), held at IIT Guwahati during 14-16 February 2019. He also received Best Poster Presentation Award on title 'In vitro micropropagation and clonal fidelity assessment of plantlets in *Musa* spp. at Research Conclave 2019 held at IIT Guwahati during 14-17 March 2019.
- liii. Bethsebie Laldusaki Sailo, Ms. Shabnam Bano and Ms. Sosmitha Girisa were selected for attending the 6th AIST International Imaging Workshop held by DAICENTER at Biomedical Research Institute, Tsukuba Science City, Japan from 20 to 27 January, 2019.
- liiv. Amrita Khwairakpam Devi, Mr. Kishore Banik and Mr. Krishan Kumar Thakur were chosen to join an invitation program carried out under the framework of Japan Asia Youth Exchange program in Science (Sakura Exchange Program in Science) administered by Japan Science and Technology Agency. They also attended 8 days' workshop on "Introduction to basic and advanced biomedical approaches for enhancing QOL in ageing societies" at National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, from 14-21 October 2018.
- lv. Harsha Choudhary got selected for 'DBT STAR training program' for an advanced training in Bioimaging and Biotechnology at DBT-AIST International Laboratory for Advanced Biomedicine at Biomedical Research Institute, Tsukuba, Japan from 18th June-10th September, 2018.
- lvi. Sosmitha Girisa got selected for 'DBT STAR training program' for an advanced training in Bio-imaging and Biotechnology at DBT-AIST International Laboratory for Advanced Biomedicine (DAILAB), National Institute of Advanced Science and Technology (AIST) from 8th April- 5th July, 2019.
- lvii. Amrita Khwairakpam Devi received the 'Best Oral Presentation award' in the workshop on "Introduction to basic and advanced biomedical approaches for enhancing QOL in aging societies", held at Biomedical Research Institute, AIST, Tsukuba Science City, Japan from 14-21 October 2018. She also received the 'Best oral presentation award' in the workshop on "Recent Advances in Cancer Research" organized by Department of Biosciences and Bioengineering,



- IIT Guwahati during 26-28 March 2019 and Second Best poster presentation award for her paper at International Conference on Nutraceuticals and Chronic Diseases (INCD-2018) held at Swami Rama Himalayan University, Rishikesh, Dehradun from 14-16 September 2018.
- lviii. Bethsiebe L Sailo received “Best Oral Presentation Award” at the Indo-Japan Symposium on “Recent Advances in Biomedical Research (RABR-2019)” jointly organized by Indian Institute of Technology Guwahati and National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan from 26-27 March 2019. She also received “First Prize in Poster Presentation Category” at the National conference on “Ethno-medicine and Traditional Health Practices in North-East Region of India” organized by National Institute of Pharmaceutical Education and Research (NIPER) Guwahati, Assam, India on 25th August 2018.
- lix. Devivasha Bordoloi received the ‘Best Oral Presentation Award’ at the Indo-Japan Symposium on “Recent advances in Biomedical Research- 2019 (RABR-2019)” jointly organized by Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati and National Institute for Advanced Industrial Science and Technology, Tsukuba, Japan from 26-27 March 2019 and Second prize in Oral Presentation at Research Conclave’19 organized by Students Academic Board, Indian Institute of Technology Guwahati in March, 2019. She also got selected to participate in DAILAB (DBT AIST International Laboratory for Advanced Biomedicine) CAFÉ PLUS (Classroom for Advanced and Frontier Education Presentation Learning for Young Scholars) program organized by DICENTER.
- lx. Harsha Choudhary received ‘Best Poster Award’ at the Indo-Japan Symposium on ‘Recent Advances in Biomedical Research (RABR-2019)” jointly organized by Indian Institute of Technology Guwahati and National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, from 26-27 March 2019.
- lxi. Kishore Banik received ‘Best Poster Award’ for the paper at the Indo-Japan Symposium on “Recent Advances in Biomedical Research (RABR-2019)” jointly organized by Indian Institute of Technology Guwahati and National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan from 26-27 March 2019. He also received “Second Prize in Poster Presentation Category” at Ethno-medicine and Traditional Health Practices in North-East Region of India” organized by National Institute of Pharmaceutical Education and Research (NIPER) Guwahati, Assam, India on 25th August, 2018.
- lxii. Krishan Kumar Thakur received ‘Best Poster Award’ at “Recent Advances in Cancer Research (RACR-2019)”, organized by Department of Biosciences and Bioengineering, IIT Guwahati on 28th March, 2019.
- lxiii. Vikkurthi Rajesh received the ‘Best oral presentation award’ in the workshop on “Recent Advances in Cancer Research” organized by Department of Biosciences and Bioengineering, IIT Guwahati during 26-28 March 2019.
- lxiv. Muthuvel J (PhD student) got the first prize for best poster presentation on his PhD thesis work “Physiological and molecular responses to boron deficiency influenced by genotypic variation in Indian mustard” in the International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019) held at IIT Guwahati during February 2019.
- lxv. Marak K CN, Baruah D and Ngiime SD attended a Workshop cum lecture series on “Skill Development in Molecular Strategies for Understanding Biodiversity and Human Diseases”. Bioinformatics Centre, NEHU, Shillong (NEHU- CSIR IIGB collaboration) during 28 February– 2 March 2019.
- lxvi. Shokeen S and Bania NM attended a Symposium on Biomolecular Interaction Techniques National Centre for Biological Sciences, Bangalore during 18-19 February 2019.
- lxvii. Roy, A, participated in the Xth Bangalore Microscopy Course 2018, National Centre for Biological Sciences (NCBS), Bangalore, India during 16-23 September 2018.

#### SPECIAL MENTION

1. The work of Dr. Pranjal Chandra on “Paper-Based Miniaturized Immunosensor for Naked Eye ALP Detection Based on Digital Image Colorimetry Integrated with Smartphone” was highlighted in more than 65 national and international global news / media agencies both in print and digital media. The article was also featured in two highly viewed news programs including Science Monitor and Gyan-Vigyan, aired on National broadcaster “DD science” and “Rajya Sabha Television”, Govt. Of India. Few selected news articles and their titles are listed below:
  - a. Indian Science Wire (Vigyan Prasar: An Autonomous Organization, Under the Department of Science and Technology, Govt. of India): A paper sensor that can detect freshness of milk
  - b. The Hindu Businessline (A reputed and widely read print media across the country): A paper sensor that can detect freshness of milk.
  - c. Science Trends, USA (Reputed Science news agency): A Disposable Biosensing Device for Naked-Eye Detection of Milk Pasteurization Indicator.
  - d. FSSAI, India (Food safety and standards authority,

- India): The news appeared in the official social networking page “IIT Guwahati researcher develop ALP testing kit for milk analysis”
- Asia Pasic News Agency, Singapore (Global science news agency): When milk turns sour: A miniaturised paper-based kit for milk freshness analysis by the determination of alkaline phosphatase levels.
  - Nature India (Global science news agency): Filter-paper-based biosensor for testing milk quality.
  - India Science Journal: IIT scientists develop paper sensor that can detect freshness of milk.
  - NEWS Highlights, India’s Latest News, Embassy of India in Jakarta, Malaysia: Paper sensor to detect freshness of milk.
  - Cowsmopolitan Dairy Magazine (Funded by Government of Canada): Paper sensor created to ensure freshness of milk.
- Dr. Ajaikumar B. Kunnumakkara was appointed as a Visiting Scientist at AIST, Japan. He is the Executive Secretary of Society for Nutraceuticals and Chronic Diseases and also the Joint Secretary of Society for Translational Cancer Research.

## FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	B. Anand	Indian Institute of Technology Kanpur, Kanpur	Associate Professor	Structural Biology, Bioinformatics & Computational Biology, RNA Biology, Molecular Evolution and Synthetic Biology
2	Bora Utpal	Institute of Genomics and Integrative Biology, Delhi	Professor	Biomedical Engineering, Biodiversity and Bio-entrepreneurship
3	Bose Biplab	All India Institute of Medical Sciences	Associate Professor	Systems Biology, Cell signaling, Recombinant therapeutics
4	Chanda Souptick	Indian Institute of Technology Kharagpur, India	Assistant Professor	Biomechanics, implant design and optimization, surgical simulations and soft computing
5	Chandra Pranjal	Pusan National University, Busan, South Korea	Assistant Professor and Ramanujan Fellow	Clinical Bio-sensors, Paper-based bio-sensors, Nano-medicine, Material engineering, Microfluidics and Nanomachines.
6	Chaturvedi Rakhi	University of Delhi, Delhi	Professor and Dean, Alumni and External Relations (AER)	Plant Cell, Tissue & Organ Culture, Protoplast Isolation and Regeneration, Isolation, Purification and Characterization of Plant Secondary Metabolites
7	Chaudhary Nitin	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Associate Professor	Peptide self-assembly and amyloid aggregates, Peptide-membrane interactions Curvature inducing proteins
8	Das Debasish	Indian Institute of Technology Bombay	Professor	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel
9	Dasu V. Venkata	Indian Institute of Technology Madras	Professor	Bioprocess Development, Metabolic Engineering
10	Dubey Vikash Kumar	Banaras Hindu University	Professor	Biochemistry, Molecular Parasitology, Drug Discovery
11	Ghosh Siddhartha S.	Indian Institute of Chemical Biology (IICB), Kolkata	Professor	Cancer Gene Therapy, Nanobiotechnology, Molecular Pathways Involving Drug Resistance



Sl. No.	Name	PhD	Designation	Areas of Interest
12	Goswami Pranab	Gauhati University	Professor (HAG)	Biosensors and Biofuel cells
13	Goyal Arun	Indian Institute of Technology Kanpur, Kanpur, India	Professor	Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes and other industrially important microbial enzymes
14	Gupta Navin	Brain Computer Interfaces and Neural Engineering (BCI-NE) Group, University of Essex	Assistant Professor	Imaging Genetics, Biomedical Signal/Image Processing, Multimodal Analysis, Computer Aided Diagnosis, Biomedical Instrumentation
15	Jaganathan Bithiah G.	Johann Wolfgang Goethe University, Frankfurt, Germany	Associate Professor	Stem Cell Biology, Cancer signaling
16	Kanaujia Shankar Prasad	Indian Institute of Science Bangalore	Associate Professor	Structural Biology and Bioinformatics Studies
17	Kumar Manish	University of Maryland, College Park, USA	Associate Professor	Molecular interaction of host-pathogen-vector of infectious diseases
18	Kumar Sachin	University of Maryland, College Park, USA	Associate Professor	Molecular biology of paramyxoviruses
19	Kunnumakkara A. B.	University of Calicut, Kerala	Associate Professor	Role of inflammatory pathways in cancer development, Identification of novel biomarkers for cancer diagnosis and prognosis, Cancer drug discovery, Development of transgenic and gene knockout mouse models for biomedical research
20	Limaye Anil Mukund	Indian Institute of Science Bangalore	Associate Professor	Hormonal regulation of gene expression
21	Maiti Soumen Kumar	Indian Institute of Technology Bombay	Assistant Professor	Bioprocess Engg, biofuel
22	Mandal Biman B	Indian Institute of Technology Kharagpur	Associate Professor	Cell based tissue engineering, Biomaterials, Stem cells, Drug delivery systems
23	Nagotu Shirisha	University of Groningen, Groningen, The Netherlands	Assistant Professor	Organelle biology and Inter-organelle communication, Cellular Ageing, Membrane fission and fusion
24	Pakshirajan Kannan	Indian Institute of Technology Madras	Professor	Environmental Technology
25	Pandey Lalit Mohan	Indian Institute of Technology Delhi	Associate Professor	Surface and interfacial science particularly in the area of Bio-interfaces and Biomaterials Protein's adsorption and aggregation, Environmental Biotechnology
26	Patra Sanjukta	Central Food Technological Research Institute, Mysore	Professor	Enzymes - applications in pharma and food industry

Sl. No.	Name	PhD	Designation	Areas of Interest
27	Ramesh Aiyagari	CFTRI, Mysore (Degree awarded by Mysore University)	Professor	Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors
28	Ramakrishnan Vibin	Indian Institute of Technology Bombay	Associate Professor	Computational Biology, Bioinformatics, Biophysics, Bio-Organic Chemistry, Bio-nanotechnology
29	Rangan Latha	University of Madras (Research work carried at IRRI, Manila)	Professor	Molecular systematics, Biofuel, IPR
30	Sahoo Lingaraj	Maharshi Dayanand University, Rohtak, India	Professor	Genetic engineering and functional genomics of plants
31	Saini Gurvinder Kaur	Andhra University, Visakhapatnam	Professor	Fungal Biotechnology, Biological Control, DNA fingerprinting and Transformation studies, Studies on extracellular enzymes and toxic metabolite production, Development of a potent biopesticide
32	Satpati Priyadarshi	Indian Institute of Science Bangalore	Assistant Professor	Classical molecular dynamics (MD) free energy simulation, Electronic Structure calculations that predict the structure, properties, reactivity, bonding etc. of small molecules
33	Selvaraju Narayanasamy	Indian Institute of Technology Madras, India	Assistant Professor	Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering
34	Senthilkumar S	Central Leather Research Institute, Chennai	Associate Professor	Biocalorimetry, BioPAT, Real-time monitoring and control of bioprocess systems
35	Singh Kusum K	Institute of Molecular Medicine, Heinrich-Heine University of Duesseldorf, Germany	Assistant Professor	Post-transcriptional gene regulation by RNA binding Proteins
36	Swaminathan Rajaram	Tata Institute of Fundamental Research, Mumbai	Professor	Intrinsically Disordered Proteins, Protein Aggregation
37	Tamuli Ranjan	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Professor	Calcium signaling, Genetics, DNA repair
38	Rajkumar P. Thummer	University of Groningen, Groningen, The Netherlands	Assistant Professor	Stem Cell Engineering and Regenerative Medicine
39	Trivedi Vishal	Central Drug Research Institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum



# DEPARTMENT OF CHEMICAL ENGINEERING

## The Department at a Glance

**Year of Establishment:** 2002

**Academic Programmes Offered:**

Bachelor of Technology (BTech) in

- o Chemical Engineering

Master of Technology (MTech) in

- o Petroleum Science and Technology (PST),
- o Material Science and Technology (MST)
- o Food Science and Technology (FST)

Doctor of Philosophy (PhD)

**Total Faculty Strength: 35**

- Professor: 20
- Associate Professor: 13
- Assistant Professor: 2

**Total Student Strength: 541**

BTech: 264

MTech: 90

PhD: 187

**New Students Joined in 2018-2019: 153**

BTech: 73

MTech: 54

PhD: 26

## LABORATORY FACILITIES

### Undergraduate Laboratories: 6

o **Fluid Mechanics Lab:** Flow through Fluidized Bed, Centrifugal Pump Test Rig, Flow through Helical Coil, Nozzle Meter Test Rig, Packed Bed, Pitot Tube, Rotameter Test Rig, Drag Co-efficient Apparatus, Reynolds's Apparatus, Notch Tank Apparatus, Impact of Jet on Vane Apparatus, Reciprocating Pump Test Rig, Bernoulli Apparatus, Flow Meter Demonstration Rig, Energy Losses In Pipes, Energy Losses In Bends.

o **Mechanical Operation Lab:** Ball mill, Froth floatation cell, Hammer mill, Jaw crusher, Roll crusher, Plate and frame filtration, Rotary drum Vacuum filter, Vibrating screen, Sieve shaker, Cyclone separator, Cyclone Scrubber, Elutriator, Sedimentation, Leaf Filter.

o **Heat Transfer Lab:** Extended Surface heat exchanger, Tubular heat exchanger, Jacketed vessel heat exchanger, Plate heat exchanger, Shell and tube heat exchanger, Emissivity measurement apparatus, Composite wall, Conductivity of metal rod, Calandria evaporator, Vertical & horizontal condenser, Unsteady state heat transfer, Heat transfer in forced convection, Multi effect evaporator.

o **Mass Transfer Lab:** Double glass wall distillation apparatus, Bubble cap distillation set up, Packed bed distillation set up, Mass transfer with and without chemical reaction, Liquid-liquid extraction in packed bed, Solid - liquid extraction in packed bed, Absorption in packed bed, Vapour in air diffusion, Rotary drier, Forced Draft tray drier, Water cooling tower. Batch crystallization.

o **Process control Lab:** Two Tank Non-Interacting System, Two Tank Interacting System, Control Valve Characteristics, Temperature Control Trainer, Pressure Control Trainer, Flow Control Trainer, Level Control Trainer, Cascade Control Trainer, First-Order and Second-Order System, Multi Process Trainer, Multi Variable Control Trainer, PLC Trainer.

o **Thermodynamics Lab:** Vapour - liquid equilibrium apparatus, Liquid - liquid equilibria, Equilibrium Flash Distillation Apparatus, Separating & Throttling Calorimeter.

### Postgraduate Laboratories: 1

o **Petroleum Lab:** Acidity and Alkalimetry, Aniline point, Burning test lamp, Cloud & Pour Point, Flash & Fire Point, Melting point apparatus, Red wood Viscometer, Reid vapour pressure, Smoke point, U -Tube Viscometer, ASTM Distillation, Kinematic Viscometer bath, Drop point grease apparatus, Burning quality of kerosene, Contamination detector, Tar viscometer, Softening point apparatus, Carbon residue apparatus, Bomb calorimeter, Vapour – Liquid Equilibrium, Steam Distillation, Digital Penetrometer.

### Other Laboratories: 2

o **Analytical Lab:** Atomic absorption spectrophotometer, Autotitrator, BET surface area analyzer, Buchi rheometer, Chemisorb surface area analyzer, Differential scanning calorimeter, Digital polarimeter, Ellipsometer, Fourier

Transform Infrared spectrophotometer, Gas chromatography with TCD, FID, ECD detector, Gas chromatography with TCD, FID, PPFID detector, Gas chromatography-Mass spectroscopy, High performance liquid chromatography, Interfacial rheometer, Karl Fisher titrator, Laser particle size analyser, Microscope, Millipore water purification, Refractometer, Rheometer, Spinning drop tensiometer, Tensiometer, Thermogravimetric analyzer, Total organic content analyzer, UV-Visible spectrophotometer, X Ray diffraction, Zeta potential

o **CoE-SusPol:** Centre of Excellence for Sustainable Polymers (CoE-SusPol) is funded by Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers. The objective of CoE-SusPol is to develop cost effective and scalable technologies for the production of biodegradable polymer based end products using both petrochemical and renewable bio- feedstock and establish state of the art facilities in biodegradable polymers area. Both experimental and computational laboratory has been setup under this project facility and significant high-end equipments have been purchased in the department.

## MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Microwave assisted reactor
- High pressure thermo gravimetric analyser (HPTGA)
- Time resolved stereoscopic Particle Image Velocimetry (PIV)

## MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

### Fluids

- o Design and development of micro-pumps and actuators
- o Surfactant Enhanced oil recovery
- o Experimental and computational fluid dynamics
- o Experimental and computational multiphase flows
- o Field driven fluid flows
- o Mechanics, patterns, and stability of fluids
- o Micro- and nano-fluidic devices
- o Minerals processing
- o Multi scale bubble dynamics and applications
- o Rheology of complex fluids
- o Transport through meso-porous materials

### Reaction Engineering

- o Catalysis electrolysis and Heterogeneous reactions
- o Electrochemical corrosion
- o Electroless plating
- o Hydrocarbon processing
- o Interfacial reactions
- o Kinetic analysis
- o Micro- and nano-fluidic reactors
- o Non-equilibrium reactive systems
- o Pyrolysis of waste plastics



- o Separations with chemical reaction
- o Sono-process engineering

**Chemical Engineering Science**

- o Biological physics
- o Chemical mechanical polishing (CMP)
- o Colloids and interfacial science
- o Dewetting and phase separation
- o Phase equilibria and thermodynamics
- o Phase equilibria of ionic liquids
- o Phase transition in polymers (nucleation, crystallization, collapse transition)
- o Structure property relations
- o Super-hydrophobic and self-cleaning surfaces

**Environmental Pollution Control**

- o Air pollution
- o Biological wastewater treatment (biosorption, bioaccumulation, biodegradation, bioreduction, biotransformation)
- o Electro remediation of water/wastewater
- o Membrane bioreactors
- o Physiochemical water/wastewater treatment techniques
- o Screening of novel microbial strains for treatment of organic/inorganic wastewater
- o Sonolysis and Sono-hybrid Advanced Oxidation techniques
- o Treatment of industrial effluent
- o Pollution trading

**Process Systems Engineering**

- o AI based Optimization Techniques
- o Computational transport processes
- o Deterministic, evolutionary and global optimization
- o Material processing
- o MEMS & NEMS
- o Molecular simulation
- o Optimization and control
- o Planning and scheduling
- o Process control
- o Process design & techno-economics
- o Process intensifications
- o Process modelling
- o Randomized algorithms
- o Self-assembly and self-organization
- o Soft lithography
- o Statistical mechanics and thermodynamics

**Materials Engineering**

- o Bio-lubricant
- o Complex organic solids

- o Functional multiscale structures & composites
- o Graphene synthesis and application
- o Ionic liquids
- o Liquid crystalline materials
- o Low cost ceramic membranes
- o Micro- and nano-sensors
- o Non-Newtonian Fluids
- o Palladium membranes
- o Reactive systems and gels
- o Responsive materials for environmental, biological and chemical separation
- o Self-healing surfaces
- o C-C Composites and C-Polymer Composites

**Polymer Science and Engineering**

- o Polymers Synthesis and Characterization
- o Polymer Reaction Engineering
- o Polymer Processing
- o Polymer Rheology
- o Polymer Solutions and Thermodynamics
- o Polymer Simulation and Computing
- o Polymer based Nano and biocomposites
- o Polymer Degradation
- o Polymer and Nano-material Migration Studies
- o Polymer Recycling and Reuses
- o Biodegradable Polymers
- o Polymer based Technology Development, licensing, Training and Entrepreneurship
- o Biodegradable polymers and biobased nanocomposites

**Energy Engineering**

- o Artificial photosynthesis
- o Biofuels: biodiesel, bioethanol, biobutanol, bio hydrogen and Bio oil
- o Biomass gasification and pyrolysis
- o Carbon dioxide capture and conversion to Fuel
- o Clean coal technology
- o Combustion and gasification reaction kinetics
- o Fischer-Tropsch Synthesis
- o Fuel cells
- o Hydrogen production and storage
- o Utilisation of lignocellulosic biomass for fuel/chemicals
- o Solar cells
- o Nuclear reactor
- o Membrane reformer for hydrogen production

**Separation and Mixing Processes**

- o Adsorption
- o Bio-separation

- o Membrane Separation Processes
- o Micro-mixers & separators
- o Post CMP cleaning
- o Separation using Supercritical Fluids
- o Surfactant mediated separation processes
- Food Science and Technology**
- o Membrane technology based juice processing
- o Drying technologies (RWD, Tray and Oven) for food product development from North-east horticulture resources
- o Microwave assisted food processing
- o Functional foods
- o Food packaging

#### CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Dipankar Bandyopadhyay	Fundamentals and Applications of Microfluidic devices TEQIP-III Sponsored Workshop Course on Heat-transfer and Fluid flow in Minichannels and Microchannels, HTFFMM-2018	NIT Dur-gapur	13-17 Jun 2018	National
Anugrah Singh	International conference on complex fluids and soft matter	IIT Roor-kee	6-9 Dec 2018	International
Anugrah Singh	IUTAM symposium on dynamics of complex fluids and interfaces	IIT Kanpur	17-20 Dec 2018	International
Raghvendra Gupta	7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Bom-bay	10-12 Dec 2018	International
Raghvendra Gupta	International Conference on Complex Fluids and Soft Matte (CompFlu)	IIT Roor-kee	6-9 Dec 2018	International

#### INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Dipankar Bandyopadhyay	Graphite-Graphene-Derivatives, Point-of-Care-Testing, Hydrogen-Production, GERS, Cell Death-Tracking, Carbon MEMS: New Horizons	IIT Hyderabad	Hyderabad, India	2018
Dipankar Bandyopadhyay	Microfluidics for Sensing, Reaction Engineering, Energy Harvesting, and Point-of-Care Testing	International Conference on Nano-Structured Materials & Devices, University of Delhi	University of Delhi	2018
Dipankar Bandyopadhyay	Fundamentals and Applications of Microfluidic devices" TEQIP-III Sponsored Workshop Course on Heat-transfer and Fluid flow in Minichannels and Microchannels	HTFFMM-2018	NIT Durgapur	2018
Anugrah Singh	Particle migration in rotating suspension	IUTAM Symposium, IIT KANPUR	Kanpur	2018
Anugrah Singh	Microstructure and rheology of shear thinning and shear thickening suspen-sions	COMPFLU 2018, IIT Roor-kee	Roorkee	2018



Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Anugrah Singh	Suspension transport in bifurcating channels	IIT Bombay	Mumbai	2018
Vimal Katiyar	Biodegradable Food Packaging, International Conference on Recent Advances in Food Processing Technology	iCRAFPT	Thanjavur	2018
Vimal Katiyar	Biodegradable Plastics for Commodity, Engineering and Biomedical Applications	International Conference on Emerging Canada and India: Challenges of Sustainable Development Goals	New Delhi, India	2018
Vimal Katiyar	Biodegradable Plastics for Commodity, Engineering and Biomedical Applications	SPSI-MACRO-2018, IISER	Pune	2018
Vimal Katiyar	Biodegradable Polymers: research and Development Activities at IIT Guwahati	GIFU University	Gifu, Japan	2018
Vimal Katiyar	Bionanocrystals: Fabrication and its Uses in Commodity and Biomedical Applications	Kyoto Institute of Technology	Kyoto, Japan	2018
Vimal Katiyar	Effect of Functionalized Biopolymers on Stereocomplexation and Properties of Poly (lactic acid) Nanocomposites	7th World Congress on Biopolymers and Polymer Chemistry	Osaka, Japan	2018
Vimal Katiyar	Effect of Functionalized Biopolymers on Stereocomplexation and Properties of Poly(lactic acid) Nanocomposite Films, trays, and 3D Printed Implants	National Chung Cheng University	Tainan, Taiwan	2018
Chandan Das	Membrane Based Separation of Oily Wastewater	MHRD	Department of Chemical Engineering, IIT Guwahati	2018
Vimal Katiyar	Microbial Fuel Cells	Taipei University of Technology	Taipei, Taiwan	2018
Vimal Katiyar	Nanobiocomposites for Advanced Applications	Tomos Bata University	Zlin, Czech Republic	2018
Chandan Das	Production of value-added chemicals from solid, liquid and gaseous wastes	CPCB	Centre for the Environment, IIT Guwahati	2018

## VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Professor Emeritus Yoshiharo Kimura	Kyoto Institute of Technology, Japan	Industrial Corporation	2018
Shri P. Raghavendra Rao	Secretary, Department of Chemicals & Petro-Chemicals, Government of India	Lab Visit	2018
Prof. Shinichi Sakurai	Kyoto Institute of Technology, Japan	Lecture on SAXS studies in polymer area	2018
Aruna Ivaturi	Department of Pure and Applied Chemistry, University of Strathclyde, UK	Smart nanomaterials synthesis to device development and optimization for applications in photovoltaics	18 Dec 2018

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
K. H. Aaron Lau	Department of Pure and Applied Chemistry, University of Strathclyde, UK	Bio-inspired functional nanostructures with polymers, peptides and peptoids: environmental applications	18 Dec 2018
Shri Sukhbir Singh Sandhu	Joint Secretary (CU & L), Ministry of Human Resource Development, Government of India	Lab Visit	2019
Dr. Vibha Dhawan	Sr. Director, TERI	Project collaboration	2019

#### SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Workshop/ Conference	Funded By	Date	International/ National	No. of participants
Anugrah Singh	Upstream Petroleum Engineering	IICHe GRC	10 Nov 2018	National	40
Animes Kumar Golder	Recent Advances on Bio inspired Nanomaterials for Environmental Applications	UKIERI-DST	18 Dec 2018	International	50
Partho S G Pattader	NWNTD 2019	Meity	21-23 Feb 2019	National	200
Chandan Das, Mihir Kumar Purkait	Advances in Separation Techniques	MHRD	15 Mar 2019	National	26

#### PATENTS

Name of Faculty and Co-researcher	Patent Name	Date Applied/ Granted	Application No.
Vimal Katiyar, S Narendren	Polymer Composite Membrane for Water Purification	4 Jan 2018	201831011228
Vimal Katiyar, Ravi M. Shankar, Arbind Gupta	Process for preparation of Resorbable polymeric composite U type bone staple	4 Jan 2018	201831011250
Vimal Katiyar, Ravi M. Shankar, Arbind Prasad	Process for the preparation of polymer composite based Cancellous screws and Pins	4 Jan 2018	201831011252
Vimal Katiyar, Ravi M. Shankar, Arbind Prasad	Resorbable cortical screw	4 Jan 2018	201831011251
Vimal Katiyar, Ravi M. Shankar, Arbind Prasad	Resorbable polymer composite bone plate	4 Jan 2018	201831011253
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	A Mobile RF Radiation Detection Device	15 Oct 2018	PCT/IN2018/050661
Mitradip Bhattacharjee, Sagnik Middya, Dipankar Bandyopadhyay	A Point-of-Care System for Detection of the Physical Stress at Different Parts of Body	15 Oct 2018	PCT/IN2018/050662
K.K. Bhatluri, M.S. Manna, Aloke Kumar Ghoshal, Prabir Kr. Saha	Separation of heavy metals from wastewater by electrodeposition integrated supported liquid membrane thereof	23 Jan 2019	306106

**AWARDS AND HONOURS**

- Prof. V. S. Moholkar has been elected as Fellow of International Society for Energy, Environment and Sustainability (FISEES), IIT Roorkee.

**STUDENTS' ACHIEVEMENTS**

- Gourhari Chakraborty, research scholar working under the supervision of Prof. Vimal Katiyar has received the best poster award for "Development of Biobased Thin Film Sensor for Biochemicals" in Kathmandu Symposia on Advanced Materials (KaSAM-18) held in Nepal.
- Pankaj Boruah, research scholar working under the supervision of Prof. Vimal Katiyar) has received the best poster award for "Enhanced Degradation of Oil Droplets Using Biopolymer as Dispersant for Oil Spill Treatment" in Kathmandu Symposia on Advanced Materials (KaSAM-18) held in Nepal.
- Kushagra Agrawal, research scholar working under the supervision of Prof. Nanda Kishore has been selected for the best paper award (first position - research scholar category) at International Conference on Recent Advances in Fluid and Thermal Sciences (iCRAFT 2018) held from 5-7th Dec 2018 in Dubai.
- Dr. Prodyut Dhar (Ph.D graduate under supervision of

Prof. Vimal Katiyar), has been selected for 'Graduate Student Award' for his PhD research work on 'Cellulose Nanocrystals' by American Chemical Society (Cellulose Division).

- Punampriya Borgohain, research scholar working under the supervision of Dr. R K Upadhyay has been received the best oral presentation award in Research Conclave 2019 which was held at IIT Guwahati during 14th March - 17th March 2019.
- Shyamali Sarma research scholar working under the supervision of Prof. V S Moholkar has received the Young Researcher Award in BioSD conference in IICT Hyderabad, 22-25, November 2018
- Philip Bernstein Sainik, research scholar working under the supervision of Prof. V S Moholkar has received best oral presentation award in 3rd International Conference on Sustainable Energy and Environmental Challenges (SEEC) with a cash award of 100 EURO, which was held during 18th -21st, December 2018 in IIT Roorkee.
- The paper titled "Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds" authored by Arup Jyoti Borah, Kuldeep Roy, Arun Goyal, Vijayanand S Moholkar has been selected for the front page of Elsevier journal Bioresource Technology

**FACULTY MEMBERS**

Sl. No.	Name	PhD	Designation	Areas of Interest
1.	Anandalakshmi R.	IIT Madras	Associate Professor	Computational Heat Transfer and Fluid Flow, Process Modelling and Simulation, Solar Thermal Energy Conversion, Energy Efficient Design of Thermal Systems
2.	Bandyopadhyay Dipankar	IIT Kanpur	Professor	Colloid and Interfacial Phenomena, Computational Fluid Dynamics, Micro and Nano Fluidics, Complex Flow and Fluids, Clean Energy – Fuel and Solar cells
3.	Banerjee Tamal	IIT Kanpur	Professor	Phase equilibria of ionic liquids, Molecular simulations, Global optimisation, Statistical thermodynamics
4.	Das Chandan	IIT Kharagpur	Professor	Wastewater Treatment, Bioremediation, Membrane based Separation Process
5.	Dasmahapatra Ashok Kumar	IIT Bombay	Associate Professor	Complex fluids, Phase transition in polymers (Nucleation, crystallization, collapse transition, etc.), Structure-property relations, Molecular simulations, Biological physics
6.	De Mahuya	IIT Kanpur	Associate Professor	Catalysis and reaction engineering, adsorption, hydrocarbon processing
7.	Ghosh Pallab	IIT Bombay	Professor	Interfacial phenomena, Interfacial reactions, Membrane separation, Randomised algorithms
8.	Ghoshal Alope Kumar	IIT Kharagpur	Professor	Advanced Separation Technology, Modelling & Simulation, Environmental Pollution Control, Pyrolysis of waste plastics
9.	Gooh Pattader Partho Sarathi	Lehigh University	Assistant Professor	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter



Sl. No.	Name	PhD	Designation	Areas of Interest
10.	Golder Animes Kr.	IIT Kharagpur	Professor	Electroremediation of water/wastewater, Physiochemical water/wastewater treatment techniques, Bioremediation, Electrochemical corro-sion
11.	Goud Vaibhav V.	IIT Kharagpur	Professor	Heterogeneous Reactions, Bio-energy and Green Engineering, Biolubricant, Utilisation of Lignocellulosic Biomass for Fuel/Chemicals, Supercritical Fluids
12.	Gumma Sasidhar	Cleveland State University, USA	Professor	Phase Equilibria and Thermodynamics, Adsorption, Molecular simulation, Gas storage
13.	Gupta Raghvendra	The University of Sydney, Australia	Associate Professor	Multiphase flow, Microfluidics and micro process engineering, Computational and experimental fluid dynamics
14.	Katha Anki Reddy	IISc Bangalore	Associate Professor	Computational study of polymer-composites, Membranes, Poly electrolytes, Granular flows
15.	Katiyar Vimal	IIT Bombay	Professor	Synthetic and Natural Polymers, Polymer Processing, Biothermoset, Nanobiocomposite, Organic Solar Cells, Biodegradable Polymers, Energy
16.	Kishore Nanda	IIT Kanpur	Professor	CFD, Bubbles, Drops and Particles Dynamics, Non-Newtonian Fluids
17.	Kotecha Prakash	IIT Bombay	Associate Professor	Optimization, Process Control, Artificial Intelligence, Planning and Scheduling
18.	Kumar Amit	University of Del-aware, USA	Associate Professor	Gas Transport in Nanoporous Materials, Molecular Simulation, Statistical Mechanics
19.	Mandal Bishnnupada	IIT Kharagpur	Professor	Separations with chemical reaction, Molecular based membrane separation, Modeling and simulation of separation processes, Environmental pollution control
20.	Mandal Tapas K	IIT Kharagpur	Professor	Multiphase flow & Measurement in multiphase flow, Bio-diesel
21.	Mazumdar Subrata Kumar	IIT Kharagpur	Professor	Multiphase flow and reactor development, Computational fluid dynamics in multiphase flow, Mineral processing, Process intensifications and Micro-nanobubble science and technology
22.	Mohanty Kaustubha	IIT Kharagpur	Professor	Bioseparation, Biofuels, Biological wastewater treatment, Membrane technology, Ionic liquids
23.	Moholkar Vijay S.	University of Twente, Nether-lands	Professor	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
24.	Peela Nageswara Rao	IIT Kanpur	Associate Pro-fessor	Heterogeneous Catalysis and reaction engi-neering, Biomass conversion to value added chemicals, Bio-oil upgradation to transportation fuels, Carbon dioxide activation to valua-ble chemicals, Metal encapsulated zeolites
25.	Prabu Vairakannu	IIT Madras	Associate Professor	Clean Coal Technology, Combustion and Gasification, Reaction kinetics
26.	Pugazhenth G.	IIT Kanpur	Professor	Membrane Separation, Polymer Nanocomposites, Nanomaterials, Catalysis & Refinery Processes

Sl. No.	Name	PhD	Designation	Areas of Interest
27.	Purkait Mihir Kumar	IIT Kharagpur	Professor	Advance Separation Processes, Membrane technology. Preparation/fabrication of ceramic/polymeric membranes and their application in RO, NF, UF and MF. Treatment of Industrial Effluent, Surfactant mediated separation processes, Responsive materials for environmental, biological and chemical separation
28.	Saha Prabirkumar	IIT Madras	Professor	Process Modeling, Optimisation and control, Membrane Based separation Process
29.	Senthilmurugan S	IIT Delhi	Associate Professor	Modeling and Optimization of Novel Processes, Process Design and Operation of Membrane Separation Processes, Waste and waste water treatment (WWWT) for Process Industries, Novel Desalination Technologies, Smart Water Grid, Waste to Energy
30.	Singh Anugrah	IISc Bangalore	Professor & Head of the Department	Computational and Experimental Fluid Dynamics, Microfluidics/Nanofluidics, Material Processing, Flow through Porous Media
31.	Suresh Resmi	IIT Madras	Assistant Professor	Systems and control, Energy systems, Fault detection and diagnosis
32.	Tiwari Pankaj	University of Utah, Salt Lake City, UT, USA	Associate Professor	Conventional and unconventional energies, Reservoir Engineering, Complex organic solids, Biomass conversion, Pyrolysis process, Kinetic analysis
33.	Upadhyay Rajesh Kr.	IIT Delhi	Associate Professor	Multiphase Flow Reactor, Multiphase Flow Measurements, Computational Fluid Dynamics, Residence Time Distribution, Novel Reactors
34.	Uppaluri Ramgopal V. S.	UMIST, Manchester, UK	Professor	Major: Electroless Plating, Evolutionary Engineering Optimization, Low Cost Ceramic Membranes, Microfiltration Minor: Bio-systems Engineering, Polymer-natural fibre composites, Process Design & Techno-economics, Refinery Engineering, Reservoir Engineering. Extracurricular: Synthesis of Science and Spirituality
35.	Venkatesh R. Prasanna	IIT Madras	Associate Professor	Electrochemistry, Chemical Mechanical Polishing (CMP), Post CMP cleaning, Refinery Processes

# DEPARTMENT OF CHEMISTRY

<b>The Department at a Glance</b>
<b>Year of Establishment:</b> 1995
<b>Academic Programmes Offered:</b> Bachelor of Technology (BTech) in o Core (Theory and Laboratory) and Elective courses in Chemistry Bachelor of Technology (BTech) in o Chemical Science & Technology Master of Science and Technology Master of Science (MSc) in o Chemistry Doctor of Philosophy (PhD)
<b>Total Faculty Strength: 40</b> <ul style="list-style-type: none"><li>• Professor: 18</li><li>• Associate Professor: 13</li><li>• Assistant Professor: 9</li></ul>
<b>Total Student Strength: 525</b> BTech: 169 MSc: 94 PhD: 262
<b>New Students Joined in 2018-2019: 156</b> BTech: 49 MSc: 50 PhD: 57



**LABORATORY FACILITIES**

Sl. No.	Details of Laboratory	Number	Approx. Floor space (m <sup>2</sup> )	Availability of facilities like board, LCD, PC/ Laptop, AC, internet
<b>Laboratories for B. Tech and M. Sc program</b>				
01	Chemistry Laboratory (B. Tech, 1st sem) / Chemical Technology Lab – I, B. Tech (CST)	01	200	White board, PC, internet, phone
02	Chemical Technology Lab – II, B. Tech (CST)	01	140	White board, PC, internet, phone
03	Chemical Technology Lab – III, B. Tech (CST) / Physical Chemistry Lab (M. Sc)	02	300	White board, PC, internet, phone
04	Inorganic Chemistry Lab (M. Sc) / Organic Chemistry Lab (M. Sc)	01	180	White board, PC, internet, phone
<b>Research Laboratories</b>				
05	CHL –101, CHL – 102, CHL –103, CHL – 104, CHL –105, CHL –106, CHL – 201, CHL-202, CHL-203, CHL-204, CHL – 205, CHL – 206, CHL-3201, CHL-3202, CHL-3203, CHL-3204, CHL-3207, CHL-3209, CHEL-004, CHEL-005, CHEL-006, CHEL –101, CHEL –102, CHEL –103, CHEL – 104, CHEL – 105, CHEL – 106, CHEL –107, CHEL –108, CHEL – 109, CHEL –201, CHEL –202, CHEL –203, CHEL – 204, CHEL – 205, CHEL – 206, CHEL –207, CHEL –208, CHEL – 209, CHEL –301, CHEL –302, CHEL –303, CHEL – 304, CHEL – 305, CHEL – 306, CHEL –307, CHEL –308, CHEL – 309.	48	80 (average)	White board, computers, internet, phone, Centralized AC
06	Analytical equipment Lab I – VI	06	540	phone, computers, internet, AC
07	Computer Lab	02	80	phone, computers, internet, AC
08	Ultrapure (Milliipore) water Lab	01	50	AC

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

- (i) Fluorescence Spectrophotometer with quantum yield measurement accessories; Make: Horiba, Model: Fluoromax Plus 4C (Status: Order placed)
- (ii) FTIR Spectrophotometer with Universal ATR (02 Nos.); Make: PerkinElmer Model: Spectrum two (Status: Order placed)
- (iii) UV-Visible Spectrophotometer; Make: Agilent Model: Cary-100
- (iv) UV-Visible Spectrophotometer (02 Nos.); Make: Hitachi Model: U-2910 (Status: Order placed)
- (v) Solvent Purification system, Make: MBraun Model: SPS-800

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

The Department is engaged in various research and Development activities such as:

Catalysis, Supramolecular Chemistry, Nanoscale Science and Technology, Synthesis, structure and reactivity of Inorganics, Newer reagents, Protocols and Newer methodologies, Synthesis of natural products and Carbohydrate Chemistry, Bio-organic Chemistry, Bio-inorganic Chemistry and Co-ordination Chemistry & Organometallics, Chiral recognition using metal complex based host, Metal removal from wastewater using polymer based chelators, Polymer synthesis, Organic Photochemistry, Molecular dynamics, Quantum Molecular dynamics, Physical Chemistry – Spectroscopic and Theoretical investigations on Novel Materials, peptide chemistry, Development of new theoretical approaches to: Laser Assisted Control

of Chemical Reactions, and, Resonances in Electron – Molecule Scattering, Biomimetic Chemistry and Chemical Biology, Computational Biophysics and Chemistry, Oxidation Catalysis, Molecular Magnetism, Synthesis of Single-Molecule Magnets (SMMs), MRI Contrast agents, Water Oxidation Chemistry, Experimental & Theoretical Physical Chemistry, Self-organization and Nonlinear dynamics, Liquid crystals, Functional Materials, Molecular Electronics, Self Assembly, Supramolecular dynamic aggregates, peptides, lipids, Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS, Synthetic organic chemistry, Natural product synthesis with the emphasis of new synthetic methodology; development of new reactions, asymmetric organocatalysis and transition metal catalysis with new catalyst design; mechanistic study, solar fuel from water, Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks (MOFs), Peptidomimetics: Synthesis, Conformation and Biological activity, Nanofluidics, Organometallic Chemistry and Catalysis, Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor, Organofluorine Chemistry etc.

#### MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

##### Major Initiatives in R&D:

Development of novel methods for the construction

of diverse organic molecules those are of important in biological and medicinal sciences,

Development of novel strategies for C-H activation for the regioselective carbon-carbon and carbon-heteroatom bonds formations, which are important in academia and chemical industries from both environmental and economic standpoint,

Supramolecular chemistry of polypeptides which are important in drug delivery and nanotechnology,

Design and development of novel approaches for the development drugs for misfolding diseases, such as Alzheimer's disease (AD) and Parkinson's disease etc.

Development of atom economic routes for the construction of novel molecules which are important in pharmaceuticals, materials chemistry such as construction of devices etc

##### Breakthrough Innovations:

There are some salient research achievements observed in the ongoing research and development under institutional and sponsored research projects which has appeared in reputed peer-reviewed journals recently in various fields of chemistry as mentioned below:

- Artificial membrane inspired by fish scales that may help in cleaning oil spills,
- Aloe vera to remove oil from water

#### CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
A. K Saikia	An International Conference in Chemistry	Tezpur University	20-21 Dec 2018	International
S. Paul	54th Symposium of Theoretical Chemistry (STC2018)	Halle (Saale), Germany	17-20 Sep 2018	International
	Theoretical Chemistry Symposium (TCS 2019)	BITS Pilani	13-16 Feb 2019	National
M. Sarma	Gordon Research Conference on Computational Chemistry 2018	Mount Snow, West Dover, Vermont, USA	22-27 Jul 2018	International
	Spectroscopy and Dynamics of Molecules and Clusters (SDMC) 2019	Koti Resorts, Shimla, India	21-24 Feb 2019	National
C. Mukherjee	9th Asian Biological Inorganic Chemistry (AsBIC) Conference	Singapore	9-14 Dec 2018	International
	International Conference on Structural and Inorganic Chemistry (ICSIC)-II	Pune, India	18 Mar 2019	International
D. Das	3rd ICSM	Jaipur	9-14 Dec 2018	International

## INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
A. Chattopadhyay	International Conference on Functional Nanomaterials (ICFNM-2019)	IIT BHU	BHU, Varanasi	23-25 Feb 2019
	NANOBIOTECK- 2018	Indian Society of Nanomedicine (ISNM)	AIIMS, New Delhi	24-27 Oct 2018
	International Conference on Advancement in Science & Technology (ICAST- 2018)	Visva-Bharati, Santiniketan and JSPS	Visva-Bharati, Santiniketan	3-4 Sep 2018
T. Punniyamurthy	Regioselective Carbon-Heteroatom Bond Formation	National Conference OMSRI, IIT Roorkee,	Roorkee	10 Feb 2019
	Mankind and Science	INSPIRE Lecture, Kamaraj College,	Tutucorin,	28 Dec 2018
	Regioselective Carbon-Heteroatom Bond Formation via C-H Activation, national symposium on Contemporary Challenges in Chemistry	North Eastern Hill University,	Shillong	21 Nov 2018
	Regioselective Carbon-Carbon Bond Formation via C-H Activation	Academy Lecture, Guwahati University,	Guwahati	8 Nov 2018
	Domino Synthesis of Medicinally Important Heterocycles	Academy Lecture, Guwahati University,	Guwahati	8 Nov 2018
	Regioselective Carbon-Carbon and Carbon-Heteroatom Bond Formation via C-H Activation	29th NOST Conference,	Goa	6-9 Sep 2018
	Domino Strategies for the Synthesis of Medicinally Important Heterocycles	IIT Dhanbad, Refresher Course	Dhanbad	12 Jun 2018
	Regioselective C-H Functionalization and Carbon-Heteroatom Bonds Formation	IIT Dhanbad, Refresher Course	Dhanbad	12 June 2018
M. Ray	Chiral recognition of amino alcohols using binuclear Ni(II) complex anion	255th American Chemical Society National Meeting,	New Orleans, USA	18-22 Mar 2018
A. K Saikia	Streoselective Synthesis of Heterocyclic Compounds	Tezpur University	Tezpur	20-21 Dec 2018
B. Mandal	Anti-amyloid peptide design using supramolecular chemistry and beyond	Department of Studies in Chemistry, Bangalore University	Bangalore University, Central College Campus, Dr. B.R. Ambedkar Veedhi, Bangalore-560001	14-15 Mar 2019
	New Strategies to Tackle Alzheimer's and Type II Diabetes	Triveni Devi Bhalotia College, (TDB College), Raniganj	Triveni Devi Bhalotia College, (TDB College), Raniganj, West Bengal	5-6 Apr 2018



Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
M. Sarma	Invited Lectures at Induction Course for Newly Recruited Post Graduate Teachers of Chemistry, Navodaya Leadership Institute, Rangia, Kamrup	Navodaya Leadership Institute, Rangia, Kamrup, India.	Rangia, Assam, India	22 May 2018
	Invited Lecture at Department of Chemistry, Bodoland University, Kokrajhar.	Department of Chemistry, Bodoland University, Kokrajhar, India	Kokrajhar, Assam, India	30 Dec 2018
	Invited Lecture at Theoretical Chemistry Symposium (TCS) 2019	Birla Institute of Technology and Science, Pilani, Rajasthan, India	Pilani, Rajasthan, India	13-16 Feb 2019
	Invited Lecture in the Second Edition of Jacobus Henricus van't Hoff Lecture Series at Department of Chemistry, Bodoland University, Kokrajhar	Department of Chemistry, Bodoland University, Kokrajhar, India	Kokrajhar, Assam, India	30-31 Mar 2019
A. S. Achalkumar	Organic Chemistry	Navodaya Leadership Institute	JNV, Rangia	19 May 2018
C. K. Jana	C-H Functionalization Enabled Multicomponent Reactions (CH-MCR)	Kaleidoscope	Goa	Jul 2018
D. Das	Supramolecular chemistry: The surprises continue	IISER Thiruvananthapuram	IISER Thiruvananthapuram	15 Feb 2019
	A Water Insoluble Molecular Hydrogel: Protecting Proteins from Denaturation	MNIT Jaipur	MNIT Jaipur	12 Dec 2018
S. C. Pan	Organocatalytic asymmetric cyclization reactions	IISER Kolkata	Kalyani	13 Aug 2018
	Organocatalytic asymmetric cyclization reactions	NOST	Goa	7 Sep 2018
	Organocatalytic asymmetric cyclization reactions	FICS	IITG	8 Dec 2018
	Organocatalytic asymmetric cyclization reactions	ICOC	Goa	14 Dec 2018
D. Srimani	The Application of Metal-Ligand Cooperativity in Sustainable Catalysis	Surendranath college; "Recent Trends in Chemical Sciences" RTCS-2018	Kolkata	6 Oct 2018
Akshai Kumar A S	Organometallics in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals	Reliance India Limited	Baroda, Gujarat, INDIA	Jun 2018
	The Chemistry of p-block, d-block and f-block elements	JNV Rongia	Guwahati, Assam, INDIA	May 2018

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Oren A. Scherman	University of Cambridge	UKIERI project related	5-8 Dec 2018
Prof. Samuel de Visser	Manchester University	DST-UKIERI bilateral visit	3-15 Jan 2019

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof Benjamin List	Max-Planck-Institut für Kohlenforschung, Germany	Lecture related to DAAD-IIT programme	7-11 Dec 2018
Prof. Tavarekere K. Chandrashekar	NISER Bhubaneswar	Expanded Porphyrins: Molecules with Diverse Application.	29 Mar 2019
Prof. Sudip Malik	IACS Kolkata	Polyaniline Nanostructures and its Applications	4 Apr 2019
Prof. Puspendu K Das	IISc Bangalore	Thermodynamics of Protein Adsorption by Second Harmonic Light Scattering in Solution	1 Feb 2019
Dr. Jyotirmayee Dash	IACS Kolkata	Four Stranded DNA Targets to Synthesize Their Own Ligands	27 Jul 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convenor/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Funded By	Date	International/ National	No. of participants
L. M. Kundu and M. K. Purkait	Cleaner Technologies & Waste Minimization for prevention of Industrial Pollution and four R's – Reduce, Reuse, Recycle and Recover – case studies	Central Pollution Control Board (CPCB), India	24-26 Oct 2018	National	30
Convener: A. S. Achalkumar Co-conveners: S. P. Biswas & K. P. Bhabak	Frontiers in Chemical Sciences 2018 (FICS 2018)	DST and companies	6-8 Dec 2018	International	500
Akshai Kumar A S	Research Conclave 2019	IITG, SBI, RSc, MERCK	14-17 Mar 2019	International	950

**PATENTS**

Name of Faculty and Co-researcher	Patent Name	Date Applied/ Granted	Application No.
A. Chattopadhyay, S. K. Sailapu, D. Dutta, A. K. Sahoo, S. S. Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/Protein array based analyses	8 May 2018	International Patent filed with Application number: National phase entry initiated for China
A. Chattopadhyay, S. K. Sailapu, D. Dutta, A. K. Sahoo, S. S. Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/Protein array based analyses	11 May 2018	International Patent filed with Application number: National phase entry initiated for USA
B. Mandal and T. Mondal	Engineered Peptides and their Application in Drug Design against Alzheimer's Disease	23 Jan 2019	201931002772
C. Mukherjee and M. Khannam	Hexadentate chelate-based contrast agent and a method for producing the same	30 May 2018	201831020332
C. Mukherjee and M. Khannam	Pentadentate chelate-based contrast agent and a method for producing the same	30 May 2018	201831020333

D. Das and N. Singha	Peptide-based water in-soluble molecular hydrogel	16 Nov 2018	201831035121
U. Manna and A. M. Rather	A method for producing superhydrophobic coating on fibrous material and a product thereof	17 Apr 2018	201831014615
U. Manna, V. Nandakumar, Karthick R, K. Maji, A. Shome, A. M. Rather	Selective And Super Oil Absorbent For Remediation Of Oil Spills	1 Aug 2018	201841029004
C. K. Jana, A. B. Kunnumakkara, Md A. Haque, B. L Sailo, G. Padmavathi	Novel carbotetracycles having anti-cancer properties and a method of synthesis thereof	13 Oct 2018	201831038926

### AWARDS AND HONOURS

1. Prof. T. Punniyamurthy selected as Fellow, The National Academy of Sciences, 2018.
2. Prof. A. Paul selected as Fellow of Royal Society of Chemistry (FRSC), 2019.
3. Dr. Bhubaneswar Mandal, selected for Overseas Associateship from DBT, Govt. of India, which allowed him to pursue part of his research in the Leeds University, UK, on type II diabetes management.
4. Dr. M. Sarma, selected as Associate Member of the Royal Society of Chemistry (AMRSC), November 2018.
5. Dr. L. M. Kundu, selected as Member of the Advisory Committee for the CPCB Regional Directorate North east, Shillong,
6. Dr. U. Manna, selected as Emerging Investigators in Journal of Materials Chemistry A (RSC), 2018, Associate of the IAS (Indian Academy of Science, Bangalore, India), 2018 and NASI-Young Scientist Platinum Jubilee Award (NASI, Allahabad, India), 2018.
7. Prof. M. Ray, SERB Nominated as the Member of the subject Expert Committee -Chemical Sciences (Early Career Research Award & National Post-Doctoral Fellowship schemes) for 3 years, starting in October 2018.
4. Adil and Dibyangana (Supervisor: Dr. U. Manna) got Tertiary Prize in ISBE Bionic Innovation Competition, China.
5. Avijit Das's (Supervisor: Dr. U. Manna) work highlighted in Science Monitor, Rajya Sabha TV.
6. Arpita Shome's (Supervisor: Dr. U. Manna) work highlighted in The Better India, The Hindu Newspaper and she also received Best Poster Presentation Award in FICS 2018 at IIT Guwahati.
7. Dibyangana's (Supervisor: Dr. U. Manna) work highlighted in the Hindu Newspaper, Sci Soup.
8. K. Das, M. Dutta (Supervisor: Dr. Akshai Kumar AS, selected as Best Oral presentation during FICS-2018, IIT Guwahati, Dec 2018 (Title: Highly Efficient Pincer Ruthenium Catalysts for Atom Transfer Radical Additions.
9. Himali Horo (Supervisor: Dr. L. M. Kundu) received best poster Presentation award in Research Conclave 2019.
10. Kaustav Banerjee, (Supervisor: Dr. K. P. Bhabak) received best poster prize in Research Conclave-2019

### STUDENTS' ACHIEVEMENTS

1. Rabindranath Paul (Supervisor: Dr. S. Paul) received best poster award in FICS 2018.
2. Krishna Gopal Chattaraj (Supervisor: Dr. S. Paul) received best poster award in TCS 2019.
3. Srijita Paul (Supervisor: Dr. S. Paul) received best poster award in Research Conclave 2019.

### SPECIAL MENTION

- i. Dr. U. Manna and group's research work has been highlighted/reported in different newspapers including The Hindu, India Science Wire etc.
- ii. Dr. Bhubaneswar Mandal and group's research work has been highlighted/reported in SYNFACTS by Prof. Hisashi Yamamoto and Prof. Wataru Muramatsu, "Modified Yamaguchi Reagent Mediated Coupling Reactions" Synfacts 2019, 15(01), 0100, Published online: 14.12.2018, DOI: 10.1055/s-0037-1611429.



## FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1.	Achalkumar A.S.	CSMR, Bangalore	Associate Professor	Liquid crystals, Functional Materials, Molecular Electronics, Self-Assembly, Green Chemistry
2.	Akshai Kumar A. S.	IISc Bangalore	Assistant Professor	Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation
3.	Bag Subhendu Sekhar	IIT Kharagpur	Professor	Bioorganic Chemistry and Chemistry of Unnatural Nucleic Acid and Peptides
4.	Baruah, Jubaraj B.	IISc Bangalore	Professor	Homogeneous Catalysis, Supramolecular chemistry and material design
5.	Bhabak, Krishna Pada	IISc Bangalore	Assistant Professor	Organic and Bio-organic Chemistry
6.	Biswas, Shyam Prosad	Ulm University, Germany	Associate Professor	Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks
7.	Chattopadhyay, Arun	Columbia University	Professor	Nanoscale Science and Technology
8.	Chatterjee Sunanda	IISc Bangalore	Assistant Professor	Peptidomimetics: Synthesis, Conformation and Biological activity
9.	Das, Animesh	University of Goettingen, Germany	Assistant Professor	Organometallic chemistry and catalysis
10.	Das, Debapratim	IACS, Kolkata	Associate Professor	Supramolecular dynamic aggregates, peptides, lipids
11.	Das, Gopal	IIT Kanpur	Professor	Supramolecular, Bioorganic chemistry and Biomineralization
12.	Dutta, Sumana	IACS, Kolkata	Associate Professor	Experimental & Theoretical Physical Chemistry / Self-organization and Non-linear dynamics
13.	Gupta, Ashish K.	Univ. of California, Los Angeles	Professor	Quantum Molecular Dynamics
14.	Iyer, Parasmeswar K.	CSMCRI, Bhavnagar	Professor	Polymer synthesis, Organic/Organometallic Chemistry & Device fabrication, Sensors
15.	Jana, Chandan K.	WWU Muenster, Germany	Associate Professor	Total Synthesis/ Natural Product Based Drug Discovery/ Synthetic Methodology/ Development of New Reaction
16.	Kancharla, Pavan K.	IIT Kanpur	Assistant Professor	Organic Chemistry, Carbohydrate Chemistry, Development of Synthetic Methodology, Organocatalysis.
17.	Khan, Abu Taleb	Kalyani University, W.B	Professor	Synthesis of Natural Products, Hetero-cycles and Carbohydrate Chemistry, Newer Methodologies
18.	Krishnamoorthy, G.	IIT Kanpur	Professor	Organic Photochemistry & Spectroscopy
19.	Kundu, Lal Mohan	LMU Munich, Germany	Associate Professor	Nucleic Acid / Peptide Chemistry, DNA / RNA Damage and Repair, DNA Hybrid Materials
20.	Mahata Kingsuk	University of Siegen, Germany	Assistant Professor	Solar Fuel from Water, Supramolecular Catalysis, Theranostic Nano-Medicine
21.	Manivannan, V.	IACS, Calcutta	Professor	Coordination Chemistry

Sl. No.	Name	PhD	Designation	Areas of Interest
22.	Mandal, Bhubaneswar	EPFL, Lausanne, Switzerland	Associate Professor	Peptide Chemistry and Amyloid Re-search
23.	Manna, Debasis	University of Illinois at Chicago	Associate Professor	Lipid-Protein Interaction, Lipid Synthesis
24.	Manna, Uttam	IISc, Bangalore	Assistant Professor	Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor.
25.	Mondal, Biplab	IIT Bombay	Professor	Coordination and Bioinorganic Chemistry
26.	Mukherjee, Chandan	Max-Planck Institute of Bioinorganic Chemistry, Muelheim, Germany	Associate Professor	Oxidation Catalysis / Molecular Magnetism / Synthesis of Single-Molecule Magnets (SMMs) / MRI Contrast agents / Water Oxidation Chemistry
27.	Pan, Subhas Chandra	Max-Planck-Institut fuer Kohlenforschung, Muelheim an der Ruhr, Germany	Associate Professor	Synthetic organic chemistry: Natural product synthesis with the emphasis of new synthetic methodology; development of asymmetric organocatalysis and transition metal catalysis with new catalyst design; mechanistic study
28.	Panda, Aditya N.	IIT Kanpur	Professor	Dynamics of bimolecular scattering processes
29.	Patel, Bhisma K.	IIT Kanpur	Professor	Bio-Organic Chemistry and Newer Methodologies
30.	Paul, Anumita	Columbia University	Professor	Surface Science, Catalysis, Thin Films
31.	Paul, Sandip	IIT Kanpur	Professor	Computational Biophysics and Chemistry
32.	Punniyamurthy, T.	IIT Kanpur	Professor	Synthetic Organic Chemistry
33.	Qureshi, Mohd	IIT Kanpur	Professor	Materials Chemistry
34.	Ray, Manabendra	IIT Kanpur	Professor	Bioinorganic and Coordination chemistry
35.	Raidongia, Kalyan	JNCASR	Assistant Professor	Physical Chemistry
36.	Sahu, Kalyanasis	IACS, Kolkata	Associate Professor	Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS
37.	Saikia, Anil Kr.	RRL Jorhat	Professor	New Synthetic Methodology & Natural Product Synthesis
38.	Sastri, Chivukula V	University of Hyderabad	Associate Professor	Biomimetic Chemistry and Chemical Biology
39.	Sarma, Manabendra	IIT Bombay	Associate Professor	Development of new theoretical approaches to Laser Assisted Control of Chemical Reactions, and Resonances in Electron – Molecule Scattering Reactions
40.	Srimani, Dipankar	IACS, Jadavpur	Assistant Professor	Organic, Organonometallic Chemistry

# DEPARTMENT OF CIVIL ENGINEERING

The Department at a Glance
<b>Year of Establishment:</b> 1998
<b>Academic Programmes Offered:</b> <b>Bachelor of Technology (BTech) in</b> o Civil Engineering <b>Master of Technology (MTech) in</b> <ul style="list-style-type: none"> <li>• Structural Engineering</li> <li>• Water Resources Engineering and Management</li> <li>• Geotechnical Engineering</li> <li>• Environmental Engineering</li> <li>• Transportation Systems Engineering</li> <li>• Infra-structure Engineering &amp; Management</li> <li>• Earth System Science and Engineering</li> </ul> <b>Doctor of Philosophy (PhD)</b>
<b>Total Faculty Strength: 46</b> <ul style="list-style-type: none"> <li>• Professor: 22</li> <li>• Associate Professor: 13</li> <li>• Assistant Professor: 11</li> </ul>
<b>Total Student Strength: 755</b> BTech: 312 MTech: 205 PhD: 238
<b>New Students Joined in 2018-2019: 239</b> BTech: 90 MTech: 104 PhD: 45



## LABORATORY FACILITIES

### Environmental Engineering Laboratory

Environmental Engineering laboratory is equipped with some of the sophisticated instruments such as Atomic Absorption Spectrophotometer (AAS) for heavy metals analysis in ppm and ppb levels, UV-Visible Spectrophotometer for the quantitative determination of different analyses like transition metal ions and highly conjugated organic compounds, Gas Chromatograph for separating and analyzing compounds that can be vaporized without decomposition, Ion Chromatograph for analyzing organic and inorganic compounds, Laser Particle Size Analyzer for particle size gradation in the range 0.02- 2000 µm etc. The laboratory is also equipped with some of the major instruments for air quality monitoring like Micro-meteorological monitoring system with required accessories and data logging system and software (automatic), Cascade Impactor etc. The laboratory has also a well-equipped microbiology division with microbial research facilities to enrich, isolate, and identify noble bacterial species. The laboratory is equipped with the instrumentation facilities for water quality and wastewater analysis, solid waste and hazardous waste characterization.

### Geotechnical Engineering Laboratory

The geotechnical engineering laboratory aims to conduct testing and research for the identification of the engineering behavior of geomaterials such as soils, rocks, geosynthetics, fly-ash, composite materials and different by-products of the geomaterials. The research expertise endorsed by the lab has been successfully used in multi-faceted geotechnical problems involving foundations, dams, embankments, tunnels, reservoirs, pavement subgrades, slopes, retention systems, seismicity and rainfall affected systems, as well as specialized applications like waste containment systems, biostabilization, nuclear repository containment and harnessing of geothermal energy. The precision of such design and analyses largely depends on the experimental information and numerical modeling skills supported by the geotechnical laboratory. The primary aim of the geotechnical laboratory is to look for avenues of safe and economic design, analyses and stabilization approaches, which is the need of the hour of North-Eastern region. The geotechnical laboratory is equipped with state-of-the-art instruments essential to determine the different physical, chemical, geotechnical and geophysical properties of the geomaterials. The major equipments already present in the laboratory are the Cyclic triaxial testing apparatus, Multi-channel data logging (MASW accompanied by cross-hole apparatus), Unsaturated triaxial setup, Rock testing equipments, Research Centrifuge, Guelph Permeameter, Cross permeability test apparatus, automated Direct shear and Consolidation setups and several others. The laboratory is also well equipped with specialized network licensed numerical and modeling softwares such as GeoStudio, PLAXIS 2D and 3D, RocScience, FLAC, 2007, to name a

few. The major equipments which are under the process of acquirement in 2017-18 are Flame Photometer, High Accuracy Digital Balance, Vane Shear Apparatus, Direct Shear Apparatus, Torshear Ring Apparatus (arriving soon), ProCheck Digital/Analog Sensor Handheld Readout, and Water Distillation Unit.

### Infrastructure Engineering and Management Laboratory

Project Management Laboratory with well-equipped computing facilities along with the state of the art project management and infrastructure planning softwares such as MS Projects, Primavera Project Planner, and Autodesk Revit Building Suite.

Some of the quantitative analyses carried out in this laboratory includes:

- Financial modelling of infrastructure projects
- Construction cost estimation and rate development
- Earned value analysis of infrastructure projects
- Resource driven scheduling
- nDimensional modelling of built facilities
- Risk analysis and assessment of infrastructure projects
- Concrete Testing laboratory is equipped with sophisticated equipment for carrying out tests on special concrete such as self-compacting concrete (SCC) and foamed concrete. Other important facilities include the equipment to study the corrosion behavior of steel reinforcement, shrinkage and microstructure of concrete.

### Structural Engineering Lab

This lab is equipped with state of the art facilities for conducting high end experimentation in the field of Structural Engineering and is equipped with equipment like Overhead EOT Crane for Structural test hall, Universal Test frame, NDT equipment like Corrosion analyzing, Rebar locator, Permeability tester, Resistivity meter, extraction tester, Dynamic Actuator system, Earthquake simulator, Pseudo Dynamic Test Facility, FFT analyzer for vibration testing of structural elements, Resonant frequency meter, HBM-48channel data acquisition system, Hydraulic Fork Lift, A-Frame Aluminium Ladder (16ft high), Automatic Vicat's apparatus for SC, Initial and Final Setting of Cement, 300 LPM in Powerpack for MTS test system, Reaction Mass Assembly for Electoseis Long Stroke Shaker Model 113 etc. Abaqus V 6.8 software, ANSYS – v13, SAP 2000 – v14, MIDAS, Primavera etc.

### Survey Laboratory

This lab is equipped with a wide array of state of the art facilities required for conducting Engineering Survey. Some of the crucial equipment available in this laboratory are Unmanned Aerial Vehicle (Drone), Terrestrial Laser Scanner (TLS), Differential Global Positioning System (DGPS), Total

Station, Digital Theodolite, Auto Level and Hand-held Global Positioning System (GPS).

### **Transportation Systems Engineering Laboratory**

This lab has two major sub divisions - Pavement Engineering and Traffic Engineering encompassing all the specialized areas of Transportation Systems Engineering. The Pavement Engineering section is equipped with many state of the art equipment not only for testing pavement materials such as bitumen, aggregates and soil, but also for in-situ pavement evaluation. Some of the major equipment available in the lab are Setup of major equipment for production and design of Cold Mixes (Wet Track Abrasion, Cohesion Tester, Schulze Breuer and Loaded Wheel Tester), Pneumatic Universal Testing Machine (UTM), Gyratory Compactor, Falling Weight Deflectometer (FWD), Dynamic Shear Rheometer (DSR), Digital Marshall cum Indirect Tensile Strength Tester, CoreDry and CoreLok. On the other hand, the Traffic Engineering Laboratory is equipped with a wide array of facilities required for Traffic data collection and analysis. This lab is well equipped with many sophisticated equipment such as Video VBox, Handheld Roughometer, Speed Radar Guns, Portable Mast Assembly and Dipstick. In addition to this, many software such as VISSIM, MXRoad and HDM-4 are also available in the simulation section of this laboratory.

### **Water Resources Engineering Laboratory**

Water Resources Engineering laboratory is equipped with some of the sophisticated instruments such as Acoustic Doppler Velocimeter (ADV) for recording instantaneous velocity components at a single-point, Acoustic Doppler Current Profiler (ADCP) for measuring water current velocities, DGPS, Spectro-radiometer, Miniature Tensiometer to measure soil suction pressure etc. The laboratory has a 5 m flow channel or flume which is mostly used for carrying out experiments and demonstrations in water flow, friction in a uniform flow channel, flow over a sharp-crested weir, crump weir, streamlined hump, flow under a sluice gate etc. The laboratory has also a 20 m long tilting flume for conducting real time open-channel flow simulation experiments. Another 30 m long flume has been installed for undertaking cutting edge research in the area of open channel flow, sediment transport processes etc. Work is also being carried out in land use and land cover classification, river migration, water-shed delineation, flow accumulation and hill slope hydrology. The laboratory is also equipped with Drainage and Seepage Tank, 3D Ground Water Flow Laboratory Model for conducting experimental study regarding flow through permeable media, flow line visualization, flow net construction, determination of seepage rate, verification of Darcy's law etc. Research work is also being carried out regarding determination of soil hydraulic conductivity which is one of the governing factors for controlling flow through porous media. Both field and laboratory experiments are simultaneously conducted using different types of infiltrometers like Double Ring infiltrometer, Mini

disc infiltrometer, tension infiltrometer etc. for determining hydraulic conductivity of soil, followed by mathematical analysis using numerical tools like HYDRUS to estimate the soil hydraulic properties. Latest versions of the applicable software such as Geomatica, MIKE 21C & CCHE3D have been procured to carry out research related work.

### **Computational Laboratory**

There are three nos. of computer laboratories out of which one lab is located in the M-Block which has around 60 number of Desktop Computers all properly connected to the network and to the centralized UPS system, a wide screen LED Display and a good number of computer related books. The other two labs are in the Annexure Building which has dedicated Wi-Fi facility. A Departmental Server Room is located at M-Block of our Department which has all the license servers for the licensed software of our Department. The licensed softwares are: SAP 2000, ANSYS 13.0 & 17.0, ABACUS 6.8, Arc GIS, COMSOL 4.2 & 4.2a, MIDAS GEN & MIDAS Civil, GROUND WATER MODELLING SOFTWARE (GMS), WMS 8.2, PLAXIS 2D & 3D, HYPERMESH, LS DYNA, ROC SCIENCE, ETAB, CSI BRIDGE, GEO STUDIO 2012, ERDAS, SPACE GASS. The Lab has three numbers of Servers. One Server is of Make DELL and Model Dell Power Edge R730, the second server is of Make HP and Model HP Proliant DL380 Gen9 and the third server is of Make IBM and Model X3650 M3. The Lab has one number of storage box of Make IBM and Model DS 3500. The Lab has a 26U Floor Mount Server Rack system of Make Valrack with two numbers of fan and 1 number of power distribution units. The Lab has a centralized UPS facility.

### **Earth System Science and Engineering Laboratory**

This programme was started in 2016 with the objectives to provide high quality classroom, laboratory and field education. North-eastern region of India is blessed with natural resources (natural and mineral resources including oil and gas) and located in a seismic zone that demands close monitoring of geophysical parameters. In the backdrop of accelerated infrastructure development for national growth, growing incidences of geohazards and natural uncertainties such as climate change has necessitated systematic understanding of the Earth systems in order to build future infrastructures pragmatically, and seek sustainable solutions for hazard related uncertainties. To address these problems scientifically, this specialization is actively involved in various interdisciplinary research projects and consultancy assignments. Apart from the contemporary learning, students of this specialization will be trained with latest techniques of quantitative analyses which can be directly used for the identification and exploration of natural resources. This will provide research and employment opportunities in various sectors such as mineral & hydrocarbon exploration, natural resource management, geo-environment etc.

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Soil Dynamics, Geo-environmental Engineering, Ground Improvement, Landslides, Behavior of Clays and Clay Minerals, Sustainable development, Public Private Partnerships, Risk Management, Construction Management, Durability studies in concrete, Corrosion of steel reinforcement and protection measures, High performance concrete, Mass transport in cementitious materials, Non-destructive testing of concrete structures, Light weight concrete (Foam concrete), Shrinkage behaviour and thermal performance of concrete, Sustainable materials in construction, Hydrological modeling, Earth and planetary exploration, Study of sediment dynamics in fluvial systems, Petrophysical Modelling for Petroleum Exploration, Environmental impact/risk assessment & management, Remote Sensing and GIS for mapping groundwater potential and recharge, Geodesy and mapping, Photogrammetry and LiDAR, Integration of remote sensing techniques, Sensor calibration and synthetic simulation, Airborne remote sensing (Unmanned Aerial Vehicles) for mapping and exploration, Advance Remote Sensing (hyperspectral, thermal and microwave) and GIS techniques Natural Resource Management, earthquake engineering, structural mechanics, structural

dynamics, fracture and fatigue mechanics, finite element analysis, durability of structures, non-destructive testing, construction materials, numerical and analytical methods, computer aided analysis, passive and semi-active control, retrofitting of structures, computational mechanics, IT in construction management, structural analysis and design, performance based seismic design, system identification & structural health monitoring, seismic damage assessment, bridge engineering, wind induced vibration & control, random vibration, nonlinear behaviour of structures, ultrasonic wave propagation, acoustic-impact detection, time-frequency analysis, impact and blast resistant design, reliability analysis and performance based engineering, design and optimization of protection measures, sustainable construction and sustainable construction materials, Removal of heavy metals from wastewater using amine based functionalized polymers, Biodegradation of industrial wastewater, Removal of toxic pollutants like phenol, ammonia, thiocyanate, pyridine from wastewater in fed batch type reactors by indigenous cultures and Air quality modeling in urban transport and industrial environment, Pavement Evaluation and Management, Road Safety, Traffic Flow and Travel Behavior Modeling.

**CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Prof. Hemant B Kaushik	Second International Conference on Civil Engineering for Sustainable Development – Opportunities and Challenges (CESDOC 2018)	Assam Engineering College, Guwahati, Assam	18-19 Dec 2018	International
TV Bharat	Indian Geotechnical Conference	IISc, Bangalore	13-15 Dec 2018	National
TV Bharat	Indian Conference on Geotechnical and Geo-Environmental Engineering	MNNIT Allahabad	01-02 Mar 2019	National
Prof. Rajan Choudhary	International Conference of Transportation Infrastructure Projects: Conception to Execution (TIPCE-2019)	IIT Roorkee	7-10 Jan 2019	International
Prof. Rajan Choudhary	2nd International Conference on Civil Engineering for Sustainable Development – Opportunities and Challenges (CESDOC 2018)	Assam Engineering College, Guwahati	18-19 Dec 2018	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. Hemant B Kaushik	Material Properties of Masonry in India in National Colloquium on Advancements in Seismic Design of Masonry Structures	Nirma University	Ahmedabad	30 Jan 2019



<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./Org.</b>	<b>Place</b>	<b>Date</b>
Prof. Hemant B Kaushik	Interactive Sessions with M.Tech. (CASAD) Students on Earthquake Engineering	Nirma University	Ahmedabad	1 Feb 2019
Prof. S.K. Deb	R&D activities in Civil Engineering at IIT Guwahati	BITS Pilani Dubai Campus	Dubai	3 Feb 2019
Prof. S.K. Deb	Fundamentals of seismic retrofitting of RC elements / buildings	National Workshop on NBC 2016 & Seismic codes: BIS/ Consulting Engineers Association of India	IIT Guwahati	12 Jan 2019
Prof. S.K. Deb	Seismic vulnerability reduction of low-rise buildings using U-FREIs	16th Symposium on Earthquake Engg., IIT Roorkee	IIT Roorkee	22 Dec 18
Prof. S.K. Deb	Seismic response control of low-rise buildings using unbonded scrap tyre isolators (U-STI): a low-cost base isolation system	CESDOC 2018, Assam Engg. College	Guwahati	18 Dec 2018
Prof. S.K. Deb	Impact of Earthquake on Industries, Communities : Best Practices & Mitigation Measures to Minimise Losses	Regional Conference organized by FICCI	Guwahati	8 Oct 2018
Prof. S.K. Deb	Preparedness for Earthquake Disaster: Engineering Perspective	Institution of Engineers, India	Agartala	3 Aug 2018
Prof. Rajan Choudhary	Hot Mix Asphalt Mix Design: Fundamentals and Some Critical Concepts	Rajasthan Institute of Engineering and Technology	Jaipur	18 Mar 2019
Prof. Rajan Choudhary	Road Safety Scenario in India – Every Life Counts	Rajasthan Institute of Engineering and Technology	Jaipur	19 Mar 2019
Prof. Rajan Choudhary	Road Safety : An Introduction from Indian Perspective	Assam Road Research and Training Institute, PWRD	Guwahati	6 Aug 2018
Prof. Rajan Choudhary	Role of Road Side Features & Appurtenances in Safety	Assam Road Research and Training Institute, PWRD	Guwahati	6 Aug 2018
Prof. Rajan Choudhary	Engineering Practices and Pavement Maintenance for Road Safety	Assam Road Research and Training Institute, PWRD	Guwahati	7 Aug 2018
Arup K. Sarma	Sustainable Approach in Rainwater Management & Application for Mitigating Climate Change Impact in NE India	Kyoto University	Kyoto, Japan	9 Aug 2018
Arup K. Sarma	River-research to Evolve Sustainable-projects for People with Eco-friendly, Climate-resilient Technology (RESPECT)	Jorhat Engineering College	Jorhat, Assam	21-22 Dec 2018
Arup K. Sarma	Understanding Watershed for Better Management of Soil and Water in Changing Climate	Center for Rural Technology, IIT Guwahati	Guwahati, Assam	10-14 Sep 2018
Arup K. Sarma	Need and Scope of Sediment Management in Brahmaputra Basin	Ministry of Water Resources, River Development and Ganga Rejuvenation, Brahmaputra Board	Assam Administrative Staff College, Guwahati, Assam	15 Feb 2019
Arup K. Sarma	Alternative Paradigm of Living with Flood	K. K. Handique State Open University	Guwahati, Assam	2018
Arup K. Sarma	Modelling challenges in a large trans-boundary river like Brahmaputra	Hydrology Outlook Workshop	IISc, Bangalore	4-5 Jun 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Funded By	Date	International/ National	No. of participants
Dr. Rishikesh Bharti	Flood Risk and River Basin Management	Knowledge Incubation for TEQIP. Centre for Educational Technology, IIT Guwahati	29 Oct - 02 Nov 2018	National	28
Dr Akhilesh Kumar Maurya & Dr Rajan Choudhary	Urban Traffic Modelling and Control	TEQIP II	4-8 Sep 2018	National	25
Dr Akhilesh Kumar Maurya	Urban Traffic Modelling and Control	GIAN	4-8 Sep 2018	National	30
Prof. Rajan Choudhary	Five Day Training Programme on "Road Safety"	Asian Institute of Transport Development (AITD) New Delhi and World Bank	9-13 Apr 2018	National	-
Prof. Rajan Choudhary	Five Day Short Term Course on "Urban Traffic Modelling and Control"	Technical Education Quality Improvement Programme (TEQIP)	4-8 Sep 2018	National	-
Prof. Rajan Choudhary	Five Day Training Programme on "Road Safety Audit"	Asian Institute of Transport Development (AITD) New Delhi and World Bank	12-16 Nov 2018	National	-

**PATENTS**

Name of Faculty and Co-researcher	Name	Date Applied/ Granted	Application No.
Prof. Sajal Kanti Deb, CE, Prof Anjan Dutta, CE, Mr.Ngo Thuyet Van, CE, Dr.Animesh Das, Manager, BHEL (former RS, CE, IITG)	Elastomeric Seismic Isolator with High Damping Capacity and Manufacturing Method thereof	23.08.16 (date of DoRD's in principle approval)	79
Uday Shanker Dixit (ME), Dr. Arun Chandra Borsaikia (TO Gr-1, CE), Amit Raj (RS, ME)	Bonding mechanism in autoclaved aerated concrete (AAC) block unit for enhancement of lateral strength in masonry wall system and process for its manufacturing.	03.01.18 (date of online approval by DoRD)	130
Dr. Hrishikesh Sharma (CE) , Mr. Suman Kumar (RS)	Design for use of Bamboo for Construction of Frangible Security Watch Tower	20180131 20000101	135
Dr. Hrishikesh Sharma (CE) , Mr. Suman Kumar (RS)	Development of BHISM for Blast and Impact Resistant Design and Testing of Products	20180221 20000100	138
Mr. Kondusamy Dhamodhatan and Dr. A. Kalamdhad, Department of Civil Engineering	Anaerobic Bi-Phased Baffled Reactor (ABBR)	07.05.15	60
Mr. Kondusamy Dhamodhatan and Dr. A. Kalamdhad, Department of Civil Engineering	Anaerobic Bi-Phased Baffled Reactor (ABBR)	07.05.15	60

**AWARDS AND HONOURS**

- Prof. Rajan Choudhary received the Best Paper Award for the paper entitled “Preliminary Investigation on the Use of Sulphur with Waste EPDM Rubber for Asphalt Binder Modification”, under the Theme “Materials” presented during International Conference on Transportation Infrastructure Projects-Conception to Execution (TIPCE-2019), January 7-10, 2019 at IIT Roorkee for the paper “Experimental Analysis of Salt Diffusion in Compacted Clays by Through Diffusion and Half-Cell Technique” by Partha Das, S.R. Man Parvesh and T.V. Bharat published in the proceedings of Indian Geotechnical Conference 2016, Chennai, India.

**STUDENTS’ ACHIEVEMENTS**

- Dhanesh Sing Das received Best Presenter Award in the Digital Display Category for his research work entitled “Theoretical study on equilibrium volume of clay sediments in salt solutions” at Indian Geotechnical Conference during 13-15 December, 2018 at IISc Bangalore, India. He received a certificate and gift voucher of 100 Euros from Springer Nature.
- Partha Das received Best Presenter Award in the Oral Presentation category for his research work entitled “Effect of inorganic salt solutions on the hydraulic and diffusion characteristics of compacted clay” at Indian Geotechnical Conference during 13-15 December, 2018 at IISc Bangalore, India. He received a certificate and gift voucher of 100 Euros from Springer Nature.
- Best paper received by Gaurav Talukdar in Hydro 2018

**SPECIAL MENTION**

**Report of TEQIP STC**

Title of the course: Urban Traffic Modeling and Control

Duration: 4th to 8th September 2018

List of experts:

- Prof. R. (Jay) Jayakrishnan, University of California, Irvine

- Prof. Partha Chakroborty, IIT Kanpur
- Dr Akhilesh Kumar Maurya, IIT Guwahati
- Dr Rajan Choudhary, IIT Guwahati

Topic covered:

Introduction to Traffic flow in transportation systems, Basic variables of traffic flow (speed, density, flow, occupancy, etc) and their measurement; Visualization of Traffic data and the associated variables, Traffic Flow theory fundamentals, Continuity Equations, Shockwaves, Numerical models. Traffic simulation fundamentals (macroscopic and mesoscopic), Platoon dispersion models Traffic intersection control schemes with and without detectors. Traffic modeling for individual vehicles (microscopic models), Car-following and Lane-changing models, Traffic simulation fundamentals (macroscopic and mesoscopic). Traffic Detection (different technologies, and field implementation details), Expressway traffic detection and entry control schemes; Developing control concepts for mixed traffic flow conditions and heavy pedestrian movements, Advanced topics in traffic flow in connected and future autonomous environments, Traffic Detection (different technologies, and field implementation details), Dynamic traffic assignment schemes for efficient operations in peak congested conditions.

Objectives: The primary objectives of the course are as follows:

- Understanding transportation systems components and traffic elements
- Understanding the basic science of vehicular traffic flow, both for homogeneous and mixed flow.
- Understanding traffic variables, detection, measurement, technology, modeling, and control
- Understanding the use of information in route-level flows, and possibilities of flow control.

Program was well attended by the faculties as well as students from different states of the country. Syllabus includes practical session also along with the theory lectures to illustrate you’re the concepts in better way.

**FACULTY MEMBERS**

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Barua, Gautam	IIT Kharagpur	Professor	*Flow through porous media
2	Bharat, T. Venkata	IISc Bangalore	Associate Professor	*Behavior of unsaturated soils during infiltration & drainage *Settlement behavior of ultra-soft soils and mine tailings *Contaminant transport through landfill liners *Mineralogical aspects of clays *Inverse analysis of geotechnical & geo environmental engineering problems



Sl. No.	Name	PhD	Designation	Areas of Interest
3	Bharti, Rishikesh	IIT Bombay	Assistant Professor	* Application of remote sensing and Geographic Information System (GIS). * Airborne remote sensing (Unmanned Aerial Vehicles) for mapping and exploration. * Advance remote sensing (hyperspectral, thermal and microwave) and GIS techniques for the earth and planetary exploration
4	Bhattacharjya, Rajib K.	IIT Kanpur	Professor	*Water Resources System Management *Genetic Algorithms *Artificial Neural Networks
5	Buragohain, Dharendra. Nath	IIT Bombay	Emeritus Professor	*Structural Mechanics * Finite Element Methods *Numerical Methods *Computer aided analysis *Design and drafting *Development of software
6	Chakraborty, Arunasis	Trinity College, Dublin, Ireland	Associate Professor	• Random Vibration & Wavelet Analysis • System Identification & Damage Detection • Uncertainty Quantification & Reliability Based Design
7	Chakraborty, Saswati	IIT Bombay	Professor	• Heavy metal removal by polymers • Aerobic granular reactors • Sequential treatment of industrial wastewater • Constructed wetland for wastewater treatment
8	Choudhary, Rajan	IIT Roorkee	Professor	*Pavement Analysis and Design *Highway Construction and Quality Control *Pavement Material Characterization *Pavement Evaluation and Maintenance *Traffic Engineering
9	Das, Sandip	IIT Kanpur	Assistant Professor	*Earthquake Engineering *Structural Dynamics *Random Vibration
10	Dasgupta, Kaustubh	IIT Kanpur	Associate Professor	*Earthquake Engineering *Design of Reinforced Concrete Structures *Retrofitting of Structures
11	Dashora, Ajay	IIT Kanpur	Assistant Professor	* Synthetic Simulation * Sensor Calibration * Airborne and Terrestrial LiDAR * Thermography * Integration of Remote Sensing Technologies * Development of Lumped Parameter Models * Flight Planning * Unmanned Aerial Vehicles (UAVs) for Mapping
12	Deb, Sajal Kanti	IIT Roorkee	Professor	*Passive and semi-active control *Performance based seismic design *System identification & structural health monitoring *Seismic damage assessment

Sl. No.	Name	PhD	Designation	Areas of Interest
13	Dey, Arindam	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> <li>*Geosynthetic Reinforced Foundation Beds</li> <li>*Geotechnical Lumped Parameter and Continuum Mechanics Modeling</li> <li>*Parameter Estimation of Geotechnical Models</li> <li>*Optimization, GA, ANN and Soft Computing in Geotechnical Engineering</li> <li>*Ground Modification and Improvement Practices</li> <li>*Soil-Structure-Foundation Interaction</li> <li>*Reinforced Soil Structures</li> <li>*Landslides and Slope Stability Analysis</li> <li>*Seismic and Ambient Health Monitoring of Geotechnical Structures</li> <li>*Reliability and Uncertainty Analysis in Geotechnical Engineering</li> <li>*Forensic Investigation in Geotechnical Engineering</li> <li>*Subsurface Profiling and Soil Investigation</li> <li>*Soil Dynamics and Earthquake Engineering</li> </ul>
14	Dutta, Anjan	IIT Delhi	Professor	<ul style="list-style-type: none"> <li>*Finite Element Mesh Generation</li> <li>*Optimization</li> <li>*Control, Health Monitoring and Retrofitting of structures</li> </ul>
15	Dutta, Subashisa	IIT Kharagpur	Professor	<ul style="list-style-type: none"> <li>*Meso-Scale Distributed hydrological modeling</li> <li>*Satellite Remote Sensing and GIS for Water resources Management</li> <li>*Computational river hydraulics and its applications</li> <li>*Watershed and Irrigation Management</li> </ul>
16	Ghosh, Pranab Kumar	IIT Kharagpur	Professor	<ul style="list-style-type: none"> <li>*Water treatment for domestic and industrial use</li> <li>*Domestic and Industrial wastewater treatment</li> <li>*Sludge treatment by physicochemical and biological process</li> </ul>
17	Gokhale, Sharad B.	IIT Delhi	Professor	<ul style="list-style-type: none"> <li>*Air Pollution and Environmental Noise</li> </ul>
18	Goyal, Manish Kumar	IIT Roorkee	Assistant Professor	<ul style="list-style-type: none"> <li>*Stochastic Hydrology and Distributed Hydrological Modeling</li> <li>*Hydro-climatology and Statistical Downscaling</li> <li>*Irrigation Management and Crop Modeling Applications</li> <li>*Multivariate Statistical Analysis, Machine Learning Models and Data Mining</li> </ul>
19	Hazra, Budhaditya	University of Waterloo, Canada	Associate Professor	<ul style="list-style-type: none"> <li>*Deterministic and Stochastic Structural Dynamics</li> <li>*System Identification</li> <li>*Blind source separation</li> <li>*Time-frequency analysis</li> <li>*Vibration based condition monitoring</li> </ul>
20	Jawed, Mohammad	Ph D Indian Institute of Technology Kanpur	Professor	<ul style="list-style-type: none"> <li>*Biological Processes</li> <li>*Anaerobic Wastewater Treatment</li> <li>*Heavy Metal Removal and Recovery</li> <li>*Water Treatment and Supply</li> <li>*Domestic &amp; Industrial Wastewater Treatment</li> </ul>
21	K., Ravi	IISc Bangalore	Assistant Professor	<ul style="list-style-type: none"> <li>*Geo-environmental engineering</li> <li>*Geo-energy systems</li> <li>*Engineering behaviour of unsaturated soils</li> <li>*Research on hazardous waste management</li> </ul>

Sl. No.	Name	PhD	Designation	Areas of Interest
22	Kalamdhad, Ajay	IIT Roorkee, India	Professor	*Solid waste management *Mechanical composting and vermicomposting *Analysis of solid wastes
23	Kartha, Suresh A.	IIT Kanpur	Associate Professor	*Flow and transport through porous media *Heap leaching *Hydrology *Numerical modeling
24	Kaushik, Hemant B.	IIT Kanpur	Professor	*Earthquake Resistant Design *Nonlinear Behaviour of Structures *Retrofitting of Structures *Finite Element Modeling
25	Kota, Sri Harsha	Texas A&M University, College Station	Assistant Professor	*Formation, transformation and chemical mechanisms of air pollutants near roadways. *Development of air quality models *Estimation of emission factors* Source apportionment of air pollutants *Regional air quality
26	Kumar, Abhishek	IISc Bangalore	Associate Professor	*Seismic hazards of Urban Centers *Ground Motion Simulations *Liquefaction *Seismic hazard for Nuclear Power Plants *Site response studies for deep basins *Multichannel Analysis of Surface Waves (MASW) and Ground Penetration Radar (GPR) *Subsoil Investigations and Geotechnical Engineering *Soil Dynamics *Dynamic testing's on Piles *Ground Improvement, Reinforced earth structures *Deep Excavations
27	Kumar, Bimlesh	IISc Bangalore	Associate Professor	*Small scale studies of mixing tanks *Experimental Studies of Aeration Systems *Sediment Transport analysis *Pipeline analysis *CFD simulation *Surge analysis
28	Mahanta, Chandan (Head of the Department)	Jawaharlal Nehru University, New Delhi	Professor	*Water Quality *Sediment Dynamics in Fluvial Systems *Environmental Impact, Risk Assessment and Management *Environmental Geo-informatics *Engineering Geology
29	Mallikarjuna, Chunchu	IIT Delhi	Professor	*Traffic flow theory and Modeling *Traffic data collection and analysis *Travel demand modeling
30	Maurya, Akhilesh K.	IIT Kanpur	Associate Professor	*Driver behaviour *Traffic flow theory and modeling *Traffic engineering
31	Mishra, Anil Kumar	Kyushu University, Fukuoka, Japan	Associate Professor	*Chemical compatibility studies of soil-bentonite mixtures *Waste (municipal, industrial and hazardous) management and disposal *Unsaturated soil mechanics



Sl. No.	Name	PhD	Designation	Areas of Interest
32	Murali Krishna, A.	IISc Bangalore, India	Associate Professor	*Soil Investigation *Reinforced Soil Structures *Geosynthetics and Ground Improvement *Earthquake Geotechnical Engineering
33	Nair, Archana M.	IIT Bombay	Assistant Professor	* Remote Sensing for Planetary Exploration * Petrophysical Modelling for Petroleum Exploration * Thermal IR Emission and Reflectance Spectroscopy * Hyperspectral Remote Sensing for Mineral Exploration * Remote Sensing and GIS for Hydrogeological studies
34	Pekkat, Sreeja	IIT Bombay	Associate Professor	*Urban Flood Modeling *Modeling and Control of Open Channel Flows *Infiltration and artificial recharge *Stochastic Hydrology *River Mechanics
35	Pradhan, Bulu	IIT Delhi	Professor	*Durability studies in concrete *Corrosion of steel reinforcement and protection measures *High performance concrete *Mass transport in cementitious materials *Non-destructive testing of concrete structures *Construction management
36	Rajani, G. Indu Siva	IIT Madras	Assistant Professor	*Light weight concrete (Foam concrete) *Durability related studies on concrete *Shrinkage behaviour and thermal performance of concrete *Sustainable materials in construction *Lean concepts of construction *Construction management
37	Ryntathiang, Teiborlang. Lyngdoh	IIT Kharagpur	Professor	*Pavement Materials *Precast Concrete Block Pavement *Cast In-Situ Concrete Block Pavement
38	Sarma, Arup Kumar	Gauhati University	Professor	*Modeling & simulation in Free Surface Flow *Heuristic Method in Reservoir Optimization *GIS based Watershed Modeling
39	Sharma, Hrishikesh	Texas A&M University	Assistant Professor	*Impact and Blast Resistant Design *Reliability Analysis and Performance Based Engineering *Design and Optimization of Protection Measures
40	Shelke, Amit	The University of Arizona	Assistant Professor	*Ultrasonic wave propagation *Acoustic-Impact detection *Non-destructive testing
41	Singh, Arbind K.	IISc Bangalore	Professor	*Information Technology in Construction Engineering *Object-Oriented Programming *Constitutive modeling
42	Singh, Baleshwar	IIT Delhi	Professor	*Marine Geotechnology *Modelling of Onshore & Offshore Foundations *Soil Stabilization & Ground Modification *Pavement Subgrade & Site Characterization
43	Singh, K. Darunkumar	Southampton University	Professor	*Structural Analysis and Design *Finite Element Method *Fracture and Fatigue Mechanics

<b>Sl. No.</b>	<b>Name</b>	<b>PhD</b>	<b>Designation</b>	<b>Areas of Interest</b>
44	Singh, Laishram Boeing	IIT Madras	Associate Professor	*Public Private Partnerships *Risk Management *Construction Management
45	Sreedeeep, Sekharan.	IIT Bombay	Professor	*Behavioral studies on unsaturated porous media *Characterization of geo-materials (soils and rocks) *Thermal characteristics of geo-materials *Contaminant transport and retention studies *Waste containment studies *Landslides
46	Siddagangaiiah, Anjan Kumar	IIT Madras	Assistant Professor	*Analysis and Design of Pavement Structures *Pavement Material Characterization *Pavement Construction and Recycling *Pavement Management Systems *Pavement Evaluation using NDT *Forensic Investigations of Pavement Failures
47	Talukdar, Sudip	IIT Kanpur	Professor	*Structural Dynamics *Bridge Engineering *Wind induced vibration & control *Nondestructive techniques

# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

The Department at a Glance
<b>Year of Establishment:</b> 1995
<b>Academic Programmes Offered:</b> Bachelor of Technology (BTech) in <ul style="list-style-type: none"> <li>o Computer Science and Technology</li> </ul> Master of Technology (MTech) Dual Degree (MTech+PhD) Doctor of Philosophy
<b>Total Faculty Strength: 29</b> <ul style="list-style-type: none"> <li>• Professor: 10</li> <li>• Associate Professor: 12</li> <li>• Assistant Professor: 6</li> <li>• Visiting Professor: 1</li> </ul>
<b>Total Student Strength: 570</b> BTech: 360 MTech: 89 PhD: 111 MTech+PhD: 10
<b>New Students Joined in 2018-2019: 156</b> BTech: 89 Mtech: 48 PhD: 19 MTech+PhD: NIL



## LABORATORY FACILITIES

1. **Multimedia lab:** Multimedia lab has been set up in 2012 as a research project lab which mainly focuses on computer vision, deep learning, multimedia security, adaptive video streaming etc. Currently five Ph D students, three M. Tech. students and four B. Tech. students are working in this lab. 2 PhD students are graduated from this lab. There are two sponsored projects are currently going on in this lab. 14 journal papers in top tier international journals and more than 15 conference papers in different premier forums have been published from this lab in last 5 years. Multimedia Lab is well equipped for state-of-art research in multimedia, image and video processing domain providing IBM X3500 M4 sever, HP: Z420 Xeon E5 workstation, SONY HDR PJ820 camcorder, SONY LED KDL55W950 display facility, high end desktops, laptops and other necessary lab equipments.
2. **Robotics Lab:** Robotics Lab has open sourced an in-house developed Multi-agent emulator, nicknamed Tartarus. The so Written in SWI-Prolog, Tartarus, facilitates users to create overlay sort of network of nodes comprising either a single PC/laptop/embedded system or several such devices connected as a LAN (wired/wireless) and then program both static and mobile agents. Agents in Tartarus are basically programs written in Prolog. They can be programmed to perform tasks autonomously at select nodes and even migrate to others in the network they inhabit. Such agents can even be programmed to clone (copy and multiply) on-the-fly and then move around the network and execute tasks concurrently, providing a distributed and decentralized processing environment. These agents can also carry programs as payloads. Payloads could be written in Prolog or Python and executed at desired nodes. One could try out using other languages as well. Agents can communicate amongst one another and also with programs at a node. As of now, Tartarus can be run on Windows, Ubuntu and Raspbian operating systems. Tartarus can run on the Raspberry Pi. It can be used to sense the sensors on-board and also control the actuators (motors, relays, etc.) connected to the board.
3. **Open Source Intelligence Group** (<http://www.iitg.ernet.in/cseweb/osint/index.html>): The lab focuses on systematic acquisition of data at rest and stream from publicly available multi-modal heterogeneous data sources such as web, news publications, social media, social networks etc., and processing, and deriving actionable intelligence from the acquired data. Major activities of the group include real time event detection and tracking, topic modeling, sentiment analysis, social network analysis, terrorist network analysis.
4. **Computer Networks & Security:** The CNS research group at IIT Guwahati works on projects that cover a diverse range of experimental and theoretical research, including Wireless Mesh, Ad Hoc and Sensors Networks, High Speed Networks, Network Architecture and Design, Computer and Network Security, Secure Multimedia Communications and Intrusion Detection Systems. The researches aim at developing low cost and effective solutions for communication and media technology with a focus of blooming technologies for Indian context, specifically the North East Region. At the same time, our theoretical research targets the global developments of networking and security technologies, standards and policies while addresses the design of future network architecture.
5. **User-centric Computing and Networking** (<http://www.iitg.ernet.in/cseweb/uccn/>): The lab focuses on the design and development of applications for computing devices that caters to heterogeneous user groups. The user-centric computing paradigm (otherwise known as the human-computer interaction) is applied in the design of applications used in large-scale content delivery, to ensure good quality of experience to the consumers on heterogeneous devices and networks. The challenges that arise in the development of user-centric networked applications are addressed both from theoretical as well as practical perspectives. This lab is equipped with Tobii eye tracker (model: X2-60) and associated software for usability studies, Mobile Devices (Android, iOS, Windows), Laptops, Tablets, Smart Phones, SDK Tools for Android, iOS, Windows Application Development, Desktop PCs, High performance computing servers, Wireless and Wired Gigabit Routers, Reconfigurable routers (built using 1Gbps Digilent NetBest viewed in Internet Explorer 9.0 & above or Mozilla Firefox Ver 3 & above with a resolution of 1024 X 76800.FPGA Cards).
6. **Computer Architecture & Embedded Systems:** The lab focuses on cutting edge research and technology innovation in the area of VLSI design, testing, verification, real time systems and scheduling, NOC design, multicore architecture and scheduling and cache design for multicore.
7. **Hardware and Peripherals Lab:** The Department hardware laboratory is equipped with educational tools to promote better understanding of computer hardware and peripherals among the students. 8085/86 Microprocessor Trainer kits and 8031 Microcontroller kits are used to provide hands on experience to students about basic hardware. New PIC based microcontrollers and FPGA boards have also been acquired. These are supported by Colour Logic Analyzer and Pattern Generator, Function/Arbitrary wave generator, digital oscilloscopes, Wireless Transmitter/Receiver pairs, Data acquisition/ Switch units, TDM pulse code modulator/transmitter and demodulator/receiver and other similar essentials.

**8. Department UG-PG Student Soft Labs and RS**

**Workspace facility:** There are three numbers of BTech soft lab (120 seating capacity each) for UG students, two numbers of MTech soft labs (60 seating capacity each) for PG students and three numbers of RS lab (164 numbers of workspace) for departmental research scholars

**MAJOR EQUIPMENTS AND FACILITIES ACQUIRED**

- i. Workstation
- ii. Colour Printer
- iii. Emotiv
- iv. ZYNQ UltraScale FPGA Board
- v. High-End Server and accessories
- vi. Laptop
- vii. Workstation
- viii. Mentor Graphics Catapult Software
- ix. ZYNQ UltraScale FPGA Board

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

- a) Algorithms
- b) Computational Geometry
- c) Systems Biology (Bio-computing)
- d) Bio-inspired Robotics and related algorithms
- e) Intelligent Mobile Agent Based Cyber-physical

Systems

- f) Human-Computer Interaction
- g) Speech Processing
- h) Multimedia: Image and Video Processing
- i) Machine Learning
- j) Information Retrieval
- k) Data Mining
- l) Web Mining
- m) Formal Verification
- n) Embedded Systems
- o) Multi-processor Computer Architecture
- p) Real-time Systems
- q) Computer Security
- r) Networks
- s) Distributed Systems

**Major initiatives and breakthrough in Research and Development:**

The Department had Introduced an Interdisciplinary M.Tech. Programme in Data Science in collaboration with EEE and Mathematics departments

**CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
P. K. Das	6th International Conference on Advanced Computing, Networking and Informatics	NIT Silchar	6 Jun 2018	International
P. K. Das	International Conference in Recent Trends on Electronics & Computer Science	NIT Silchar	18-19 Mar 2019	International
Akash Anil	The ACM India Joint International Conference on Data Science & Management of Data	Kolkata	3-5 Jan 2019	International
Neelakshi Sarma	International Conference on Asian Language Processing	Telkom University, Bandung, Indonesia	15-18 Nov 2018	International
Lenin Laitonjam	International Conference on Asian Language Processing	Telkom University, Bandung, Indonesia	15-18 Nov 2018	International
Anasua Mitra	The ACM India Joint International Conference on Data Science & Management of Data	Kolkata	3-5 Jan 2019	International
Hema K. Yarnagula	25th National Conference on Communications (NCC),	IISc Bangalore, Bengaluru, India.	20-23 Feb 2019	National
Hema K. Yarnagula	11th International Conference on Communication Systems and Networks (COMSNETS)	Bengaluru, India.	7-11 Jan 2019	International

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Moustafa Najm	11th International Conference on Communication Systems and Networks (COMSNETS)	Bengaluru, India.	7–11 Jan 2019	International
Subrata Tikadar	18th IEEE International Conference on Advanced Learning Technologies (ICALT)	IIT Bombay, Mumbai, India	09-13 Jul 2018	International
Ramanuj Chouksey	12th Innovations on Software Engineering Conference	COEP Pune, India	14-16 Feb 2019	International
Ramanuj Chouksey	32nd International Conference on VLSI Design and 18th International Conference on Embedded Systems	Delhi, India	5-9 Jan 2019	International
Pawan K. Mishra	13th International Conference and Workshops on Algorithms and Computation(WALCOM 2019)	Guwahati, India	27 Feb - 2 Mar 2019	International
Abhishek	The ACM India Joint International Conference on Data Science & Management of Data	Kolkata	3-5 Jan 2019	International
Amit Awekar	The ACM India Joint International Conference on Data Science & Management of Data	Kolkata	3-5 Jan 2019	International
Aparajita Dutta	Indo-EMBO symposium on Regulatory epigenomics: From large data to useful models	Chennai	10-13 Mar 2019	-
Saptarshi Pyne	International Conference on Bioinformatics	New Delhi	26-28 Sep 2018	International
Sukumar Nandi	ISEA International Conference on Security & Privacy 2018	MNIT Jaipur	9 - 11 Jan 2019	International
Sukumar Nandi	33rd International Conference on Advanced Information Networking and Applications (AINA-2019)	Matsue, Japan	27-29 Mar 2019	International
Sandeep Vidyapu	ACM Symposium on Eye-tracking Research & Applications	Warsaw, Poland	14-17 Jun 2018	International
Nayantara Kotoky	3rd Indian Workshop on Machine Learning	IIT BHU	1-3 Jul 2018	National
John Jose	12th IEEE/ACM International Symposium on Networks-on-Chip (NOCS) with ESWeek	Turin, Italy	4-5 Oct 2018	International
Abhijit Das	12th IEEE/ACM International Symposium on Networks-on-Chip (NOCS) with ESWeek	Turin, Italy	4-5 Oct 2018	International
John Jose	26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC)	Verona, Italy	8-10 Oct 2018	International
Abhijit Das	26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC)	Verona, Italy	8-10 Oct 2018	International
John Jose	32nd IEEE International Conference on VLSI Design (VLSID)	New Delhi, India	5-9 Jan 2019	International
Dipika Deb	32nd IEEE International Conference on VLSI Design (VLSID)	New Delhi, India	5-9 Jan 2019	International



Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Manjari Saha	32nd IEEE International Conference on VLSI Design (VLSID)	New Delhi, India	5-9 Jan 2019	International
Sivakumar S.	32nd IEEE International Conference on VLSI Design (VLSID)	New Delhi, India	5-9 Jan 2019	International
Piyooosh P	International Symposium on Embedded Computing and System Design (ISED)	Kochi, India	13-15 Dec 2018	International
Sathish Kumar	20th IEEE International Conference on High Performance Computing and Communications (HPCC)	Exeter, UK	28-30 Jun 2018	International
Sanjay Moulik	IEEE International Conference on Systems, Man, and Cybernetics (SMC)	Miyazaki, Japan	7-10 Oct 2018	International
Sathisha B	25th IEEE International Conference on Image Processing (ICIP)	Athens, Greece	7-10 Oct 2018	International
Arijit Sur	25th IEEE International Conference on Image Processing (ICIP)	Athens, Greece	7-10 Oct 2018	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Arnab Sarkar	Real-time Safety-critical Systems Design	ICACNI	NIT Silchar	Jun 2018
Hemangee K. Kapoor	Masters Vs. PhD	ACM India Grad Cohort	IIT Bombay	Jul 2018
Shivashankar B Nair	Bio Inspired Systems and Programming Agents in Tartarus	TEQIP-III Design and Deployment of Cyber Physical Systems	NIT Silchar	Sep 2018
Shivashankar B Nair	Bio Inspired Systems and Programming Agents in Tartarus and Raspberry Pi	Internet of Things (IoT) Research Initiative	Government College of Engineering, Amravati, Maharashtra	Dec 2018
Ashish Anand	AI in Healthcare: Patient Safety Workshop	4th North-east patient safety workshop	Downtown hospital, Guwahati	8 Dec 2018
Ashish Anand	Title- Entity Classification: Mastering the task	IEEE ICMLDS conference 2018	Mahindra Ecole Centrale, Hyderabad	22 Dec 2018
Ashish Anand	Machine Learning in Drug Repurposing	OpenTox Asia 2019	IICT Hyderabad	3 Mar 2019
Ashish Anand	Mining and Knowledge Inference from Biomedical Texts	Workshop on AI in Healthcare Engineering	IIT Guwahati	29 Mar 2019
Ashish Anand	Neural Network Models for Analysing Genome Sequences	Workshop on AI in Healthcare Engineering	IIT Guwahati	29 Mar 2019
Ashish Anand	Disease Progression Modelling	Workshop on AI in Healthcare Engineering	IIT Guwahati	29 Mar 2019
Abhishek	Entity Recognition: Past, Present, and Future	TIFR Bengaluru, Meeting on Theoretical Basis of Machine Learning	TIFR Bengaluru	29 Dec 2018

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Vijaya Saradhi	Multiview Learning	The 3rd Indian Workshop on Machine Learning (iWML 2018)	IIT BHU	1-3 Jul 2018
Vijaya Saradhi	Multiview Learning	Data Science: Industry and Research Perspectives	NIT Meghalaya	29 Oct - 2 Nov 2018
Vijaya Saradhi	Data Mining Using Open Source Tools	Rajiv Gandhi College of Engineering & Research	Nagpur	24-26 Sep 2018
Vijaya Saradhi	Multiview Learning	National Workshop on Recent Trends and Technologies	Gauhati University, Guwahati	12 Mar 2019
Nanu Alan Kachari	Contemporary Information Security Awareness	International Computer Security Day in Hiranya Chandra Bhuyan School of Science and Technology	Krishna Kanta Handiqui State Open University, Guwahati	30 Nov 2018
Shivashankar B Nair	Engineering Inspirations from Nature	Federal Institute of Science and Technology	Angamaly, Kerala	27 Sep 2018
Prof. Pradip K Das	Research Trends in Computer Vision 13th May 2018 NIT Manipur	University of Science and Technology, Meghalaya	Meghalaya	13 May 2018
Prof. Pradip K Das	Stochastic Processes and Applications	BMS College of Engineering	Bangalore	9 July 2018
Prof. Pradip K Das	Recent Research Trends & Future Perspectives of Machine Learning in Academics & Industry	NIT Silchar	Silchar	1 Oct 2018
Prof. Pradip K Das	Learning the Smart way	Royal Global University	Guwahati	30 Oct 2018
Prof. Pradip K Das	Computer Engineering & Statistics: An Informal Introduction and Prospects	Department of Statistics, Gauhati University	Guwahati	8 Nov 2018
Prof. Pradip K Das	An Introduction to Image & Speech Understanding - Issues and Challenges	Rajiv Gandhi University of Knowledge Technologies Nuzvid	Nuzvid, Andhra Pradesh	5 Jan 2019
Prof. Pradip K Das	Human Learning VS Machine Learning – Some Issues and Solutions	Indian Institute of Information Technology Imphal	Imphal, Manipur	24 Jan 2019
Prof. Pradip K Das	Statistics for everyday use - Issues and lessons	Department of Statistics Gauhati University	Guwahati, Assam	22 Feb 2019
Shivashankar B Nair	Bio Inspired Systems and Programming Agents in Tartarus	IIT Guwahati	Guwahati, Assam	4-5 Feb 2019
Shivashankar B Nair	Bio Inspired Systems and Programming Agents in Tartarus	IIT Guwahati	Guwahati, Assam	22-23 Feb 2019
Shivashankar B Nair	Bio Inspired Systems and Programming Agents in Tartarus and Raspberry Pi	IIIT DM Jabalpur	Jabalpur, India	28-29 Mar 2019
Aryabartta Sahu	Big Data Analytics and Cloud Computing	Dibrugarh University	Dibrugarh India	24-29 Mar 2019
Sanasam Ranbir Singh	Social Media Data Mining	Guwahati University	Guwahati India	16 Mar 2019

<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./Org.</b>	<b>Place</b>	<b>Date</b>
Sanasam Ranbir Singh	Deep Learning and its Application	MTU Imphal	Imphal, Manipur	20 Mar 2019
Sukumar Nandi	2018 Cyber Security Trends	Dept of CSE, Maulana Abul-Kalam Azad University of Technology	Maulana AbulKalam Azad University of Technology, WB	28-29 Jan 2019
Sukumar Nandi	IT park and Innovation	Centre for Innovation and Future Studies (CI&FS), Assam Administrative Staff College, Assam	Administrative Staff College, Guwahati, Assam	29 Nov 2018
John Jose	Emerging Trends in Multicore Processors & Network On Chip Architectures	RV College of Engineering	Bangalore, Karnataka	21-25 Jan 2019
John Jose	Tiled Chip Multi Core Processors: Future on Chip Supercomputers	Amrita School of Engineering	Bangalore, Karnataka	10 Jan 2019
John Jose	Scalable On-Chip Interconnects for Many-Core Systems	PES University	Bangalore, Karnataka	11-14 Jun 2018
John Jose	Effective Teaching Pedagogies: How to Teach and How to Excel as a Teacher?	Dayananda Sagar College of Engineering	Bangalore, Karnataka	15 Jun 2018
John Jose	IoT: The Backbone of Smart World – Challenges and Opportunities	Catania University	Catania, Italy	12 Oct 2018
John Jose	Performance Enhancement Techniques in Multicore Processors	PSG College of Technology	Coimbatore, Tamilnadu	17-18 Nov 2018
John Jose	Multicore Technology	PSG College of Technology	Coimbatore, Tamilnadu	9-10 Mar 2019
John Jose	Role of Network on Chip in Multicore Architectures	Assam Engineering College	Guwahati, Assam	27 Dec 2018
John Jose	Let us Build Great Institutions to Make North East India Shine	SFS Higher Secondary School	Guwahati, Assam	1 Sep 2018
John Jose	Art of professional learning to become matured citizens	SFS Higher Secondary School	Guwahati, Assam	7 Apr 2018
John Jose	Art of professional learning and character fine-tuning	Vigyanjyoti program at IIT Guwahati	Guwahati, Assam	10 Sep 2018
John Jose	Develop and Mould A Scientific Mindset to Serve The Country	Jawahar Navodaya Vidyalaya Science Congress at IIT Guwahati	Guwahati, Assam	5 Dec 2018
John Jose	Professionally plan your IIT days for a rewarding career	CSE Association event at IIT Guwahati	Guwahati, Assam	27 Sep 2018
John Jose	Art of professional learning and character fine-tuning	SFS Junior College	Dhemaji, Assam	12 May 2018
John Jose	How to professionally manage your doctoral research days for a rewarding career?	IIT Madras	Madras, Tamilnadu	9 Aug 2018



Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
John Jose	Advanced Computer Architecture	Ilahia College of Engineering	Mulavoor, Kerala	18-20 Jul 2018
John Jose	Advanced Computer Architecture	Government Engineering College Barton Hill	Trivandrum, Kerala	10 Aug 2018
John Jose	Challenges in Processor Design	NIT Agartala	Agartala, Tripura	23-24 Jun 2018

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof.Sanjoy Baruah	Washington University in St. Louis	GIAN Course	5 May 2018
Mr. Bedanta Choudhury	Senior Principal Engineer, NXP Semiconductors	Invited Talk	20 Feb 2019

#### SEMINARS/WORKSHOPS/CONFERENCES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
1	Arnab Sarkar	GIAN course on Mixed-Criticality Real-Time Systems	-	21-25 May 2018	National	-
2	Santosh Biswas	GIAN course on Mixed-Criticality Real-Time Systems	-	21-25 May 2018	National	-
3	John Jose	TEQIP-III Sponsored 5-day Short Term Course on Advanced Computer Architecture	-	10-14 Dec 2018	National	-
4	Chandan Karfa	TEQIP-III Sponsored 5-day Short Term Course on C-Based VLSI Design: Synthesis, Optimization and Verification	-	1-5 Apr 2019	National	14
5	Ashish Anand	Workshop on AI in Healthcare Engineering	-	28-30 Mar 2019	National	-
6	S. B. Nair	1st AICTE Teaching and Learning Academy workshop on Robotics, AI & ML Fundamentals of Robotics & Artificial Intelligence at the Indian Institute of Technology Guwahati	AICTE	22-26 Feb 2019	National	-

#### PATENTS

Name of Faculty and Co-researcher	Name	Date Applied/ Granted	Application No.
Dr. Samit Bhattacharya and Subrata Tikadar	System and Method for Providing A Sensitive Classroom	4 Jul 2018	201831024866

**AWARDS AND HONOURS**

Dr. Hemangee K. Kapoor was elected as Council Member on ACM India, ACM, India and nominated as Member of Executive Committee, Smart India Hackathon, MHRD

**STUDENTS' ACHIEVEMENTS**

- i. Divya D Kulkarni received ACM Travel Grant \$700 (US Dollars) in July 2018 at ACM Genetic and Evolutionary Computation Conference (GECCO '18) on an Immuno-inspired Distributed, Embodied Action-Evolution cum Selection Algorithm
- ii. Ramanuj Chouksey received travel grant scholarship in January 2019 at 32nd International Conference on VLSI Design Improving Performance of Path Based Equivalence Checker using Counter-example
- iii. Khushboo Rani got the Best Paper Award in 8th International Symposium on Embedded computing and system Design (ISED) Non-blocking Gated Buffers for Energy Efficient on-chip Interconnects in the era of Dark Silicon
- iv. Tushar Semwal received Microsoft Travel Award for SIAM SDM conference at San Diego, USA in May 2018 at SIAM International Conference on Data Mining (SDM 2018) held at San Diego, California, USA
- v. Tushar Semwal received Travel Award from SIAM for SIAM SDM conference at San Diego, USA in May 2018 at SIAM International Conference on Data Mining (SDM 2018) held at San Diego, California, USA
- vi. Tushar Semwal received SERB Travel Grant for SIAM SDM Conference in May 2018 at SIAM International Conference on Data Mining (SDM 2018) held at San Diego, California, USA
- vii. Tushar Semwal joined as Research Associate at Edinburgh University, UK in January 2019 under the project "Offshore Robotics for Certification of Assets"
- viii. Sonia received N2 Woman Travel Award from PerCom Conference, Kyoto Japan in March 2019 at PerCom Conference, Kyoto Japan
- ix. Sonia received SERB Travel Grant in March 2019 at PerCom Conference, Kyoto Japan
- x. Sonia received PERCOM Travel Grant in March 2019 at PerCom Conference, Kyoto Japan
- xi. Anasua Mitra received Travel Award in January 2019 at the ACM India Joint International Conference on Data Science & Management of Data
- xii. Akash Anil received Travel Award in January 2019 at the ACM India Joint International Conference on Data Science & Management of Data
- xiii. Ramanuj Chouksey received travel grant scholarship in February 2019 at International Conference on Software Engineering (ICSE 18)
- xiv. Abhishek received Travel Award in January 2019 at the ACM India Joint International Conference on Data Science & Management of Data
- xv. Abhishek was placed first in IBM Research hackathon in July 2019 organized within IBM Research India
- xvi. Sonia was placed first in IBM Research hackathon in July 2019 organized within IBM Research India
- xvii. Khushboo Rani received the Best Paper Award in January 2019 at 32nd International Conference on VLSI Design (VLSID)
- xviii. Abhijit Das got the 3rd Best PhD Forum Poster in October 2018 at 26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC)
- xix. Abhijit Das received Travel Grant in October 2018 to attend the 26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC)
- xx. Dipika Deb got the Best Poster Award in SRS in December 2018 at 25th IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC)
- xxi. Sivakumar S. got the 2nd Prize in Design Contest in January 2019 at 32nd International Conference on VLSI Design (VLSID)
- xxii. Pallabi Saikia received IEEE-WCCI travel grant in July 2018 to attend International Joint Conference on Neural Networks (WCCI-IJCNN)
- xxiii. Pallabi Saikia received Student Scholarship in November 2018 to attend the Grace Hopper Celebration of Women in Computing India (GHCI) 2018 conference.
- xxiv. Pallabi Saikia won Second Prize in March 2019 for Poster Presentation at Research Conclave '19
- xxv. Deepankar Nankani won Second Prize in March 2019 for Oral Presentation at Research Conclave '19

**SPECIAL MENTION**

- i. Reviewed Book Chapter by Mr. Panthadeep Bhattacharjee (Research Scholar) Book Title: Histopathological Image Analysis in Medical Decision Making, Book Chapter 9: Analysis of Color Image Encryption Using Multidimensional Bogdanov Map, Projected Release Date: September, 2018, Pages: 305, ISBN13: 9781522563167, 8 Apr 2018
- ii. Tushar Semwal (Research Scholar) was invited as a Resource Person at NIT Silchar for the session "Bio Inspired Systems and Programming Agents in Tartarus" along with Prof S B Nair for the TEQIP-III Design and Deployment of Cyber Physical Systems, 17-18 Sep 2018
- iii. Divya D Kulkarni (Research Scholar) was invited as a Resource Person at NIT Silchar for the session "Bio Inspired Systems and Programming Agents in Tartarus" along with Prof S B Nair for the TEQIP-III Design and Deployment of Cyber Physical Systems, 17-18 Sep 2018

iv. Divya D Kulkarni (Research Scholar) Was invited as a Resource Person at Government College of Engineering, Amravati, Maharashtra for the session “Bio Inspired Systems and Programming Agents in Tartarus and Raspberry Pi” along with Prof. S B Nair for the TEQIP sponsored training program “Internet of Things (IoT) Research Initiative”, 12-13 Dec 2018

v. Divya D Kulkarni (Research Scholar) Was invited as a Resource Person at IIIT-DM Jabalpur, Madhya Pradesh for the session “Bio Inspired Systems and Programming Agents in Tartarus and Raspberry Pi” along with Prof. S B Nair, 28-29 Mar 2019

vi. Abhishek (Research Scholar) was Invited at Amazon Research Day as a student participant, Bangalore, Sep 2018

vii. Neelakshi (Research Scholar) was Invited at Amazon Research Day as a student participant, Bangalore, Sep 2018

viii. Hands-on-Session on deep learning by Abhishek in Workshop on AI in Healthcare Engineering, IIT Guwahati, 29 Mar 2019

ix. Hands-on-Session on deep learning by Akshay Parakh in Workshop on AI in Healthcare Engineering, IIT Guwahati, 29 Mar 2019

x. Hands-on-Session on deep learning by Saptarshi Pyne in Workshop on AI in Healthcare Engineering, IIT Guwahati, 29 Mar 2019

xi. Hands-on-Session on deep learning by Aparajita Dutta in Workshop on AI in Healthcare Engineering, IIT Guwahati, 29 Mar 2019

## FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Anand, Ashish	Nanyang Technological University, Singapore	Associate Professor	Machine Learning and its application in computational biology, Systems Biology, Evolutionary Algorithms
2	Awekar, Amit C.	North Carolina State University, Raleigh, NC, USA	Assistant Professor	Data Mining
3	Baruah, Rashmi Dutta	Lancaster University, United Kingdom	Assistant Professor	Evolving Intelligent Systems, Computational Intelligence, Online Machine Learning, Learning from Data streams
4	Bhaduri, Purandar	Washington State University, Pullman	Professor	Formal Modelling, Synthesis and Verification of Embedded Systems
5	Bhattacharya, Samit	IIT Kharagpur	Associate Professor	Human Computer Interaction, User Modeling, Model Based Evaluation of Interactive Systems, Rehabilitation Engineering
6	Biswas, Santosh	IIT Kharagpur	Associate Professor	Networking, Fault Tolerance, VLSI Testing, Embedded Systems
7	Das, Pradip Kr.	University of Delhi	Professor	Digital Signal Processing, Speech Processing, Man-Machine Intelligence Systems
8	Deka, Jatindra Kr.	IIT Kharagpur	Professor	Formal Modelling and Verification, CAD for VLSI and Embedded Systems (Design, Testing and Verification), Data Mining
9	Goswami, Diganta	IIT Kharagpur	Professor	Distributed Systems, Software Engineering
10	Inkulu, R.	IIT Chicago	Associate Professor	Computational Geometry, Graph Algorithms
11	Jose, John	IIT Madras	Assistant Professor	Computer Architecture, Network on Chips (NoC), Memory system design for multicore processors
12	K., Benny George	Tata Institute of Fundamental Research, Mumbai	Assistant Professor	Word combinatorics, algorithms and combinatorics
13	Kapoor, Heman-gee Kalpesh	London South Bank University, UK	Professor	Multiprocessor Computer Architecture, Formal Methods, Network-on-Chip design, Asynchronous systems

Sl. No.	Name	PhD	Designation	Areas of Interest
14	Karfa, Chandan	IIT Kharagpur	Assistant Professor	Formal Verification, Electronic Design Automation with special interest in High-level Synthesis, Embedded System Design and Verification, Verification of Compiler Optimizations
15	Karmakar, Sushanta	IIT Kharagpur	Associate Professor	Distributed algorithms, fault-tolerance, distributed algorithms for ad hoc and sensor networks
16	Kesh, Deepanjan	IIT Kanpur	Assistant Professor	Computational Commutative Algebra, Data Streaming
17	Khatua, Manas	IIT Kharagpur	Assistant Professor	Wireless Networks, Sensor Networks, Internet of Things, Network Security, Smart Grid, Mobile Cloud Computing
18	Mitra, Pinaki	Simon Fraser University, Canada	Associate Professor	Computational Geometry, Parallel Algorithms, Randomized Algorithms, Optimization
19	Nair, Shivashankar B.	Amravati University, Amravati	Professor	Artificial Intelligence, Intelligent and Bio-Inspired Robotics, Emotional Robots, Mobile Agent based systems, Artificial Immune Systems, Cyber-physical Systems, Natural Language Processing, Genetic Algorithms, Fuzzy Systems & Neural Networks
20	Nandi, Sukumar	IIT Kharagpur	Professor	Networks (Specially: QoS, Wireless Networks), Computer and Network Security, VLSI
21	Patra, Moumita	IIT Madras	Assistant Professor	Ad hoc wireless networks, Internet of vehicles, IoT, Network performance analysis
22	Rao, S. V. (Head of the Department)	IIT Kanpur	Professor	Computational Geometry and Its Applications
23	Sahu, Aryabartta	IIT Delhi	Associate Professor	Advance Computer Architecture, Multicore Parallel Programming and Compiling, Embedded System, VLSI and FPGA Design
24	Sajith, G.	IIT Kanpur	Professor	External Memory Algorithms, Algorithmic Game Theory, Parallel and Distributed Algorithms, Complexity Theory
25	Saradhi, V. Vijaya	IIT Kanpur	Associate Professor	Machine Learning, Kernel Methods, Data Mining and their applications
26	Sarkar, Arnab	IIT Kharagpur	Associate Professor	Real-Time and Embedded Systems, Computer Architecture, Algorithms
27	Singh, Sanasam Ranbir	IIT Madras	Associate Professor	Web Search Engine, Machine Learning, Information Retrieval, Data Mining especially in the area of Web Search Engine
28	Sur, Arijit	IIT Kharagpur	Associate Professor	Information Hiding: Steganography and Steganalysis. Multimedia Security: Image and Video Watermarking. Network Security: Intrusion Detection System and Network Steganography
29	Venkatesh, T.	IIT Madras	Associate Professor	Computer Networks



# DEPARTMENT OF DESIGN

## The Department at a Glance

**Year of Establishment:** 1998

**Academic Programmes Offered:**

- o Bachelor of Design (BDes)
- o Master of Design (MDes)
- o Doctor of Philosophy (PhD)

**Total Faculty Strength: 24**

- Professor: 5
- Associate Professor: 6
- Assistant Professor: 12
- Visiting Faculty: 1

**Total Student Strength: 319**

BDes: 182

MDes: 51

PhD: 86

**New Students Joined in 2018-2019: 82**

BDes: 44

MDes: 27

PhD: 11

**LABORATORY FACILITIES**

I. Ergonomics Laboratory

Ergonomics laboratory at Department of Design, IIT Guwahati was set-up in 1999 under leadership Prof. DebkumarChakrabarti. This is a well-equipped laboratory with various basic and applied research facilities for both physical and cognitive ergonomics. Apart from equipment for traditional ergonomics evaluation, modern sophisticated equipments are available for virtual ergonomics evaluation and cognitive workload study. Four (04) faculty members (Prof. D. Chakrabarti, Dr. S. Karmakar, Dr. S. Pal and Dr. U.R. Salve) and 18 PhD students are currently associated with this laboratory. Facilities available in the laboratory include (a) Anthropometric measurement kit, (b) Equipment/ tools for biomechanical analysis, (c) Kit for environmental variable measurement, (d) Tools/equipment for cognitive workload analysis, (e) Digital human modeling software for virtual ergonomics evaluation, (f) Eye-tracker for visual attention analysis, and (g) Equipment for physiological variable analysis (ECG, EMG, EEG etc.).

II. Photographic Lab

III. Computer Lab

IV. Workshop/Design lab

V. Media Lab

VI. Material lab

VII. Embedded Interaction lab

VIII. E-Kalpa lab

IX. Usability Engineering and HCI Lab

X. Product Design & Development Studio

XI. Animation research lab

XII. Visualization lab

XIII. Sustainability and social Innovation Lab

Design for Sustainability (DfS) is an emerging and

significant domain. It is also one of the prime needs of the hour considering the burden of human consumption and production. In order to create sustainable human consumption and production, a complete revamp of the consumption structure is needed. Through the SSI Lab, the Department of Design at IIT Guwahati, aims to foray into this domain.

Vision-To promote and contextualize sustainability through R&D along the three pillars of sustainability: social, economic and environmental.

The objectives of the lab are:

- To provide infrastructure and guidance to student projects related to DfS.
- Conduct training sessions for interested local institutions and bodies in the application of DfS.
- Research into DfS, Sustainable Frugal Design & developing case studies in DfS through execution of projects.
- Development of course material related to DfS.
- Developing tools & methodologies for the implementation of DfS in the emerging, marginalized & industrialized contexts.

XIV. Visual Communication studio

XV. 3 D Printing Lab

XVI. Master Craftsman Lab

XVII. Fine Mechanics and Product Development Lab

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Physical and Cognitive ergonomics aspect of product design evaluation, Product Service System Design for Sustainability, Product Design in Agricultural Machinery, Comic studies, Game design, Design for Users with varying Tech Readiness, Multimodal and Assistive User Interface Design, Speech Based Interfaces. Human Computer Interaction, Virtual Reality, Input Interactions for Flexible and Deformable Devices

**CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Dr. Supradip Das	Mechaton 2018	Israel	8-12 Jul 2018	International
Dr. Supradip Das	EMPOWER 2018: Assistive Technology Conference	IIT Delhi, Sonipath Campus	25-27 Oct 2018	International
Prof. Pradeep Yammiyavar	of Human-Work Interaction Design 2018, HWID 2018	Finland	19-25 Aug 2018	International
Dr. Sharmistha Banerjee	ICoRD 2019	Bengaluru	Jan 2019	International
Prof. Utpal Barua	“Beyond the Ink Wash – the 4th Kunming Art Biennale 2018	China	17-20 Dec 2018	International
Prof. Utpal Barua	Belt and Road” (2018. 3rd) China Qianjiang International Art Exhibition	China	1-8 Nov 2018	International

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Prof. Utpal Barua	Kusadasi Symposium	Turkey	21–28 Apr 2018	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Dr. Supradip Das	Ideation Techniques	Indian Institute of Information Technology Guwahati	Guwahati	6-7 Oct 2018
Dr. Sougata Karmakar	Cognitive Ergonomics	National Institute of Design, Vijaywada	Vijaywada	24–28 Sep 2018
Dr. Sougata Karmakar	Research Methodology	School of design, University of Petroleum and Energy Studies (UPES),	Dehradun-248007, Uttarakhand	16-17 Nov 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./ Wor./Con.	Funded By	Date	International/ National	No. of participants
01	Dr. Pratul Ch. Kalita; Dr. Deepak Sharma (Mechanical Engg); Dr. Sukhomay Pal ( Mechanical Engg)	Management Development Programme on Marketing Management	Ministry of Heavy Industries and Public Enterprises, Government of India	24-28 Sep 2018	National	42 Senior Managers/ Executives of Central Public Sector Enterprises and State Level Public Enterprises.
02	Dr. Pratul Ch. Kalita, Prof. Amarendra Kumar Das and Dr. Debayan Dhar	Website Standardization Workshop – ePrastuti in collaboration with NIC, Guwahati	Secretariat Administration Department, Government of Assam	2-4 Jan 2019	National	31 Government of Assam officials
03	Dr. Supradip Das, Debayan Dhar and Swati Pal	Product Design and Innovation (Online Course)	NPTEL, MHRD, Govt. of India	13 Aug - 7 Oct 2018	National	5020

**PATENTS**

Name of Faculty and Co-researcher	Name	Date Applied/ Granted	Application No.
Jadhav Ganesh S., Salve U. R., Deshmukh S., Shete H.K.	Cutting dies for Kolhapuri Chappal and automation thereof	14 Dec 2018	201821034508
Jadhav Ganesh S., Arunachalam M., Dr. Salve U. R.	Adjustable seating-stitching apparatus for hand-woven leather footwear in Kolhapuri	25 Jan 2019	201921002204

**AWARDS AND HONOURS**

Prof. Pradeep Yammiyavar was conferred the National Award for Teaching Innovation of MHRD—GOI for Innovation in Higher Education under PMMMNMTT. (Selected in 2016-17). Conferred on Jan 14th 2019

**STUDENTS' ACHIEVEMENTS**

- i. Dora Plus Visiting Program Scholarship (from 01.02.2019 to 31.05.2019), funded by Tallinn University of Technology and Archimedes Foundation, Estonia, Europe
- ii. Virtual Visiting Short term Program (until the completion of project), supported by Hong Kong Shue Yan University, Hong Kong

**SPECIAL MENTION****i. Swasthyaa Project (Dr. Keyur Sorathia)**

"Swasthyaa (meaning health)" is an ICT based platform that tracks initial and retreatment TB defaulters, monitors health progress and DOTS intake in real-time. It complements the government's existing TB care process in order to increase the adoption and acceptance among the users. This means that the responsibilities of each health administrator and administrative forms remain the same, where Swasthyaa augments the TB care through real-time patients' progress to take preventive measures in case of any default.

It has 4 major components - (i) web-based software for health administrators/RNTCP executives that can be accessed on desktop, tablet and mobile phones (ii) Newly designed low-cost sticker for TB medicine blister packet to monitor DOTS intake in real-time (iii) IVR based system to register DOTS intake for TB positive patients and (iv) innovative incentive scheme to persuade patients and health administrators to consume DOTS regularly and ensure completion of DOTS course respectively.

Swasthyaa is used by two-user groups – (i) Health administrators/RNTCP executives (ii) TB positive patients. The web based software is accessed by various health administrators that allows to perform multiple tasks, e.g. creation of referral forms, reporting lab tests, reporting lab results, updating TB status, DOTS enrolment, treatment card generation, tracking of presumptive patients and monitoring DOTS intake for TB positive patients. The TB positive patient has minimum technology usage considering the low-technology literacy among the rural patients. They are asked to enter a 1-digit code on a toll-free number. The 1-digit code is written on the sticker of the blister. This results in real-time registration of the DOTS intake

Swasthyaa is currently under field trials in Kamrup and Darrang. It has more than 1000 presumptive patients enrolled and successfully completing their DOTS course.

Swasthyaa can be accessed on [www.swasthyaa.com](http://www.swasthyaa.com).

The Android application can be downloaded by search "Swasthyaa" on Google Play Store

**ii. Assam E-Budget 2018 ( Dr. Keyur Sorathia)**

We have designed and developed the e-budget 2018 application along with Finance Department, Government of Assam. The e-budget is an Android based application that enables citizen to view budget specific details including the budget allocation to specific areas such as health, education etc., location specific government initiatives and overall distribution of all the finances for the year 2018.

The application can be downloaded by searching E-Budget Assam on Google Play Store or <https://play.google.com/store/apps/details?id=com.kran.egufinassam&hl=en>

**iii. Report on the short-term course entitled "Ergonomics in Design and Engineering Education", held at Indian Institute of Technology (IIT) Guwahati, November 25-30, 2018.( Dr. Sougata Karmakar)**

A short-term course under MHRD sponsored TEQIP-III on "Ergonomics in Design and Engineering Education" during 26/11/2018 to 30/11/2018 was organized by Center for Ergonomics: User Centred Design and Occupational Wellbeing, Ergonomics Laboratory Department of Design, IIT Guwahati. The event was hosted with support from KIT-CET IIT Guwahati. Dr. Sougata Karmakar coordinated this short-term course with the support of an organizing committee comprising members of faculties, staffs and research scholars and students of Dept. of Design. The inauguration ceremony was graced by Prof. P S Robi, the Deputy Director, IIT Guwahati; Prof. Gopal Das, Dean R&D, IIT Guwahati; Prof. S Khijwania, HoC, CET, IIT Guwahati; Dr. D Udaya Kumar, HoD, Dept. of Design, IIT Guwahati and Mr. Samiran Das, Chief Inspector of Factories, Govt. of Assam. The focus area of the short-term course was on the importance of ergonomics in design and engineering education. This short-term course covered various topics like industrial ergonomics; ergonomics, occupational health and safety; design research methodology; design innovation; ergonomics: at workplace; ergonomics in product and facility design; ergonomics issue in better acceptance of design; ergonomics tools and techniques; ergonomics and packaging; virtual ergonomics and others. This short-term course was attended by 68 participants from institutes, R&D organizations, and industries. The event was very successful as observed from the feedback by the participants.

**iv. Management Development Programme on Marketing Management**

Dates: 24 to 28 September, 2018

Sponsor: Ministry of Heavy Industries and Public Enterprises, Government of India.

Participants: Managers/ Executives of Central Public Sector Enterprises and State Level Public Enterprises.

Scope and Objectives: Marketing Strategy is becoming the major tool for implementing and achieving the strategic goals of the organisation. In the context of corporate



strategy, innovative marketing is the key for achieving competitive advantage in current business world. The Central Public Sector Enterprises and State Level Public Enterprises must emphasise on innovative marketing strategies. Such innovative marketing strategies would bring positive and rapid change at different levels of system, product, process and service. The marketing issues and challenges of CPSE and SLPEs has been discussed in details. Operations

Management issues are very significant in the marketing function of CPSEs and SLPEs. Therefore the content of the programme has been designed appreciating the relevance and interconnection of operations management and marketing management. Various issues of technology management in marketing perspective has been discussed in the programme.

#### FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Banarjee, Sharmishta	--	Assistant Professor	Design for sustainability,Boi-inspired design ,Medical product Design
2	Barua, Utpal	IIT Guwahati	Professor	Graphic Design,Design drawing and Visualisation,Visual design Principles and applications,Indian Symbology
3	Chakrabarti, Deb-kumar	University Colleges of Science, Calcutta	Professor	Ergonomics Research, Human Compatibility Factor,Design ergonomics,product Environment Interface Design,Occupational Health
4	Das, Amarendra Kumar	IIT Guwahati	Professor	Industrial Design,Rapid Prototyping and tooling,space Design,Environment Graphics,Design for Disabled
5	Das, Supradip	--	Assistant Professor	Origami Inspired Product Development,Toy for tomorrow,Paper Craft,Transformable furniture,Structural packaging design.
6	Dhar, Debayan	IIT Guwahati	Assistant Professor	Human Computer Interaction (HCI) Design, Instructional Design, User Experience Design, Psychological Studies in Design, Usability Engineering
7	Kumar, D.Udaya	IIT Bombay	Associate Professor	Typography,Type Design,Information Graphics,Motion Graphics,design Research,Exhibition Design,architecture
8	Gokhale, Sheetal M.	--	Assistant Professor	Film & Video, Animation Graphic Design
9	Iqbal, Shareka	--	Assistant Professor	Adaptive Resue ,Solar Passive Architecture
10	Kalita, Pratul Chandra	IIT Guwahati	Associate Professor	Design Management.Design Method,Design for Development
11	Karmakar, Sougata	Bharathiar University	Associate Professor	Ergonomics,Human Factor,Design and work Environment, Design and Occupational health
12	Madhukailya, Mriganka	--	Assistant Professor	Short Film,New Media theory,Video Art,Documentary Film,Participatory Theory
13	Majhi, Manoj	IIT Guwahati	Associate Professor	Animation,Special Effects, Cartooning
14	Monga, Charu	--	Assistant professor	Visual communication,Design Research, Visual Ethnography,Film Making, Animation,Game design,Edutainment.
15	Pal, Swati	University of Gujarat	Assistant Professor	Ergo Design & Innovation,physical Ergonomics,Design 7 biomechanism,Occupational Health.

<b>Sl. No.</b>	<b>Name</b>	<b>PhD</b>	<b>Designation</b>	<b>Areas of Interest</b>
16	Punekar, Ravi Mokashi	IIT Guwahati	Professor	Industrial Design,Space Design,Facility Design,Environmental Graphics,Design for disabled
17	Salve, Urmi Ravindra	University of Calcutta	Assistant Professor	Human factor engineering,occupational Ergonomics,Research Methology
18	Shinde, Avinash	IIT Guwahati	Associate Professor	Product Design,Furniture Design,Lighting design
19	Srivastava, Abhishek	IIT Bombay	Assistant Professor	Interection Design,Design for Development,New Media,graphic Design & cartooning.
20	Singh, Abhishek	--	Assistant Professor	Automative design,Product Design, Graphic Design,Design Researce.
21	Sorathia, Keyur	IIT Guwahati	Associate Professor	Interection Design,Gesture controlled User Interfaces,Design for development
22	Upadhyay, Pankaj	--	Assistant Professor	Product design,Industrial Design,Design for Manufacture, Consumer product Design,Industrial Equipment design.
23	Yammiyavar, Pradeep	Indian Institute of Science ,Bangalore	Professor	Human Computer interaction Design
24	Baruah, Nikhileswar	--	Visiting Faculty	Art and Aesthetics, Representation Techniques, Culture and Society

### The Department at a Glance

**Year of Establishment:** 1995

**Academic Programmes Offered:**

Bachelor of Technology (BTech) in

- o Electronics and Communication Engineering
- o Electronics and Electrical Engineering

Master of Technology (MTech) in

- 1) Signal Processing
- 2) VLSI
- 3) Power and Control
- 4) Communication Engineering
- 5) RF and Photonics

Dual Degree [MS (Eng.) + PhD]

Doctor of Philosophy (PhD)

**Total Faculty Strength: 42**

- Professor: 14
- Associate Professor: 9
- Assistant Professor: 19

**Total Student Strength: 851**

BTech: 511

MTech: 118

PhD: 202

MS+PhD: 20

**New Students Joined in 2018-2019: 228**

BTech: 127

MTech: 68

PhD: 30

MS+PhD: 3

# DEPARTMENT OF ELECTRONICS AND ELECTRICAL ENGINEERING

## LABORATORY FACILITIES

The Department of EEE has 25 laboratories which are equipped with state-of-the-art equipment and software. These laboratories are used for both instructional purposes and carrying out R&D activities in the various areas of interest. The list of laboratories presently functioning in the Department is as follows:

### Name of Labs

#### 1. Power System Lab (Instructional)

The Power Systems Laboratory is well-equipped with several experimental setups and several software packages for real time experiments. The facilities include overcurrent, under voltage and differential relays. The major equipments in the Power Systems Laboratory include the following.

#### Relay Demonstration Setup:

- IDMT over current relay
- Instantaneous over current relay
- IDMT under voltage relay
- Current transformer
- Negative sequence relay
- Differential relay
- High Voltage AC/DC/Impulse setup

#### List of Softwares:

- PSS/E
- PSCAD
- DigSilent
- OptiFDTD
- OptiFiber
- NI Multisim

#### 2. Electrical Machine Lab (Instructional)

The machine lab is equipped with all kinds of AC and DC motors and generators required for undergraduate lab session and research activities in the field. For the better understanding of control of various motors lab also has braking and drive modules for some motors.

#### 3. Electronic Circuit Lab- I (Instructional)

#### 4. Electronic Circuit Lab-II (Instructional)

The Electronic Circuits Lab – I & II mainly hold basic electronics lab for first year undergraduate students of all the departments. The labs are equipped with large number of set ups each containing cathode ray oscilloscope, function generator, digital multimeter, and multioutput DC power supply. The labs are well-stocked with electronic components like resistors, capacitors, diodes, transistors, analog

and digital ICs. Experiments performed in the lab cover hardware design and implementation of basic circuits which include rectifiers, transistor characteristics, comparators, combinational logic circuits, synchronous and asynchronous counters, latches, and opamp circuits.

#### 5. Control & Instrumentation Lab-I(R&D)

The Control and Instrumentation Laboratory I focuses on the research and development activities related to Control Theory and Applications, Stochastic Systems, Robotics, Ultrasonic Instrumentation, Underwater Acoustics etc. Some of the current areas of interest include Robust and Adaptive Control theory, Relay Control Theory and Applications, Mobile Robotics and Multi-Agent Systems, MEMS and SAW Devices, Fractional Order Systems. Discrete Event Systems. Laboratory infrastructure includes personal computers for research scholars and a number of experimental set-ups, namely, Mobile Robot Platforms, Multi DOF manipulator, Twin Rotor MIMO System, Inverted Pendulum Systems, Level Control System.

#### 6. Control & Instrumentation Lab-II(Instructional)

The Control and Instrumentation Lab II is the instructional laboratory used for lab courses such as control and instrumentation lab (UG), and applied control lab (PG). The laboratory has work benches equipped with advanced test and measuring instruments like 200 MHz DSO, DDS function generator, 5½ digit DMM, multioutput DC power supply, and PC. The lab is equipped with large number of transducers for measurement of physical quantities like temperature, displacement, level, force and strain, in addition to PLC, process calibrator, hot chamber, coupled tank system, motor speed control system and other facilities for instructional laboratory. The students' instruction is focused to learn the design and implementation of signal conditioning circuits and controllers like PID.

#### 7. System Simulation Lab (Instructional)

The System Simulation Laboratory is a fully computerized laboratory equipped with highly configured PCs and various computational and simulation software like Matlab 7.3, Borland C++, FPGA Advantage from Mentor Graphics, Xilinx's ISE foundation, Zeland's IE3D EM simulation SW, Altera's Quartuswebpack, Electronics Workbench, MicroSim Design Lab (EDA software), Cadstar PCB Design, Elanix's Systemview, HP-Eesof, Hypersignal and Operating System such as HP Unix, Sun Solaris, Redhat Enterprise Linux, Microsoft windows 2003 and windows 2000/XP.

#### 8. Embedded System Lab (Instructional)

Microprocessors and Embedded Systems Laboratory provides students with hands-on experience with building, programming, testing, and debugging processor based systems. For example, systems that students build may incorporate audio and various input devices. It is an instructional laboratory. Lab courses like Digital Signal Processors



Lab, Digital Circuits and Microprocessors Lab and Embedded Systems Lab are held here.

#### 9. High Frequency Lab (Instructional + R&D)

High Frequency Laboratory at EEE, IIT Guwahati is a research cum teaching laboratory. Research works are carried out in the area of antennas, computational electromagnetics and microwave engineering. Lab courses like Microwave Engineering Lab, Communication Lab, Design Lab, etc. are held in HF Lab.

#### 10. Power & Control Lab-I (R&D)

#### 11. Power & Control Lab-II (R&D)

Research and Development Activities related to Power & Control areas are conducted in this lab. Research Scholars, MTech/ BTech students and Project Engineers working in these areas use this laboratory.

#### 12. Communication and Networking Lab (R&D)

Research and Development Activities related to Communication & Networking areas are conducted in this lab. The Research Scholars, Mtech/ BTech students and Project Engineers working in these areas use this laboratory.

#### 13. Multimedia Analytics Lab (R&D)

This Laboratory was set up in the department of Electronics and Electrical Engineering (EEE), Indian Institute of Technology (IIT) Guwahati during July, 2013. The lab focuses on the research and development activities related to multi-modal (video, speech and text) analytics and applications of machine learning in vision and robotics.

#### 14. Communication Lab-I (R&D)

#### 15. Communication Lab-II (R&D)

#### 16. Communication Lab-III (R&D)

Research Scholars working in different communication related areas use this lab.

#### 17. VLSI Lab-I (R&D)

#### 18. VLSI Lab-II (R&D)

VLSI design lab was setup in the year 2004 as an integral part of the department of Electronics and Electrical Engineering (EEE). Followed by commencement of PG (MTech) and Ph.D. programme in the field of VLSI design subsequently.

Ever since its inscription the VLSI lab has constantly been upgraded to match with the technologies of the modern era. The VLSI library integrated with the lab helps the students, researchers and all enthusiasts to acquire all the much needed concepts to deal with different practical experiments. The focus of this lab is widely spread towards different pros and cons of the entire upgrading VLSI domain. Development works at different levels like semiconductor device simulation, circuits & system design and research in

some recent trends like Biomedical signal processing has extensively been carried out.

#### 19. VLSI-ADSP & Communication Lab (R&D)

The Department has set up a sophisticated DSP & Communication Laboratory with the state-of-the-art equipment from Analog Devices and Texas Instruments, and Real Time DSP Software from HyperceptionInc. The Department has also received a donation from Analog Devices Inc. consisting of hardware kits and Visual DSP software.

#### 20. Signal Informatics Lab (R&D)

Research and Development Activities related to Security & Document Processing areas are conducted here. The Research Scholars and Project Engineers working in these areas use this laboratory.

#### 21. Electro-Medical & Speech Lab (R&D)

The Lab was set up during 2004. The laboratory focuses on the research and development activities related to biomedical signal and image processing, speech signal processing, coding and technology areas. Some of the current topics of interest include speech enhancement, speaker recognition, children speech recognition, speech synthesis, stressed speech processing, fundus image processing, ECG signal processing, biometrics and handwriting data processing.

#### 22. Image Processing and Computer Vision Lab (R&D)

The ongoing major activities in the Image Processing and Computer Vision (IPCV) Laboratory include music signal processing, histopathology image processing, denoising, video processing, image super resolution, image forensic, computer vision, image hashing, Gesture Recognition and HCI

#### 23. Power Electronics Lab (Instructional)

The lab has started functioning from August 2015. It contains the major facilities required to perform undergraduate and postgraduate experiments related to power electronics. In addition, design of power electronic hardware, implementation of prototype and testing can be performed in the lab. DSP and FPGA controllers for power electronics applications also can be tested.

#### 24. HPC and FPGA Design Lab (R&D)

High Performance Computing and FPGA Lab (HPC and FPGA Lab) was established in 2012 at Department of Electronics and Electrical Engineering, IIT Guwahati with initial support from IIT Guwahati and Nvidia. The work at HPC & FPGA Lab is focused towards exploring possibilities of high performance computing and FPGA based system design in various fields related to Electrical Engineering and Scientific Computing in non-electrical engineering disciplines.

Our group's mission is to carry out multidisciplinary research in reconfigurable, parallel and distributed computing as a basis for long-term partnership and collaboration amongst

industry, academia, and government; focus on research in advanced computer architectures, algorithms, networks and systems, both theoretical and applied; to carry out state-of-the-art research and development with collaborators with maximized synergy and pooled, leveraged resources. Being an educational institute, to enrich the education of high-quality students, has been the first priority. In turn, focus is to contribute knowledge and technologies in this field.

**25. MTech Project Lab**

The lab has started functioning from August 2016. This lab is specially designed for MTech student to perform experiments related to their MTech project.

**26. BTech Project Lab**

The lab has started functioning from August 2016. This lab is specially designed for BTech student to perform experiments related to their BTech project.

**27. Signal Processing Lab (R&D)**

The Lab has started functioning from 2016. Research and Development Activities related to Speech Processing, Image Processing, Biometric Face Recognition, Music Signal Processing, Machine Learning and Cleft Monitoring System areas are conducted here. The Research Scholars working in these areas use this laboratory.

**EML: e-mobility lab:** This is a new initiative for developing state of the art technologies for electric vehicles (EVs). The areas of work in this lab are:

- Electric motor design
- Power electronics converters of EVs
- Inductive charging systems
- Grid to vehicle interaction (G2V)
- Vehicle powertrain control algorithms

**Advance Photonics Simulation Laboratory (Instructional):** The Advance Photonics Simulation Laboratory is well-equipped with several experimental setups and several software packages for experiments. The facilities include loss measurement; LED Characterization etc. The major software in the Advance Photonics Simulation Laboratory are:

- OptiSystem
- OptiSPICE
- OptiGrating
- OptiFDTD
- OptiFiber
- Silvaco TCAD 3D

**MAJOR EQUIPMENTS AND FACILITIES ACQUIRED**

1. D1U10LL-IBM Bluemix Platform, for Rs. 7,08,201.00

2. RFX100 Software for Tektronix AWG, for Rs. 2,49,900.00
3. Xilinx Zed/ Zybo Board, for Rs. 5,16,679.00
4. 5 HP/220V/1500 RPM Ins. Cl. F/DC Shunt Motor Dynamometer type mounted with both side extended arm to measure torque using load cell 2.2KW/ 270V-Star connected / 1500 RPM / 50 Hz./ Ins. Cl. "F" Synchronous Reluctance Generator, for Rs. 5,23,950.00
5. Desktop PC, Make: Dell, Model: Optiplex 5055 Ryzen CPU Tower XCTO, for Rs. 15,50,849.00
6. Software Defined Radio fully programmable with Graphical Programming Platform with Transmitter and receiver antennas (Four Channel with two antennas), for Rs. 8,18,482.00
7. Software Defined Radio fully programmable with Graphical Programming Platform with Transmitter and receiver antennas (Two Channel with two antennas), for Rs. 1,81,116.00
8. Silvaco TCAD 3D Design Tool, for Rs. 5,29,000.00
9. BIOPAC Signal Acquisition System MP160WSW, for Rs. 9,45,826.00

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Adaptive Signal Processing, Audio Signal Processing, Biomedical Instrumentation, Biomedical Signal Processing, Communication, Control Systems, Control Theory Applications, Digital Signal Processing, Electromagnetics, Finite-Precision Signal Processing, Fuzzy Logic, High-Speed VLSI Structures for Signal Processing & Communication, Image Processing, Sensors and instrumentation, Medical Image Processing, Microprocessors, Microstrip Antennas, Microwave Engineering, MOSFET Devices, Neural Networks, Non-Destructive Testing, Pattern Recognition, Power Systems; Power Electronics; Power electronics application in power system; Power Quality; Micro grid and renewable energy resources; Power distribution system planning and control; Electrical Machines; Control of Electrical Drives; Smart Grids and Electric Vehicles; High Voltage Engineering and Applied Electromagnetic, RF Circuits, Speech Processing, Statistical Signal Processing, Stochastic Systems, VLSI Technology, Wavelets, Wireless Communication, Optoelectronics, Photonics, Optical Communication, Optoelectronics, Photonics, Optical Communication, Computer Vision and Human Computer Interactions.

**MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT**

Major initiatives:

- i. A prototype for contactless charging system for EVs.
- ii. Development of a smart urban transportation system

**CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Chandan Kumar	4th IEEE Southern Power Electronics Conference (SPEC),	Nanyang Technological University, Singapore,	10-13 Dec 2018	International
Chandan Kumar	8th IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES),	Indian Institute of Technology Madras, Chennai, India,	18-21 Dec 2018	International
Chandan Kumar	44th Annual Conference of the IEEE, Industrial Electronics Society (IECON2018),	Washington DC, USA,	21-23 Oct 2018	International
Prithwijit Guha	International Conference on Signal Processing and Communications (SPCOM 2018)	Bangalore, India	16 – 19 Jul 2018	International
Prithwijit Guha	24th International Conference on Pattern Recognition (ICPR 2018)	Beijing, China	20 – 24 Aug 2018	International
Debabrata Sikdar	Photonics 2018 - The International Conference on Fiber Optics and Photonics (2018).	Indian Institute of Technology Delhi, New Delhi, India	12-15 Dec 2018	International
Sonali Chouhan	IEEE Sensors	New Delhi, India	28-31 Oct 2018	International
Sonali Chouhan	IEEE International Conference on Advanced Networks and Telecommunications Systems	Indore, India	16-19 Dec 2018	International
Sonali Chouhan	International Conference on Computing, Power and Communication Technologies (GUCON)	Greater Noida, India	28-29 Sep 2018	International
Chandan Kumar	44th Annual Conference of the IEEE, Industrial Electronics Society (IECON2018),	Washington DC, USA,	21-23 Oct 2018	International
Salil Kashyap	National Conference in Communications (NCC 2019)	IISc Bengaluru, India	20-23 Feb 2019	National
Ramesh Kumar Sonkar	13th European Conference on Antenna and Propagation (EuCAP) 2019, ,	Krakow, Poland	31 Mar - 5 Apr 2019	International
Praveen Tripathy	20th National Power Systems Conference NPSC-2018	Tiruchirappalli	14 – 16 Dec 2018	National
Praveen Tripathy	PEDES	Chennai	18 – 21 Dec 2018	National
Suresh Sundaram	11th Indian Conference on Computer Vision, Graphics and Image Processing	Hyderabad	18-22 Dec 2018	International
Rohit Sinha	INTERSPEECH 2018	Hyderabad	02-06 Sep 2018	International
Rohit Sinha	NIST 2018 Speaker Recognition Evaluation Workshop	Athens, Greece	16-17 Dec 2018	International
Praveen Kumar	44th Annual Conference of the IEEE, Industrial Electronics Society (IECON2018),	Washington DC, USA,	21-23 Oct 2018	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./Org.</b>	<b>Place</b>	<b>Date</b>
Sanjib Ganguly	Recent Advances in Fuzzy Optimization (RAFO-2018)	Dept. of Mathematics, NIT Silchar	Silchar	21-25 May 2018
Sanjib Ganguly	Guest Lecture on DC Machines	KIIT, Bhubaneswar	Bhubaneswar	Sep 2018
Sanjib Ganguly	IEEE Seminar on "Green Technology & Sustainability"	Bureau of Indian Standards (BIS)	Guwahati	Oct 2018
Sanjib Ganguly	Integration of Smart Grid and Renewable Energy Sources	Assam Engineering College	Guwahati	27 Nov 2018
Ratnajit Bhattacharjee	LEVERAGING VIRTUAL LABS FOR REMOTE LEARNING	NI Days 2018	ITC Gardenia, Bengaluru, India	25 Oct 2018
Ratnajit Bhattacharjee	Microwave power dividers and multiband impedance transformers: some recent trends	2018 IEEE MTT-S International Microwave and RF Conference (IMaRC 2018)	Hotel Novotel Kolkata	28-30 Nov 2018
Ribhu	Performance of Massive MIMO Systems under CSI Impairments	DAIICT Winter School on 5G Communications	Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar Gujrat	7-8 Dec 2018
North Eastern Regional Load Dispatch Center, Power System Operation Corporation (PO-SOCO)	Reactive and harmonic power compensation using shunt active power filter	North Eastern Regional Load Dispatch Center, Power System Operation Corporation (POSOCO)	POWERGRID COMPLEX, Meghalaya	28 Jun 2018
Prithwijit Guha	Neural Trees	Dept. of Computer Science, Guwahati University	Guwahati	14 Mar 2019
Sisir Kumar Nayak	Alternative liquid dielectrics for power and distribution transformers	IEEE ICIS-2018, Roopar	IIT Roopar	1-2 Dec 2018
Praveen Tripathy	Voltage Stability and its improvement using SVC	Training Program on 'Reactive Power Management' at NERLDC, Shillong	NERLDC, Shillong	28-29 Jun 2018
Praveen Tripathy	Wide Area Monitoring and its application in Power System	FDP on "Integration of Smart Grid and Renewable Energy Sources"	Assam Engineering College	26-30 Nov 2018
Praveen Tripathy	Synchrophasor Measurement Technology for smart grid	Presentation at one week workshop on "Synchrophasor Measurement Technology for smart grid - Present scenario and Implementation in Indian Power System"	NIT Silchar in the Department of Electrical Engineering	19-23 Jan 2019
Suresh Sundaram	Modern strategies for Online signature verification	NIT Karnataka	Surathkal	6 Aug 2018



Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
M. K. Bhuyan	Lectures on “Robotic Vision” at Workshop on Artificial Intelligence, Robotics & Machine Learning under AICTE Teaching and Learning (ATAL) Academy	IIT Guwahati	Guwahati	22-26 Feb 2019
M. K. Bhuyan	Fundamentals of Robotics and Artificial Intelligence	IIT Guwahati	Guwahati	4-8 Feb 2019
Chitrallekha Mahanta	Robust Controllers for Robotic Manipulators	Short Term Course on “Fundamentals of Robotics and Artificial Intelligence” in IITGuwahati	IIT Guwahati	6 Feb 6 2019
Rohit Sinha	Novel Strategies for Cooperative and Multi-band Spectrum Sensing	Sikkim Manipal Institute of Technology	Sikkim, India	2-3 Jun 2018

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Dr. Biplab Sarkar	IIT Dhanbad	Invited talk on “Development of III-nitride optoelectronic and power-semiconductor devices”	23. Apr 2018
Prof. Arun Kumar	CARE, IIT Felhi	Invited talk on “Acoustic Vector Sensors and related Signal Processing for Air and Underwater Applications”	24 Apr 2018
Prof. S. A. Soman	Dept. of EE, IIT Bombay	Invited Talk	18 May 2018
Dr. Akshay Kumar Rathore	Department of Electrical and Computer Engineering, Concordia University, Canada	Invited talk on “Bidirectional Current-fed Power Electronic Converters”	29 May 2018
Dr. Lalit Kumar	Former Chairman, Centre for Personnel Talent Management (CEPTAM), Delhi	Vacuum Electron Devices – Microwave to Terawaves	24 Nov 2018
Dr. Ravi Todi	Sr. Technologist/Director for Foundry Technology Development Western Digital, USA	Semiconductors: The Industry That Changed the World	11 Feb 2019
Prof. A.K. Ray	Dept. of ECE, IIT Kharagpur and former Vice Chancellor of IEST, Shibpur	Invited talk on “Convergence of Technologies: A Gateway to the Future	16 Feb 2019
Prof. S. C Dutta Roy	Former Professor and former Head, Dept. of EE, IIT Delhi	Invited talk on “Two Outstanding Paradoxes in Electromagnetics”	16 Feb 2019
Prof. A. K. Chaturvedi	Director, IIT Roorkee	Invited talk on “Science of Nyquist Waveforms	16 Feb 2019
Prof. S.C Sahasrabudhe	Former Professor, Dept. of EE, and former Deputy Director, IIT Bombay	Invited talk on “Telecom- A Story”	17 Feb 2019
Prof. M. R. N. Murthy	Former Professor IISc Bangalore	Invited talk on “Recent Explosive Growth of Structural Biology	17 Feb 2019
Prof. M. R. N. Murthy	Former Professor IISc Bangalore	Invited talk on “Recent Explosive Growth of Structural Biology	17 Feb 2019

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Sl. No.	Name of Faculty (Convener/ Co-ordinator,etc.)	Name of Sem./Wor./ Con.	Funded By	Date	International/ National	No. of participants
1	Praveen Kumar	Conclave on Electric Mobility. The theme 'Building a Nationwide EV Ecosystem: Opportunities in the North East'	Ashok Leyland, ANSYS, Lohia Auto, NonFerrous Materials Technology Development Centre (NFTDC) and Hero Electric	22 Nov 2018	National	-
2	Ratnajit Bhattacharjee & T. Tiwari (SAMEER)	National symposium on Vacuum Electronic Devices and Applications VEDA 2018 jointly with SAMEER	DRDO, SAMEER, CSIR, CST, IPR, ANSYS, CEERI, THERELEK ENGINEERS	22-24 Nov 2018	National	100
3	Chandan Kumar (Coordinator), Ravindranath Adda (Co-coordinator)	symposium Power Quality Issues in Electric Grid and Mitigation Techniques	TEQIP III	19 Dec 2018	National	6
4	Ravindranath Adda (Coordinator), Chandan Kumar (Co-coordinator), Praveen Tripathy (Co-coordinator),	symposium Power Electronics for Sustainable Energy Resources	TEQIP III	20 Dec 2018	National	6

**PATENTS**

Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.
M.K. Bhuyan and Mr. Barnajit Ghosh	An automated method for detection of defects in Printed Circuit Board	May 2018	E-101/48/2018-KOL
M.K. Bhuyan and L.N. Sharma	An automated method for solving Jigsaw Puzzle	May 2018	E-101/49/2018-KOL
Gaurav Trivedi	Generic multicore processor with multi co-processors and multiple I/Os arranged in a honeycomb structure with artificial intelligence capabilities	May 2018	E-2/198/2018/KOL
Gaurav Trivedi	Autonomous Air to Air Refueling Avionics System using Convolution Neural Networks	May 2018	E-2/258/2018/KOL
Gaurav Trivedi	FPGA based Electromagnetic transient analyzer for the design of EV's charging station	July 2018	E-2/274/2018/KOL
Gaurav Trivedi	Hanumart: Hospitality Amenity Necessity Utility Mart driven by real time person specific demand and supply model and enabled by artificial intelligence	Aug 2018	E-2/265/2018/KOL
Gautam Rituraj, Praveen Kumar	Unipolar coil arrangement method for improving the coupling factor and the electromagnetic emissions in wireless power transfer system and a coil thereof	28 Jan 2019	201931003386

**AWARDS AND HONOURS**

- a) Dr. Jiss J. Nallikuzhy, Prof. Samarendra Dandapat, Dr. Md. Khayrul Bashar were awarded Best Paper Award for the paper title “Spatially Enhanced ECG using Patient-Specific Dictionary Learning” at the IECBES 2018, Borneo Convention Centre Kuching, Malaysia.
- b) Debabrata Sikdar was awarded the prestigious Marie Skłodowska-Curie Individual Fellowship on smart electrovariable nanoplasmonic metadivices for pursuing research at the Imperial College London.
- c) The paper entitled “Polyp Shape Recovery using Vascular Border from Single Colonoscopy Image”, authored by M. K. Bhuyan of EEE Department of IIT Guwahati, Hiroyasu Usami, Yuji Iwahori, Aili Wang, Naotaka Ogasawara and Kunio Kasugai (Chubu University, Kasugai, Japan) had been bestowed with the “Best Paper-Poster Award” at the 6th International Conference on Bioimaging (BIOIMAGING 2019), held in Prague, Czech Republic.

**STUDENTS’ ACHIEVEMENTS:**

- a) The Student members Amit Kumar Baghel (PhD, EEE Department), Shashank Satish Kulkarni (PhD, Center for Energy), Deepak Kumar Sahoo (MTech, EEE Department) and Utkarsh Jaiswal (BTech, EEE Department) received third prize (cash prize of Rs. 1,00,000 share with IIT Madras) in Aero India 2019 from 20-24, February 2019 jointly organized by MHRD and Ministry of Defence in Bangalore.
- b) P. Anoop, research scholar, received the best paper award in IEEE-INAE WORKSHOP ON ELECTROMAGNETICS (IIWE 2018) for the research paper entitled “Expression for Quality Factor of TM<sub>01</sub> Delta Mode in Equilateral Triangular DRA” co-authored with Prof. Ratnajit Bhattacharjee.
- c) Jinti Hazarika, research scholar, received the “Nripendra Nath Biswas best Student Paper Award” for her paper entitled “Low-Complexity Continuous-Flow Memory-Based FFT Architectures for Real-Valued Signals” co-authored with Mr. Mohd. Tasleem Khan and Prof.

S. Rafi Ahamed at 32nd International Conference on VLSI Design and 18th International Conference on Embedded Systems (VLSID-2019) held at New Delhi. The authors also received a cash prize of Rs. 35,000.

**SPECIAL MENTION**

- a) Dr. Prithwjit Guha developed a new course titled “Video Analytics” which is awaiting final approval from the senate.
- b) Prof. Ratnajit Bhattacharjee visited Technical University Denmark as PhD thesis examiner in April 2018.
- c) Prof Somanath Majhi is Visitor’s nominee for selection of Professors in the Dept of Electrical Engineering, IIT Roorkee since Aug 2018.
- d) Prof Somanath Majhi is in the panel of Visitor’s nominee for faculty selection committees of NITs since Aug 2018.
- e) Dr. Sonali Chouhan visited Gujrat Technological University as PhD thesis examiner in September 2018.
- f) Dr. Sonali Chouhan served as Session Chair in IEEE Sensors Conference, October 2018.
- g) Dr. Chandan Kumar Elevated to IEEE senior membership grade in June 2018.
- h) Dr. Sanjib Ganguly Elevated to IEEE senior membership grade in March 2019.
- i) Dr Suresh Sundaram was invited to be one of Program Chairs for the 4th Workshop on Document Analysis and Recognition (DAR) 2018, held in IIIT Hyderabad on 18 th December 2018.
- j) Prof. Rohit Sinha served as Session Chair in ICCDN-2018, June 02-03, 2018.
- k) Prof. S.R.M. Prasanna served as one of the General Co-Chair for INTERSPEECH-2018, a premier annual international conference organized for the first time in India at Hyderabad from September 02-06, 2018.
- l) Prof Rohit Sinha served as one of the Area Chairs for “Speech Recognition – Signal Processing, Acoustic Modeling, Robustness and Adaptation” track in INTERSPEECH-2018.

**FACULTY MEMBERS**

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Adda, Ravindranath	IIT Kanpur	Assistant Professor	Power Electronics, Distributed Generation and Power Quality
2	Agarwal, Satyam	IIT Delhi	Assistant Professor	Wireless communications and networks, MAC protocols, wireless network modelling and performance analysis
3	Ahamed, Shaik Rafi	IIT Kharagpur	Professor	Adaptive Signal Processing, Mobile Communications, VLSI Signal Processing, Biomedical Signal Processing

Sl. No.	Name	PhD	Designation	Areas of Interest
4	Arrawatia, Mahima	IIT Bombay	Assistant Professor	Energy Harvesting, RF Circuit Design, Microstrip Antennas
5	Bhattacharjee, Ratnajit	Jadavpur University	Professor	Electromagnetics, Microstrip Antennas, Microwave Engineering, Wireless Communication
6	Bhuyan, M. K.	IIT Guwahati	Professor	Image and Video Processing, Computer Vision, Pattern Recognition and Human Computer Interactions (HCI)
7	Bora, Prabin Kumar	IISc Bangalore	Professor	Image Processing and Computer Vision
8	Bose, Sanjay Kumar	Stony Brook, USA	Professor	Modeling, Simulation and Analysis of Communication Networks
9	Chouhan, Sonali	IIT Delhi	Associate Professor	Wireless Sensor Networks, Coding Theory, Wireless Communications
10	Dandapat, Samarendra	IIT Kanpur	Professor	Signal Processing, Speech Processing, Biomedical Signal & Image Processing, Biomedical Instrumentation
11	Das, Smarajit	IISc Bangalore	Assistant Professor	Information theory, Error correcting codes
12	Dhaka, Kalpana	IIT Delhi	Assistant Professor	Channel modeling and resource allocation for wireless relay systems, cooperative communications, multihop relaying, and multicasting in wireless networks.
13	Ganguly, Sanjib	IIT Kharagpur	Assistant Professor	Power distribution system planning and optimization, Distributed generation, Custom power devices, Evolutionary algorithms, Multi-objective optimization
14	Gogoi, Anup Kumar	IIT Kanpur	Professor	Electro Magnetics, Microwave Engineering, RF circuits, System Design
15	Guha, Prithwijit	IIT Kanpur	Assistant Professor	Computer Vision, Machine Learning, Robotics
16	Jacob, Tony	IIT Kanpur	Associate Professor	Statistical Signal Processing and Information Theory
17	Kar, Indrani	IIT Kanpur	Associate Professor	Control Theory and Applications, Soft Computing Applications, Neural Network Based Adaptive Control, Applications of Fuzzy Logic and Neural Networks in Nonlinear Control, Kinematic and Dynamic Control of Robot Manipulators
18	Karthik, Kannan	University of Toronto, Canada	Associate Professor	Privacy Preserving Authentication and Multimedia Searches, Fine Grained Access Control, Image and Audio Comparisons in lower-dimensional Spaces, Blind Image Forensics and Image Phylogeny
19	Kashyap, Salil	IISc, Bangalore	Assistant Professor	Wireless communications and signal processing, Massive MIMO (a leading 5G wireless technology), Algorithm design for wireless systems and its performance analysis, Green communications, Cognitive radio
20	Krishnaswamy, Srinivasan	IIT Bombay	Assistant Professor	Control Systems, Cryptography



Sl. No.	Name	PhD	Designation	Areas of Interest
21	Kshetrimayum, Rakesh Singh	NTU Singapore	Professor	Electromagnetic Band Gap, Filters, Metamaterials, Computational Electromagnetics and Periodic Structures
22	Kulkarni, Rishikesh Dilip	EPFL, Switzerland	Assistant Professor	Optical Metrology, Digital Optical Signal Processing, Digital Holography, Speckle Interferometry, Fringe Projection Profilometry
23	Kumar, Chandan	IIT Madras	Assistant Professor	Smart Transformer Application in Power System, Grid Connected Converters and Microgrid, Power Quality Improvement using STATCOM, DVR, UPQC, Predictive Control of Power Converters, Parallel Operation of Voltage Source Converters
24	Kumar, Praveen	Delft University of Technology, The Netherlands	Professor	Optimisation of electrical motors and drives, Algorithm development for Multi-objective optimisation and multicriteria decision making in engineering systems, Simulation and design of electrical motors and actuators using Finite Element Methods (FEM), Analytical modeling of electrical motors for rapid simulation, Simulation and Analysis of Hybrid and Electric Vehicles
25	Mahanta, Chitralkha	IIT Delhi	Professor	Control System Theory and Applications, Control of Nonlinear Uncertain Systems, Artificial Intelligence based Control, Identification and Control of Nonlinear Systems
26	Majhi, Somanath	University of Sussex, Brighton, UK	Professor	Relay Based Identification and Auto tuning, Control Systems, Control Theory Applications
27	Mallajosyula, Arun Tej	IIT Kanpur	Assistant Professor	Photovoltaics, Large Area Electronics, Organic and Organic-Inorganic Hybrid Semiconductor Devices and Layered 2D Materials
28	Nallam, Nagarjuna	IIT Delhi	Assistant Professor	Analog and RF integrated circuits
29	Nath, Shabari	University of Minnesota	Assistant Professor	Power Electronics, Application of Power Electronics to Power Systems.
30	Nayak, Sisir Kumar	IISc Bangalore	Associate Professor	Nanofluid for transformer, Metamaterial enhanced WPT, PV integration with grid
31	Nemade, Harshal B.	IIT Bombay	Professor	Electronic Instrumentation, Systems Design, Ultrasonic Instrumentation, Non-destructive testing, Electronic product design, EMI/EMC issues, Acoustic sensors, Under-water acoustics, Surface acoustic wave devices, MEMS
32	Palathinkal, Roy Paily	IIT Madras	Professor	VLSI and MEMS
33	Prasanna, S.R. Mahadeva	IIT Madras	Professor	Speech and Signal Processing
34	Rai, Brijesh Kumar	IIT Bombay	Assistant Professor	Communication Systems, Coding Theory
35	Rajesh, Alentallil	IIT Kanpur	Associate Professor	Coding and Modulation Techniques
36	Ribhu	IIT Roorkee	Assistant Professor	Signal Processing for Wireless Communication, MIMO Systems, Adaptive and Statistical Signal Processing

<b>Sl. No.</b>	<b>Name</b>	<b>PhD</b>	<b>Designation</b>	<b>Areas of Interest</b>
37	Sekhawat, Hanumant Singh	University of Twente, The Netherlands	Assistant Professor	System Theory, Applied Mathematics & Signal Processing
38	Sinha, Rohit	IIT Kanpur	Professor	Speech and Audio Processing, Speech Recognition, Signal Processing
39	Sikdar, Debabrata	Monash University, Australia	Assistant Professor	Plasmonics and metamaterials, Light-matter interaction in nanoscale, Dynamic tuning in plasmonic metamaterials and metadevices, Plasmon-assisted optical switching, directional scattering, wideband absorption, ultrasensitive detection, tunable optical devices etc., Electrovariable nanoplasmonic devices
40	Sonkar, Ramesh Kumar	IIT Kanpur	Assistant Professor	Optoelectronics Device Characterization and fabrication, Microelectronics and III-V Compound Semiconductors, Photonics Integrated Circuits, Integrated Optics Fiber Optics Communication, Silicon Photonics
41	Sundaram, Suresh	IISc Bangalore	Associate Professor	Pattern Recognition, Image / Video Processing and Computer Vision
42	Tripathy, Praveen	IIT Kanpur	Associate Professor	Power system dynamics and stability studies, Wide Area Monitoring and Control of Power System, Optimal power dispatch and state estimation, Security analysis and control, Energy management system and distribution automation
43	Trivedi, Gaurav	IIT Bombay	Associate Professor	Circuit Simulation (Analog & Digital) and VLSI CAD, High Performance Computing, Computational Biology and Solar Photovoltaics

# DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

## The Department at a Glance

**Year of Establishment:** 1998

**Academic Programmes Offered:**

Masters of Arts (MA) in

o Development Studies

Doctor of Philosophy (PhD)

**Total Faculty Strength: 35**

- Professor: 7
- Associate Professor: 14
- Assistant Professor: 13
- Visiting Professor: 1

**Total Student Strength: 179**

MA: 63

PhD: 116

**New Students Joined in 2018-2019: 58**

MA: 33

PhD: 25

**LABORATORY FACILITIES**

**Language-Cognition Lab:** The lab is engaged in research in language from a cognitive science perspective. We explore the relationship of human language with cognition, with culture as a possible third angle through studies of language processing in various domains.

**Phonetics and Phonology Lab:** Research on language and speech is an exciting area encompassing research in the fields of language technologies and human-computer interfaces in a way which can be employed to various ends ranging from language learning of intelligent systems to the learning capabilities of humans. To fulfill these ends this lab would like to start a modern academic research lab which is focused on the way speech is produced and comprehended. The lab will be involved with experimental investigations of speech processes and their acquisition. Topics include: articulatory movements, measurements of pressures and airflows in speech production, computer-aided waveform analysis and spectral analysis of speech, perception and discrimination of speech like sounds, speech prosody, models for speech recognition, speech disorders, and language acquisition. This laboratory will also play an important role in recording and archiving the languages of the North-East. Apart from that, the facilities in this laboratory will also promote advanced research on languages of the region.

**The Sleep & Cognition Lab** is a specialized lab where research work in the area of cognition and sleep is being carried out. The present project is funded by the department of science and technology, GOI. This lab has few specialized equipments such as 40 channel Nihon-Khodon polysomnography system, 32 channel active electrode, EEG/ERP system and DC current brain stimulator for designing experiment.

**Psychology Lab:** Psychology laboratory is also used for conducting experiments in the area of social psychology and organizational psychology on regular basis by faculty and research scholars. Psychology lab has already initiated the process of procuring various instruments, which will be used for conducting lab sessions for under-graduate courses in Psychology.

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

1. Audio System for Seminar Hall (Rs.8,16,403.00)

- a. Digital Signal Processor, Make: Xilica – 01
- b. Gooseneck Mic, Make: Revolabs – 04
- c. Wireless Lapel Mic, Make: Shure – 02
- d. Wireless Handheld Mic, Make: Shure – 02
- e. Amplifier, Make: Bose – 01
- f. Loudspeaker, Make: Bose – 06

2. Video System for Seminar Hall (Rs.6,63,031.00)

- a. LCD Projector, Make: Panasonic – 01
- b. Projection Screen, Make: Draper – 01
- c. LED Panel, 65", Make: Panasonic – 01

- d. HDMI Switcher, Make: Aten – 01
- e. Audio De-Embedder, Make: Aten – 01
- f. HDMI Splitter, Make: Aten – 01
- g. HDMI Extender, Make: Aten – 01
- h. Audio Video Input Plate – 02
- i. VGA to HDMI Converter – 01

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

The faculties in the HSS department carry out research in several fields of humanities and social sciences. This includes English and Indian literature, Linguistics, Economics, Psychology, Philosophy, Political Science, Archeology, Sociology and History. Faculties and doctoral students pursuing research within these disciplines have been engaged in teaching and research. Major areas of research include Dalit literature, Marathi literature, North-Eastern Archeology and Heritage Management, Common Wealth Literature, Aesthetics, Cultural Studies, Ecocriticism and Translations, Development Economics, Industrial Economics, Labour Economics, Phenomenology and Cognitive Science, Phenomenology and Religion, Ethical Issues related to Science and Technology, Organizational Behaviour, Human Resource Management, Social/Environmental Psychology, I-O Psychology, Literary and Cultural Theory, Microeconomics, Agricultural Economics, Environmental Economics, Econometrics, Philosophy of Technology, Applied Philosophy, Peace Studies, Critical Thinking, Applied Ethics, Philosophy of Education, Phonological theory with special interest in Optimality Theory, vowel harmony, Experimental approaches to Phonology and its acquisition, Social & Environmental History of Assam, Sociology of Science, Historical Sociology, Cognitive linguistics, Endangered and lesser known languages, Language typology, Sociolinguistics, Sleep and Information Processing, Macroeconomics, Applied Game Theory, Sociology of Gender, Sociology of Law, Sociology of Communication, Socio-economic understanding of climate risk and resilience, Urban Living and Sustainable cities, Development Economics, Informal Sector, Issues in Food Security and Social Security, Economics of Education, Identity issues of ethnic minorities, local governance, development policies, social movements, ethnic violence and conflict prevention, Health and Clinical Psychology, Phonetics, Phonology, Acoustic Phonetics, Tibeto-Burman tones, Psychoacoustics, Perception, Public Economics, Dynamic Economic Theory, Christianity, conversion, ethnic violence, kinship and family, urban issues, Socio-economic history.

**MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT**

Graduate Research Meet: The Graduate Research Meet brings a diverse range of interdisciplinary researchers together and offers a platform to showcase innovative and cutting-edge research in Humanities and Social sciences. The event is organized by the PhD research scholars of the Department of Humanities and Social Sciences (HSS) at Indian Institute of Technology, Guwahati. The primary ob-



jective of the GRM is to highlight the interdisciplinarity and significance of recent research in the humanities and social sciences. It explores the varied and complex methodology which underpins such research. The Meet offers an excellent opportunity for doctoral students to present their findings and work-in-progress and receive valuable feedback from peers and experts alike.

Last year, the fifth edition of GRM was conducted by Dept. of Humanities and Social Sciences, IIT Guwahati on October 26 and 27, 2018. The key note speaker for the GRM 2018 was Prof. Janaki Nair, professor of Modern Indian History at Jawaharlal Nehru University. She delivered a lecture on “The Condition of Im/Possibility: Humanities and Social Sciences in our Times”. More than 600 abstracts from research scholars from various universities and institutions across India were received and 116 abstracts were selected. The themes of the various panels were: Early- Modern and the Colonial Past, Problematizing the Community, Revisiting Agency

and Women, Interrogating the Urban, Probing the Development, Community and their Migration, Exploring the Visual Culture, Violence, Memory and Trauma, Demography and Entrepreneurship, Identity, Violence and Migration, Gender and Transgression, Employment, Deterrence and Innovation, Economics: Theory and Methods, Home and Ecology, River, Surface Water and the City, History of Ideas and Institutions, Cinema and Representations, Gender and Sexuality, Colonial Past and Afterwards, Of Body and Health.

Dr Pradip Sharma, a faculty from Cotton University, Dr Gaurav Rajkhowa, a faculty from Tata Institute of Social Sciences, and the faculties of Humanities and Social Sciences at IIT Guwahati chaired the sessions and also performed as discussants to the papers presented. The papers presented had been circulated earlier among the chairs so that an engaged interactions could be carried out and well thought out comments could be provided on each paper. Students from universities and institutes in Guwahati also attended the sessions.

#### CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conference/Workshop/Symposium	Place	Date	International/ National
Arupjyoti Saikia	The Wood Age in Asia Connection and Comparison in Forest History	New Haven	21-23 Sep 2018	International
Saundarjya Borbora	SIBR-Thammasat Conference on Interdisciplinary Business and Economic Research	Bangkok	16-17 Jun 2018	International
Saundarjya Borbora	Data Analytics and Business Research Dimensions	Tura, Meghalaya	10-11 Aug 2018	International
Saundarjya Borbora	Entrepreneurship and Business Innovation in North-East India: A Gap in Micro and Small Industries	Tura, Meghalaya	16-17 Nov 2018	National
Bidisha Som	5th Annual Conference of Cognitive Science	IIT Guwahati, Guwahati	10-12 Oct 2018	National
Bidisha Som	40th International Conference of Linguistic Society of India	Central Institute of Indian Languages	5-7 Dec 2018	International
Bidisha Som	Conference on Multilingualism	Ghent University Belgium	16-18 Dec 2018	International
Sambit Mallick	Silver Jubilee National Seminar on Contemporary Debates on Science, Technology and Nationalism in In	Guwahati	31 Oct – 2 Nov 2018	National
Sambit Mallick	Interrogating the Technoscientific Consensus: Intersections, Complementarities and Disconnects between Citizen Science	Mumbai	4 Dec 2018	International
Sambit Mallick	5th International Conference on Poverty and Sustainable Development	Colombo, Sri Lanka	6-7 Dec 2018	International
Debarshi Das	North East Young Social Scientists Meet	Guwahati	7-8 Jan 2019	National

Name of Faculty	Name of Conference/Workshop/Symposium	Place	Date	International/ National
Rohini Mokashi-Punekar	14th ESSE Conference	Brno, Czech Republic	29 Aug – 2 Sep 2018	International
Vasundhara Jairath	Latin American Studies Association Annual Congress	Barcelona, Spain	23-26 May 2018	International
Mithilesh Kumar Jha	Reimagining South Asia: An Exploration into the History of Ideas	Delhi	20 Jul 2018	National
Mithilesh Kumar Jha	Reimagining South Asia: An Exploration into the History of Ideas	Delhi	20 Jul 2018	National
Mithilesh Kumar Jha	Book History in North East India	Tezpur	11-12 Feb 2019	National
Ngamjahao Kipgen	National Seminar on India's Frontier Uprising during First World War: The Anglo-Kuki War 1917-1919	New Delhi	15 Oct 2018	National
Ngamjahao Kipgen	ASA2018: Sociality, matter, and the imagination: re-creating Anthropology	Oxford, UK	18 Sep 2018	International
Arupjyoti Saikia	The Wood Age in Asia Connection and Comparison in Forest History	New Haven	21-23 Sep 18	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture/Talk	Name of Inst./Org.	Place	Date
Venkataraman Prabhu	Refresher course	Mizoram University	Imphal	13 Nov 2018
Venkataraman Prabhu	ICPR Philosophy Lecture Series	Maharaja Govt. College for Women	Trivandrum	17 Dec 2018
Bidisha Som	Towards an adaptive system of language acquisition	CAS, ZHCES, JNU and NMRC, JNU	JNU, New Delhi	29 Mar 2019
Sambit Mallick	Science, Technology and Development	Arya Vidyapeeth College	Guwahati	10 Aug 2018
Sambit Mallick	Reassembling the Social: Coevolution of Science and Culture	Nowgong College	Nagaon	18 Aug 2018
Sambit Mallick	Ethics Matters with Epistemological Questions	National Institute of Technology Silchar	Silchar	7 Dec 2018
Sambit Mallick	Technology doesn't Stand Alone	National Institute of Technology Silchar	Silchar	7 Dec 2018
Sambit Mallick	Science as a Social Creation: Unity of Doing and Knowing	Indian Social Science Academy	Kalinga Institute of Industrial Technology Bhubaneswar	27-31 Dec 2018
Sambit Mallick	History of Technology	Indian Institute of Technology Ropar	Indian Institute of Technology Ropar	7 Mar 2019
Sambit Mallick	Technology in Pursuit of Societal Needs	Indian Institute of Technology Ropar	Indian Institute of Technology Ropar	8 Mar 2019
Sambit Mallick	Coevolution of Science and Society	Indian Institute of Technology Ropar	Indian Institute of Technology Ropar	8 Mar 2019
Sambit Mallick	Ethos of Science: Merton Versus Ziman	Indian Institute of Technology Ropar	Indian Institute of Technology Ropar	7 Mar 2019

Name of Faculty	Name of Lecture/Talk	Name of Inst./Org.	Place	Date
Rajshree Bedamatta	Patriarchy and the Control Mechanism: Mainstreaming Gender in Public Policies	Assam Administrative Staff College	Guwahati	26 Mar 2019
Mithilesh Kumar Jha	Politics: What is it and why do we need it?	Litsoc & Debsoc IIT Guwahati	New SAC, Conference Room, IIT Guwahati	18 Aug 2018
Mithilesh Kumar Jha	Language, Print and Public Sphere	Perspective, Indian Institute of Information Technology Guwahati	Guwahati	22 Feb 2019
Mithilesh Kumar Jha	Maithili Movement: Historical Roots and Contemporary Challenges	Madhubani Literature Festival	Rajnagar, Madhubani	19-21 Dec 2018
Debapriya Basu	Desiring Women Editing: Feminist Metacollections in the Wilderness	The Moore Institute, University of Galway	Galway, Ireland	18 May 2018
Debapriya Basu		Sherubtse College, Royal University of Bhutan	Bhutan	18-23 Nov 2018
Priyankoo Sharma	Tone, intonation and speech analysis	Central University of Kerala	Kasargod	29 Mar 2019

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Tanika Sarkar		Between Faith and Law: Sati Debates in Colonial Bengal	06 Oct 2018
Dr. Angela Ixkic Bastian Duarte	Autonomous University of the State of Morelos	Socio-environmental Conflicts: A window to think about Mexico today	12 Nov 2018
Dr. Shruti Kapila	Corpus Christi College, University of Cambridge	A People's War: 1947, Civil War and the Rise of Republican Sovereignty	26 Mar 2019
G. Aloysius	Independent Researcher	Nation and Nationalism: Theory, History and Politics	16 Nov 2018
Dr. Kunbing Xiao	Minzu University, Chengdu, Sichuan	Alternating Expressions of Tea Appreciation in China	17 Dec 2018
Bharat Sasne		चतलि व्यवस्था साहित्य और आम आदमी: साहित्यकार का उत्तर दायत्व	03 Oct 2018
Prof. Mahesh Rangarajan	Ashoka University	Nature versus Present: India at an environmental cross roads	9 Nov 2018
Prof. Prasenjit Duarah	Duke University	5th Suryya Kumar Bhuyan Memorial Lecture titled 'Nationalism and Development in Asia'	05 Feb 2019
Prof. Ananta Kumar Giri	John Hopkins University	Social Theory, Asian Dialogues and Regional Imaginations of India: Cultivating Planetary Conversations	01 Apr 2019
Mr. Joydeep Gupta		Academics and International Rivers	
Gérard Bailly	University of Grenoble	Demonstrating, Learning & Evaluating Multi-Modal Socio-Communicative Behaviors for HRI	30 Aug 2018

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Prakash Sinha	University of Allahabad	Decoding Symbolism of Prehistoric Tools: A Cognitive Approach to Archaeology	21 Aug 2018
Vijay D' Souza	University of Oxford	May these voices endure! Documenting endangered languages	01 Oct 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of Participants
Bidisha Som	Annual Conference of Cognitive Science	DST	10-12 Oct 2018	National	125
Sambit Mallick	Silver Jubilee National Seminar on Contemporary Debates on Science, Technology and National-ism in India	ICSSR, New Delhi; NRL, Guwahati; BPCL, Guwahati; Canara Bank	31-2 Nov 2018	National	23
Debarshi Das	Amit Bhaduri Festschrift Conference, UMass Amherst	Chancel-lor's Office, UMass Amherst; the Department of Economics, UMass Amherst; the Dean's Office, School of Social and Behavioral Sciences, UMass Amherst; and the Political Economy Research Inst	22-23 Mar 2019	International	18
Ngamjahao Kipgen	Silver Jubilee National Symposium on Remembering Anglo-Kuki War, 1917-1919: Hundredth Year of the War against Imperialism	Indian Council of Social Science Research, North-Eastern Regional Centre, Shil-long	7 Feb 2019	National	20
Anamika Barua	Methodology Workshop on Climate Change vulnerability assessment for states of IHR	SDC	10-14 Sep 2018	National	100
Anamika Barua	CSO meet for the Brahmaputra River Basin	The World Bank	26 Nov 2018	International	20
Anamika Barua	National Workshop on climate change vulnerability assessment using a common framework	SDC	14-15 Mar 2019	National	100

**STUDENTS' ACHIEVEMENT**

- i. Tulika kumar got Second prize in Oral presentation at Research Con-clave'19' held at IIT Guwahati for Perspectives on Flood vulnerability and forms of governance: a study of Kosi basin, Bihar on March 17, 2019

**SPECIAL MENTION**

- i. Amarjyoti Mahanta, International Collaborations: I am working along with Dr. Ragupathy Venkatachalam of Goldsmiths College, University of London on stability of political coalitions.
- ii. Sambit Mallick became Life Member of Indian Science Congress Association in May 2017.



## FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Barua, Anamika	University of Leeds	Associate Professor	Socio-economic understanding of climate risk and resilience, urban living and sustainable cities
2.	Barua, Archana	North Eastern Hill University	Professor	Phenomenology, Existentialism, Feminist Epistemology, Applied Ethics, Philosophy of Religion, Indian Philosophy, Gandhian Philosophy
3.	Basu, Debapriya	Jadavpur University	Assistant Professor	Literature and culture of sixteenth century England, early modern women's writing, feminist literary theory, early modern English manuscript studies, textual and bibliographical studies, book history, physical and digital archives, digital humanities, TEI-XML, web technologies
4.	Bedamatta, Rajshree	University of Calcutta	Associate Professor	Development Economics, Informal Sector, Issues in Food Security and Social Security, Economics of Education
5.	Borbora, Saundaryya	Gauhati University	Professor	Development Economics, Industrial Economics, Labour Economics
6.	Das, Debarshi	Jawaharlal Nehru University	Associate Professor	Development Economics, Macroeconomics, Applied Game Theory
7.	Das, Liza	Dibrugarh University	Professor	Literary and Cultural Theory
8.	Dutta, Mrinal Kanti (Head of the Department)	Gauhati University	Professor	Agricultural Economics, Environmental Economics, Development Economics
9.	Dutta, V.	Kings College London	Assistant Professor	Diplomatic and Military History, The World Wars and South Asia
10.	Hussain, Dilwar	IIT Kanpur	Associate Professor	Health and Clinical psychology
11.	Jairath, V.	University of Delhi	Assistant Professor	Social movements, Indigenous Politics, Cultural Politics, Development, Displacement, Latin America, Decolonisation of Knowledge
12.	Jha, Mithilesh Kumar	University of Delhi	Assistant Professor	Political Thought in Comparative Perspective particularly Indian and Western Political Thought, Political Theory, Indian Politics especially Language and related Issues of state formations in Modern India.
13.	Kashyap, Naveen	IIT Bombay	Associate Professor	Sleep and Information Processing
14.	Keshavamurthy, K.	University of California, Berkeley, CA South and Southeast Asian Studies	Assistant Professor	Modern Indian Literatures, Gender and Sexuality
15.	Khanolkar, P.	Univ. of Toronto	Assistant Professor	Politics of Urbanization in South Asia; Urban Housing and Slum Settlements; Social Lives of Infrastructure; Urban Land Markets; Spaces of Finance Capital; Urban Informal Economies; Urban Commons and Emerging Collectivities; Urban Theory and Methods; Cinema and City; Religion and Urban Space; South Asian Studies; Critical Theory; Urban Ethnography
16.	Kipgen, Ngamjahao	IIT Delhi	Assistant Professor	Environmental Sociology, Cultural Politics, Traditional Governance, Oral History

Sl. No.	Name	PhD	Designation	Areas of Interest
17.	Mahanta, Amarjyoti	Jawaharlal Nehru University	Assistant Professor	Industrial Organization, Auction Theory, Dynamics Economics (adjustment processes)
18.	Mahanta, Shakuntala	Utrecht University, The Netherlands	Associate Professor	Phonological theory with special interest in Optimality Theory, vowel harmony, Experimental approaches to Phonology and its acquisition
19.	Mallick, Sambit	University of Hyderabad	Associate Professor	Sociology of Science, Historical Sociology
20.	Parmar, D. C.	JNU, New Delhi	Assistant Professor	Public Health and Development, Health Systems in India, Global Public Health, Women's Health, Health Policy and Politics
21.	Punekar, Rohini Mokashi	Gujarat University	Professor	Research Interests: Culture and Translation Studies, Modern British Literature, Indian Writing in English
22.	Ranjan R.	Princeton University	Assistant Professor	History of Ideas, Historiography, Cultural Studies, Literature
23.	Ray, Sawmya	University of Hyderabad	Associate Professor	Sociology of Gender, Sociology of Law, Sociology of Communication
24.	Roychoudhuri, R.	South Asian Languages and Civilizations, The University of Chicago	Assistant Professor	History of Photography, Art History, Visual Culture, Print History, Postcolonial Studies, South Asia, Twentieth-Century India
25.	Saikia, Arupjyoti	University of Delhi	Professor	Social and Environmental History of 19 <sup>th</sup> and 20 <sup>th</sup> century Assam
26.	Saikia, Pahi	McGill University, Canada	Associate Professor	Identity issues of ethnic minorities, local governance, development policies, social movements, ethnic violence and conflict prevention
27.	Sarkar, A.	Durham University, UK	Assistant Professor	Macroeconomics, Monetary Economics, Finance
28.	Sarmah, Priyankoo	University of Florida, Gainesville	Associate Professor	Phonetics, Phonology, Acoustic Phonetics, Tibeto-Burman tones, psychoacoustics, perception
29.	Sengupta, Boddhisattva	MsGill University	Associate University	Public Economics, Dynamic Economic Theory
30.	Sharma, N. K. (upto 11.07.2018)	Delhi University	Visiting Professor	Psychology
31.	Sharma, Sukanya	Deccan College PG and Research Institute	Associate Professor	Archaeology of Northeast India, Colonial history of Assam, Cultural Policy
32.	Som, Bidisha	Jawaharlal Nehru University	Associate Professor	Cognitive linguistics, Endangered and lesser known languages, Language typology, sociolinguistics
33.	Thomas, John	Jawaharlal Nehru University	Assistant Professor	Religion and Formation of Cultural and Political Identities, Religion and Politics in North-East India, Social and Intellectual History of 19 <sup>th</sup> Century Travancore, History of Missionary Encounter in South Asia
34.	Tripathi, Nachiketa	IIT Kanpur	Professor	Organizational Behaviour, Human Resource Management, Social/Environmental Psychology, I-O Psychology
35.	Venkataraman, Prabhu	Pondicherry University	Associate Professor	Philosophy of Technology, Applied Philosophy, Peace Studies, Critical Thinking, Applied Ethics, Philosophy of Education

# DEPARTMENT OF MATHEMATICS

## The Department at a Glance

**Year of Establishment:** 1995

**Academic Programmes Offered:**

Bachelor of Technology (BTech) in

- o Mathematics and Computing

Master of Science (MSc) in

- o Mathematics and Computing

Doctor of Philosophy (PhD) in

- o Mathematics

**Total Faculty Strength: 40**

- Professor: 13
- Associate Professor: 8
- Assistant Professor: 19

**Total Student Strength: 379**

BTech: 220

MSc: 82

PhD: 77

**New Students Joined in 2018-2019: 117**

BTech: 56

MSc: 42

PhD: 19

**LABORATORIES**

Maths E-block Laboratory : Seating capacity : 74+71 = 145

Maths E1-block Laboratory : Seating capacity : 138

Two Research Scholars Laboratories : Total capacity : 100  
(Located in E and E1 blocks)

All laboratories are equipped with LAN and wireless network connectivity. An LCD projector with motorized screen is available in each laboratory for tutorial and demonstration sessions. Almost all the students who are enrolled in B.Tech., M.Sc. and regular Ph.D. programmes are allotted an individual computer in these laboratories.

In addition to the standard personal computers in the laboratories, the department has several workstations, high-end servers and a storage area network. All laboratories except research scholars laboratories are equipped with CCTV cameras.

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

- (a) Desktop PC (Make Dell; Model Optiplex 5050 (90 nos) : Rs 34,30,350.00
- (b) 3 TR Industrial AC (Make Liebert Intellesplit) (02 nos.) : Rs 6,99,030.00

- (c) Upgradation of ACER Veriton Desktop to Dell Optiplex 5060 Desktop PC (15 nos.) + New Desktop PC (Make Dell; Model Optiplex 5060) (15 nos.) : Rs 11,34,900.00
- (d) 60 KVA/KW Modular UPS System (1 no.) + 30 KVA/KW Modular UPS System (01 no.) : Rs 24,34,162.00
- (e) 64 Channel NVR & 2 MP IR Camera with accessories : Rs 4,98,621.00
- (f) Digital Interactive Board (Make LG; Model 65TC3D) (01 no.) : Rs 4,08,450.00

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Algebra, Linear Algebra, Number Theory, Combinatorics, Graph Theory, Functional Analysis, Harmonic Analysis, Complex Dynamics, Low Dimensional Topology, Differential Equations, Numerical Analysis, Fluid Dynamics, Mathematical Biology.

Probability, Stochastic Processes, Random Graphs, Stochastic Control Theory, Queuing Theory, Financial Mathematics, Distribution Models, Life Time Data Analysis.

Algorithms, Theoretical Computer Science, Computer Networks and Security, Distributed Computing, Quantum Computing, Computational Geometry.

**CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Gautam K. Das	The 12th International Workshop on Frontiers in Algorithmics	Guangzhou, China	8-10 May 2018	International
Bhaba K. Sarma	Mathematical Training and Talent Search Programme 2018	IIT Guwahati	28 May - 8 Jun 2018	National
S, Natesan	Mathematical Training and Talent Search Programme 2018	IIT Guwahati	28 May - 8 Jun 2018	National
Sweta Tiwari	Mathematical Training and Talent Search Programme 2018	IIT Guwahati	28 May - 8 Jun 2018	National
Jiten Ch. Kalita	International Conference on Applied analysis and Mathematical Modelling	Istanbul Gelisim University, Turkey	20-24 Jun 2018	International
RafikulAlam	International Workshop cum Conference on Analysis and Applications	IIT Madras	18-22 Jun 2018	International
Subhamay Saha	The 40th Conference on Stochastic Processes and their Applications (SPA 2018)	Chalmers Convention Centre, Sweden	11-15 Jun 2018	International
Sudarshan Kumar K.	XVII International Conference on Hyperbolic Problems Theory, Numerics, Applications (HYP-2018)	Penn State University, USA	25-29 Jun 2018	International
Swaroop N. Bora	The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications	National Taiwan University, Taipei	5-9 Jul 2018	International



Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Rafikul Alam	International Conference on Mathematical Modelling and Scientific Computing	IIT Indore	19-21 Jul 2018	International
Anupam Saikia	50th year Celebration of CICMA	Montreal, Canada	2-6 Jul 2018	International
Anupam Saikia	Canadian Number Theory Association	Quebec City, Canada	9-13 Jul 2018	International
Arup Chattopadhyay	29th International Workshop on Operator Theory and its applications (IWOTA-2018)	East China Normal University, China	23-27 Jul 2018	International
K.V. Krishna	23rd International Conference on Implementation and Applications of Automata : CIAA 2018	Charlottetown, Canada	30 Jul - 2 Aug 2018	International
R. Barman	International Conference on Class Groups of Number Fields and Related Topics: Delivered an invited talk on Hypergeometric series in Arithmetic Geometry	HRI Allahabad	8-11 Oct 2018	International
Subhamay Saha	Lectures in Probability and Stochastic Processes XIII	ISI Bangalore	7-11 Dec 2018	National
Chandan Pal	Lectures in Probability and Stochastic Processes XIII	ISI Bangalore	7-11 Dec 2018	National
Arup Chattopadhyay	Recent advances in Operator Theory and Operator Algebra-2018 (OTOA-2018)	ISI Bangalore	13-19 Dec. 2018	International
Sudarshan Kumar K.	IC Numaca '18	Mohandas College of Engineering, Trivandrum	17-20 Dec 2018	International
B Deka	2nd International Conference on Advances in Computational Mathematics (ICACM-2018)	Tribhuvan University, Nepal	23-24 Dec 2018	International
Bhaba K. Sarma	MTA Inaugural Conference 2019	TIFR, Mumbai	3-5 Jan 2019	National
Partha S. Mandal	20th International Conference of Distributed Computing and Networking (ICDCN 2019)	IISc, Bangalore	4-7 Jan 2019	International
Ashok Singh Sairam	2nd ISEA International Conference on Security & Privacy, 2019	MNIT, Jaipur	9-11 Jan 2019	International
Jiten Ch. Kalita	Taiwan-India Joint Conference: recent progress of flow simulation and stability analysis	Taipei, Taiwan	15-17 Mar 2019	International

#### INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
R. Barman	Minkowski's lattice theory and class groups of number fields at the AIS on Algebraic Number Theory (8 lectures)	IIT Guwahati	Guwahati	14 May - 2 Jun 2018
R. Barman	Colloquium talk titled Values of finite field hypergeometric series	IIT Delhi	New Delhi	15 May 2018

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Siddhartha P. Chakrabarty	Optimal Harvesting for a Deterministic and Stochastic Model of Renewable Resource	Indian Institute of Science Bangalore	Bangalore	28 Jul 2018
R. Barman	Colloquium talk titled Hypergeometric series in Arithmetic Geometry	ISI Kolkata	Kolkata	24 Sep 2018
Durga C Dalal	Liposomal Drug Delivery to Tumor: A Mathematical Approach	IAAM, Stockholm	Sweden	9-12 Oct 2018
Siddhartha P. Chakrabarty	# Portfolio Optimization in the Markowitz Framework # Exotic Option Pricing Using Monte Carlo Simulation	National Institute of Technology Silchar	Assam	3 Oct 2018
Anupam Saikia	Seminar Talk, Dept. of Mathematics	IIT Kanpur	Kanpur	26 Oct 2018
Anupam Saikia	Colloquium Talk (The Birch and Swinnerton-Dyer Conjecture)	IIT Kanpur	Kanpur	25 Oct 2018
Anupam Saikia	Plenary Talk (On the continued fraction of $\sqrt{p}$ )	HRI	Allahabad	9 Oct 2018
Durga C Dalal	A Mathematical Study of Tissue Electroporation to Drug Delivery	IIT Indore	Indore	1-3 Nov 2018
R. Barman	Hypergeometric series and modular forms	NISER Bhubaneswar	Bhubaneswar	3 Dec 2018
R. Barman	Some open problems in Number Theory	Cotton University	Guwahati	15 Dec 2018
R. Barman	P-adic analogues of Ramanujan pi series and hypergeometric series	Sastra-Ramanujan center, Kumbakonam	Tamil Nadu	21 Dec 2018
R. Barman	Several variable calculus	Gauhati University	Guwahati	26-29 Dec 2018
R. Barman	Group Theory at Teachers' Enrichment Course (6 lectures)	IIT Guwahati	Guwahati	7-12 Jan 2019
B. Deka	Delivered three lectures on Differential Equations at HRDC Gauhati University, January 2019	Gauhati University	Guwahati	2-3 Jan 2019
Rajesh Srivastava	Lebesgue Differentiation theorem and Hardy Littlewood Maximal functions (5 lectures)	Tezpur University	Tezpur	18 Feb - 2 Mar 2019
R. Barman	Introduction to cryptography	GIMT Tezpur	Tezpur	28 Feb 2019
Jiten Ch. Kalita	Biharmonic computation of flow past sharp edges	Tezpur University	Assam	4 Mar 2019
Rajen K. Sinha	Finite element approximations for elliptic optimal control problem with measure data	KIIT University, Bhubaneswar	Odisha	6 Mar 2019
Sudarshan Kumar K.	Lectures on Partial differential equations	Cochin University of Science and Technology, Kochi	Kerala	9 Mar 2019
Jiten Ch. Kalita	Transformation-free $\psi$ -v formulations of the Navier-Stokes equations in compact nonuniform grids	National Taiwan University, Taipei	Taiwan	15 Mar 2019
Jiten Ch. Kalita	$\psi$ -v computation of flow past sharp edges in uniform and accelerated flow	National Taiwan University, Taipei	Taiwan	17 Mar 2019

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Durga C. Dalal	Trends in applied mathematics : Present & Future	Gauhati University	Assam	29 Mar 2019
B. Deka	Delivered a talk on Finite Vibrating String Problem and Fourier Series	Tezpur University	Tezpur	30 Mar 2019

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/Name of Lecture	Date
Prof. John Augustine	Indian Institute of Technology, Madras	Robust and Efficient Computation in Dynamic Networks with Heavy Churn	6 Apr 2018
Dr. Sutanu Roy	NISER, Bhubaneswar	Semi-direct Product of Groups and Beyond	23 May 2018
Dr. Kartick Adhikari	Indian Statistical Institute, Kolkata	Brown Measure and Asymptotic Freeness of Elliptic and Related Matrices	2 Aug 2018
Prof. Anatharam Raghuram	Indian Institute of Science Education and Research, Pune	From Calculus to Number Theory	17 Aug 2018
Dr. Gangotryi Sorcar	Ohio State University, USA	Topological vs. smooth structures and exotic diffeomorphisms	4 Sep 2018
Dr. Samya Kumar Ray	IIT Kanpur	Lp-Von Neumann inequalities, from commutative to non-commutative	10 Oct 2018
Prof. G. D. Veerappa Gowda	TIFR, CAM, Bangalore	Conservative and non-conservative upwind schemes for weakly hyperbolic systems in gas dynamics	10 Dec 2018
Prof. G.P. Raja Sekhar	IIT Kharagpur	Mathematical modeling of the lubrication process inside a human knee joint	13 Dec 2018
Dr. Punit Sharma	Indian Institute of Technology Delhi	Nearest stable matrix : from bad problem to good problem	28 Dec 2018
Prof. Amiya Kumar Pani	Indian Institute of Technology Bombay	Through eyes of viscoelastic fluids: How can an external stimulus influence research in theoretical and computational PDEs	16 Jan 2019
Prof. Soumyendu Raha	Indian Institute of Science, Bangalore	Constrained Dynamical System: Rough Paths and Simulation	6 Feb 2019
Prof. Andrew Tonge	Kent State University Ohio, USA	When averages are extreme: Probabilistic techniques in functional and harmonic analysis	11 Feb 2019
Prof. Pedro A. Guil Asensio	University of Murcia, Spain	Phantom morphisms and purity	19 Feb 2019
Prof. A. K. Nandakumar	Indian Institute of Science, Bangalore	Optimal Control Problems in Domains with Oscillating Boundary and Homogenization	25 Feb 2019
Prof. M. Sohel Rahman	BUET, Bangladesh	String Inference and (non) Lexicographic Ordering	4 Mar 2019
Prof. A. Adimurthi	TIFR CAM, Bangalore	Structure of solutions for scalar conservation laws in space dimension	5 Mar 2019
Prof. G. D. Veerappa Gowda	TIFR CAM Bangalore	Applications of Hamilton-Jacobi equations in Shape from Shading	6 Mar 2019
Prof. Michael Karow	TU Berlin, Germany	Projection Lemma and the Cyclic Decomposition Theorem	20 Mar 2019
Dr. Soumen Sarkar	IIT Chennai	On integral homology of orbifolds	22 Mar 2019

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
1	Prof. Bhaba K. Sarma	Teacher's Enrichment Course in Undergraduate Mathematics	Centre for Educational Technology, IIT Guwahati	7-12 Jan 2019	National	36
2	Prof. S. Natesan and Prof. Bhaba K. Sarma	Mathematics Training and Talent Search (MTTS)	NBHM, Department of Atomic Energy	28 May – 23 Jun 2018	National	40
3	Prof. Anupam Saikia and Dr. Rupam Barman	Advanced Instructional School on Algebraic Number Theory (AIS)	IIT Bombay and TIFR Mumbai	14 May -2 Jun 2018	National	45
4	Gautam Kumar Das and Partha Sarathi Mandal Organizing Committee co-chairs	The 13th International Conference and Workshops on Algorithms and Computation (WALCOM 2019)	Science and Engineering Research Board (SERB), Govt. of India, Capillary Technologies	27 Feb - 2 Mar 2019	International	69

The 13th International Conference and Workshop on Algorithms and Computations (WALCOM 2019), held from February 27 to March 2, 2019, at the Indian Institute of Technology Guwahati (IIT Guwahati), India. The topics covered included diverse areas such as computational geometry, combinatorial algorithms, approximation algorithms, graph algorithms, graph drawing, parallel and distributed algorithms. The conference was organized by the Department of Mathematics, IIT Guwahati, as a part of the Silver Jubilee celebration of the Institute in cooperation with IEICE Technical Committee on Theoretical Foundations of Computing (COMP) and the Special Interest Group for ALgorithms (SIGAL) of the Information Processing Society of Japan (IPSJ).

WALCOM made a humble beginning in Dhaka in 2007. The idea was to create an international platform of high quality that would be easy to attend for researchers from South Asian countries. It has come a long way since then. Initially, WALCOM was held in Bangladesh and India on alternate years. In 2016 it made the first step outside and was hosted in Nepal. The 2017 edition in Taiwan was a grand success. After another two rounds in Dhaka, Bangladesh, in 2018 and Guwahati, India, this year, it is again set to go out to Singapore in 2020.

The conference enjoys a high degree of respect from the research community. A large portion of the credit goes to the eminent scientists in the Steering Committee from Bangladesh, Germany, India, Japan, Korea, and the UK. The Program Committee for WALCOM 2019 had 30 distinguished members from 17 different countries such as Australia, Austria, Bangladesh, Brazil, Canada, France, Germany, Greece,

India, Israel, Italy, Japan, The Netherlands, Oman, South Korea, Taiwan, and the USA. This time there were 100 submissions by 240 authors from 21 different countries. Each paper was reviewed by at least three experts. Finally, 30 papers were selected for presentation at the conference. The Best Paper and The Best Student Paper were awarded during the conference. The proceedings of the conference is published by Springer in the prestigious Lecture Notes in Computer Science (LNCS-11355) series. Special issues with selected and extended and upgraded versions of WALCOM 2019 will be published at Journal of Graph Algorithms and Applications and Theoretical Computer Science.

The rich tradition of WALCOM was continued by three invited talks by three very distinguished scientists, namely, Professor Mark de Berg, Department of Computer Science, TU Eindhoven, The Netherlands, Professor David Peleg, Department of Computer Science and Applied Mathematics, Weizmann Institute of Science, Israel, and Professor Saket Saurabh, Theoretical Computer Science Group, Institute of Mathematical Sciences, India.

**SPECIAL MENTION**

A new interdisciplinary M.Tech. programme on Data Science has been proposed along with the departments of Computer Sciences and Engineering and Electronics and Electrical Engineering. The programme has been approved by the Senate to be offered from academic session starting from July 2019. This is the first interdisciplinary programme in IIT Guwahati.



**FACULTY MEMBERS**

Sl. No.	Name	PhD	Designation	Areas of Interest
1.	Alam, R.	IIT Bombay	Professor	Numerical Functional Analysis, Numerical Linear Algebra
2.	Bandopadhyay, S.	ISI Delhi	Assistant Professor	Linear Algebra, Matrices
3.	Barman, Rupam	IIT Guwahati	Associate Professor	Number Theory
4.	Bhattacharjya, B.	IIT Kanpur	Associate Professor	Graph Theory
5.	Bora, S.	IIT Guwahati	Professor	Numerical Linear Algebra
6.	Bora, S. N.	Dalhousie University, Canada	Professor	Water Wave Mechanics, River Mechanics, Sloshing Dynamics, Flow through Porous Media, Differential Equation, Fractional Differential Equation
7.	Chakrabarty, S. P.	University of Illinois, Chicago, USA	Associate Professor	Mathematical Biology, Mathematical Finance, Optimal Control Theory
8.	Chakrabarty, A. K.	IIT Kanpur	Assistant Professor	Functional Analysis
9.	Chattopadhyay, Arup	JNCASR Bangalore	Assistant Professor	Functional Analysis and Operator Theory
10.	Dalal, D. C.	IIT Kharagpur	Professor	Computational Fluid Dynamics, Two-phase Flows
11.	Das, G. K.	ISI Kolkata	Associate Professor	Computational Geometry, Approximation Algorithms, Wireless Networks
12.	Deka, B.	IIT Guwahati	Associate Professor	Numerical Analysis, Finite Element Method, Interface Problems
13.	Dey, A. K.	IIT Kanpur	Assistant Professor	Distributions models and its applications, Survival Analysis
14.	Dutta, S.	IIT Kanpur	Assistant Professor	Quantam Computing, Complexity Theory
15.	Ganguly, Ayon	IIT Kanpur	Assistant Professor	Life Time Data Analysis
16.	Kalita, J. C.	IIT Guwahati	Professor	Computational and Topological Fluid Dynamics, Numerical methods for Partial Differential Equations, Mathematical Biology
17.	Kamal, S.	TIFR, Mumbai	Assistant Professor	Probability, Random graphs
18.	Kapoor, K.	London South Bank University, UK	Professor	Combinatorics, Algorithms
19.	Krishna, K. V.	IIT Delhi	Associate Professor	General Algebra, Theoretical Computer Science
20.	Krishna, P. A. S. Sree	SUNY, Buffalo	Assistant Professor	Hyperbolic 3-manifolds, Low-dimensional topology
21.	Kumar, P.	IIT Kanpur	Assistant Professor	Harmonic Analysis
22.	K., Sudarshan Kumar	TIFR, Centre for Applicable Mathematics, Bengaluru	Assistant Professor	Numerical analysis, Hyperbolic conservation laws
23.	Mandal, P. S.	Jadavpur University	Associate Professor	Wireless Sensor Networks, Distributed Computing
24.	Pal, Chandan	IIT Bombay	Assistant Professor	Stochastic Control Theory and Mathematical Finance
25.	Pati, S.	ISI Delhi	Professor	Matrices & Graphs
26.	Prasad, M. G. P.	IIT Kanpur	Professor	Complex Dynamics and Fractals

Sl. No.	Name	PhD	Designation	Areas of Interest
27.	Ramesh, H.	IIT Madras	Assistant Professor	Formal Languages and Automata Theory, Membrane Computing
28.	Saikia, A.	University of Cambridge, U. K.	Professor	Number Theory
29.	Saha, Subhamay	IISc Bangalore	Assistant Professor	Probability and Stochastic Process
30.	Sarma, B. K.	Delhi University	Professor	Spectral Graph Theory, Combinatorial Matrix Theory
31.	Selvaraju, N. (Head of the Department)	IIT Madras	Professor & Head	Queueing Theory, Financial Mathematics, Stochastic Modelling, Operations Research
32.	Sinha, R. K.	IIT Bombay	Professor	Numerical Analysis
33.	Sairam, Ashok Singh	IIT Guwahati	Associate Professor	Computer Networks and Network Security
34.	Srikanth, K. V.	SUNY, Buffalo	Assistant Professor	Low Dimensional Topology
35.	Srinivasan, Natesan	Bharathidasan University, Thiruchirappalli	Professor	Numerical solution to Differential Equations, Numerical Homogenization
36.	Srivastava, R.	IIT Kanpur	Assistant Professor	Harmonic Analysis
37.	Swain, J.	IIT Madras	Assistant Professor	Harmonic Analysis
38.	Tiwari, Sweta	IIT Delhi	Assistant Professor	Differential Equation
39.	Upadhyay, S.	CMI, Chennai	Assistant Professor	Algebraic Combinatorics
40.	Wagh, V. V.	University of Pune	Assistant Professor	Algebraic Geometry

# DEPARTMENT OF MECHANICAL ENGINEERING

## The Department at a Glance

**Year of Establishment:** 1995

**Academic Programmes Offered:**

Bachelor of Technology (BTech) in

o Mechanical Engineering

Master of Technology (MTech) in

1. Machine Design
2. Fluid and Thermal Engineering
3. Manufacturing Science and Engineering
4. Computational Mechanics
5. Aerodynamics and Propulsion

Doctor of Philosophy(PhD)

**Total Faculty Strength: 45**

- Professor: 17
- Associate Professor: 12
- Assistant Professor: 15

**Total Student Strength: 791**

BTech: 341

MTech: 209

PhD: 241

**New Students Joined in 2018-2019: 239**

BTech: 94

MTech: 107

PhD: 38

**LABORATORIES**

- **Advanced Manufacturing Laboratory:** Equipped with advanced equipments for manufacturing including micro-fabrication facility using CO<sub>2</sub> Laser cutting technology.
- **Strength of Materials Laboratory:** Basically dedicated for doing all kinds of testing including tensile testing, fatigue testing, compressive testing, torsion testing, hardness testing, impact testing etc.
- **Materials Science Laboratory:** Dedicated for carrying out metallographic studies using highly precise microscope, XRD etc.
- **Fluid Mechanics Laboratory:** This lab has basic fluid mechanics set-up. The lab is equipped with different flow measuring set-ups such as venturimeter, orifice-plate, pitot tube, rotometer etc., where students can visualize the basic theory of working of the flow meter.
- **Thermal Science Laboratory:** This lab consists of heat exchangers, equipments for conducting experiments on conduction, convection and radiation, refrigeration systems etc. All these equipments facilitate learning of basic Thermodynamics and Thermal Engineering at undergraduate level.
- **Turbo-machinery Laboratory:** This lab has different tabletop model of pumps and turbines where students can study the performance characteristics of those machines. Students can strengthen their basic understandings of working and applications of these machines.
- **IC Engine Laboratory:** This lab is for both undergraduates and graduate students. Some of the experiments which are performed by under-graduate students are performance studies of both C.I. and S.I. engines, etc. Moreover studies on the calorific values, exhaust gas characteristics, extensive studies of bio-diesel with both engines are done by post-graduate students in their respective project works.
- **Vibrations and Acoustics Laboratory:** This lab demonstrates basic vibrational instruments to students at undergraduate level. Also provides facilities for measurement of frequency signals, rpm etc, and facilities for data-acquisition which are very much beneficial for research activities in the domain of vibrational analysis.
- **Mechatronics and Robotics Laboratory:** The Mechatronics and Robotics lab is equipped with various facilities to educate the students at the undergraduate and postgraduate levels. Most of the robotics activities are facilitated to students by this lab.
- **Instrumentation and Control Laboratory:** This lab performs calibration of pressure transducer/ gauge and other mechatronics apparatus, provides strain-gauge measurement facilities etc.

- **Theory of Machines Laboratory:** This lab consists of all basic equipments for understanding mechanisms, apparatus etc. at undergraduate level such as gyroscope, governor, jib-crane, screw jack, worm-wheel apparatus etc.
- **Tribology Laboratory:** Provides facilities for carrying out wear test of specimens of different materials under the condition of with lubrication/without lubrication.
- **CAD/CAM Laboratory:** Specialized in extending computer-assisted software tools needed for design and analysis such as ABAQUS, ANSYS, Master CAM, Pro/E, ADAMS etc.
- **Wind Tunnel Laboratory:** Provides facilities for carrying out wind tunnel related experiments.
- **3D Printer Laboratory:** Provides facilities for 3D printing

In addition, 14 new laboratories have been built –

- Micro-machining lab
- Aerodynamics lab
- Electromechanics lab
- Fracture Mechanics and Composites Lab
- Welding lab
- Dynamics and Vibration lab
- Advance Mechatronics and Bio-materials lab
- Computation MD Lab
- Microfluidics Lab-1
- Microfluidics Lab-2
- Smart materials and structures lab
- CFD lab
- Gasification and Thermal Lab
- Hydraulic lab

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Groupwise Research Areas are

**Fluids and Thermal Engineering**

- Computational methods for Incompressible flows
- DNS and LES of Turbulence
- Energy management and conservation
- High speed aerodynamics
- Interfacial heat and mass transport
- Metal hydride based thermal machines
- Micro and nano-scale thermal/fluid transport
- Micro-fuel cells
- Thermal aspects of biological systems
- Thermal radiation

**Machine Design Engineering**

- Acoustics
- Active Materials
- Composites
- Dynamics and Vibrations
- Finite Element Method and Analysis
- Fracture Mechanics and Design
- Mechatronics

- Micromechanics
- Nanocomposites
- Rolling Element Bearings Design and Analysis
- Smart Structures
- Tribology

### Manufacturing Engineering

- Bio-MEMS
- Casting
- CAD/CAM/CIM
- Coating
- Composites
- Computer Application in Metal Forming
- Design and Manufacturing

- Electromagnetic pulse processing
- FEM, Neural Network
- Fuzzy Set Application
- Genetic Algorithms and Fuzzy logic in manufacturing
- Mechatronics
- Metal Forming
- Unconventional machining processes
- Welding of light weight metals
- Welding Process Monitoring and Control

### MAJOR INITIATIVES AND BREAKTHROUGH IN RE-SEARCH AND DEVELOPMENT

Design and procurement of equipment for GAIT Analysis.

### INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Amaresh Dalal	Numerical Simulations of Two-Chamber Microbial Fuel Cell	Invited Lecture, National ILan University, Taiwan	ILan, Taiwan	8 Mar 2019
Amaresh Dalal	Anupravaha: Development of a General Purpose CFD Solver	Invited Lecture, NIT Meghalaya	Shillong, Meghalaya, India	19 Dec 2018
Amaresh Dalal	Lessons from AnuPravaha: Towards a General Purpose Computational Framework on Hybrid Unstructured Meshes for Multiphysics Applications	Keynote Lecture, 4th International Conference on Computational Methods for Thermal Problems, July 9-11, 2018, Indian Institute of Science, Bangalore	Bangalore, India	11 Jul 2018
Amaresh Dalal	Lessons from Anupravaha: Towards a General Purpose Computational Framework on Hybrid Unstructured Meshes for Multi-Physics Applications	TEQIP, Dibrugarh University	Dibrugarh, India	26 May 2018
Amaresh Dalal	Drop Impact on a Liquid Pool	TEQIP, Dibrugarh University	Dibrugarh, India	25 May 2018
U.S. Dixit	Manufacturing, Friction	Institute of Engineering and Technology, Dibrugarh University	Dibrugarh, India	27 Mar 2018
Sukhomay Pal	Sensor based weld defects detection system in friction stir welding	1st International Conference on Emerging Trends on Engineering and Science (ETES:2018)	Asansol, West Bengal	24 Mar 2018
S Kanagaraj	Synthesis and characterization of ceria based solid solution as a radical scavenger in cochlear implants	Madras University	Chennai	16 Mar 2018
Ujjwal K. Saha	Understanding Aerospace Engineering (6 Lectures)	Dibrugarh University	Dibrugarh	26 Mar 2018
Ujjwal K. Saha	Aeronautics for Beginners (One-day Workshop)	IIIT Bhagalpur, Bihar	Bhagalpur	13 Apr 2018



Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
S. K. Dwivedy	Recent Advances in Dynamic Analysis of Flexible Robotic Manipulators	workshop on Recent Advances in Mechatronics and Robotics	NIT Meghalaya	22–24 Mar 2018
S. K. Dwivedy		NIT Silchar		
P Muthukumar	Green energy Technologies	NIT Jamshedpur	NIT Jamshedpur	9 Mar 2019
P Muthukumar	Green Hydrogen – A future Energy Career	12th Int Conf on Thermal Engineering: Theory and Applications, February 23-26, 2019,	Gandhinagar, India	26 Feb 2019
P Muthukumar	Development and testing of large scale metal hydride based hydrogen storage device for automobile and stationary applications	Indian Oil Corporation	Delhi	7 Dec 2018
P Muthukumar	Green Energy Technologies: A summary of Research Activates on Hydrogen and Thermal Energy Storage Systems carried out at IIT Guwahati	-	USA	27 Apr 2018
P Muthukumar	Thermal Energy Storage Systems for Concentrated Solar Thermal Power Plant Applications	Wichita state University, USA	USA	24 Apr 2018
P Muthukumar	Hydrogen - A Future Green Energy Carrier	Wichita state University, USA	USA	27 Mar 2018
U.S. Dixit	laser forming and coating	National Seminar on Advanced Research in Mechanical Engineering (NSARME-2018), at NIT Manipur	-	4-5 Apr 2018
U.S. Dixit	Elasticity	TEQUIP at Institute of Engineering and Technology, Dibrugarh University,	Dibrugarh	24 May 2018
U.S. Dixit	Modelling of Manufacturing Processes: A Historical Perspective,	CPiE 2018	Bangkok	27 Jun 2018
U.S. Dixit	“Lasers Based Manufacturing”	NERIST Nirjuli	Itanagar	17 Sep 2018
U.S. Dixit	How Can We Use Soft Computing in Design and Manufacturing?”	Shantou University	China	16 Oct 2018
U.S. Dixit	Sustainable Machining Processes	IIT Guwahati (TEQUIP)	IIT Guwahati	22–24 Oct 2018
U.S. Dixit	Soft Computing Applications in Design and Manufacturing	NIT Patna	Patna	4 Jun 2018
G. Biswas	Different Regimes of Pool Boiling	I2CNER Annual Symposium on Challenges in Thermal Science and Engineering, Towards a Sustainable Society	Kyushu University	31 Jan – 2 Feb 2019

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
G. Biswas	Bubble Dynamics in Various Regimes of Boiling	Fifth International; Conference in Thermal Problems 2018	IISc Bangalore	9–11 Jul 2018
G. Biswas	Dynamics of Vapor Bubbles in Film and Nucleate Boiling	Advanced Measurements and Multiscale CFD Simulations for Intensification of Multiphase Flow Processes, Indo-German Symposium	IIT Delhi	3–5 Oct 2018
P. K. Mondal	Recent Advances in Heat and Fluid Flow	Govt. College of Engineering and Textile Technology, Berhampore	West Bengal	18–22 Oct 2018
P. K. Mondal	Microscale multiphase transport	TEQIP, NIT Arunachal Pradesh	Arunachal Pradesh, India	9 Mar 2018
Shrikrishna N Joshi	Industry 4.0,	National Productivity Week - 2018	Bongaigaon Refinery   Indian Oil Corporation Limited (IOCL), Bongaigaon, Assam, India.	-
Shrikrishna N Joshi	ED based surface alloying	TEQIP3 MPST 2018	NIT Silchar	1 Oct 2018
Shrikrishna N Joshi	Laser based forming	TEQIP3 MPST 2018	NIT Silchar	2 Oct 2018
Shrikrishna N Joshi	Sensors used in manufacturing automation	TEQIP3 lecture series	NIT Arunachal Pradesh	1 Nov 2018
Shrikrishna N Joshi	Laser micro-bending	TEQIP3 lecture series	NIT Arunachal Pradesh	
S K Dwivedy		TEQIP Lecture	NIT Silchar	
S K Dwivedy		TEQIP Lecture	NIT Meghalaya	
S K Dwivedy	Introduction to linear and nonlinear vibration Analysis of Mechanical Systems: Theory and Hands on Practice Session	TEQIP Lecture	IIT Guwahati	4 Dec 2018
S K Dwivedy	Nonlinear Dynamic Analysis of Smart piezoelectric and Magneto-Rheological Elastomer based Structures	National Workshop on Emerging Applications of Nonlinear Dynamics and Chaos in Science and Engineering	IIT Jodhpur	14 Dec 2018
Rajiv Tiwari	Vibration Analysis of Rotating Components Using Modern Tools	TEQIP 3	Jorhat Engineering College	7–8 Sep 2018
Rajiv Tiwari	Condition Monitoring of Rotating Machineries Based on Vibrations	TEQIP Lecture	IIT Guwahati	4–8 Dec 2018
S K Kakoty	Society and Technology	Prof A K Padmapati Memorial Lecture	Ban Theatre, Tezpur	8 Dec 2018

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Pankaj Biswas	4-lectures on Welding Symbols and Joint Design, Physics of welding, Advanced Welding Research (Invited talk)	Assam Engineering College	-	28 Aug 2018
Pankaj Biswas	2-lectures on Vibration and Noise Analysis using Ansys (Invited talk)	TEQIP-III- Short-term courses, IIT Guwahati on Vibration and Noise Analysis of Mechanical Systems	IIT Guwahati	4-8 Dec 2018
Pankaj Biswas	2-Lectures on Nomenclature of Butt welds and Fillet welds	Short Term Certificate Course in Welding Technology from Oct 3 to Oct 14, 2018 at ME workshop	IIT Guwahati	10 Oct 2018
Pankaj Biswas	3-Lectures on SMAW consumables, types, identification	Short Term Certificate Course in Welding Technology from Oct 3 to Oct 14, 2018 at ME workshop	IIT Guwahati	7 Oct 2018
Pankaj Biswas	3-lectures on Basics of welding and, Physics of welding, Metal transfer in welding (Invited talk)	"TEQIP-III- Short-term courses, IIT Guwahati on Advances in Welding Research and Technology	IIT Guwahati	-
Pankaj Biswas	Classification of Welding and Joints	Invited talk	-	26-30 Nov 2018
Satyajit Panda	Passive damping of thin-walled structures through the design of viscoelastic composites	Workshop on basic welding technology, IIT Guwahati (July 2018)	NIT Jalandhar, India	22 Dec 2018
Nelson Muthu	Analytical and Experimental Studies on Detection of Longitudinal, L and Inverted T Cracks in Isotropic and Bi-material Beams Based on Changes in Natural Frequencies	TEQIP Lecture - Vibration and Noise Analysis of Mechanical Systems	IIT Guwahati	4 Dec 2018
Nelson Muthu	Connecting Doctors, Researchers and Entrepreneurs for Indigenous Medical Device Innovation	QIP - Short Term Course On Current Status and Requirements of Biomedical Devices	IIT Guwahati	25 Mar 2019

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES**

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Atul Sharma	IIT Bombay, India	To conduct PhD Viva Voce	15 Nov 2018
Prof. Partha P. Mukherjee	Purdue University, USA	To Deliver Departmental Lecture	27 Jul 2018
Professor Narendra Dahotre	University Distinguished Research Professor of the Department of Materials Science and Engineering, University of North Texas (UNT)	To Deliver Departmental Lecture	25 Oct 2018
Professor K. Ramamurthi	Former Scientist, ISRO and Former Professor, IIT Madras	To Deliver Departmental Lecture	29 Oct 2018

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Dr. Damodara Reddy	Institute of High Performance Computing (IHPC), A-STAR Singapore	To Deliver Departmental Lecture	12 Nov 2018
Prof. A. M. Rajendran	University of Mississippi, Oxford, USA	Departmental seminar cum faculty interaction	9 Oct 2018
Mr. Umashankar	Center for Simulation Excellence (CSE), Simulia, Bengaluru	Colloboration	4 May 2018

#### SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
1	P Muthukumar	ISHRAE-AICTE Five Day Refresher Course on Refrigeration and Air Conditioning	-	2–6 Jul 2018	-	-
2	P Muthukumar	TEQIP III Short term course on “Energy Efficient and Green Energy Technologies”- IIT Guwahati	-	26–30 Nov 2018	-	-
3	U.S. Dixit and M. R. Sankar	TEQIP III Short term course on “Sustainable Machining Processes”- IIT Guwahati	-	22–26 Oct 2018	-	-
4	S K Dwivedy	TEQIP III Short Term Course on Vibration and Noise Analysis of Mechanical Systems	-	4–8 Dec 2018	-	-
5	S K Kakoty and Karuna Kalita	SERB School on Noise and Vibration	-		-	-
6	P. C. Kalita, S. Pal and D. Sharma	Training Program on Marketing Management	-	24–28 Sep 2018	-	-
7	Panakj Biswas & S. Pal	TEQIP III Short term course on “Advances in welding research and technology”- IIT Guwahati	-	26–30 Nov 2018	-	-
8	S. M. Hazarika	TEQIP III Short Term Course on Fundamentals of Robotics and Artificial Intelligence	-	4–8 Feb 2019	-	-
9	S. M. Hazarika	Workshop on Artificial Intelligence, Robotics & Machine Learning under AICTE Teaching And Learning (ATAL) Academy	-	22–26 Feb 2019	-	-

#### PATENTS

Name of Faculty and Co-researcher	Name	Date Applied/ Granted	Application No.
Vimal Katiyar, M. Ravi Sankar, Arbind Prasad	Process for the preparation of resorbable polymeric composite U type bone staple	-	-
Vimal Katiyar, M. Ravi Sankar, Arbind Prasad	Process for the preparation of polymer based Cancellous screws and pins	-	-
Vimal Katiyar, M. Ravi Sankar, Arbind Prasad	Resorbable cortical screw	-	-

Name of Faculty and Co-researcher	Name	Date Applied/Granted	Application No.
Vimal Katiyar, M. Ravi Sankar, Arbind Prasad	Resorbable polymer composite bone plate	-	
Avilash Sahu, S K Dwivedy, P.S. Robi	Underwater vehicle	-	
Nandan Kanan Das and Pankaj Biswas	Design and development of JIG & FIXTURE for fabrication of cylindrical pin profile of FSW tool of tungsten carbide material using Wire EDM	-	Ref. No. 240P1901
U.S. Dixit, A.Ch. Borsaikia, A. Raj	Autoclaved aerated concrete (aac) block unit comprising in-built anchorage/frog on surface for enhancement of bonding and lateral/shear strength in masonry wall system	-	201831028883
Juan Chowdhury, Gaurav Kumar, Karuna Kalita, Sashindra K Kakoty	Linear Switched Reluctance Actuator for Powerloom	Dec 2018	201731045107
Juan Chowdhury, Gaurav Kumar, Karuna Kalita, Sashindra K Kakoty	High Force Density Quad Air Gap Switched Reluctance Motor	Dec 2018	201731045006
Gaurav Kumar, Karuna Kalita, Kari Tammi, Seamus D Garvey, WKS Khoo	Generation of Selective Pole Pair Field and Selective Frequency Transverse Force in Bridge Configured Winding Electrical Machines	Jan 2019	201831000913
Mishra SC, Pantangi VK.	Porous Radiant Burner for Domestic LPG Cooking Device with Improved Thermal Efficiency and Reduced Emissions of CO and NOx. Patent Number	-	E-2/548/2013-KOL
Mishra SC, Niraj Kumar Mishra	Self-Aspirated LPG Domestic Cooking Stove with a Two-Layer Porous Radiant Burner,	-	Indian Patent No: 543/KOL/2015
Mishra SC, Niraj Kumar Mishra and Snehasish Panigrahi	Medium-Scale Self-Aspirated Improved Air Entrainment LPG Cooking Stove with a Two-Layer Porous Radiant Burner,	-	Indian Patent No: 201631015526 dated on 4th May 2016
Mishra SC, G.S. Sinha, M Sharma, N Mishra, P. Mahanta,	Self-Aspirated Pressurized Kerosene Cooking Stove with a Porous Radiant Burner,	-	Application No: 201631037245 dated on 31st October 2016
G.S. Sinha, L K Kaushik, M Sharma, N Shanmuga Priya, S Kanagaraj	Self-Aspirated Pressurized Kerosene Cooking Stove with a Porous Radiant Burner with Nanoparticles blended.	27 Jan 2018	201831003156 (TEMP/E-1/3419/2018-KOL)

**AWARDS AND HONOURS**

- i. Prof. U.S. Dixit received Guest of honor during Technical festival of NIT Agartala.
- ii. Prof. U.S. Dixit was invited as Chief Guest in the International Conference on Advances and Soft Computing Applications in Design and Manufacturing held from 4-6 June, 2018 at NIT Patna.
- iii. Prof. Gautam Biswas received Honorary Doctorate from

- Aristotle University of Thessaloniki, Greece on 2 Nov 2018
- iv. Prof. S K Kakoty received the Education Leadership Award from Business School Affaire & Dewang Mehta National Education.
- v. Prof. U.S. Dixit got the Best paper award in AIMTDR for Paper quality adjudged best: G.C. Verma, P.M. Pandey and U.S. Dixit, Experimental investigations to evaluate machining accuracy of ultrasonic assisted milling on thin-walled structures in 7th International and 28th All



India Manufacturing Technology, Design and Research (AIMTDR) Conference, held in December 13-15, 2018, Anna University, Chennai.

- vi. Prof. P Muthukumar got the Best Paper Award by PhD student Mr Mrinal Bhowmik IISc Bangalore at THER-MACOMP conference Best paper award.
- vii. Prof. M. Pandey conducted a Session Chair in the Joint 19th International Heat Pipe Conference and 13th International Heat Pipe Symposium, held at Pisa, Italy, during June 10-14, 2018.

### STUDENTS' ACHIEVEMENTS

1. Bhaskarjyoti Sarma got the Best Paper Award for "Universal Scaling Laws in Drop-on-demand Generation from A Yarn" in the 7th International and 45th National Conference on Fluid Mechanics and Fluid Power held at IIT Bombay during 10-12 Dec 2018.
2. Hiranya Deka got the Best Oral Presentation Award for the Session "A Coupled Level Set and Volume-of-fluid Method for Modelling Two-phase Flows" in the International Conference on Recent Innovations and Developments in Mechanical Engineering held at NIT Meghalaya during 8-10 Nov 2018.
3. Subrat Kotoky got the Best Oral Presentation Award for the Session "The Role of Particle Diameter on the Fluidization Behavior in a Bubbling Gas-Solid Fluidized Bed" in the International Conference on Recent Innovations and Developments in Mechanical Engineering held at NIT Meghalaya during 8-10 Nov 2018.
4. Mrinal Bhowmik got the Best Paper Award for "Numerical Study on Dehumidification Performance of a Cross-Flow Liquid Desiccant Adiabatic Dehumidifier with Various Halide Salt desiccants" in the 5th International Conference on Computational Methods for Thermal Problems held at IISc Bangalore.
5. Kishor Kumar Gajrani got the Best poster award (1st) in Research Conclave' 2018, IIT Guwahati for Tribological Performance of Graphite, CaF<sub>2</sub> and MoS<sub>2</sub> Coated Mechanical Micro-Textured Cutting Tool Material during Dry Sliding Test.
6. Rasmi Ranjan Behera got the Best poster award (2nd) in Research Conclave' 2018, IIT Guwahati for Calcium Phosphate Coating on Ti-6Al-4V alloy using RF magnetron Sputtering Process.
7. Karthick Pandia got Outstanding Paper Award in FISITA 2018 Word Auotmotive Congress for Bending Fatigue Performance of Injection-Molded Carbon Nanotube Reinforced Polypropylene Spur Gears.
8. D. Bora got the 2nd Best Presentation Award in 2nd International Conference on Structural Integrity and Exhibition 2018 for Ductile fracture in tube impact problem using a Lode angle dependent failure criterion
9. Vishal Agrawal got the Best Paper Award in 1st International Conference on Future Learning Aspects of Mechanical Engineering (FLAME - 2018) at Amity University, Noida for An isogeometric based study of mortar contact algorithm for frictionless sliding.
10. Nithin Narmada received International Travel Award to attend and present a paper at 10th International Conference on Applied Energy (ICAE2018), held during 22-25 Aug 2018 at Hong Kong.
11. Sajith S. got the Best Paper Award in the 3rd International Conference on Design, Analysis, Manufacturing & Simulation (ICDAMS-2018) held during 6-7 April at Chennai.

### FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Bag, Swarup	IIT Bombay	Associate Professor	Fusion welding processes, Finite element method, Laser micro joining, Heat transfer and fluid flow in fusion welding, Residual stress and distortion, Recrystallization in hot metal forming process, Optimization in manufacturing process
2	Bandopadhyaya, Dibakar	IIT Kanpur	Associate Professor	Active materials, Artificial muscle materials, Smart structures, Robotics and mechanism, Composites, MEMS, Bio inspired design
3	Banerjee, Atanu	IIT Kanpur	Associate Professor	Complaint Mechanism, Shape memory alloy, Bio-memetic devices
4	Basireddy, Saneep Reddy (from 17.12.2018)	IISc Bangalore	Assistant Professor	Nonlinear Dynamics of Mechanical Systems, Robotics and Control, Applied Dynamics

Sl. No.	Name	PhD	Designation	Areas of Interest
5	Basu, Dipankar Narayan	IIT Kharagpur	Assistant Professor	Nuclear Thermalhydraulics, Supercritical Natural Circulation Loops, Domestic Air-conditioning, Computational Fluid Dynamics and Heat Transfer
6	Biswas, Pankaj	IIT Kharagpur	Associate Professor	Manufacturing and Design: Computational weld mechanics, Solid state welding, Soft computing modeling of welding processes, FEM, Line heating
7	Biswas, Gautam	IIT Kharagpur	J C Bose National Fellow and Director of the Institute; Professor	Computational Fluid Dynamics, Convective Heat Transfer, Turbulence, Boiling Heat Transfer, Heat Transfer Augmentation, Turbomachinery
8	Chakraborty, Debrajta	IIT Kharagpur	Professor	FRP, Composites, FEM, Fracture Mechanics and Design
9	Dalal, Amaresh	IIT Kanpur	Associate Professor	Computational Fluid Dynamics, Heat Transfer, Structured Grid Techniques in Curvilinear Coordinates, Finite Volume Methods and Unstructured Grid Techniques, Natural and Mixed Convection Flows, Electrochemical Energy Conversion and Storage
10	Das, Manas	IIT Kanpur	Assistant Professor	Advanced Finishing and Nano-finishing Processes, Non-traditional Machining Processes, Machining of Advanced Engineering Materials, Micromanufacturing, Micromachining, Tribology, Laser Welding
11	Dass, Anoop K.	IISc Bangalore	Professor	Computational Fluid Dynamics and Turbomachines
12	De, Arnab Kumar	IIT Kanpur	Associate Professor	Numerical Methods in Fluid Flow and Heat Transfer, Convection, Turbulence
13	Dixit, Uday S.	IIT Kanpur	Professor	Design and Manufacturing : FEM, Neural Network and Fuzzy Set Application; Mechatronics
14	Dwivedy, Santosha K. (Head of the Department)	IIT Kharagpur	Professor	Non-linear Dynamics, Design and Robotics, vibrations
15	Gautam, Sachin S.	IIT Kanpur	Assistant Professor	Design and Manufacturing : Nonlinear Finite Element Analysis, Computational Contact Impact Analysis, Adhesion, Rough Surfaces, Time Integration Schemes, Mixed Time Integration Schemes, Plasticity, Ductile Fracture, Continuum Damage Mechanics
16	Gavara, Madhusudhana	IISc Bangalore	Assistant Professor	Computational Fluid Dynamics, Heat Transfer, Cooling of Electronics, Multi-phase flows, Cooling at Micro/Mini scales, Turbulent Fluid Flow and Heat transfer
17	Hazarika, Shyamanta M. (From 16.05.2017)	School of Computing, University of Leeds, England	Professor	Robotics, Cognitive Systems, Knowledge Representation and Reasoning

Sl. No.	Name	PhD	Designation	Areas of Interest
18	Joshi, Shrikrishna N.	IIT Bombay	Associate Professor	Micro fabrication: Laser micro forming, Micro machining: Micro electric discharge machining (EDM), Web based manufacturing, Process modeling and optimization of advanced manufacturing processes, Application of soft computing techniques in manufacturing
19	Kakoty, Sashindra K.	IIT Kharagpur	Professor	Tribology, Duct Acoustics, Mechanical System Design, Rural Technology
20	Kalita, Karuna	University of Nottingham	Associate Professor	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
21	Kanagaraj, S.	IIT Kharagpur	Professor	Biomaterials, Carbon nanotubes based nanocomposites, Nanofluids, Materials characterization
22	Kapil, Sajan (from 3.12.2018)	IIT Bombay	Assistant Professor	Rapid Manufacturing (3D Printing), Welding/Cladding Processes, CNC, Manufacturing Automation
23	Khanikar, Prasenjit	North Carolina State University	Assistant Professor	Microstructural Materials Modeling, Micro-mechanics, Dislocation Density Based Crystal Plasticity, Deformation and Failure Mechanisms of Metallic Materials, Finite Element Method, Dynamic Behavior of Materials, Fracture Mechanics, Aluminum Alloys, Microstructural Characterization
24	Kore, Sachin D. (upto 09.05.2018)	IIT Bombay	Associate Professor	Experimental and numerical study of electromagnetic pulse processing, Solid state welding, Joining of similar, dissimilar and lightweight metals like Al, Steel, Al-Li, and Mg
25	Kulkarni, Vinayak N.	IISc Bangalore	Associate Professor	High enthalpy flows, scramjet engine, experimental, aerodynamics, measurement science, CFD simulations
26	Kumar, Bhaskar	-	Assistant Professor	Hydrodynamic Stability, Bluff Body Flows, Computational Fluid Dynamics
27	Kumari, Poonam	IIT Delhi	Assistant Professor	Theory of plates and shells, Computational mechanics, Smart structures
28	Mahanta, Pinakeswar	IIT Guwahati	Professor	Thermal Radiation with Participating Media, Fluidization, Energy Conservation and Renewable Energy
29	Mehta, Balkrishna (upto 20.02.2019)	IIT Kanpur	Assistant Professor	Experimental investigation of heat transfer in two-phase flow in mini/micro systems, Heat pipes, Thermosyphons, Heat transfer investigation of ferrofluids in presence of magnetic field, InfraRed thermography for temperature measurements.
30	Mondal, Pranab Kumar	IIT Kharagpur	Assistant Professor	Microfluidics, Electrokinetics, Two Phase Transport, Microscale Transport of Heat, Flow Through Porous Media.
31	Murthy, K. S. R. Krishna	IIT Kharagpur	Professor	Finite Element Methods, Error Estimation and Fracture Mechanics
32	Muthu, Nelson	Monash University	Assistant Professor	Meshfree Methods, FEM, Fracture Mechanics, Composites, Structural Health Monitoring, Medical Device Innovation
33	Muthukumar, P.	IIT Madras	Professor	Coupled heat and mass transfer analysis; Metal hydride based thermal machines, Conventional and Non-conventional refrigeration systems

Sl. No.	Name	PhD	Designation	Areas of Interest
34	Nandy, Arup	IISc Bangalore	Assistant Professor	Finite Element Development and Analysis in Structure, Acoustics, Electromagnetics, Structural acoustic interaction, Magnetohydrodynamics, MEMS; Optimization
35	Narayanan, Ganesh R	IIT Bombay	Associate Professor	Material Forming and Joining
36	Natarajan, Ganesh (upto 20.12.2018)	IISc Bangalore	Associate Professor	Computational Fluid dynamics, Grid Adaptation, Error Estimation, Immersed Boundary methods, Parallel computing, Biofluid dynamics
37	Pal, Sukhomay	IIT Kharagpur	Associate Professor	Welding Process Monitoring and Control, Tool Condition Monitoring, Non-Conventional Machining Process Application of Artificial Neural Network, Genetic Algorithms and Fuzzy logic in manufacturing
38	Panda, Satyajit	IIT Kharagpur	Associate Professor	Composite materials, Nonlinear vibrations, Smart materials and structures, FEM, Functionally Graded materials and structures, Micromechanics
39	Pandey, Manmohan	IIT Kanpur	Professor	Dynamics and Control of Fluid-Thermal Systems, Nuclear Reactor Thermal-Hydraulics
40	R., Sangamesh Deepak (On lien)	IISc Bangalore	Assistant Professor	Kinematics and Dynamics of rigid multi-body systems, Compliant Mechanisms, Topology Optimization, Static Balancing
41	Reddy, Narayana A. (upto 03.06.2018)	IISc Bangalore	Assistant Professor	Inverse Problems, Biomechanics, Compliant Mechanisms, Topology Optimization, Nonlinear FEM, MEMS and Design of Materials
42	Robi, P. S.	IIT Bombay	Professor	Coating, Fracture Mechanics, Materials Processing, Metal Matrix composite, Metal Casting, P/M Processing
43	Saha, Ujjwal K.	IIT Bombay	Professor	Propulsion, Turbomachinery, Wind Energy Conversion, Internal Combustion Engines
44	Sahasrabudhe, Anil D.	IISc Bangalore	Professor (On deputation as Chairman of the AICTE)	Vibration and Noise, Condition Monitoring, CAD/CAM
45	Sahoo, Niranjana	IISc Bangalore	Professor	Fluid and Thermal Engineering, Aerodynamics, Gas Dynamics, Instrumentation, Measurements and Experiments in Fluid
46	Sankar, Ravi M. (upto 16.01.2019)	IIT Kanpur	Assistant Professor	Machining & Advanced Machining Processes, MEMS & NEMS, Sustainable Machining, Micromanufacturing, Composite Materials, Online monitoring of Manufacturing Processes, Tribology, Precision Engineering
47	Senthilvelan, S.	IIT Madras	Professor	Composites, Fatigue, Wear and Failure Analysis
48	Sharma, Deepak	IIT Kanpur	Assistant Professor	Optimal Design: Modeling and Computation, Engineering Design and Optimization, Genetic Algorithms, Multi-objective Optimization
49	Tiwari, Rajiv	IIT Kanpur	Professor	Rotor Dynamics, Vibrations, Identification in Mechanical Systems, Rolling Element Bearing Design and Analysis, Application of Active Magnetic Bearings in Rotors, Vibrations based Condition Monitoring of Industrial Rotating Machines

# DEPARTMENT OF PHYSICS

## The Department at a Glance

**Year of Establishment:** 1995

**Academic Programmes Offered:** 1995

Bachelor of Technology (BTech) in

- o Engineering Physics

Master of Science (MSc) in

- o Physics

Doctor of Philosophy (PhD)

**Total Faculty Strength: 40**

- Professor: 17
- Associate Professor: 9
- Assistant Professor: 13
- Visiting Professor: 1

**Total Student Strength: 415**

- BTech: 177
- MSc: 90
- PhD: 148

**New Students Joined in 2018-2019: 122**

- BTech: 49
- MSc: 44
- PhD: 29



**LABORATORY FACILITIES (Total No: 24)****a) Teaching Labs:** (5 teaching laboratories)

- i. Advanced Physics lab-01
- ii. B. Tech 1st year lab-01
- iii. Electronics lab-01
- iv. M. Sc lab-01
- v. Numerical lab-01

**b) Research labs:** (19 research laboratories)

- i. Advanced Nanomaterials Lab
- ii. Cold and Ultra-Cold Atomic Physics Lab
- iii. Computational Lab
- iv. Computer Generated Holography and Optical Imaging Lab
- v. Electro-ceramics Lab
- vi. Fiber Optics Lab
- vii. Furnace Lab
- viii. High Energy Physics Lab
- ix. Laser and Photonics Lab
- x. Low Temperature Physics Lab
- xi. Magnetism Lab
- xii. Materials Science Lab
- xiii. Nonlinear Optics Lab
- xiv. Semiconductor Labs (02)
- xv. Solid State Physics Lab
- xvi. Spectroscopy Lab
- xvii. Terahertz Photonics and Plasmonics Lab
- xviii. Thin Film Physics Lab
- xix. XRD Labs (02)

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

- ✓ Planetary Micro Mill, PULVERISETTE 7 premium line for 230V AC with accessories.
- ✓ Supermicro Super Server Computing Server, Make: Supermicro; Model: SYS-6028-HTR

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

The major research focus of the department is evenly poised between different branches of theoretical and experimental Physics. The thrust areas are:

**i. Condensed Matter Physics (Theory and Experiments)**

- ✓ Semiconductors.
- ✓ Amorphous and nanocrystalline magnetic materials.
- ✓ Amorphous and nanocrystalline semiconductor thin films for solar cells and other devices. Thin film and Hetero-junction solar cells.

- ✓ Atomistic Modeling of Materials for Energy and Environmental Applications.
- ✓ Biophysics and Biomaterials.
- ✓ Polymer nanocomposites.
- ✓ Hybrid nanomaterials for energy and environmental applications.
- ✓ Magnetic alloys and thin films for spintronics.
- ✓ Microwave and piezoelectric bulk and thin films.
- ✓ Multilayer structured thin films.
- ✓ Nanostructured and Nanogranular magnetic materials.
- ✓ Transition Metal oxide system.
- ✓ Energy storage and conversion based on nanomaterials.
- ✓ Bosonization.

**ii. Laser and Photonics (Theory and Experiments)**

- ✓ Fiber & Integrated Optics, Photonic Crystal Fiber and applications, Surface Plasmon Resonance based Sensors, Fiber Bragg Gratings and based Devices, Fiber Optic Sensor, Bio/Nano-Photonics.
- ✓ Laser cooling and trapping of atoms.
- ✓ Laser Physics and Spectroscopy, Laser produced plasmas.
- ✓ Nonlinear optics.
- ✓ Programmable Diffractive Optics, Confocal Microscopy.
- ✓ Quantum Optics.
- ✓ Ultrafast optics, Terahertz Plasmonics and metamaterials.

**iii. High Energy Physics (Theory and Experiment)**

- ✓ Collider Phenomenology: Darkmatter studies, Supersymmetric models, Higgs Physics and Top quark physics, Higher order QCD corrections, Flavour Physics and CP violation.
- ✓ Cosmology and Astroparticle Physics: Inflationary models, Leptogenesis and Baryogenesis, Darkmatter studies, Supernovae neutrinos.
- ✓ Experimental High Energy Physics: B-Physics, Neutrino Physics, ILC R&D.
- ✓ Low energy QCD, Effective Field Theory

**iv. Cosmology and Gravitation**

- ✓ Astrophysical flows around compact objects, Ultra high energy cosmic rays, Black hole perturbations, Gravitational waves Cosmology, Ads/CMT.
- ✓ General theory of relativity, Field theory on curved space times, Black holes.

**MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT**

A new innovative technique called Non Chiral Bosonization along with a few applications has been published by the research group of Prof. G. S. Setlur.

## CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Pratima Agarwal	10th international conference on "Hot Wire (Cat) & Initiated Chemical Vapour Deposition"	Kitakyushu, Japan.	3-6 Sep 2018	International
Subhaditya Bhat-tacharya	Dark Matter Neutrino workshop	HRI, Allahabad	21 Feb - 1 Mar 2019	International
Subhaditya Bhat-tacharya	Sangam	HRI, Allahabad	1-10 Mar 2019	International
Subhaditya Bhat-tacharya	PANE Biennial conference	Diphu	21-23 Nov 2018	National
Sayan Chakrabarti	30th Meeting of the Indian Association for General Relativity and Gravitation (IAGRG)	BITS Pilani, Hyderabad	3-5 Jan 2019	National
Sovan Chakraborty	IITB - ICTP Workshop on Neutrino Physics	IIT Bombay	14-18 Dec 2018	International
Santabrata Das	Exploring the Universe: Near Earth Space Science to Extragalactic Astronomy	Kolkata	14-17 Nov 2018	International
Tarak N Dey	9th International Conference on Materials Science and Condensed Matter Physics (MSCMP 2018)	Chisinau	25-28 Sep 2018	International
Tarak N Dey	International Conference on Quantum and Atom Optics (ICQAO-2018)	Patna	16-18 Dec 2018	International
Tarak N Dey	Topical Meeting on Advances in Photonics	Bhubneswar	29-30 Mar 2019	International
P. K. Giri	The International Conference on Electron Microscopy (EMSI-2018)	Bhubaneswar	18-20 Jul 2018	International
P. K. Giri	5th International Conference on Nanoscience and Nanotechnology (ICONN-2019)	Chennai	28-31 Jan 2019	International
P. K. Giri	National Seminar on Emerging Frontiers in Materials Science	Kolkata	15-16 Feb 2019	National
Alika Khare	Leadership for Academicians Program (LEAP), Phase I	IIT Bombay	24 Feb.- 8 Mar 2019	National
Alika Khare	Leadership for Academicians Program (LEAP), Phase II	Nanyang Technological University, Singapore	17-22 Mar 2019	International
Meduri C Kumar	International meeting on High Energy Physics (IMHEP), 2019	Bhubaneswar, India	17-22 Jan 2019	International
Uday Narayan Maiti	5th International Energy and Environmental (E&E) Conference	KIST, South Korea	13 Nov 2018	International
P. K. Padmanabhan	Theoretical Chemistry Symposium (TCS'19)	BITS Pilani	13-16 Feb 2019	National
Pankaj K. Mishra	International Conference on Rayleigh-Bénard Turbulence	University of Twente, Netherland	14-18 May 2018	International

<b>Name of Faculty</b>	<b>Name of Conf./Workshop</b>	<b>Place</b>	<b>Date</b>	<b>International/ National</b>
Pankaj K. Mishra	International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP)	Indian Institute of Technology, Bombay	10-12 Dec 2018	National
T. Mishra	Young investigator's meet on quantum condensed matter theory	SNBNCBS, Kolkata	20-22 Nov 2018	National
T. Mishra	International Conference on Quantum and Atom Optics (ICQAO-2018)	IIT Patna	16-18 Dec 2018	International
D. Pamu	International conference on Advance ceramics and nanomaterials for sustainable development	Bangalore, Karnataka, India.	19-21 Sep 2018	International
D. Pamu	Second International Conference on Nano Science and Engineering Applications, ICONSEA-2018	Hyderabad, Telen-gana	4-6 Oct 2018	International
D. Pamu	63rd DAE Solid State Physics Symposium	Guru Jambheshwar University of Science and Technology, Hisar, Haryana	18-22 Dec 2018	National
D. Pamu	National Symposium on Vacuum Electronic devices and Applications (VEDA- 2018)	IIT Guwahati, Assam	22-24 Nov 2018	National
D. Pamu	5th International conference on Nano-Science and NanoTechnology	SRM Institute of Science and Technology Kattankulanthur, Tamil Nadu	28-30 Jan 2019	International
D. Pamu	Research Conclave	IIT Guwahati, Assam	15-17 Mar 2019	National
U. Raha	International Conference on Few-Body Problems in Physics (FB22)	Caen, France	9-13 Jul 2018	International
S. Ravi	46th National Seminar on Crystallography	NIMHANS, Bengaluru	27-29 Jun 2018	National
Arunansu Sil	PLANCK 2018	Bonn, Germany	21-25 May 2018	International
Arunansu Sil	IITB-ICTP workshop on Neutrino Physics	IIT Bombay, Mumbai	14-18 Dec 2018	International
Arunansu Sil	IMHEP-2019	Institute of Physics, Bhubaneswar	17-22 Jan 2019	International
A. Srinivasan	IEEE International Magnetism Conference (INTERMAG 2018)	Marine Bay Sands, Singapore	23-27 Apr 2018	International
A. Srinivasan	Innovations in Materials Science and Technology (IMST 2018)	Amity University, Kolkata	14-16 Dec 2018	International
A. Srinivasan	Trends in Physics	Assam Don Bosco Univeristy, Guwahati	22 Feb 2019	National
S. Thota	UGC-SAP (DRS II) Sponsored Second National Conference on Hard and Soft Condensed Mater Physics, (NCHSC-MP-2019)	Tezpur, Assam	4-6 Mar 2019	National

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

<b>Name of Faculty</b>	<b>Name of Lecture</b>	<b>Name of Inst./Org.</b>	<b>Place</b>	<b>Date</b>
Pratima Agarwal	C-Si/a-Si:H heterojunction solar cells: Role of a-Si:H layers	International conference of efficient solar power generation and energy harvesting: Industry Academia meet, Amity University	Noida	12-14 Feb 2019
Pratima Agarwal	C-Si based heterojunction Solar cells: An overview	International conference on Green and Efficient Energy Technology and Materials (GEETAM-2019), Central University of Jharkhand	Ranchi	8 Mar 2019
Saurabh Basu	Tunable spintronics	IISER, Kolkata	Kolkata	27 Feb 2019
Saurabh Basu	Controlled engineering of transport in Graphene nanoribbon	Tezpur University	Tezpur	4 Mar 2019
Saurabh Basu	Percolation route to the Bose Glass Phase	IIT Patna	Patna	17 Dec 2018
Bipul Bhuyan	Dark Sector Vector Portal: Prospects for Belle II	Belle & Belle II Analysis Workshop (BAW2019), IISER, Mohali	Mohali	1-3 Mar 2019
Bipul Bhuyan	Deep Underground Neutrino Experiment	XI PANE Biennial Conference	Assam University, Diphu	21-23 Nov 2018
Bipul Bhuyan	High Resolution Fine-Grained Tracker: Indian Interest in DUNE-ND	Workshop on India-US Neutrino Collaboration	TIFR, Mumbai	1-2 Nov 2018
Bipul Bhuyan	Uncovering the mysteries of the Universe	University of Science and Technology, Meghalaya	USTM, Meghalaya	28 Aug 2018
Bosanta R Boruah	Vortex beams and Optical trapping	Jorhat Engineering College, Jorhat, Assam	Assam	Dec 2018
Bosanta R Boruah	Optical super resolution : breaking the diffraction barrier	Pub Kamrup College, Assam.	Assam	Nov 2018
Bosanta R Boruah	Shaping a beam of light	USTM Meghalaya	Meghalaya	May 2018
D. Borah	Neutrinos (At the Symposium of Neutrino Physics on the occasion of Paul M. Dirac's birth anniversary celebration (SNP))	Assam Don Bosco University	Assam	8 Aug 2018
D. Borah	Neutrinos	Navodaya Vidyalaya Science Congress	IIT Guwahati	5 Dec 2018
D. Borah	Dark Matter Beyond the Thermal WIMP paradigm: Connection to Neutrino Mass	HRI, Allahabad	Allahabad	21 Feb - 1 Mar 2019
D. Borah	Five lectures on "General Relativity and Cosmology" at IUCAA Workshop on Astronomy and Astrophysics	Sikkim University	Gangtok	29-31 Mar 2019
D. Borah	Theory seminar	Korea Institute of Advanced Studies (KIAS)	Seoul (Korea)	14 Jun 2018
D. Borah	Theory seminar	Sogang University	Seoul (Korea)	19 Jun 2018

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
D. Borah	Theory seminar	KEK Theory Center, Tsukuba	Japan	22 Jun 2018
D. Borah	Theory seminar	Tokyo Institute of Technology	Japan	27 Jun 2018
D. Borah	Theory seminar	Kavli IPMU, University of Tokyo	Japan	28 Jun 2018
Sovan Chakraborty	Stellar core collapse: The Neutrino Story	SINP, Kolkata	Kolkata	23-24 Jul 2018
Tarak N Dey	Coherent control of wave front engineering	IIT Madras	Chennai	19 Nov 2018
Soumitra Nandi	Recent topics in flavour phenomenology	DAE Symposium, IIT Madras	Chennai	Dec 2018
Soumitra Nandi	Recent updates Semileptonic $b \rightarrow c \ell \bar{\nu}_\ell$ decays	Belle Analysis Workshop 2019, IISER Mohali	Mohali	Mar 2019
D. Pamu	Recent Trends in Nanotechnology	Adikavi Nannaya University	Rajamahendravaram	13 Jul 2018
D. Pamu	The role of nanoceramics in microwave applications	Guru Ghasidas Vishwavidyalaya	Bilaspur	14 Dec 2018
D. Pamu	The importance of ceramics in microwave applications	SRM University	Chennai	27 Jan 2019
P. Poullose	The Higgs Boson, going beyond the story from the LHC	Manipal Institute of Technology	Manipal	12 Jul 2018
P. Poullose	Top quark anomalous couplings	Institute of Mathematical Sciences	Chennai	18 Jan 2019
P. Poullose	Top quark and BSM, at the LHC and beyond	IMHEP conference, IoP	Bhubaneswar	17 Jan 2019
P. Poullose	Understand the Top quark	Centre for Advanced Studies, IIT Bombay	Mumbai	25 Mar 2019
P. Poullose	Story of the Higgs boson	Department of Physics, IIT Bombay	Mumbai	27 Mar 2019
Kanhaiya Pandey	Highly sensitive atomic based microwave interferometry	Indian Institute of Science Education and Research (IISER) Bhopal	Bhopal	23 Oct 2018
Amarendra K. Sarma	Quantum Physics in nanomechanical systems	ADP College, Nagaon, Assam	Nagaon, Assam	21 Dec 2018
Amarendra K. Sarma	Cavity Quantum Optomechanics-Classical Regime	IIT Kanpur	IIT Kanpur	19 Sep 2018
Amarendra K. Sarma	Unconventional Photon and Phonon blockade in optomechanical systems	IIT Kanpur	IIT Kanpur	21 Sep 2018
Amarendra K. Sarma	Phonon antibunching in a weakly nonlinear coupled mechanical resonators	IIT Patna	IIT Patna	18 Dec 2018
Ashwini Kumar Sharma	Measurements in Physics	Vigyan Jyoti Program, IIT Guwahati	IIT Guwahati	6 Sep 2018
S. Ravi	2nd International Conference on Nano Science & Engineering Applications - 2018	Institute of Science and Technology, Jawaharlal Nehru Technological University Hyderabad	Hyderabad	4-6 Oct 2018



Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
S. Ravi	5th International Conference on Nanoscience and Nanotechnology	SRM Institute of Science and Technology	Chennai- Kattankulathur	28-30 Jan 2019
Arunansu Sil	Electroweak vacuum stability in presence of dark matter and neutrinos	IIT Hyderabad	Hyderabad	31 Jul 2018
A. Srinivasan	Spintronics – A new paradigm for electronics	School of Physics, Shri Mata Vaishno Devi University	Katra	5 Mar 2019
A. Srinivasan	Synthesis and characterization of nanomaterials	School of Physics, Shri Mata Vaishno Devi University	Katra	6 Mar 2019
S. Thota	Complex Magnetic Ordering in Ultrathin Oxide Superlattices and Nanostructures	International Conference on Nano-Structured Materials and Devices (ICNSMD-2018), University of Delhi	Delhi, India	16-20 Dec 2018
S. Thota	Finite-Size Effects and Semi-Spin-Glass Behavior of Few Complex Spinel	International Conference on Materials for Energy Applications (ICME-18), S.S. Jain Subodh P.G. College	Jaipur, India	6-8 Dec 2018
S. Thota	Complex Magnetic Ordering in Few Inverse-Spinel Cobaltites	5th International Conference on Nanoscience and Nanotechnology (ICONN-2019), SRM Institute of Science and Technology	Chennai - 603203 Tamil Nadu, India.	28 Jan 2019
S. Thota	Magnetic, Electronic and Crystallographic reconstruction across the Interfaces of Insulating Ultrathin Oxide Superlattices	Institute of Advanced Study in Science and Technology (IASST)	Boragaon, Guwahati-781035, Assam, India.	29 Dec 2018
S. Thota	Quantum Nanostructures for Novel Electronic Devices	University Of Science and Technology, Meghalaya (USTM)	Ri-Bhoi, Meghalaya-793101	12 Sep 2018
S. Thota	Complex Magnetic Ordering in Ultrathin Oxide Superlattices and Nanostructures	International Conference on Nano-Structured Materials and Devices (ICNSMD-2018), University of Delhi	Delhi, India	16-20 Dec 2018
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S. Thota	Magnetic, Electronic and Crystallographic reconstruction across the Interfaces of Insulating Ultrathin Oxide Superlattices	Institute of Advanced Study in Science and Technology (IASST)	Boragaon, Guwahati-781035, Assam, India.	29 Dec 2018
S. Thota	Quantum Nanostructures for Novel Electronic Devices	University Of Science and Technology, Meghalaya (USTM)	Ri-Bhoi, Meghalaya-793101	12 Sep 2018

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES**

<b>Name</b>	<b>Name of Inst./Univ./Org.</b>	<b>Purpose/ Name of Lecture</b>	<b>Date</b>
Prof. A. Gohain Barua	Gauhati University	Enjoyment of doing science: the enchanting light of the firefly	28 Feb 2019
Prof. D. J. Saikia	IUCAA, Pune	Citizen Science: a perspective	28 Feb 2019
Dr. Debajyoti Sarkar	Albert Einstein Center (AEC) for Fundamental Physics, University of Bern	The quantum fate of black hole horizons	26 Feb 2019
Dr. Biswanath Dutta	Post Doc at Delft University of Technology	Ab initio design strategies for functional materials: Role of temperature-dependent excitations	19 Feb 2019
Dr. Poulumi Dey	Assistant Professor at Delft University of Technology	Hydrogen-carbide interactions in steels: Ab-initio combined with experiment	19 Feb 2019
Dr. Sreemanta Mitra	Post Doc at IISc Bangalore	Emergent Phenomena in Quantum Materials	18 Feb 2019
Dr. Sujit Das	Department of Materials Science & Engineering, University of California, Berkeley, CA 94720, USA	Emergence of Complex Topology in Oxide Heterostructure	17 Feb 2019
Dr. Francesco Capozzi	Max Planck for Physics, Munich, Germany	Status of neutrino mass-mixing parameters	6 Feb 2019
Dr. Devendra K Namburi	Cambridge University	What does the future bring? A look at high temperature superconducting technology for commercial applications in near future	7 Jan 2019
Prof. Mishkatul Bhattacharya	Center for Coherence and Quantum Optics, University of Rochester, Rochester, New York 14627, USA	Optical Tweezer Phonon Laser	4 Jan 2019
Dr. Ashish Kundu	Project Ass, TU Wien, Vienna, Austria	First-principle study of thermal conductivity of DX centers in GaAs	3 Jan 2019
Dr. Joydeep Chakraborty	Associate Professor, Department of Physics, IIT Kanpur	Effective Field Theory -- Why and How	22 Dec 2018
Prof. Mariana Frank	Concordia University, Montreal, Canada	E(6) inspired U(1)' extension of MSSM: from Dark Matter to LHC	11 Dec 2018
Prof. Amarjit Soni	Brookhaven National Lab, USA	Lattice matrix elements for new physics searches	3 Dec 2018
Dr. Naveen K Nishchal	IIT Patna	Light for Information Security	26 Nov 2018
Prof. T. R. Seshadri	University of Delhi	Using Cosmic Microwave Background Radiation to probe the Universe	19 Nov 2018
Dr. Vanamali C. Shastry	University of Mangalore	Resonating Group Method - Overview and Applications	14 Nov 2018
Dr. Isaki Sakon	The University of Tokyo	Understanding the nature of the interstellar dust and organics: A combined approach	30 Oct 2018
Dr. N. R. Murinathnam	Director General, Centre for Materials for Electronics Technology, (C-MET: R&D laboratory under Ministry of Electronics and Information Technology (MeitY), Govt. of India)	An overview of C-MET's R&D activities and Rare Earth based ceramics and composites for microwave circuit applications	22 Oct 2018
Dr. Dibyendu Hazra	Aalto University, Finland	Nano-fabrication and measurement on Superconducting Quantum Circuit Elements	11 Oct 2018

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Dr. Tarak Patra	Post Doctoral Fellow (ANL, USA)	Universal Particle Localization Underlying Glass Formation	13 Sep 2018
Prof. Parongama Sen	Department of Physics, Calcutta University	Nonequilibrium behaviour of classical spin models: some applications in social phenomena	27 Aug 2018
Dr. Saikat Chakraborty	IIT Kanpur	Anisotropy evolution in $f(R)$ gravity	16 Aug 2018
Prof. Achanta Venu Gopal	TIFR	Broadband plasmonics in the optical and THz range	14 Aug 2018
Prof. Anuj Nandi	URSC, ISRO	Academic Visit	16-19 Jul 2018
Prof. Bhargav Baidya	IIT Indore	Academic Visit	16-19 Jul 2018
Prof. Sayan Bhat-tacharyya	IISER Kolkata	Quantum Dots for Harvesting Solar Energy	15 May 2018
Dr. Sunando Patra	IIT Kanpur	How to prove Disraeli wrong	7 May 2018
Dr. Dimpay Sharma	Department of Physics, University of Namur, Belgium	Investigation of numerical atomic orbitals for first principles calculation of electronic and transport properties of Silicon nanowires structure	17 Apr 2018
Nabarun Chakraborty	Senior Research Fellow, HRI, India	Extended Higgs sectors, vacuum stability and related issues	9 Apr 2018
Dr. Sandip Dhara	Senior Scientist, IGCAR, Kalpakam	Optical Microscopic and Spectroscopic Studies at Sub-Diffraction Limit	2 Apr 2018

#### SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
D. Pamu	Nanomaterials and Smart Devices	TEQIP	17-21 Sep 2018	National	36

#### AWARDS AND HONOURS

- Prof. Bipul Bhuyan elected as the General Secretary of Physics Academy of Northeast (PANE) for the duration of 2019-2021.
- Prof. B. R. Boruah received senior membership of Optical Society of America (OSA) and SPIE, 2018.
- Dr. D. Borah has received Associateship, Indian Academy of Sciences for the period 2018-2021.
- Dr. D. Borah received Early Career Research Award 2018 (DST-SERB).
- Dr. D. Borah has received Associate, Inter-University Centre for Astronomy and Astrophysics, Pune for the period 2018-2021.
- Prof. P. K. Giri received Visiting Research Fellowship, University of Birmingham, United Kingdom, June-July 2018.
- Prof. A. Perumal received Japan Society for the Promotion of Science (JSPS) Invitational Fellowship for Research in Japan (Long term FY2018) for collaborative work in

Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan with Prof. Kazuhiro Hono.

- Prof. A. Perumal was invited as Guest Researcher through Academic Collaborative Program of National Institute for Materials Science, Tsukuba, Japan.
- Prof. A. Perumal has been invited as Member of Program Subcommittee for Publication in Annual Conference on Magnetism and Magnetic Materials (MMM-2019) to be held in Las Vegas, USA during Nov 4-8, 2019

#### STUDENTS' ACHIEVEMENTS

- Joy Prakash Das, Research Scholar, Dept. of Physics won first prize in the "Three Minutes Thesis Presentation" at the institute level in the Research Conclave held during Mar. 14-17, 2019 at IIT Guwahati.
- Joy Prakash Das, Research Scholar, Dept. of Physics received the best oral presentation award at the national conference on hard and soft condensed matter Physics (NCHSCMP) held at Tezpur University on March, 2019.

- Eshita Mal, Research Scholar, Dept. of Physics won first prize in the oral presentation in the Research Conclave held during Mar. 14-17, 2019 at IIT Guwahati.
- Aneeta Manjari Pradhan, Research Scholar, Dept. of Physics won first prize in the poster presentation in the Research Conclave held during Mar. 14-17, 2019 at IIT Guwahati.
- Joy Prakash Das, Research Scholar, Dept. of Physics won second prize in the oral presentation in the Research Conclave held during Mar. 14-17, 2019 at IIT Guwahati.
- Suchit kumar Jena, Research Scholar, Dept. of Physics received second prize in the poster presentation in the Research Conclave held during Mar. 14-17, 2019 at IIT Guwahati.
- Sumit Goswami won the best poster award in the conference "5th International conference on Nanoscience and Nanotechnology" (ICONN 2019) held at SRM Institute of Science and Technology, Chennai, Jan. 28-30, 2019.
- Kamal Paul, Research Scholar, Dept. of Physics won the BEST POSTER AWARD at the 'International conference on Optoelectronics and Nanomaterials for Advanced Technology (ICONMAT)' for his poster entitled "Enhanced Visible Light Photocatalytic by Fluorine doped Faceted Nanocrystal hierarchicallydesined with vacancy rich TiO<sub>2</sub> nanocrystals by vacuum annealing", January 2019, CU-SAT, Cochin.
- Apurba Das, Research Scholar, Dept. of Physics won the "Best Poster Award" in the "63rd DAE Solid State Physics Symposium" held at Guru Jambheshwar University of Science & Technology, Hisar, Haryana during Dec. 18-22, 2018.
- Krishnakanta Bhattacharya, Research Scholar, Dept. of Physics has been awarded distinguished student-FIP-APS award from the APS (American Physical Society) supporting his travel to APS April 2019 meeting.
- Sheuly Ghosh, Research Scholar, Dept. of Physics won the "Best Poster Award" in the International Conference "Evolution of Electronic Structure Theory and Experimental Realisation" held during Sept. 11-15, 2018 at SRM University and IIT Madras.
- Bhupesh Yadav, an M.Sc. student in the department of Physics received third prize in the poster presentation in the Research Conclave held during Mar. 14-17, 2019 at IIT Guwahati.

### SPECIAL MENTION

- Prof. Pratima Agarwal chaired two sessions in the "International conference of efficient solar power generation and energy harvesting: Industry Academia meet", Amity University, Noida, Feb. 12-14, 2019.
- Dr. Manpreet Singh, an NPDF in the department has been recognized through an online poster competition which was jointly conducted and evaluated by SERB and ACS. He was also invited to participate in a meeting in Delhi to present his work and received this award as well as life membership of the American Chemical Society.

### FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Agarwal, Pratima	IIT Kanpur	Professor	Thin films and hetero junction solar cells, nanocrystalline Semiconductors, nanomaterials, optoelectronic properties
2	Ahluwalia, Dharam Vir (upto 21.08.2018)	Texas A&M University, USA	Visiting Professor	Mass dimension one fermions, dark matter, neutrino oscillations and mixing matrix, gravitationally-induced phases, interface of the gravitational and quantum realms
3	Alagarsamy, Perumal	IIT Kharagpur	Professor	Condensed Matter Physics (Experimental); Magnetism, Nanostructured Materials, Nanocrystalline Materials, Magnetic Thin Films, Metallic Glasses.
4	Basu, Saurabh	IIT Kanpur	Professor	Condensed Matter Physics (Theory); High T C superconductors, Optical lattices, Transport in Magnetic semiconductors
5	Bhattacharya, Subhaditya	HRI, Allahabad	Assistant Professor	High Energy Physics (Theory), Phenomenology of Standard Model and Beyond, Supersymmetry, Dark Matter, LHC
6	Bhuyan, Bipul	Delhi University	Professor	High Energy Physics (Experiment); CP violation, Rare K and B meson decays, ILC R & D

Sl. No.	Name	PhD	Designation	Areas of Interest
7	Borah, Debasish	IIT Bombay	Assistant Professor	Particle Physics Model Building, Astroparticle Physics and Cosmology
8	Boruah, Bosanta Ranjan	Imperial College London	Professor	Lasers and Optics (Experiment & Theory); Programmable Diffractive Optics, Confocal Microscopy, Phase Stepping Interferometry, Vectorial Diffraction Theory
9	Chakrabarti, Sayan Kumar	SINP, Kolkata	Assistant Professor	High Energy Physics (Theory), General relativity, Black hole perturbations, Gravitational waves, Cosmology
10	Chakraborty, Sovan	SINP, Kolkata	Assistant Professor	Astroparticle Physics, High Energy Astrophysics, Neutrino Oscillations, Supernovae Neutrinos, Ultra High Energy Neutrinos & Dark Matter.
11	Das, Santabrata	SNBNCBS, Kolkata	Associate Professor	Astrophysics (Theory); Astrophysical flows around compact objects, Ultra high energy cosmic rays
12	Dey, Tarak Nath	PRL, Ahmedabad	Associate Professor	Quantum Optics (Theory); Coherent control of pulse propagation, Nonlinear optics, Optical solitons, Negative index media, Bose-Einstein condensates
13	Ghosh, Subhradip (Head of the Department)	SNBNCBS, Kolkata	Professor	Condensed Matter Physics (Theory); Electronic Structure theory, Ordering and Phase stability of disordered alloys, Vibrational properties of metallic alloys
14	Giri, Pravat Kumar	IIT Kanpur	Professor	Condensed Matter Physics (Experimental); Semiconductor nanostructures, Ion-solid interactions, Optoelectronic materials & devices, Nanotechnology
15	Kadolkar, Charudatt Y.	IIT Bombay	Associate Professor	Condensed Matter Physics (Theory); Magnetism, Defects in Ionic Materials, Group Theoretical approaches to Molecular Problems
16	Khare, Alika	IIT Kanpur	Professor	Laser and Photonics (Experiment and Theory)
17	Khijwania, Sunil K.	IIT Delhi	Professor	Fiber Optics (Experiment & Theory); Fiber & Integrated Optics, Photonic Crystal Fiber and Applications, Surface Plasmon Resonance based Sensors, Fiber Bragg Gratings and based Devices, Fiber Optic Sensor, Bio/Nano-Photonics
18	Kumar, Gagan	IIT, Delhi	Associate Professor	Terahertz Plasmonics and metamaterials, Guided Wave Devices, Ultrafast Spectroscopy
19	Kumar, Meduri Chakravartula	University of Hyderabad	Assistant Professor	High Energy Physics (Theory); Particle Physics, Higher order QCD corrections for LHC and Tevatron, Standard Model and beyond
20	Maity, Debaprasad	IACS, Kolkata	Assistant Professor	High Energy (Theory); Cosmology, Ads/CMT
21	Maiti, Uday Narayan	Jadavpur University, Kolkata	Assistant Professor	Graphene, carbon nanotube, Inorganic nanostructures, Energy storage and conversion, Nanomaterials based electronic devices
22	Majhi, Bibhas Ranjan	SNBNCBS, Kolkata	Assistant Professor	High Energy Physics (Theory); General theory of relativity, Field theory on curved spacetimes, Black holes, Cosmology, Thermodynamical aspects of gravity, Fluidgravity correspondence
23	Mishra, Pankaj Kumar	IIT Kanpur	Assistant Professor	Nonlinear Physics (Theory and Simulation): Quantum turbulence, Instabilities and turbulence in thermal convection and MHD, Supercooled liquid and glasses



Sl. No.	Name	PhD	Designation	Areas of Interest
24	Mishra, Tapan	IIA, Bangalore	Assistant Professor	Condensed Matter Physics (Theory); Quantum Phase Transitions, Many-body physics with strongly correlated quantum gases in optical lattice.
25	Nandi, Soumitra	University of Calcutta	Assistant Professor	High Energy Physics (Theory); Quark and Lepton Flavour Physics, Flavour Symmetries, CP violation, precision calculations in the SM, Special interest in QCD, Heavy Quark Effective Theory and Soft Collinear Effective Theory
26	Nandy, Malay Kumar	IIT Kanpur	Associate Professor	Theoretical Physics, Statistical Physics, Condensed Matter Physics, Turbulence Field Theory, Plasma Physics, Quantum Computation
27	Padmanabhan, Padma Kumar	IISc, Bangalore	Professor	Condensed matter (Theory); Atomistic Modeling and Simulation of Condensed States of Matter
28	Pal, Dilip	TIFR, Mumbai	Professor	Low Temperature Physics and Material Science (Experimental); Strongly Correlated Electron Systems, Vortex states in superconductors, Superconductivity and Magnetism
29	Pamu, Dobbidi	University of Hyderabad	Associate Professor	Condensed Matter Physics; High-k and low loss materials, Ferroelectrics Ceramics, Oxide thin films Nanomaterials
30	Pandey, Kanhaiya	IISc, Bangalore	Assistant Professor	Atomic, molecular and optical physics (Experiment); Laser cooling and trapping of atoms, BEC, Many body physics, artificial gauge field; Atomic coherence, EIT, magnetometry; Spectroscopy and frequency metrology of optical-atomic transitions
31	Poulose, Poulose	PRL, Ahmedabad	Professor	Theoretical Physics; High energy physics phenomenology, CP violation, Mass Generation mechanism, Low energy Gravity
32	Raha, Udit	University of Bonn, Germany	Assistant Professor	Quantum Chromodynamics and Nuclear Effective Field Theories
33	Ravi, Seenipandian	University of Hyderabad	Professor	Condensed Matter Physics (Experimental); Magnetism, Superconductivity, Low temperature Physics
34	Santra, Sitangshu Bikas	Bose Institute, Kolkata	Professor	Condensed Matter Physics (Theory); Condensed Matter Physics, Statistical Physics
35	Sarma, Amarendra Kumar	IIT Delhi	Professor	Nonlinear and Quantum Optics (Theory); Quantum Optomechanics, Optical Force, Cavity QED, Coherent control, Extreme Nonlinear Optics, Solitons, Nonlinear Fiber Optics, Nonlinear Dynamics, Plasmonics and Transformation Optics, Parity-time Symmetric Optics
36	Setlur, Girish Sampath	University of Illinois	Professor	Theoretical Physics; Optoelectronic properties of graphene, Nonchiral bosonization of fermions in one and higher dimensions
37	Sharma, Ashwini Kumar	IIT Kanpur	Associate Professor	Laser ablation, characterization, deposition and applications of nanostructures
38	Sil, Arunansu	University of Calcutta	Associate Professor	High Energy Physics & Cosmology (Theory); Phenomenology of Physics beyond the Standard Model, Supersymmetry and its breaking, Neutrino Physics, Matter-antimatter asymmetry of the Universe, Inflation

<b>Sl. No.</b>	<b>Name</b>	<b>PhD</b>	<b>Designation</b>	<b>Areas of Interest</b>
39	Srinivasan, Ananthakrishnan	IISc, Bangalore	Professor	Condensed Matter Physics (Experimental); Glasses and Disordered Materials, Thin Films, Metallic Alloys, Nanophase materials, Shape Memory Alloys
40	Thota, Subhash	IIT Kanpur	Associate Professor	Material Science and Engineering; Magnetic Nanostructures, Oxide Heterostructures, Superlattices, Magneto-caloric effects, Semimagnetic semiconductors, Bandgap Engineering

# CENTRE FOR ENERGY

<b>The Centre at a Glance</b>
<b>Year of Establishment:</b> 2004
<b>Academic Programmes Offered:</b> Doctor of Philosophy (PhD) Master of Science by Research [MS (R)]
<b>Total Faculty Strength: 2</b> <ul style="list-style-type: none"><li>• Assistant Professor: 2</li></ul> <b>Faculty Members Associated: 19</b>
<b>Total Student Strength: 114</b> PhD: 88 MS (R): 26
<b>New Students Joined in 2018-2019: 30</b> PhD: 16 MS (R): 14

**LABORATORY FACILITIES**

- i. Analytical Laboratory:** Centre for Energy houses a proper state of the art analytical set-up for quantitative as well as qualitative analysis of samples like biomass and biofuels. Some of the tests that can be performed here are -Characterization of fuels (calorific value, viscosity, flash point, fire point, cloud & pour point, cetane index), Proximate as well as ultimate analysis, Gas chromatograph analysis etc. The laboratory is equipped with Gas Chromatograph (GC), Thermo-Gravimetric Analyzer (TGA), High Performance Liquid Chromatograph (HPLC), Oxygen bomb calorimeter, Vacuum rotary evaporator, Lyophilizer etc. to name a few.
- ii. Biofuel Laboratory:** The Biofuel Laboratory is primarily focused in developing a sustainable process design for various biofuel productions and its bioconversion to various value added byproducts. The various types of facilities available in this laboratory are: Development of thermo-chemical and biochemical conversion routes to efficiently generate renewable biofuels (Bio-butanol, Bio-ethanol) from various feedstock types – rice straw, glycerol, lignocelluloses, Microalgae and Jatropha (Bio-diesel production); Ultra Sound enhanced conversion of sugars to fuels and chemicals; Glycerol bioconversion to various value added product (1, 3-Propanediol, DHA); Biohydrogen production. Development of facilities for studying the conversion of methane to methanol and other value added products are underway.
- iii. Fuel Cells Laboratory:** Study of fuel cells has assumed immense importance because fuel cells have many advantages - clean, high efficiency, silent / vibration-free, reliable, responsive, high quality power, unlimited runtime, independence from traditional infrastructure, use a variety of fuels, high power density, variable operating temperatures, complementary technologies, design flexibility etc. The laboratory is emphasizing on microbial and enzymatic fuel cell as an alternative source of energy and power generation. In this endeavor, researchers in the lab have actively worked in enzymatic fuel cell with alcohol oxidase in bionanode and laccase in biocathode. We are also carrying out work in PMFC i.e. photosynthetic microbial fuel cell using cyanobacteria and other photosynthetic bacteria in anode as a means of self-sustainable power generating profile for a clean, green energy initiative and technology for the future. Some significant achievements of this lab are identification of novel signal forms in biofuel cell for detection of alcohol and Cyanobacteria based microbial fuel cells for dye degradation and power production. Facilities available in this laboratory are: Fabrication and characterization of bioelectrodes for biofuelcell and biosensors applications, Facility for development and characterization of composite proton exchange membranes for fuel cell applications, Table top spin coating unit, Potentiostat for cyclic voltametric study, amperometric study and other electrochemical measurements.
- iv. X-ray Crystallography Laboratory:** This houses the facility for sample preparation for studies on structure of enzymes and their interaction with nanostructured materials for bio-electronic devices such as biofuel cell & other applications.
- v. Energy Efficiency Laboratory:** Some of the facilities available in this laboratory are Fuel testing equipment (calorific value and viscosity), equipment for proximate analysis, anemometer, pump testing setup, biomass gasification unit, flue gas analyzer, GC for biogas analysis, natural convection grain drier, fibre analysis system, Kjeldahl apparatus for nitrogen estimation, fume hood etc. A portion of the energy efficiency laboratory is located in the technology complex (TC) to house the noisy, rugged and robust facilities like biomass gasifier units, pump testing set-up etc.
- vi. Bio-energy Laboratory:** The Bioenergy laboratory is developing the necessary knowledge and range of technologies to improve biofuel crops with more efficient biofuel and bioenergy. The lab is also involved in development of micropropagation technology for commercial scale production of clonal (genetically identical) plant materials of high yielding biofuel plants. The laboratory is also planning to employ automation (using bioreactor) in micro-propagation to further reduce the cost of clonal plants. The main research activities in the area of bioenergy involves the following -Micropropagation and Genetic Engineering of Bio Fuel plants, Tissue culture of energy and bio-fuel crops, Bioprocess Engineering for yielding value added products, Genetic Engineering, Extraction of oil and other value added products, and Microalgae based biodiesel production.
- vii. Solar Energy Laboratory:** Centre for Energy also houses a solar energy lab for dedicated research towards development and testing of thin films for solar cells. Demonstration unit for efficient use of solar energy; characterization and study of the photovoltaic module; energy spectrum measuring facility; solar simulator; spectral response/ photoconductivity/ quantum; efficiency and other transport measurements in the presence of light of photovoltaic modules, materials and devices. The transport measurements are also possible as a function of temperature in the temperature range 250–450K. A facility for preparation of thin films by physical vapor deposition method is also available. The facility for the fabrication of thin film and hetero junction solar cells based amorphous and microcrystalline silicon is also available in collaboration with Physics department.
- viii. Process Development laboratory:** This laboratory has been developed at the Technology Complex (TC) to house the noisy, rugged and robust equipment. The major facilities in Process Development Lab are

Gasification units (both Downdraft & Fluidized Bed), IC Engines setup, Battery testing facility, 1KW Solar wind hybrid system, Pump testing setup, and Gas to Liquid conversion setup. Some of the equipment available are Gas analyzer, Pelletizer, Gas Chromatograph, Fibre analysis system, etc.

**ix. Biogas Development and Training Centre (BDTC):**

This is a continuous project funded by Ministry of New and Renewable Energy (MNRE), New Delhi (now under the New National Biogas and Organic Manure Programme, NNBOAMP, of MNRE), which has been functioning from the Centre for Energy for promotion of biogas technology in the NE states and West Bengal since 2006. It is involved with activities such as providing training programme for turnkey workers, providing construction cum maintenance training, organization of users training and awareness programme, survey of and providing technical support to biogas digesters installed in different states of the NE India and West Bengal by the Project Implementing Agencies (PIAs).

**x. Internal Combustion Engine Laboratory:** This laboratory is located at Technology Complex and houses facility for testing of various alternative fuels for modifying and developing petrol and diesel engines.

**xi. Energy Conversion Laboratory:** This laboratory is housed in Technology Complex wherein research facilities for fuel cell testing, energy storage setup (both battery and compressed air energy storage) and indoor solar testing setups are available.

**xii. Nanomaterial and Printed Electronics Laboratory:** The lab focusses on developing functional nanomaterials for energy storage and fabrication of printed electronic devices and sensors.

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

IR Thermal imaging camera (Make: Testo, Model: T885-2), Bearingless switched reluctance motor experimental setup, normal switched reluctance motor experimental set-up, LXI DATA acquisition switched with LAN + USB, PC software

(Make: Keysight, Model: 34972A), 20 channel armature multiplexer module for the DAS (Make: Keysight Model: 34901A), Workstation for power factory software, Smoke meter (Make: i3SYS, Bangalore, Model: EDM 1601), Table top spin coating unit (Make: Spektro, Model: Spin 10k), Gyrotory Sieve Shaker (Make: Sood Steel Industries, Model: HSN No. 9024), Thermocouple Calibrator (Make: Yokogawa, Model: CA 320), 1KW Solar wind hybrid system (Make: Vinayak Energy Tek), Electric power reciprocating Air compressor with operating pressure range (Model: TS 03 LB-12 TM 220L), Solar Simulator (Make: Sciencetech, Model: SL-50A-WS), Conductivity meter (Make: Mettler Toledo, Model: 30266888), HOMER software for optimizing the designs of Microgrid / Hybrid Power Management System.

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Solar Photovoltaics, Biosensor, Biofuel cells, Photovoltaics, Thin films, Semiconductor materials and devices, Biomass(microorganism/ waste/ plant materials) to biofuel/ bio-oil/ biodiesel /biogas/ power through physical/ chemical/ biological means, Clean coal technology, Methane to methanol by Bio-GTL route, Combustion and energy efficiency of systems, Sustainable biofuel, Bio-energy and Green Engineering, Bio-mass gasification, Wind Energy Conversion, Energy Conservation and Renewable Energy, Solar energy conversion, Microgrid Power Management system, Energy storage and Printed Electronic devices.

**MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT**

- (a) Novel signal forms in biofuel cell has been identified for detection of alcohol.
- (b) Cyanobacteria based anode fabricated with magnetic nanoparticles enhances dye degradation and power production in microbial fuel cells.
- (c) An algorithm for automatic designing and reconfiguration of Micro-turbine based Power generation and distribution system for oil and gas well regions of Assam.
- (d) Biomass based low-cost graphene synthesis and flexible functional Supercapacitor based on it.

**CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Dr. Pankaj Kalita	Waste to Energy Conversion	NIT Mizoram	28-29 Dec 2018	National
Dr. Lepakshi Barbora	Management Development Programme on Goods and Services Tax	NIFM, Faridabad	28-30 Nov 2018	National
Prof. P. Muthukumar	International Conference on Computational Methods for Thermal Problems (THERMACOMP – 2018).	IISc Bangalore	9-11 Jul 2018	International



Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Prof. P. Muthukumar	The 10th International Conference on Applied Energy (ICAE2018)	Hong Kong	22-25 Aug 2018	International
Prof. P. Muthukumar	12th International Conference on Thermal Engineering: Theory and Applications (ICTEA)	Gandhinagar	23-26 Feb 2019	International
Dr. Harsh Chaturvedi	Rashtriya Avishkar Yojna : Workshop on Drafting of Guidelines for Higher Education Institutes	NCERT Delhi	17-21 Dec 2018	National
Dr. Harsh Chaturvedi	Rashtriya Avishkar Yojna Drafting of Guidelines for Higher Education Institutes	NCERT New Delhi	21-24 Mar 2019	National
Dr. Harsh Chaturvedi	Indian Industry : Challenges and Opportunities, National Mineral Development Corporation (NMDC)	NMDC Khajurao MP	18 Nov 2018	National

#### INVITED LECTURES: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Dr. Pankaj Kalita	Management of Energy in Rural Sector	IIT Guwahati	Guwahati	30 Oct 2018
Dr. Pankaj Kalita	Renewable energy systems for remote applications	Mizoram Science Congress	Mizoram	5 Oct 2018
Dr. Pankaj Kalita	Bioenergy: Scopes and opportunities	Royal Global University	Guwahati	19 Jun 2018
Prof. Pratima Agarwal	C-Si/a-Si:H heterojunction solar cells: Role of a-Si:H layers	International conference of efficient solar power generation and energy harvesting: Industry Academia meet, Amity University	Noida	12-14 Feb 2019
Prof. Pratima Agarwal	C-Si based heterojunction Solar cells: An overview	International conference on Green and Efficient Energy Technology and Materials (GEET-AM-2019), Central University of Jharkhand	Ranchi	8 Mar 2019
Prof. Pranab Goswami	Bio-fuelcell: An Emerging Green Technology for Biosensors and Bioremediation Applications	Chemical Engineering Department, Assam Engineering College	Guwahati, Assam, India	18 Dec 2018
Prof. Pranab Goswami	Bio-fuelcell	Department of Electronics and Communication Engineering, Tezpur University	Tezpur, Assam, India	14 Dec 2018
Prof. Vijayanand S. Moholkar	Scientific paper writing and Project proposal writing	Department of Environmental Sciences and Teaching Learning Centre, Tezpur University	Tezpur, Assam, India	2 Feb 2019
Prof. Vijayanand S. Moholkar	Xylitol production from sugarcane bagasse: process optimisation and intensification	ACES 2019 Conference organized by Department of Chemical Engineering, Indian Institute of Science Education and Research Bhopal (IISER Bhopal)	Bhopal, Madhya Pradesh, India	8 Mar 2019
Prof. Vijayanand S. Moholkar	Ultrasound assisted biodiesel synthesis from mixed non-edible oils: Mechanistic analysis	NIT Warangal	Warangal, Telangana, India	13 Apr 2019

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. Vijayanand S. Moholkar	Ultrasound assisted biodiesel synthesis from mixed non-edible oils: Mechanistic analysis	NIT Jaipur	Jaipur, Rajasthan, India	13 Jun 2018
Prof. P. Muthukumar	Green Hydrogen – A future Energy Career	PDPD	Gandhinagar	26 Feb 2019
Prof. P. Muthukumar	Development and testing of large scale metal hydride based hydrogen storage device for automobile and stationary applications	IOCL	New Delhi	7 Dec 2018
Prof. P. Muthukumar	Green Energy Technologies: A summary of Research Activates on Hydrogen and Thermal Energy Storage Systems carried out at IIT Guwahati	Texas A&M University, USA	USA	27 Apr 2018
Prof. P. Muthukumar	Thermal Energy Storage Systems for Concentrated Solar Thermal Power Plant Applications	Wichita state University, USA	USA	24 Apr 2018
Dr. Harsh Chaturvedi	National Power Training Institute (NPTI) Energy Storage systems	NPTI	Guwahati	03-04 Dec 2018
Dr. Harsh Chaturvedi	Nanoscience : from Lab to Industry Institute Lecture : Indian Institute of Nanoscience and Technology (INST)	INST	Mohali	16 Oct 2018
Dr. Harsh Chaturvedi	Printed Electronics and Biosensors Institute of Microbial Technology (IMTECH)	IMTECH	Chandigarh	21 Oct 2018

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES**

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Y. Itaya	Gifu University	GIAN course on Advances in Combustion and Gasification Technologies	29 Oct – 2 Nov 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
Dr. Pankaj Kalita	GIAN course on Advances in Combustion and Gasification Technologies	MHRD	29 Oct – 2 Nov 2018	International	24
Dr. Pankaj Kalita	Waste to Energy Conversion	TEQIP-III	28 -29 Dec 2018	National	49
Dr. Harsh Chaturvedi	Vigyan Jyoti Workshop	DBT	30 Aug - 19 Sep 2019	National	32
Dr. Harsh Chaturvedi	Navodaya Vidyalaya Regional Science Congress	Navodaya Vidyalaya	2-6 Dec 2018	National	160
Dr. Harsh Chaturvedi	AESDII – Eastern Conclave	UNESCO-TISS	4-6 Dec 2018	National	80

**PATENTS**

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.
1	Muthukumar P, Mishra SC, G.S. Sinha, M Sharma, N Mishra, P. Mahanta	Self-Aspirated Pressurized Kerosene Cooking Stove with a Porous Radiant Burner	31 Oct 2016	201631037245
2	Muthukumar P, G.S. Sinha, L K Kaushik M Sharma, N Shanmuga Priya, S Kanagaraj	Self-Aspirated Pressurized Kerosene Cooking Stove with a Porous Radiant Burner with Nanoparticles blended	27 Jan 2018	201831003156

**AWARDS AND HONOURS**

- Prof. V. S. Moholkar has been elected as Fellow of International Society for Energy, Environment and Sustainability (FISEES), IIT Roorkee which was awarded in 3rd International Conference on Sustainable Energy and Environmental Challenges (SEEC), IIT Roorkee, 18-21, December 2018).

**STUDENTS' ACHIEVEMENTS**

- Bhaskara Advanced Solar Energy Fellowship by Department of Science and Technology, Govt. of India to Mr. Dudul Das, RS, Energy.
- Best Poster Presentation Award to Niharika Gogoi and Pratima Agarwal, for the research work "Study of Electrical Behaviour of GO-Silicon Heterojunction", presented on Research Conclave 2019, Indian Institute of Technology, Guwahati, India, 14-17 March, 2019.
- Second Prize in poster presentation to Pilik Basumatary, Pratima Agarwal for the research work "MAPbI<sub>3</sub> perovskite solar cells using ITO as an intermediate layer", Research Conclave 2019, Indian Institute of Technology, Guwahati, India, 14-17 March, 2019.
- Ankit Singh Secured the 1st position in the oral presentation for his paper : Kaushik Ghosh, Sushil Kumar, Ashwini Agrawal, Manjeet Jassal, Pranab Goswami, Harsh Chaturvedi\*, " Flexible Supercapacitor for wearable energy storage", presented in the Research Conclave 2019 organized by IIT Guwahati during 14-17 March.
- The research work of PhD student Sharbani Kaushik (Roll. no. 136151005) received special highlight in "THE HINDU" newspaper dated 26/05/2018 for the research work on portable, selective alcohol biosensor published in: Sharbani Kaushik, Pranab Goswami\*, Bacterial membrane depolarization-linked fuel cell potential burst as signal for selective detection of alcohol, ACS applied materials & interfaces, 10 (22), 18630–18640, DOI: 10.1021/acsami.8b01838 (2018). The work has also been highlighted in nature INDIA as Paper-based sensor detects alcohol.
- The research work of Mrinal Kumar Sarma, Mohd Golam Abdul Quadir, Rupam Bhaduri, Sharbani Kaushik, Pranab Goswami\* "Composite polymer coated magnetic nanoparticles based anode enhances dye degradation and power production in microbial fuel cells." Biosensors and Bioelectronics. 119, 94-102 (2018), Doi 10.1016/j.bios.2018.07.065 (2018) has been highlighted in nature INDIA as Microbial fuel cell degrades toxic dye, generates power.
- PhD student Sharbani Kaushik (Roll. no. Roll No. 136151005) received: First prize in poster presentation "Paper based photosynthetic microbial fuel cell for sensing alcohol" in the ICAR-NISTADS Northeast India Energy Conclave 2018 held on 6th-7th June 2018 at Cotton University Guwahati, Assam, organized by Interdisciplinary Climate research centre, Cotton University and CSIR-NISTADS, Delhi.
- Mrinal Bhowmik, PhD student from center for energy received best paper award at International Conference on Computational Methods for Thermal Problems (THERMACOMP – 2018), 9-11 July, 2018.
- Shyamali Sarma received the Young researcher award in BioSD conference in IICT Hyderabad, 22-25, November 2018.
- Philip Bernstein Sainik won the Best Oral Presentation Award in 3rd International Conference on Sustainable Energy and Environmental Challenges (SEEC) with a cash award of 100 EURO, 18-21, December 2018 at IIT Roorkee.
- The paper "Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds" by Arup Jyoti Borah, Kuldeep Roy, Arun Goyal and Vijayanand S Moholkar captured the front cover of Elsevier journal Bioresource Technology (Vol. 272).
- Brijesh Meena, Jeet Brahma and Harsh Chaturvedi won the best model award for "Heating Jackets" presented in the Research Conclave 2019 organized by IIT Guwahati during 14-17 March.
- Chandrama Kalita and Harsh Chaturvedi won the Second Award in the poster presentation (External) "Copper

oxide based water purification system” presented in the Research Conclave 2019 organized by IIT Guwahati during 14-17 March.

**SPECIAL MENTION**

- Dr. Ankita Gaur has recently joined Centre for Energy as a Ramanujan Fellow. Ramanujan Fellowship is a very prestigious award by Science and Engineering Research Board (Department of Science and Technology, Govt. of India) to outstanding scientists returning to India from abroad. Dr. Gaur worked as a Research scientist in “LOCIE” UMR CNRS 5271, National Solar Energy Centre Le Bourget du lac, France and Centre for Energy and Thermal of Lyon (CETHIL) UMR CNRS 5008, National Institute of Applied Science, Lyon, France since 2015. She worked on integrated photovoltaic with phase

change materials, photovoltaic thermal green house and absorption machine, organic and inorganic solar cells, fabrication and efficiency enhancement of perovskite solar cells etc. Her current area of interest is Bio-inspired multi regulations (capture, collection and energy storage) through numerical and experimental studies based on the analysis of the physical mechanisms to make the best use of climatic conditions combined with the development of active composite materials in order to obtain Nearly Zero-Energy Buildings (NZEBs).

- Professor Pratima Agarwal chaired two sessions in the “International conference of efficient solar power generation and energy harvesting: Industry Academia meet,” Amity University, Noida, Feb 12-14, 2019.
- Dr. Harsh Chaturvedi is serving as a technical expert member of the Technical Evaluation Subcommittee for Currency notes by Reserve Bank of India (RBI).

**CORE FACULTY MEMBERS**

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Chaturvedi, H.	University of North Carolina (UNCC) at Charlotte, USA	Assistant Professor	Directed assembly of hybrid functional nanomaterials, lithography fabrication, prototype development of electro optic wearable devices, biosensors, Flexible electronics, solar cells
2	Kalita, P.	IIT Guwahati	Assistant Professor	Clean Energy Technologies, Solar Thermal, Energy Storage

**FACULTY MEMBERS ASSOCIATED WITH THE CENTRE**

Sl. No.	Name	Designation and Department
1	Agarwal, P.	Professor, Department of Physics
2	Das, D.	Associate Professor, Department of Biosciences and Bioengineering
3	De, Mahuya	Associate Professor, Department of Chemical Engineering
4	Goyal A.	Professor, Department of Biosciences and Bioengineering
5	Goswami, P.	Professor (HAG), Department of Biosciences and Bioengineering
6	Goud, V. V.	Associate Professor, Department of Chemical Engineering
7	Kalita, K.	Associate Professor, Department of Mechanical Engineering
8	Kulkarni, V.	Associate Professor, Department of Mechanical Engineering
9	Mahanta, P.	Professor, Department of Mechanical Engineering
10	Mohanty, K.	Professor, Department of Chemical Engineering
11	Moholkar, Vijay S (Head of the Centre)	Professor, Department of Chemical Engineering
12	Muthukumar, P.	Professor, Department of Mechanical Engineering
13	Nayak, S. K.	Associate Professor, Department of Electronics and Electrical Engineering
14	Nemade, H. B.	Professor, Department of Electronics and Electrical Engineering
15	Saha, U. K.	Professor, Department of Mechanical Engineering

<b>Sl. No.</b>	<b>Name</b>	<b>Designation and Department</b>
16	Sahoo, N.	Professor, Department of Mechanical Engineering
17	Sahoo, L.	Professor, Department of Biosciences and Bioengineering
18	Senthilmurugan, S.	Associate Professor, Department of Chemical Engineering
19	Uppaluri, R. V. S.	Professor, Department of Chemical Engineering



# CENTRE FOR THE ENVIRONMENT

<b>The Centre at a Glance</b>
<b>Year of Establishment:</b> 2004
<b>Academic Programmes Offered:</b> Doctor of Philosophy (PhD)
<b>Faculty Members Associated:</b> 40
<b>Total Student Strength:</b> 60 PhD: 60
<b>New Students Joined in 2018-2019:</b> 12 PhD: 12

**LABORATORY FACILITIES**

- Research laboratory – I: (Location: first floor, I block) It is used as workplace by research students to carry out routine laboratory experiments.
- Research Laboratory – II: (Location: second floor, I block) It is used as workplace by research students to carry out routine laboratory experiments.
- Analytical laboratory: (Location: Research lab-II, second floor, I block) It is equipped with sophisticated equipment essential for environmental research.
- Computational laboratory- (Location: Research lab-II, second floor, I block). This facility is accessible to the students for their computer related work. At present 20 computers are available for the users.
- Institutional Biotech Hub Laboratory including mammalian cell culture laboratory and silk rearing and culture facility.

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

## Equipment and Facilities

- Total Organic Carbon Analyzer
- Atomic absorption Spectrophotometer
- Logitech Group conference camera, microphone and LG LED TV, 55 inch
- -86°C Deep Freezer, -20°C Horizontal freeze, Vertical Showcase Cooler
- Ion meter & DO meter, COD digester

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

- Water and Wastewater Treatment
- Solid Waste Management and Recycling
- Environmental Bioremediation/ Environmental Biotechnology
  - Bio-sorption & Bioremediation of heavy metals
  - Bio-filtration for treating Waste Gases and Green Solvents
  - Removal of Toxic and Recalcitrant Compounds
  - Biodegradation/Bio-detoxification of Toxic Wastes
- Environmental Genomics and Proteomics
- Green Chemistry
- Greenhouse gas Capture and Storage.
- Bio-fuels
- Air pollution- Dispersion, Control & Modeling
- Waste Immobilization
- Soil-water-contaminant Interaction
- Contaminant Transport and Retention in Porous Media
- Environmental History
- Environmental Economics
- Green Design
- Global Warming and Climate Modeling
- Seri-biotechnology and Seri-informatics and other related areas

**CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Prof. Utpal Bora	Tailoring physical properties of materials for nerve regeneration	CNRS & UNIVERSITÉ PARIS-SUD, Paris, France	22-24 Oct 2018	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. Utpal Bora	Aptamers in India	University of Bordeaux, Bordeaux, France	Bordeaux, France	17-19 Oct 2018
Prof. Utpal Bora	Evolution of Butterfly and Moths with Angiosperms	Max Planck Institute of Evolutionary Biology	Plon, Germany	26-29 Oct 2018
Prof. Utpal Bora	Climate Change: Challenges, Opportunities, Adaptability and Sustainability	IIT Madras	Madras	2 Mar 2019
Prof. Utpal Bora	Modern Biology in Homeopathy	NEIAH, Shillong	Shillong	10 Apr 2018
Prof. Utpal Bora	Insect Genomics and Translational Research	Sikkim University	Gangtok	28-29 May 2018

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES**

Name	Name of Inst./Univ./Org.	Purpose/Name of Lecture	Date
Dr. Sachidulal Ray-chaudhuri	Senior Principal Scientist ICAR-Indian Institute of Water Management, Bhubaneswar	Comprehensive management with treatment and reuse options for urban wastewater	2 Jun 2018
Dr. Amarjyoti Kashyap	President, ENVIRON, Guwahati, Assam, India	Solid Waste Resource Management & Citizens Responsibility to achieve the real meaning of Swachh Bharat	2 Jun 2018
Dr. Diganta Barman	Scientist / Engineer "SF" NESAC (ISRO) Shillong, India	Applications of space based technologies in flood management - An overview	2 Jun 2018
Dr. Rajeev Basumatary	Assistant Professor, Department of Zoology, D.R. College, Golaghat	Turtles and Tortoises in Assam and their conservation	2 Jun 2018
Dr. Smarajit Ojah	Assistant Professor, Department of Geography, Nowgong Girls' College	Laokhowa and Burhachapori: A story of two fringes and a landscape	2 Jun 2018
Dr. Kuladip Sarma	DS Kothari Post-Doctoral Fellow, Department of Zoology, Gauhati University	Forest-Human Interface and Interventions	2 Jun 2018
Dr. (Mrs.) Mausumi Raychaudhuri	Senior Principal Scientist, ICAR-Indian Institute of Water Management, Bhubaneswar	-	2 Jun 2018
Dr. Sanat K. Saha	Eminent scientist, West Bengal State council of higher education	Energy and environment wellness- an Indian perspective	16 Apr 2019
Dr. Mike German	Lehigh university, USA	Evidence of economically sustainable village scale microenterprises for arsenic remediation in developing countries	31 Jan 2019
Prof. Akio Ebihara	Gifu University, Gifu	Lab Visit	22 Sep 2018
Dr. S.S. Sandhu, Additional Secretary	Ministry of Human Resource Development, Gol	Lab Visit	30 Nov 2018
Shri Kailash Soni	Member of Parliament, Rajya Sabha	Lab Visit	16 Aug 2018
Ms. Juri Gogoi	United Health Group, US	Lab Visit	29 Nov 2018

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
Dr. Deepmoni Deka Barman	Advances in Environmental Protection & Sustainability 2018	NEC, Shillong	2 Jun 2018	National	200
Prof. Mihir Purkait and Dr. Lal Mohan Kundu	Cleaner Technologies & Waste Minimization for Prevention of Industrial Pollution and Four R's - Reduce, Reuse, Recycle and Recover - case studies	CPCB, New Delhi	24-26 Oct 2018	National	30
Dr. Lalit M. Pandey and Prof. Animes K. Golder	One day workshop on Recent Advances on Bio-inspired Nanomaterials for Environmental Applications	DST-UKIERI	18 Dec 2018	National	50

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
Prof. Chandan Das, Professor, Prof. Mihir Kumar Purkait	One day symposium Advances in Separation Techniques	TEQIP-III	15 Mar 2019	National	30
Dr. Deepmoni Deka	One day workshop on Polluted river stretches-preparation of action plan (for North east states) under NHP project	CPCB, New Delhi	25 Feb 2019	National	30
Prof. Utpal Bora	Biotechnology Orientation Program 2019	DBT	16 Nov 2018	National	89

## PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.
1	Deepti, M K Purkait, A Sinha, P. Biswas, S Sarkar	Separation of ions from rejected stream of industrial wastewater	27 Nov 2018	201831044754
2	A Sinha, P. Biswas, S Sarkar, M Changmai, M K Purkait	A ceramic membrane, A process of preparation and application thereof	5 Nov 2018	201831041890

## AWARDS AND HONOURS

Prof M K Purkait has got Herdillia Award for Excellence in Basic Research in Chemical Engineering for the year 2018 from Indian Institute of Chemical Engineers (IICChE).

## STUDENTS' ACHIEVEMENTS

- Debojit Bhattacharjee got the Best Oral Presentation award in Research Conclave 2019 at IIT Guwahati for Garlic-derived Organosulfur Compounds and Analogues: Synthesis and Anti-cancer Activities on 17.03.2019.
- Aquib Jawed got the Best Poster Presentation award in Third International Conference on Sustainable energy and Environmental challenges at IIT Roorkee for Synthesis of nano-structured Al-doped ZnO for effective removal of heavy metals on 21-12-2018.
- Arnab Ghosh got the Best Oral Presentation award in 2nd International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE-2019) at NIT Warangal for Green synthesis of tin metal organic framework using waste PET bottles as source of organic linker for efficient fluoride removal on 16.02.19.
- Tanushree Paul got the Best Poster Presentation award for Bioreactor strategies for refinery wastewater treatment using Rhodococcus opacus and bio-oil production by hydrothermal liquefaction' at National Institute of Technology, Rourkela, India on 07.12.2018.
- Tanushree Paul got the Best Poster Presentation award in Research Conclave at IIT Guwahati for Refinery wastewater treatment using the oleaginous Rhodococcus opacus and bio-oil production from the lipid rich bacterial biomass by hydrothermal liquefaction on 17.03.2019
- Paulomi Bose got the Best Poster Presentation award in Research Conclave at IIT Guwahati for Metal Salen complex catalyzed electrochemical reduction of CO<sub>2</sub> to value added products on 7.03.2019.
- Jyoti Kainthola got the B-ACER Award for Fungal pretreatment and associated kinetics of rice straw hydrolysis to accelerate methane yield from anaerobic digestion from DBT, Gol with Six month research internship in University of Utah, USA from 17-08-18 to 16-02-19.
- Himali Horo got the Best Poster Presentation award in Research Conclave 2019 at IIT Guwahati for Development of Chitosan conjugated prodrug nano-carrier for photo-mediated delivery of antitumor drug 5-Fluorouracil on 17.03.2019.

## SPECIAL MENTION

### Workshop on Advances in Environmental Protection & Sustainability (AEPS 2018) - 2 Jun 2018:

A Workshop on "Advances in Environmental Protection & Sustainability" (AEPS 2018) was successfully held at the conference centre of IIT Guwahati on 2nd June, 2018. The workshop was hosted and organized by Centre for the Environment, Indian Institute of Technology Guwahati. This was the 5th edition of the event celebrated on the occasion of environment day. The ultimate goal of the workshop was to address the challenges and opportunities of environmental issues in recent times such as environment

pollution; waste water treatment and disposal; solid waste management; flood plain management; forest and wildlife conservation and human wildlife conflicts etc. with special focus on NE India. Thematic experts from different parts of the country, along with young researchers, students participated to present their work in the workshop. At the very onset, convener of the conference Dr. Deepmoni Deka welcomed all the delegates and briefed about the objective of the workshop and overview of the technical sessions. Honorable Dean, Research and Development Prof. Gopal Das inaugurated the workshop and released the abstract book. Chief guest, Dr. Sachidulal Raychaudhuri, Senior Principal Scientist, ICAR-Indian Institute of Water Management, Bhubaneswar gave the plenary lecture on "Comprehensive management with treatment and reuse options for urban wastewater". Head in-charge of Centre for the Environment and Chairman of the Symposium, Prof Subhendu Sekhar Bagh highlighted the current research activities of the Centre.

The workshop was organized into 01 technical sessions which included 06 invited lectures, followed by poster and model competition of two different categories (school level and graduate upto doctorate level). Around 150 participants comprising school students, research scholars and faculties from Eastern and North eastern India registered in the workshop. About 50 posters and 10 models were displayed for competition. Two posters and models from each category were selected from this competition and awarded. A conference proceeding consisting of 32 abstracts was also published and circulated among all the participants. Eminent scientist from all over India- Dr. (Mrs.) Moushumi Raychaudhuri, Senior principal scientist, ICAR-IIWM, Bhubaneswar; Dr. Amarjyoti Kashyap, ENVIRON, Guwahati; Dr. Diganta Barman, Scientist/Engineer "SF" NESAC (ISRO) Shillong, India; Dr. Rajeev Basumatary, D.R.College, Golaghat; Dr. Smarajit Ojha, Nowgong Girls College; Dr. Kuladip Sarma, Gauhati University were some of the notable speakers in the workshop.

The workshop was funded by North Eastern Council, Shillong. Prof. Mohammad Jawed was guest of honor in the valedictory function and gave away the award of certificate and prize to best two poster and model presentations. The organizing secretary of the workshop Mr. Partha Protim Bakal summarized the meeting with the formal "vote of

thanks" to all the dignitaries, participants and the people associated (Mr. Kaustabh Rakshit, Mr.Rajiv Gogoi and all the centre's research scholars) in the success of the event. In a nutshell, this one-day workshop was a grand success providing a platform for interaction with fellow researchers on environment based research:

#### Training Programmes:

Centre for the Environment, IIT Guwahati and Central Pollution Control Board had jointly organized two training programs for officials of State Pollution Control Board & Water Resource Department from different states of NE India; Central Water Commission representatives and Directorate of Urban Affairs representatives as well as scientists, academicians and teachers across the country.

The first workshop entitled Cleaner Technologies & Waste Minimization for Prevention of Industrial Pollution and Four R's - Reduce, Reuse, Recycle and Recover - case studies"

during 24th - 26th October, 2018 discussed on recent trends, technologies and methods that are adopted to bypass production of large amount of industrial pollutants and effluents, bio-remediation coupled with chemical engineering to convert hazardous effluents into non-toxic materials before disposal, minimization of the use of carcinogenic chemicals and petroleum byproducts through greener technologies covered in this course.

The second workshop entitled Polluted River Stretches-Preparation of Action Plan (For North East States)" under National Hydrology Project (NHP) on 25th February, 2019 gave an overview on different priority wise details of polluted river stretches of NE India and its associated problems. A panel discussion was also held where invited experts suggested few approaches such as seasonal monitoring of river quality, standardizing water quality parameters, regular checking of pollution indicators of river stretches and mapping of water pollution that can be included in the action plan for its implementation. Around 30 participants registered for both the training programmes. Eminent speakers from IIT Guwahati, Gauhati university, ICAR-IIWM, Odisha, TATA steel, Numaligarh refinery Ltd and PHED, Assam were invited. The programme consisted of invited lectures as well as hands on training. The training was concluded by valedictory function attended by Dean R&D, IIT Guwahati with formal vote of thanks.

#### FACULTY MEMBERS ASSOCIATED WITH THE CENTRE

SI. No.	Name	Designation and Department
1	Bag, S. Subhendu	Associate Professor, Department of Chemistry
2	Barua, Anamika	Associate Professor, Department of Humanities and Social Sciences
3	Bhabak, Pada Krishna	Assistant Professor, Department of Chemistry
4	Bora, Utpal	Professor, Department of Biosciences and Bioengineering
5	Chakraborty, Saswati	Professor, Department of Civil Engineering
6	Chaturvedi, Rakhi	Professor, Department of Biosciences and Bioengineering



Sl. No.	Name	Designation and Department
7	Das, Chandan	Associate Professor, Department of Chemical Engineering
8	Das, Gopal	Professor, Department of Chemistry
9	Dasu, V. Venkata	Professor, Department of Biosciences and Bioengineering
10	Dutta, M. K.	Professor, Department of Biosciences and Bioengineering
11	Dutta Subashisa	Professor, Department of Civil Engineering
12	Ghosh, Pranab Kumar	Professor, Department of Civil Engineering
13	Ghosal, Alope Kumar	Professor, Department of Chemical Engineering
14	Gokhale, Sharad	Professor, Department of Civil Engineering
15	Golder, K. Animes	Associate Professor, Department of Chemical Engineering
16	Goud, Vaibhav V.	Associate Professor, Department of Chemical Engineering
17	Goyal, Arun	Professor, Department of Biosciences and Bioengineering
18	Jawed, Mohammad	Professor, Department of Civil Engineering
19	Kalamdhad, Ajay	Associate Professor, Department of Civil Engineering
20	Kundu, Lal Mohan	Associate Professor, Department of Chemistry
21	Mahanta, Chandan	Professor, Department of Civil Engineering
22	Mandal, Bishnupada	Professor, Department of Chemical Engineering
23	Mandal, Tapas Kumar	Associate Professor, Department of Chemical Engineering
24	Mohanty, Kaustubha	Professor, Department of Chemical Engineering
25	Moholkar S. Vijay	Professor, Department of Chemical Engineering
26	Mukherjee, Chandan	Associate Professor, Department of Chemistry
27	Pakshirajan, Kannan	Professor, Department of Biosciences and Bioengineering
28	Pandey, M. Lalit	Assistant Professor, Department of Biosciences and Bioengineering
29	Patra, Sanjukta	Associate Professor, Department of Biosciences and Bioengineering
30	Patel, K. Bhisma	Professor, Department of Chemistry
31	Pugazhenth. G	Professor, Department of Chemical Engineering
32	Purkait, M. K. (Head of the Centre)	Professor, Department of Chemical Engineering
33	Ramesh A.	Professor, Department of Biosciences and Bioengineering
34	Ray, Manabendra	Professor, Department of Chemistry
35	Saini K. Gurvinder	Professor, Department of Biosciences and Bioengineering
36	Sarma, Arup Kumar	Professor, Department of Civil Engineering
37	Sastri, V. Chivukula	Associate Professor, Department of Chemistry
38	Senthilmurugan, S	Assistant professor, Department of Chemical Engineering
39	Sivaprakasam, K. Senthil	Assistant professor, Department of Biosciences and Bioengineering
40	Tamal, Banerjee	Associate Professor, Department of Chemical Engineering
41	Tamuli, Ranjan	Associate Professor, Department of Biosciences and Bioengineering
42	Tiwari, Pankaj	Assistant Professor, Department of Chemical Engineering
43	Uppaluri, Ramagopal	Professor, Department of Chemical Engineering

# CENTRE FOR LINGUISTIC SCIENCE AND TECHNOLOGY

<b>The Centre at a Glance</b>
<b>Year of Establishment:</b> 2016
<b>Academic Programmes Offered:</b> Doctor of Philosophy (PhD)
<b>Total Faculty Strength: 1</b> Visiting Faculty: 1 <b>Faculty Members Associated: 19</b>
<b>Total Student Strength: 17</b> PhD: 17
<b>New Students Joined in 2018-2019: 6</b> PhD: 6

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT:**

CLST is a multidisciplinary center aimed at research and development in the fields of language analysis language technology development. The center pays special attention to the various languages spoken in North East India and aims to build itself as a resource center for the language of the area in general. The center is currently hosting and executing a few projects that have a truly interdisciplinary team of investigators.

**MAJOR INITIATIVES UNDERTAKEN**

- Language Identification Systems for the North Eastern languages
- Limited vocabulary automatic speech recognition system for Mizo
- Sentiment and text analytics modules for North Eastern languages
- Keyword spotting and speech recognition in Nagamese and Manipuri

**CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIUM ATTENDED**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Samudravijaya K	Oriental COCODA	Miyazaki, Japan	7 May 2018	International
Samudravijaya K	Interspeech	Hyderabad	2 Sep 2018	International
Samudravijaya K	6th Workshop on Spoken Language Technologies for Under-resourced Languages	Noida, India	29 Aug 2018	National
Samudravijaya K	WESPAC	New Delhi	11 Nov 2018	National
Samudravijaya K	Winter School on Speech and Audio Processing	Thiruvananthapuram	29 Jan 2019	National
Samudravijaya K	National Conference on Communications	Bengaluru	20 Feb 2019	National

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Samudravijaya K	Automatic Speech Recognition	NPOL, Kochi	Kochi	24 Jan 2019
Samudravijaya K	Speech Corpora and ASR Technology	CDAC, Noida	Noida, India	8 Jan 2019

**SEMINARS/WORKSHOPS/CONFERENCES /SHORT-TERM COURSES ORGANISED**

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
Bidisha Som	The 5th National Conference of Cognitive Science	-	10-12 Oct 2018	National	-

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANIZATIONS/INVITED LECTURES**

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Ganesh Sivaramana	Pindrop, Atlanta, USA	Articulatory representations to address acoustic variability in speech	11/09/18

**FACULTY MEMBERS ASSOCIATED WITH THE CENTRE**

<b>Sl. No.</b>	<b>Name</b>	<b>Designation and Department</b>
1	Bhattacharya, Samit	Associate Professor, Department of Computer Science and Engineering
2	Dandapat, S.	Professor, Department of Electronics and Electrical Engineering
3	Das, Pradip Kumar	Professor, Department of Computer Science and Engineering
4	Guha, Prithvijit	Assistant Professor, Department of Electronics and Electrical Engineering
5	Gupta, Navin	Assistant Professor, Department of Biosciences and Bioengineering
6	Hazarika, S. M.	Professor, Department of Mechanical Engineering
7	Kumar, Udaya	Associate Professor, Department of Design
8	Mahanta, Shakuntala	Associate Professor, Department of Biosciences and Bioengineering
9	Monga, Charu	Assitant Professor, Department of Design
10	Nandi, Sukumar (Head of the Centre)	Professor, Department of Computer Science and Engineering
11	Prasanna, S. R. Mahadeva	Professor, Department of Electronics and Electrical Engineering
12	Saikia, Arupjyoti	Professor, Department of Humanities and Social Sciences
13	Samudravijaya, K.	Visiting Professor, Centre for Linguistic Science and Technology
14	Sarmah, Priyankoo	Associate Professor, Department of Humanities and Social Sciences
15	Sharma, Sukanya	Associate Professor, Department of Humanities and Social Sciences
16	Shrivastava, Abhishek	Assitant Professor, Department of Design
17	Singh, Sanasam Ranbir	Associate Professor, Department of Computer Science and Engineering
18	Sinha, Rohit	Professor, Department of Electronics and Electrical Engineering
19	Som, Bidish	Associate Professor, Department of Humanities and Social Sciences
20	Sundaram, Suresh	Assistant Professor, Department of Electronics and Electrical Engineering

# CENTRE FOR NANOTECHNOLOGY

## The Centre at a Glance

**Year of Establishment:** 2004

**Academic Programmes Offered:**

Doctor of Philosophy (PhD)

**Faculty Members Associated:** 18

**Total Student Strength:** 42

PhD: 42

**New Students Joined in 2018-2019:** 6

PhD: 6



**LABORATORY FACILITIES**

The centre has a total of 15 numbers of laboratories, out of which two have been set up in the CIF. The basic instruments/equipment facilities available in each laboratory are listed below:

**1. Material Res. Lab**

- i. Laminar air flow - 01
- ii. Ultra-low temperature freezer (-80 °C) – 01
- iii. UV spectrophotometer – 02
- iv. Microwave oven – 01
- v. Agarose gel documentation system, Gel logic – 01
- vi. Regulated DC Power Supply – 01
- vii. Electromagnet- 01
- viii. Digital Gauss meter – 01
- ix. Digital Weighing balance- 01
- x. Inverted Microscope – 01
- xi. Nanovoltmeter- 01
- xii. Source Meter- 01
- xiii. Refrigerated Centrifuge – 01
- xiv. Magnetic stirrer – 01

**2. XRD Lab**

- i. Bruker D8 Advance X-Ray Diffractometer - 01
- ii. Ultrasonic Processor - 01
- iii. Ultrasonic Bath - 02
- iv. Bench Top Incubator cum orbital Shaker - 01
- v. Magnetic stirrer with hot plate digital - 04
- vi. Digital pH Meter - 01
- vii. Refrigerated Centrifuge - 01
- viii. Analytical Balance – 02

**3. TEM Lab**

- i. Transmission electron microscope Jeol – 01

**4. Optoelectronic Device Fabrication Lab**

This lab has been set up in the CIF and it deals with the fabrication of  $\pi$ -conjugated organic molecules (monomers, oligomers and polymers) for various applications like organic light emitting diodes, photovoltaic devices, thin film transistors, memory devices, biomedical devices and sensors.

**5. Nanobiotech Lab**

- i. BD FACS Calibur - 01
- ii. UV-Vis Spectrophotometer - 01
- iii. Fluorescence spectrophotometer - 01
- iv. FluoroLog-3 - 01
- v. Water purification system Milli Q / Elix - 01
- vi. Dynamic Light Scattering (DLS), Malvern Zetasizer Nano - 01
- vii. Micro plate reader - 01
- viii. Real Time PCR (Applied Bio system) - 01
- ix. Vortex - 01
- x. Deep Freeze (-20 °C) - 01

- xi. Shaking Incubator - 01
- xii. Rocker - 01
- xiii. Refrigerator – 01

**6. Cell culture Lab**

- i. CO2 incubator - 01
- ii. Epi fluorescence microscope (Nikon eclipse) - 01
- iii. Water bath - 01
- iv. Digital Weighing Balance - 01
- v. Horizontal Laminar hood – 01

**7. Synthesis Lab**

- i. Horizontal Laminar Air Flow Work Station - 01
- ii. Hot air oven - 01
- iii. Refrigerated Bath Circulator - 01
- iv. Portable autoclave - 02
- v. Digital Weighing Balance - 03
- vi. pH meter - 03
- vii. Microwave oven - 01
- viii. Cooling centrifuge (Sigma) - 02
- ix. Agarose gel electrophoresis set up - 01
- x. Rotary Vacuum - 01
- xi. UV Transilluminator - 01
- xii. Magnetic stirrer - 05
- xiii. Mini water bath - 01
- xiv. Dessicator - 03
- xv. Spin coater - 02
- xvi. Bacteriostatic incubator – 01

**8. Nano Fabrication Lab**

- i. Laboratory developed (assembled) Chemical Vapour Deposition (CVD) - 02
- ii. Thermal Evaporation coating system - 01
- iii. Electron Beam deposition system - 01
- iv. RF Co-Sputtering deposition system - 01
- v. Rapid Thermal Annealing system - 01
- vi. Spin coating system - 01
- vii. Bath and Tip Sonication - 02
- viii. Laboratory developed (assembled) Probe station for I-V and Photo conductivity measurements - 01
- ix. Heating woven - 01
- x. KBR pallet maker for FTIR measurement - 01
- xi. Gas Sensor System - 01
- xii. PVD Chamber - 01
- xiii. Autoclave - 01
- xiv. Dessicator - 03
- xv. Depth Coater - 01
- xvi. Ball Milling System - 01

**9. MEMS & NEMS Lab**

- i. Analog Digital Scope (ADS) HM507, HAMEG Instruments, 50 MHz 100MS/s - 01
- ii. Digital Oscilloscope (Yokogawa) DL9040 5GS/s 500 MHz - 01
- iii. Function Generator (Agilent) 33120A 15MHz - 01
- iv. Universal Counter (Agilent) 53131A 225 MHz - 01

- v. Multifunction Generator (Caddo) 4080 20 MHz - 01
- vi. Triple Power Supply (Sciencetech) ST4071 5V/30V - 01
- vii. Multiple Power Supply (Sciencetech) ST4077 - 01
- viii. Dessicator - 02
- ix. Refrigerator - 01
- x. Signal generator (Agilent), 3GHz N9310A - 01
- xi. Hot plate – 01

#### 10. SPM Lab

- i. Scanning Probe Microscope: Veeco (Model) - 01
- ii. Gas Chromatograph (Centurian Scientific) – 01

#### 11. Thin Film and Micro Fluidics Lab

- i. High end upright microscope - 01
- ii. Thermal stage - 01
- iii. High speed camera - 01
- iv. UV-Ozone cleaning unit - 01
- v. Spin coater - 02
- vi. Fume chamber - 01
- vii. Clean bench - 01
- viii. Ultrasonic cleaning bath - 01
- ix. Millipore water supply unit - 01
- x. AC/DC power supply units - 03
- xi. Electromagnet with Gaussmeter - 01
- xii. Microbalance - 01
- xiii. High speed centrifuge - 01
- xiv. Air furnace - 01
- xv. High resolution camera - 01
- xvi. Vacuum furnace - 01
- xvii. High Speed computational servers loaded with software, which includes Ansys Fluent, Mathematica and Material Studio – 01

#### 12. Lithography Fabrication Lab

- i. FESEM-Electron Beam Lithography - 01
- ii. Thermal and E-Beam Evaporator - 01
- iii. Lase Micro Machining - 01
- iv. DC probe Station - 01
- v. RF Sputtering - 01
- vi. Electro Spinning Device - 01
- vii. Mask writer - 01
- viii. Double Sided Mask Aligner - 01
- ix. Upright Optical microscope - 01
- x. AC/DC Probe Station
- xi. DC Probe Station - 01
- xii. IV CV Pulse parametric analyser - 01
- xiii. Impedance Analyser - 01
- xiv. Chemical Impedance Analyzer - 01
- xv. Oscilloscope - 01
- xvi. Function Generator - 01
- xvii. Digital multimeter - 01
- xviii. DC Power supplies – 01

#### 13. Micro-Nano Characterization Lab

- i. AFM-TERS - 01

- ii. Raman spectroscopy
- iii. High End Confocal Microscope - 01
- iv. Material Printing System - 01
- v. Fume Hood - 01
- vi. Electrochemical Potentiostat - 01
- vii. Glove Box - 01
- viii. UV-Visible Spectrophotometer – 01

#### 14. Micro-Nanoelectronic Characterization Lab

- i. Oxidation Diffusion Furnace - 01
- ii. Wire Bonder - 01
- iii. Wet Bench - 01
- iv. DI water system - 01
- v. Weighing machine - 01
- vi. Ultra filtration unit - 01
- vii. UV Ozone - 01
- viii. Hot plate - 01
- ix. Sonicator – 01

#### 15. Wet Lab

- i. Rotavapor - 01
- ii. Lyophilizer - 01
- iii. Refrigerated High Speed Centrifuge – 01

### MAJOR EQUIPMENT AND FACILITIES ACQUIRED

#### Equipment

1. SONICATOR (ULTRASONIC PROCESSOR) MODEL VCX 500
2. Digital Ultrasonic bath Sonicator & its accessories
3. Particle Tracking Module, Single User CPU-Locked
4. Sonicator (Ultrasonic Bath) Make: LMUC-2, Model: LABMAN
5. Sonicator (Ultrasonic Bath), Make: Citizen, Model: CUB-2.
6. PSA Nitrogen Generator
7. Digital Electronic Balance
8. Multimedia Projector, Make: LG, Model: PH550G
9. Accelerometer, Model: 27AMI-10 : Miniature accelerometer
10. Laminar Air
11. Orbital Incubator Shaker
12. SDS Page Apparatus
13. Western Blot Apparatus, Make: ORANGE, Chennai
14. Standard Spin Coating system
15. Delrin substrate holder
16. Grinding bowl-80ml cpl
17. Grinding ball-10mm
18. pH meter Eutech, pH700
19. Digital Magnetic Stirrer HP
20. Laboratory Centrifuge, Centrifuge Head 16X15ml, Centrifuge head 6x50ml,
21. Analytic Balance
22. Oil free vacuum pump, Mircropipette (1-10ul), Micropipette (10-100ul), Vacuum oven

23. High Temperature Tubular Furnace with Modbus communication , Maximum temp: 10000c

#### Facilities

1. Slot CPU for D8 series 2/D4 Controller
2. Desktop
3. Laptop
4. Server HPE ML10 Gen9 E3-1225v5 LFF/IB, Monitor HP18.5"LCD, HP keyboard & Mouse combo, HP 8GB RAM, DP to VGA Converter

#### MAJOR AREAS OF RESEARCH AND DEVELOPMENT

The Centre is pursuing research in the multi-disciplinary area of Nanotechnology required to meet the future challenges and to augment academic partnerships with industry. One DBT and two DST major research project is sanctioned at the centre during this financial year 2018-2019. Another major research project of Rs. 57.75 Crore sanctioned from DeitY is being implemented at the Centre with experts from multi-disciplinary areas of science and engineering for establishing a 'Centre for Excellence in Research and Development of Nanoelectronic Theranostic Devices'. Along with this six major research projects sanctioned from DAE BRNS, SERB, DST and DBT is also being implemented at the Centre. Nano-Electronics group focuses on Micro-Nano fabrication, Optical and Electronic Characterization of Micro-Nano Devices, development of SAW sensors, ECG amplifier and blind assisted walker. Nanoscale science and technology group have designed and developed a 'Device for visual detection of bilirubin', 'Wirelessly Operated LED Device for Photodynamic Therapy and Subsequent Monitoring of Therapeutic Success' and 'A composition for filtration of microorganism and heavy metals and a process thereof'. Nanobiotechnology group is pursuing interdisciplinary collaborative research at the Centre for Nanotechnology on "nanoparticles and nanocomposites". They are developing new nanoclusters for the potential applications as sensors, antimicrobial and anticancer agents and developed a Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor device for Detection of Cancer. Nanophysics group is working on the various aspects on the defects of carbon nanotube and their possible application as sensor. Micro and Nano Fluidics group have recently developed device for 'Point-of-Care Hand Tremor Detection System', 'Lung Condition Monitoring', 'Microfluidic Electrolyzer for the Continuous Production and Separation of Hydrogen/Oxygen', 'Transmittance Based OptoElectroChemical Device for Detecting Biomarkers on Paper Surface Targeting Low-cost Point-of-Care Diagnostic Tools', 'Microfluidic Electrical Energy Harvester', 'Integrated MEMS-Microfluidic CO<sub>2</sub>-sequestration Device to Produce Essential Organic Products Emulating Photosynthesis' and 'MEMS-POCT Device for Quantitative Estimation of the Biomarker  $\alpha$ -Amylase in Human Blood Serum', 'Point-of-Care System for Detection of the Physical Stress at Different Parts of Body', 'Mobile RF Radiation Detection',

'Magneto-heating therapeutic (MHT) pad to streamline arterial blood flow to reduce hypertension or high blood pressure and facilitate oxygenation-deoxygenation of blood', and 'Method of measuring distance and angle of view by harnessing the concept of observed speed or velocity with applications in point-of-care testing of diseases associated with tunnel vision'. A research group working on Organic light emitting diode (OLEDs), Conjugated oligomer and polymer synthesis, Organic Field Effect Transistors (OFETs), Organic Solar Cells (OSCs) have prepared a 'Method for the Fabrication of Ultralow Voltage Operated, Reduced Bias Stress, Multi-layer Dielectric System Comprising n-Type Organic Field Effect Transistors', 'Fabrication of Solution Process, Ultra-low Operating Voltage, Stable Organic Field Effect Transistor' and 'Ultra-low Voltage Operated Organic Field Effect Transistor (OFET) based Bio-sensing System and a Method for Fabricating the Same', 'Hydrazine Detector Device Comprising of Fluorescent Organic Molecular Probe', 'Well Preserved, Substrate-Versatile Latent Fingerprints and a Method for its Visualization Utilizing Aggregation Induced Enhanced Emission Active Conjugated Polyelectrolyte', 'Hydrogen Bonding Mediated Method for the Ultradetection of Nerve Gas Vapors Using Amine Functionalized Conjugated Polymer Based Electrical Sensors', and 'Spontaneously Self-Assembled Nanosheets for the Detection of Organic Volatile Contaminants in Water'. A group of faculty members are working on Organic light emitting diode (OLEDs), Conjugated oligomer and polymer synthesis, Organic Field Effect Transistors (OFETs), Organic Solar Cells (OSCs), Memory devices, Theranostic devices, Sensors and Nanotube based transistors. One group is focused on the development and synthesis of nano-engineered materials, system development for water treatment based on ultrasound and electrochemistry and Point-of-Care-Testing Health Care Devices. In addition Centre is also involved in fostering growth of science and education in the north east in the field of nanotechnology by conference, workshops, symposium and seminars.

#### MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- Design and Development of a Wirelessly Operated LED Device for Photodynamic Therapy and Subsequent Monitoring Of Therapeutic Success.
- Design and Development of a device for visual detection of bilirubin.
- Design and Development of a Transmittance Based OptoElectroChemical Device for Detecting Biomarkers on Paper Surface Targeting Low-cost Point-of-Care Diagnostic Tools.
- Design Development of a Microfluidic Electrolyzer for the Continuous Production and Separation of Hydrogen/Oxygen.
- Design and Development of a Point-of-Care Hand Tremor

- Detection System.
- Design and Development of a Lung Condition Monitoring Device.
  - Design and Development of a Microfluidic Electrical Energy Harvester.
  - Design and Development of a Method for the Fabrication of Ultralow Voltage Operated, Reduced Bias Stress, Multi-layer Dielectric System Comprising n-Type Organic Field Effect Transistors.
  - Design and Development of a Method for the Fabrication of Solution Process, Ultra-low Operating Voltage, Stable Organic Field Effect Transistor.
  - Design and Development of an Ultra-low Voltage Operated Organic Field Effect Transistor (OFET) based Bio-sensing System and a Method for Fabricating the Same.
  - Design and Development of an Integrated MEMS-Microfluidic CO<sub>2</sub>-sequestration Device to Produce Essential Organic Products Emulating Photosynthesis.
  - Design and Development of a MEMS-POCT Device for Quantitative Estimation of the Biomarker  $\alpha$ -Amylase in Human Blood Serum.
  - Design and Development of an Acoustic Diagnostic Point-of-Care Testing Device for Blood Urea Detection.
  - Design and Development of a Point-of-Care System for Detection of the Physical Stress at Different Parts of Body.
  - Design and Development of a Mobile RF Radiation Detection Device.
  - Design and Development of a magneto-heating therapeutic (MHT) pad to streamline arterial blood flow to reduce hypertension or high blood pressure and facilitate oxygenation-deoxygenation of blood and thereof.
  - Design and Development of a method of measuring distance and angle of view by harnessing the concept of observed speed or velocity with applications in point-of-care testing of diseases associated with tunnel vision and thereof.
  - Design and Development of a composition for filtration of microorganism and heavy metals and a process thereof.
  - Design and Development of a Hydrazine Detector Device Comprising of Fluorescent Organic Molecular Probe.
  - Design and Development of a Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor for Detection of Cancer.
  - Design and Development of a Well Preserved, Substrate-Versatile Latent Fingerprints and a Method for its Visualization Utilizing Aggregation Induced Enhanced Emission Active Conjugated Polyelectrolyte.
  - Design and Development of a Hydrogen Bonding Mediated Method for the Ultradetection of Nerve Gas Vapors Using Amine Functionalized Conjugated Polymer Based Electrical Sensors.
  - Design and Development of a Spontaneously Self-Assembled Nanosheets for the Detection of Organic Volatile Contaminants in Water.

#### CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Binota Thokchom	3rd BRICS Young Scientist Conclave, Durban, South Africa	Durban, South Africa	25-29 Jun 2018	International
Binota Thokchom	Ecosystem Approaches to Water and Food Security for Rural Well-being	Centre of Rural Technology, IIT-Guwahati	10-14 Sep 2019	National
Binota Thokchom	BRICS Alumni Workshop	National Institute of Advanced Studies Indian Institute of Science Campus, Bangalore	2-4 Dec 2019	National
Binota Thokchom	5th National Workshop on NEMS/MEMS & Theranostic Devices	Centre of Nanotechnology, IIT-Guwahati	21-23 Feb 2019	National
Binota Thokchom	4th India Water Forum 2019 Water for All: Options for Safe, Sustainable and Resilient Future	Delhi	5-6 Mar 2019	National

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Pranjoli Das, Debashree Debasmitta, Arun Chattopadhyay	Zeiss Microscopy Conclave 2019	Zeiss India Office, Banga-lore	14-16 Feb 2019	International
Shirsendu Mitra, Abir Ghosh, Dipankar Bandyopadhyay,	12th International Conference on Complex Fluids and Soft Matter (COMFLU 2018)	Roorkee, India	6-9 Dec 2018	International
Shirsendu Mitra, Nirmal Roy, Surjendu Maity, Tapas Kumar Mandal, and Dipankar Bandyopadhyay	CMEMS 2018	Hyderabad, India	5-7 Dec 2018	International
Nirmal Roy, Shirsendu Mitra, Dipankar Bandyopadhyay, and Tapas Kumar Mandal	ANA 2018	Allahabad, India	21-23 Dec 2018	International
Satarupa Dutta, Partho Sarathi Gooh Pattader, and Dipankar Bandyopadhyay,	12th International Conference on Complex Fluids and Soft Matter (COMFLU 2018)	Roorkee, India	6-9 Dec 2018	International
Siddharth Thakur, Ashok Kumar Dasmahapatra, Dipankar Bandyopadhyay	12th International Conference on Complex Fluids and Soft Matter (COMFLU 2018)	Roorkee, India	6-9 Dec 2018	International
Manash Pratim Borthakur, Gautam Biswas, and Dipankar Bandyopadhyay,	Bulletin of the American Physical Society	Atlanta, USA	18-20 Nov 2018	International
Bhaskarjyoti Sarma, S. Pokhrel, Sunny Kumar, Dipankar Bandyopadhyay, Amaresh Dalal, Dipankar Narayan Basu	International Conference on Recent Innovations and Developments in Mechanical Engineering,	NIT Meghalaya, India	8-10 Nov 2018	International
Dr. D Pamu	National Symposium on Vacuum Electronic devices and Applications (VEDA- 2018)	IIT Guwahati, Assam	22 – 24 Nov 2018	National
Dr. D Pamu	5th International conference on NanoScience and NanoTechnology.	SRM Institute of Science and Technology Kattanku-lanthur, Tamil Nadu	28 -30 Jan 2019	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. S. S. Ghosh	Emergence of Cancer Nan-otheranostics	National Conference on recent advances in applied biological sciences	NEHU (Shillong)	4-5 May 2018
Prof. S. S. Ghosh	Nanotheranostics to 'POC' Device	An Interdisciplinary Approach in Characterization & Applications of Nanostructured Materials	University of Kalyani	1-10 Aug 2018
Prof. S. S. Ghosh	Theranostics 'POC' Device	TEQIP3-IITG	IITG	21st Sep 2018

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. S. S. Ghosh	Nanotheranostics to 'POC' Device	International Conference on Functional Nanomaterials (ICFNM-2019)	IIT BHU	23-25 Feb 2019
Prof. S. S. Ghosh	Flow cytometry in Nan-othera-nostics Devices	The 20th Indo-US Flow Cytometry Workshop and Sym-posium on Advanced Molecu-lar Techniques	IITG	13 Feb 2019
Prof. S. S. Ghosh	Prospective Nanotheranostic Devices	National Conference on Chal-cogenide Com-pounds	Defence Institute of Ad-vanced Tech-nology, Pune	14 Feb 2019
Prof. Dipankar Bandyopadhyay	Graphite-Graphene-Derivatives, Point-of-Care-Testing, Hydro-gen-Production, GERS, Cell Death-Tracking, Carbon MEMS:	New Horizons	IIT Hyderabad.	Dec 2018
Prof. Dipankar Bandyopadhyay	Microfluidics for Sensing, Reac-tion Engineering, Energy Harvesting, and Point-of-Care Testing, ,	International Con-ference on Nano-Structured Materials & Devices	University of Delhi.	Dec 2018
Prof. Dipankar Bandyopadhyay	Fundamentals and Applications of Microfluidic devices	TEQIP-III Sponsored Work-shop Course on Heat-transfer and Fluid flow in Minichan-nels and Microchannels, HTFFMM-2018	NIT Durgapur	
Dr. Vivek Borse	Nanodiagnosics and Biomed-ical Engineering Applications	R. C. Patel Institute of Pharmaceutical Edu-cation and Research Shirpur, Maharashtra	Shirpur, Maha-rashtra	25 Feb 2019
Dr. Vivek Borse	Career Path: Think out of Box from Pharmacist to Biomedical Engineer	H. R. Patel Institute of Pharmaceutical Edu-cation and Research Shirpur, Maharashtra	Shirpur, Maha-rashtra	27 Feb 2019
Dr. Akshai Kumar A S	Organometallics in Catalytic Con-versions: Synthesis of High Value Fuels and Commodity Chemicals	Reliance India Limited	Baroda, Guja-rat, INDIA	Jun 2018
Dr. Akshai Kumar A S	The Chemistry of p-block, d-block and f-block elements	JNV Rongia,	Guwahati, As-sam, INDIA	May 2018

#### SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Funded By	Date	Interna-tional/ National	No. of partici-pants
Chairman-Prof. Pravat K. Giri Conveners-Dr. Partha S.G.Pattadaer	5rd National Workshop on NEMS/MEMS and Theranostic Devices	MeitY, Gov-ernment of India	21-23 Feb 2019	National	200



Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Funded By	Date	International/ National	No. of participants
Dr. Akshai Kumar A S	Research Conclave 2019	IITG, SBI, RSc, MERCK	14-17 Mar 2019	International	950
Dr. D Pamu	Nanomaterials and Smart De-vices	TEQIP	17-21 Sep 2018	National	36

**PATENTS**

Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.
Arun Chattopadhyay, Anumita Paul, Srestha Basu, Amaresh Kumar Sahoo	A device for visual detection of bilirubin	Date of filing: 02-06-2016; International Patent Publication no. WO2016193996A1, date of publishing 08-12-2016	International Patent filed with Application number: PCT application PCT/ IN2016/000140,
Arun Chattopadhyay, Anumita Paul, Srestha Basu, Amaresh Kumar Sahoo	A device for visual detection of bilirubin	Date of filing 04/06/2015, date of publication 26/06/2015	National Patent filed with Application number: 631/ KOL/2015A,
Arun Chattopadhyay, Anumita Paul, Srestha Basu, Amaresh Kumar Sahoo	A device for visual detection of bilirubin	Date of filing 01/12/2017	International Patent (Chinese) filed with Application number: PCT application 201680032322.1
Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses	Date of filing 08/05/2018	International Patent filed with Application number: National phase entry initiated for China
Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses	Date of filing 04/06/2016; International Patent publication number: WO2017098521 A1, date of publishing: 15-06-2017	International Patent filed with Application number: PCT application PCT/ IN2016/000141,
Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses	Date of filing 09/12/2015, date of publication 18/03/2016	National Patent filed with Application number: 1259/ KOL/2015 A,
Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses	Date of filing 11/05/2018	International Patent filed with Application number: National phase entry initiated for USA

Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Siddhartha Sankar Ghosh, Anitha T. Simon	"Wirelessly Operated LED Device for in vitro Photodynamic Therapy and Subsequent Monitoring of Therapeutic Success of multiple samples	Date of filing 06/09/2017	National Patent filed with Application number: 201731031603
Arun Chattopadhyay, Siddhartha Sankar Ghosh, Madhumita Das, Upashi Goswami	A composition for filtration of microorganism and heavy metals and a process thereof	Date of filing 30/04/2017	National Patent filed with Application number: 201831016639
Barman U, Ghosh SS and Paily R P	Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor for Detection of Cancer	-	Indian Patent Application no. 201831031884
Anamika Dey, Ashish Singh and Parameswar K. Iyer	Method for the Fabrication of Ultralow Voltage Operated, Reduced Bias Stress, Multi-layer Dielectric System Comprising n-Type Organic Field Effect Transistors	Date of filing 27/12/2017	Ref. No. 201731046914, App. No. TEMP/E-1/47853/2017-KOL
Anamika Dey, Ashish Singh and Parameswar K. Iyer	Method for the Fabrication of Ultralow Voltage Operated, Reduced Bias Stress, Multi-layer Dielectric System Comprising n-Type Organic Field Effect Transistors	-	PCT application/ international application filed in December 2018
Anamika Dey, Ashish Singh and Parameswar K. Iyer	Method for the Fabrication of Solution Process, Ultra-low Operating Voltage, Stable Organic Field Effect Transistor	Date of filing 27/12/2017	Ref. No. 201731046915, App. No. TEMP/E-1/47841/2017-KOL
Anamika Dey, Ashish Singh and Parameswar K. Iyer	Method for the Fabrication of Solution Process, Ultra-low Operating Voltage, Stable Organic Field Effect Transistor	-	PCT application/ international application filed in December 2018
Anamika Dey, Ashish Singh, Deepanjalee Dutta, Siddhartha Sankar Ghosh, and Parameswar K. Iyer	An Ultra-low Voltage Operated Organic Field Effect Transistor (OFET) based Bio-sensing System and A Method for Fabricating the Same	Date of filing 04/01/2018	Ref. No. 201831000478, App. No. TEMP/E-1/462/2018-KOL
Anamika Dey, Ashish Singh, Deepanjalee Dutta, Siddhartha Sankar Ghosh, and Parameswar K. Iyer	An Ultra-low Voltage Operated Organic Field Effect Transistor (OFET) based Bio-sensing System and A Method for Fabricating the Same	-	PCT application/ international application filed in December 2018
N. Meher, P. K. Iyer	Hydrazine Detector Device Comprising of Fluorescent Organic Molecular Probe	Date of filing 08/05/2018	National Patent filed with Application number: Ref. No: 201831017337, App. No: TEMP/E-1/18338/2018-KOL
A. H. Malik, K. Kalita, P.K. Iyer	Development of Well Preserved, Substrate-Versatile Latent Fingerprints and a Method for its Visualization Utilizing Aggregation Induced Enhanced Emission Active Conjugated Polyelectrolyte	Date of filing 08/05/2018	National Patent filed with Application number: Ref. No: 201831017339, App. No: TEMP/E-1/18276/2018-KOL

N.Zehra, K Kalita, A. H. Malik, P.K.Iyer	Hydrogen Bonding Mediated Method for the Ultradetection of Nerve Gas Vapors Using Amine Functionalized Conjugated Polymer Based Electrical Sensors	Date of filing 29/05/2018	National Patent filed with Application number: Ref. No: 201831020132, App. No: TEMP/E-1/21236/2018-KOL
N. Meher, P. K. Iyer	Spontaneously Self-Assembled Nanosheets for the Detection of Organic Volatile Contaminants in Water	Date of filing 18/07/2018	National Patent: Ref No. 201831026896, App. Number: TEMP/E-1/29385/2018-KOL
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	A magneto-heating therapeutic (MHT) pad to streamline arterial blood flow to reduce hypertension or high blood pressure and facilitate oxygenation-deoxygenation of blood and thereof	Date of Filing, 15th March 2018	E-12/70/2018/KOL, Patent Appl. No. 201831009417
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	A method of measuring distance and angle of view by harnessing the concept of observed speed or velocity with applications in point-of-care testing of diseases associated with tunnel vision and thereof	Date of Filing, 15th March 2018	E-12/71/2018/KOL, Patent Appl. No. 201831009242
Dipankar Bandyopadhyay and Mitradip Bhattacharjee	Flexible Paper Touchpads for Low-cost Electronic Appliances	Date of Filing, 17th May 2016, Publication Date, 12th August 2016	Patent Appl. No. 201631017054
Dipankar Bandyopadhyay, Tapas Kumar Mandal, and Saptak Rarotra	A Microfluidic Electrolyzer for the Continuous Production and Separation of Hydrogen/Oxygen	Date of Filing, 8th April 2016, Publication Date, 5th August 2016.	TEMP/E-1/11128/2016-KOL, Patent Appl. No. 201631012510
Dipankar Bandyopadhyay, Tapas Kumar Mandal, and Saptak Rarotra	A Microfluidic Electrolyzer for the Continuous Production and Separation of Hydrogen/Oxygen	Date of filing:16-01-2017Date of publishing:12-10-2017	PCT/IN2017/050022 International Patents, Publication number WO/2017/175237
Dipankar Bandyopadhyay, Nilanjan Mandal, and Satarupa Dutta	A Transmittance Based OptoElectro-Chemical Device for Detecting Biomarkers on Paper Surface Targeting Low-cost Point-of-Care Diagnostic Tools	Date of filing 16-01-2017	PCT/IN2017/050023
Dipankar Bandyopadhyay, Nilanjan Mandal, and Satarupa Dutta	A Transmittance Based OptoElectro-Chemical Device for Detecting Biomarkers on Paper Surface Targeting Low-cost Point-of-Care Diagnostic Tools	Date of Filing, 31st May 2016, Publication Date, 5th August 2016.	Patent Application No.201631018620).
Mitradip Bhattacharjee, Dipankar Bandyopadhyay, and Sunny Kumar	A Point-of-Care Hand Tremor Detection System	Date of filing: 29-08-2017	PCT/IN2017/050366
Mitradip Bhattacharjee, Dipankar Bandyopadhyay, and Sunny Kumar	A Point-of-Care Hand Tremor Detection Device	Date of Filing: 26th May 2017	TEMP/E-1/18774/2017-KOL, Patent Appl. No. 201731018530
Mitradip Bhattacharjee, Dipankar Bandyopadhyay, and Harshal Nemade	A Lung Condition Monitoring Device	Date of filing: 29-08-2017	PCT/IN2017/050363,

Mitradip Bhattacharjee, Dipankar Bandyopadhyay, and Harshal Nemade	A Lung Condition Monitoring Device	Date of Filing, 28th September 2016, Publication Date, 28th October 2016	TEMP/E1/32210/2016KOL, Patent Appl. No. 201631033190
Mitradip Bhattacharjee, Seim Timung Dipankar Bandyopadhyay, Tapas Kumar Mandal	A Microfluidic Electrical Energy Harvester	Date of filing: 29-08-2017	PCT/IN2017/050364
Seim Timung, Mitradip Bhattacharjee, Tapas Kumar Mandal and Dipankar Bandyopadhyay	Microfluidic Hybrid Energy Harvester Combining Solar Energy, Surface Plasmon Resonance, and Streaming Potential	Date of Filing, 24th October 2016, Publication Date, 4th November 2016	Patent Application No.201631036408
Saptak Rarotra, Dipankar Bandyopadhyay, and Tapas Kumar Mandal	Integrated MEMS-Microfluidic CO <sub>2</sub> -sequestration Device to Produce Essential Organic Products Emulating Photosynthesis	Date of Filing, 18th August 2017.	TEMP/E-1/29803/2017-KOL, Patent Appl. No. 201731029391
Nilanjan Mandal and Dipankar Bandyopadhyay	A MEMS-POCT Device for Quantitative Estimation of the Biomarker $\alpha$ -Amylase in Human Blood Serum	Date of Filing, 11th September 2017.	E-12/187/2017/KOL, Patent Appl. No. 201731032122
Mitradip Bhattacharjee, Siddharth Thakur, Dipankar Bandyopadhyay	Acoustic Diagnostic Point-of-Care Testing Device for Blood Urea Detection	Date of Filing, 20th October 2017.	TEMP/E-1/37965/2017-KOL, Patent Appl. No. 201731037223
Mitradip Bhattacharjee, Sagnik Middy, Dipankar Bandyopadhyay	A Point-of-Care System for Detection of the Physical Stress at Different Parts of Body	Date of Filing, 15th October 2018.	PCT/IN2018/050662
Mitradip Bhattacharjee, Sagnik Middy, Dipankar Bandyopadhyay	A Point-of-Care System for Detection of the Physical Stress at Different Parts of Body	Date of Filing, 20th October 2017.	TEMP/E-1/37937/2017-KOL, Patent Appl. No. 201731037222
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	A Mobile RF Radiation Detection Device	Date of Filing, 20th October 2017.	TEMP/E-1/37920/2017-KOL, Patent Appl. No. 201731037221
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	A Mobile RF Radiation Detection Device	Date of Filing, 15th October 2017.	PCT/IN2018/050661

### AWARDS AND HONOURS

1. Dr. Binota Thokcham is awarded BRICS Young Scientist Award, 2019
2. Dr. Binota Thokcham has been selected for Start-up Manipur organized by State Planning Department, Govt. of Manipur.
3. Dr. Dipankar Bandyopadhyay has been nominated member of RSC, ACS and IICHE.

### STUDENTS' ACHIEVEMENTS

1. Judged as the "Best Oral Presentation" during FICS-2018, IIT Guwahati, Dec 2018, Das, K.; Dutta, M.; Das, B.; Srivastava, H. K.; Kumar, A. Oral presentation titled "Highly

Efficient Pincer Ruthenium Catalysts for Atom Transfer Radical Additions".

2. Sahil Jagnani and Rahul Patel, B.Tech in Chemical Engineering from IIT Guwahati, Presently CEO and partner of Primary HealthTech Private Limited won Rs. 25 L Start-up Grant in the iPEACH event of Villgro jointly supported by Technology Development Board GOI, and UK Government, November 2018.
3. Sarma B.; Kumar S.; Bandyopadhyay D.; Dalal A.; Basu D. N.; Dasmahapatra A. K., Electrowetting-on-Liquid (EWOL): A Novel Technique for Microfluidics Based Applications, Research Conclave, IIT Guwahati, India, 8-10 March, 2018. (Best Poster Award).

**FACULTY MEMBERS ASSOCIATED WITH THE CENTRE**

<b>Sl. No.</b>	<b>Name</b>	<b>Designation and Department</b>
1	Bandyopadhyay, Dipankar	Assistant Professor, Department of Chemical Engineering
2	Borse, Vivek	DST-Inspire Faculty Fellow
3	Bose, Biplab	Assistant Professor, Department of Biotechnology
4	Chattopadhyay, Arun	Professor, Department of Chemistry
5	Dasmahapatra, Ashok Kumar	Associate Professor, Dept. of Chemical Engineering
6	Ghosh, Siddhartha Sankar	Professor, Department of Biosciences and Bioengineering
7	Giri, Pravat Kumar	Professor, Department of Physics
8	Iyer, Parameswar Krishnan	Professor, Department of Chemistry
9	Mandal, Tapas K	Assistant Professor, Department of Chemical Engineering
10	Nemade, Harshal B.	Associate Professor, Department of Electronics and Electrical Engineering
11	Palathinkal, Roy Paily (Head of the Centre)	Professor, Department of Electronics and Electrical Engineering
12	Pattader, Partho Sarathi Gooh	Assistant Professor, Department of Chemical Engineering
13	Pamu, D.	Associate Professor, Department of Physics
14	Paul, Anumita	Associate Professor, Department of Chemistry
15	Peela, Nageswara Rao	Assistant Professor, Department of Chemical
16	S. Akshai Kumar A.	Assistant Professor, Department of Chemistry
17	Sahoo, Lingaraj	Professor, Department of Biosciences and Bioengineering
18	Thokchom, Binota	DST-Inspire Faculty Fellow

# CENTRE FOR RURAL TECHNOLOGY

## The Centre at a Glance

**Year of Establishment:** 2016

Master of Technology (MTech)

Doctor of Philosophy (PhD)

**Total Faculty Strength: 3**

- Associate Professor: 1
- Assistant Professor: 2

**Faculty Members Associated: 10**

**Total Student Strength: 39**

MTech: 17

PhD: 22

**New Students Joined in 2018-2019: 15**

MTech: 9

PhD: 6



**LABORATORY FACILITIES**

Two common laboratories; one wet lab and one for miscellaneous work

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

Gel Electrophoresis, Microscope, HPLC, Rota evaporator etc.

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

- Rural Sanitation, Food Processing, Natural Resources Management, Bioenergy, Rural

**MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT**

- Currently RuTAG NE is facilitating fabrication and dissemination of an indigenously developed pottery dying chamber to over different locations in all over NER. Research has been initiated on fermented food and leafy vegetables of North East India..

**CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL/NATIONAL**

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Dr Sudip Mitra	The 11th International Conference on the Challenges in Environmental Science and Engineering, Bangkok, Thailand	Bangkok, Thailand	4-9 Nov 2018	International
Dr Sudip Mitra	TISS AESDII Eastern Conclave	Gu-wahati, India	4 Dec 2018	National
Dr. S. Singha	COSVARD 2019 organized by AEC & Melbourne University	Gu-wahati, India	12 Dec 2018	International

**INVITED LECTURES OF FACULTY: IN INDIA, ABROAD**

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Dr. Meena Khwairakpam	Technology options for Composting of organic waste in Rural areas	B.Lal Institute of Biotechnology	Jaipur (Rajasthan)	29-30 Mar 2019
Dr. Meena Khwairakpam	Composting and Vermicomposting of Biological Waste with Special Emphasis on Phumdi Biomass of Loktak Lake, Manipur	NIT Manipur	Imphal (Manipur)	4 Jan 2019
Dr Sudip Mitra	Amendment and land use regulate nutrient and enzyme mobilization in earth-worm casts produced in soils	Indian Statistical Institute	Kolkata	14-16 Feb 2019
Dr. Siddhartha Singha	Mathematical Modelling in Microbiological Analysis of Food Products: Ecological Perspective	Tezpur University	Tezpur (Assam)	14 Feb 2019
Dr. Siddhartha Singha	Engineers and Rural Development: Connecting Dots	Royal Global University	Guwahati University	20 Mar 2019

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES**

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Dr Masa Noguchi,	University of Melbourne	Mass customization in housing	15 Dec 2018
Mr. Samir Bordoloi,	SPREAD NE	Agri-entrepreneurship in NER	30 Jan 2019
Dr. Pawan Kaushik	Centre for forest-based livelihoods & extension, Tripura	Orientation talk	30 Jan 2019

**SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED**

<b>Name of Faculty (Convener/ Co-ordinator, etc.)</b>	<b>Name of Sem./Wor./Con.</b>	<b>Funded By</b>	<b>Date</b>	<b>International/ National</b>	<b>No. of participants</b>
Dr Sudip Mitra	Certificate training workshop on integrating ecosystem services and rural livelihoods	DST, Government of India	10-14 Sep 2018	National	30
Dr Sudip Mitra, Dr. S. Singha, & Dr. Meena K.	Short Term Course on Tailoring technologies for rural sector: development and dissemination	TEQIP-III, MHRD	29 Oct – 2 Nov 2018	National	18
Dr. S. Singha	Rural Dialogue	Innovior and AILSG	6-7 Jul 2018	National	100
Dr. Rakhi Chatur-vedi	International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPP-BUT 2019)	International Plant Propagators' Society (IPPS)	11-13 Feb 2019	International	50
Dr. Rakhi Chatur-vedi	40th Meeting of Plant Tissue Culture Association - India (PTCA-I) & International Conference on Trends in Plant Sciences and Agrobiotechnology-2019 (IC-TPA-2019)	Plant Tissue Culture Association - India (PTCA-I)	14-16 Feb 2019	International	160

**STUDENTS' ACHIEVEMENTS**

- Kauser, H. (PhD) got first prize for oral presentation on Research Conclave'19, held on March 14-17 at Indian Institute of Technology, Guwahati.
- Kauser, H. (PhD) got second prize for Poster presentation on "National Environmental Conference 2019" held on 31st January - 2nd February at Indian Institute of Technology, Bombay.
- Yunus, P.M. (M.Tech) got best poster award for poster presentation on Research Conclave'19, held on March 14-17 at Indian Institute of Technology, Guwahati.

**SPECIAL MENTION****1. 1st Rural Dialogue (Workshop):**

The Center for Rural Technology in association with Innovior and AILSG organized a two-day event called 1st Rural Dialogue on 7th July. This was a first of its kind attempt to bring together representatives from rural communities, to understand their needs and their aspirations and leading policy makers, technocrats, village level entrepreneurs, financial institutions, district administration, village panchayats and renowned experts to discuss and exchange experiences and good practices on issues related to innovation in rural areas and provide awareness on various potential solutions. Former Principal Scientific Advisor to Government of India Dr. R. Chidambaram inaugurated the event and chaired a session on Innovation to Enhance

Prosperity and Well-being of Rural Communities. Key officials from Indian Institute of Entrepreneurship, UNICEF, NEERI, MS Swamainathan Research Foundation etc. deliberated on customization and delivery models of various technologies for resource crunched areas. The Director of IIT Guwahati also shared his thoughts in the inauguration session that it is time that technologies developed in the technical institutes should go for the proper channels to reach the common mass. The event also showcased cutting-edge technologies, latest innovations, useful and replicable ideas and actions on various aspects of rural development. Prof. Sashindra Kumar Kakoty, Head of CRT concluded the event with an expectation to initiate series of synergistic activities between different governmental and non-governmental organizations to create an ecology of rural entrepreneurs. Such an ecology will finally catalyse positive changes in the lives of rural communities of Assam and entire NER.

**2. Ecosystem Approaches to Water and Food Security for Rural Wellbeing:**

Ecosystem Approaches to Water and Food Security for Rural Wellbeing- a certificate training workshop on Integrating Ecosystem Services and Rural Livelihoods was organized by Centre for Rural Technology (CRT), IITG in collaboration with Ashoka Trust for Research in Ecology and the Environment (ATREE), Bengaluru from 10-14 September, 2018 here at IIT Guwahati campus. This workshop was attended by 30 participants who were carefully selected among of hundreds of applicants from all North Eastern states and Darjeeling district of West Bengal. The workshop discussed

various natural and social concepts and practices in the field of ecosystems services and wellbeing. The workshop attempted to link ecosystem services, food and water security, environmental changes and the dynamics of rural system to understand and enhance the rural wellbeing of the rural communities of the North Eastern Himalayan region mainly. Training was imparted through lectures, discussions, field exercises and intensive group exercises. This five days training program was inaugurated by the honourable Director of IIT Guwahati, Prof Gautam Biswas. The valedictory session was graced by Dr Akshilesh Gupta Adviser & Head, Strategic Programs, Large Initiatives and Coordinated Action Enabler (SPLICE) and Climate Change Program Head, DST, Government of India; Dr. Nisha Mendiratta, Scientist-G & Associate Head, SPLICE Div.; Prof SK Kakoty, Head, CRT.

**3. Tailoring technologies for Rural Sector: Development and Dissemination**

The above mentioned STC was organized by the Centre for Rural Technology (CRT), IIT Guwahati (IITG) at the IIT Guwahati campus from 29th October to 2nd November 2018. Eighteen participants (Annexure-I) from various institutes and different strata attended this STC. We had 15 faculty and 03 student participants (Annexure-I). This STC was thoughtfully planned in to lectures, lab visits and discussions and also field visits and thus an attempt was made to provide the participants maximum exposure to the field of Rural Technology and a test of North East in this particular area.

**4. Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)**

- International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019) was organized jointly by the Department of BSBE and Centre for Rural Technology. It was an exclusive platform for academicians, industrialists, horticulturists, plant growers, researchers, scientists, and students to interact focusing on the latest developments in cutting-edge research and technology in the area of plant sciences and agrobiotechnology. The conference addressed a broad spectrum of issues through keynote and plenary speeches, invited talks, research and industrial experiences, and critical emulating discussions.

NGPPBUT 2019 also marked the first meeting of the International Plant Propagators’ Society (IPPS) in India. It was an opportunity for participants to engage with scientists, researchers, students, academicians, industrialists, and plant

growers on a wide range of issues from advances in nursery production technology to innovative and best practices in micropropagation of woody plants, micropropagation of herbaceous plants, and other relevant areas of plant propagation and production.

One of the highlights of NGPPBUT was the scientific sessions with leading industrialists, plant growers, academicians, horticulturists, and scientists, who shared recent developments and future challenges in the field of plant production, biotechnology, agriculture, and horticulture. It also provided opportunities for students, budding researchers, and entrepreneurs to interact with renowned experts and exchange experiences and best practices on issues related to innovation in rural areas, improvement of agriculture, and promotion of rural industries. The conference provided an opportunity to the scientific community from different geographical locations of India and various other countries to exchange information, brainstorm, and collaborate on new dimensions in plant tissue culture and related areas.

**5. International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA) 2019**

– Department of BSBE and Centre for Rural Technology of IIT Guwahati in coordination with Plant Tissue Culture Association - India (PTCA-I) organized the ICTPA. It was a privileged opportunity to connect the participants via this conference and engage them in the latest developments on cutting-edge research and technology in the area of Plant Sciences and Agrobiotechnology. The conference addressed issues in the area of agriculture, which are critical to the nation and the world at large, with a special focus on technology to improve productivity of Plant Bio-resources of North-East Region of India.

This conference also marked the 40th meeting of the Plant Tissue Culture Association - India (PTCA-I) engaging scientists, researchers, students and academicians on a wide spectrum of issues, such as plant tissue culture and genetic transformation, micropropagation of herbaceous and woody plants, plant hormones and signal transduction, plant-omics, precision breeding, genome editing, secondary metabolite production and scale-up of metabolites, consumer biotechnology and other concerns relevant to the area of plant sciences and biotechnology. IIT Guwahati, with its idyllic setting in a region tremendously rich in flora and fauna, provided the perfect background to the challenges and possible solutions researchers seek to have.

**CORE FACULTY MEMBERS**

Sl. No.	Name	PhD	Designation	Areas of Interest
1.	Khwairkpm, Meena	Indian Institute of Technology Roorkee	Assistant Professor	Solid Waste Management. Environmental Engineering

Sl. No.	Name	PhD	Designation	Areas of Interest
2.	Mitra, Sudip	Indian Agricultural Research Institute (IARI), New Delhi	Associate Professor	Environmental Pollution, Climate change: Vulnerability and Adaptation; Carbon sequestration, Greenhouse gases management
3.	Singha, Siddhartha	Indian Institute of Technology Madras	Assistant Professor	Food Process Technologies, Process biotechnology, Scale up and commercialization strategies in food-and bio-processing

#### FACULTY MEMBERS ASSOCIATED WITH THE CENTRE

Sl. No.	Name	Designation and Department
1.	Chaturvedi, Rakhi	Professor, Biosciences and Bioengineering
2.	Das, Amerendra K.	Professor, Department of Design
3.	Dutta, Mrinal K.	Professor, Humanities and Social Sciences
4.	Jawed, Mohammad	Professor, Civil Engineering
5.	Kakoty, Sashindra K. (Head of the Centre)	Professor, Mechanical Engineering
6.	Kalamdhad, Ajay	Professor, Civil Engineering
7.	Monga, Charu	Assistant Professor, Department of Design
8.	Patra, Sanjukta	Associate Professor, Biosciences and Bioengineering
9.	Rangan, Latha	Professor, Biosciences and Bioengineering
10.	Uppaluri, Ramagopal	Professor, Department of Chemical Engineering

# LAKSHMINATH BEZBAROA CENTRAL LIBRARY

Lakshminath Bezbaroa Central Library being a major service centre of the Institute, Lakshminath Bezbaroa Central Library provides library and information services to support teaching, learning, research activities by creating state-of-the-art facilities and offering innovative services. The library is a window to world of latest information in sciences, engineering, technology, humanities & social sciences with a fast growing collection of books, journals, magazines both in print and digital format. It is housed on a four-stored building having a floor area of about 7500 sq. meter and can accommodate around 400 readers at a time. In-house services of the library are fully computerized and wi-fi facility is provided within library building for connecting to internet and accessing Institute's electronic resources.

During the reported period about 515 visitors from other academic Institutions have availed reference and reading facility of the Library. Library remains open from 8.00 am to 02.00 am (next day) throughout the year and 24 hours during mid/end semester examination, to provide reading facility to Institute's academic community.

## 1. Collection Development:

- a) The library has a fast growing collection of books,
- b) The growth of the collections since 2011-12 stand as follow:

journals, magazines both in print and digital format. A large number of books, database, international and national journals on various subjects have been added during Financial Year 2018-19. Total collection strength of the Library now stands as follows:

ITEMS	Collection Size (2018-19)
Printed Books and bound volume journals (including NBHM collection)	1,76,947
E- books	1,88,516
Back file electronic journals (including NBHM collection)	2,066
Ph.D. Theses	1,073
Printed Standards	524
Non-Book material (CD, DVD, etc.)	6,735
Current Print Journal Subscription	50
Total Online Journals (including backfiles and current journals sub-scribed and access provided by Con-sortia)	27,492

Sl. No.	F.Y.	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
(i)	Printed Books and Bound Volume Journals	1,34,687	1,40,434	1,48,181	1,54,564	1,57,955	1,64,701	1,69,409	1,76,947
(ii)	Theses collection (Ph.D., MTP, BTP)	1,048	1,119	1,169	1,343	1,471	1,565	1,666	1,895
(iii)	Printed Journals	578	591	151	120	90	84	68	50
(iv)	Online Journals (including journals subscribed and access provided by Consortia)	9,795	12,630	12,656	12,835	24,012	24,264	25,143*	27,492*

\* includes backfiles

- a. As scientific research activities are profoundly dependent on the journal publications, Library has emphasized on enhancing subscription of current journals and expanded the collection significantly over last few years. Further, for better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Presently Library is subscribing 16,601 journal titles across all academic areas of which 16,552 are online journals. In addition to that, Institute is having access to 8,824 online journals through 'e-Shodh Sindhu Consortium' and 'DeLCON: DBT- Electronic Library Consortium'.
- b. Apart from the above, Library has procured some of world's most renowned abstract/full-text database like Scopus, INSPEC, EBSCO Discovery Service, EBSCO Business Source Complete, IEC Standards, IMF eLibrary, eHRAF and some well-known national database i.e. CMIE ProweesIQ, Economic Outlook, BIS Standards, EPWRF Time Series, etc during the reporting period.
- c. Library has also subscribed Turnitin, a Plagiarism-detection Software, during the reporting period.
- d. To make awareness about the regional culture and to generate interest about vernacular literature, Library has developed a reasonably good collection on Assamese and Hindi language and on literary works of Sahityarthi Lakshminath Bezbaroa.
- e. Library has also developed a good number of collection on Braille Books and a special literary collection on Mahatma Gandhi during the reported period.

## 2. Budget:

The books and research journal budget of Lakshminath Bezbaroa Central Library has also increased over the last eight financial years, details of which as follows:

Financial Year	Books Budget (Rs. In Lakhs)	Research Journal Budget (Rs. In Lakhs)
2011-12	275.00	301.90
2012-13	125.00	350.00
2013-14	150.00	573.00
2014 -15	200.00	690.00
2015–16	125.00	750.00
2016-17	80.00	771.00
2017-18	150.00	883.89
2018-19	150.00	1022.56

## 3. Services and Facilities:

- a) To facilitate the users, a digital repository of theses, submitted by Ph. D. scholars of the Institute, has been

created and made accessible to the academic community via <http://gyan.iitg.ernet.in>. By end of the reporting period, total 879 full-text theses had been uploaded in the stated repository.

- b) To provide sufficient reading facility, Central Library has added 21 more seating capacity during the reporting period. With this, total seating capacity now stands 400.
- c) To extend better searching of huge electronic resources of the Library, a world renowned Discovery Service has been made available to academic community of the Institute.
- d) Circulation system is being upgraded with RFID based technology for faster transactions.
- e) One RFID based Book Drop Kiosk and two Self- Check-Out Kiosk have been installed in the first floor of library for self issue/re-issue/return of library books beyond regular working hours.
- f) For safekeeping of personal belongings of library users, token-based property counter has been made available throughout library operation hours.

## 4. Infrastructural Development:

- a) For enabling better delivery of circulation facility, the library management software has been upgraded to web-based version. This helped to provide better browsing of library collection, instant email and SMS generation for individual library transactions.
- b) A large format display monitor has been installed for intimating the users about recent developments and facilities of library.
- c) Interior of entire Library building has been renovated with modern illumination system for creating appropriate ambiance for readers.
- d) North East Regional Centre of National Digital Library of India has been setup in the premise of Lakshminath Bezbaroa Central Library and was inaugurated on 20th April 2018.

## 5. Recent Events:

- a) The 6th Annual Meet of All IIT Librarians was conducted during 20th -21st April 2018 at Lakshminath Bezbaroa Central Library. Most of the IIT librarians and all the library professionals of IIT Guwahati attended the event.
- b) Library also organized a User Orientation Programme on EBSCO Discovery Service on 29th October 2018.
- c) Lakshminath Bezbaroa Central Library in collaboration with Springer Nature & Centre for Nanotechnology organized two events namely, "Author Workshop" and "Nano Workshop" for IIT Guwahati academic community on 22nd January 2019.



**Library Advisory Committee:**

Following are the members of Library Advisory Committee:

Prof. G. Sajith, Computer Science and Engineering	Chairman
Dr. Rajkumar P. Thummer, Biosciences and Bioengineering	Member (Department Nominee)
Dr. Raghvendra Gupta, Chemical Engineering	Member (Department Nominee)
Prof. Sandip Paul, Chemistry	Member (Department Nominee)
Prof. Rajib Kumar Bhattacharjya, Civil Engineering	Member (Department Nominee)
Dr. Ashish Anand, Computer Science and Engineering	Member (Department Nominee)
Mr. Supradip Das, Design	Member (Department Nominee)
Dr. A. Rajesh, Electronics and Electrical Engineering	Member (Department Nominee)
Dr. Ngamjahao Kipgen, Humanities and Social Science	Member (Department Nominee)
Dr. Anjan K. Chakrabarty, Mathematics	Member (Department Nominee)
Prof. K. S. R. Krishna Murthy, Mechanical Engineering	Member (Department Nominee)
Dr. Udit Raha, Physics	Member (Department Nominee)
Prof. Niranjana Sahoo, Energy	Member (Centre Nominee)
Dr. Lalit Mohan Pandey, Environment	Member (Centre Nominee)
Dr. Shakuntala Mahanta, Linguistic Science and Technology	Member (Centre Nominee)
Dr. Partho Sarothi Gooch Pattader, Nanotechnology	Member (Centre Nominee)
Dr. Sudip Mitra, Rural Technology	Member (Centre Nominee)
Prof. Rajen Kumar Sinha, Mathematics	Member (Senate Nominee)
Prof. Sreedeeep S., Civil Engineering	Member (Senate Nominee)
Dr. Tamal Kumar Guha, Librarian	Member Secretary (Ex-officio)

# CENTRE FOR EDUCATIONAL TECHNOLOGY

**YEAR OF ESTABLISHMENT OF THE CENTRE:** 2004

## ACADEMIC PROGRAMMES OFFERED

Sl. No.	Academic Programme Offered	Scheme
1	Interdisciplinary/Industry oriented/Research oriented academic courses jointly developed by an international faculty of repute and an IITG faculty	GIAN
2	UG/PG/Research oriented academic courses covering almost all the science / Engineering discipline offered by IITG faculties	CSS-MOOCs
3	Masters & PhD (All Science & Engineering Departments), Short Term courses for Science & Engineering	QIP
4	Short term courses; Training Programs for selected Technical Institutes under TEQIP III, MITACS - Canadian Student Exchange Program	KIT, TEQIP III
5	Teachers Training Camp	CESME under PMMMNMTT and IITG MoU with RMSA, Assam

## LABORATORY FACILITIES

- Editing Laboratory: Edits all kind of educational content created at IITG, using Apple Mac Pro system.
- MOOCs Laboratory (1 & 2): Uploads & maintains MOOCs Content on Servers for National & International web cast via NPTEL HQ at IITM.
- State-of-the-art Video Conferencing Room: The newly constructed Video Conferencing room contains 9+1 node VC system, 5.1 Digital Dolby system & NKN backbone. It enables us to have conference with all IITs and IISc simultaneously.
- Science Laboratory under Centre of Excellence in Science and Mathematics Education, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)
- 3D Virtual Content Creation Lab: Conducts Research on creation of next generation 3D Virtual reality educational content using a Virtual Reality System with Headgear mount.
- E Kalpa Lab: The e-kalpa lab located at 2<sup>nd</sup> floor of Design department has facilities for Video recording and editing, Product Photography and computers required to generate content for Design Education and e-learning\
- Virtual Labs: Under Virtual lab project there are total 18 nos. of Labs which are physically located in 6 departments at IITG.
  - i) Virtual Mass Transfer Lab: This is a chemical engineering lab developed using labview software. A total of 12 experiments have been developed under this lab.
  - ii) System, Communication and Control Lab: This lab is under electrical and electronics engineering department. Ten experiments are developed out of which 4 experiments are real time experiments. Labview software is used to develop the experiments.
  - iii) Virtual Labs for Mechanical Vibrations: This lab is under mechanical engineering department. Ten experiments are developed using Labview software.
- State-of-the-art E-class room: Provides all facilities to conduct online lectures and connects across the Nation. Provides facilities for IITG Faculty to conduct Lectures in other IITs & institutions from IITG campus.
- Video Studios (1,2 & 3): Recording of various educational content is done in these studios. These studios are equipped with devices of latest technology such as, HD cameras, interactive display, Graphics tablet, Switcher, Recorder etc.

- iv) Speech Signal Processing Lab: This lab is under electronics and electrical engineering department. Nine experiments are developed using Scilab software.
- v) Digital VLSI Design Lab: This lab is under electrical and electronics engineering department. Seven experiments are developed using NGSpice software. Currently the lab is integrated and hosted in the cloud.
- vi) Signals and Systems Lab: This lab is under electrical and electronics engineering department. Five experiments are developed using Labview software. Currently the lab is integrated and hosted in the cloud.
- vii) Electrical Machines Lab: This lab is under electrical and electronics engineering department. Nine experiments are developed using adobe flash software. Currently the lab is integrated and hosted in the cloud.
- viii) Electronic Instrumentation Lab: This lab is under electrical and electronics engineering department. Nine experiments are developed using Labview software. Currently the lab is integrated and hosted in the cloud.
- ix) Virtual Laboratory Experience in Fluid and Thermal Sciences: This lab is under mechanical engineering department. Twelve experiments are developed using Labview software.
- x) Digital North East: This lab which is actually a repository of rare periodical archives, ethnographic reports etc is under humanities department.
- xi) Virtual English and Communication: This is a laboratory under humanities department. This laboratory is about English comprehension, grammatical errors, passage making etc. Eight experiments are developed using html, adobe flash software. Currently the lab is integrated and hosted in the cloud.
- xii) Virtual Anthropology Lab: This laboratory is under humanities department. A total of nine experiments are developed using adobe flash software. Currently the lab is integrated and hosted in the cloud.
- xiii) Ergonomics Lab for accessing physical aspect of design: This lab is under design department. Ten experiments are developed using adobe flash software. Currently the lab is integrated and hosted in the cloud.
- xiv) Creative design, prototyping and experimental simulation in human computer interaction: This lab is under design department. Sixteen experiments are developed using html5 and php.
- xv) Remote triggered fiber optic communication lab: This is a real time lab under electronics and

electrical engineering department. Six experiments are developed using Labview software.

- xvi) Remote triggered digital system design lab: This is a real time lab under computer science engineering department. Ten experiments are developed under this lab.
- xvii) Virtual robotics lab: This is a real time lab under mechanical engineering lab. Eight experiments are developed under this lab.
- xviii) Remote triggered electromechanical conversion lab: This is a real time lab under electronics and electrical engineering lab.

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

Sl. No.	Equipment	Qty.
<b>From Institute Fund</b>		
1	Application/ Editing Server	1
2	Web Server	1
3	Unified SAN Storage	1
4	16 port SAN Switch	1
5	12 Port 10G Switch	1
<b>Under NPTEL-MOOCs</b>		
6	Desktop PC	5
7	Video Editing Computer (Apple Mac Pro)	2
8	4TB Thunderbolt HD	18
9	SSD for recorder	4
10	LED Monitor (32 inch)	2
11	SD Recorder	1
12	Cord Lapel Microphone	2
13	Laptop	1

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

Course Content Creation with a foreign expert under GIAN, MOOCS content creation, Pedagogy Training, Teachers training.

Generation of design education courseware, Indian Craft resources, Case studies and video lectures for e-learning. Development of basic science experiments and pedagogy modules, Development, Integration and Hosting of the virtual labs on cloud.

**MAJOR INITIATIVES**

- i. Total 07 nos. of courses were organized under Global Initiative of Academic Networks (GIAN)

- ii. 36 nos. of video courses were completed under MOOCs  
 iii. Total 17 courses were conducted under TEQIP III  
 iv. One National Conference was conducted under TEQIP III  
 v. Total 7 Teachers' Training Camps were conducted under PMMMMNMTT

#### VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Piet Lens	IHE Delft Institute	Biofuel Cell Technology: Fundamentals and Applications	23-27 Apr 2018
Prof. Sanjoy Baruah	University of North Carolina	Mixed-Criticality Real-Time Systems	21-25 May 2018
Dr. K. P. Sandeep	North Carolina State University	Thermal Processing of Foods	28 May - 1 Jun 2018
Dr. Neeraj Rai	Mississippi State University	Density Functional Theory for Heterogeneous Catalysis	6-11 Aug 2018
Dr. Diganta Bhusan Das	Loughborough University	Role of Fluid Flow and Mass Transport in Porous Media for Design of Chemical Reactors for Groundwater Remediation	20-24 Aug 2018
Prof. R Jaykrishnan	Henry Samueli School of Engineering	Urban Traffic Modeling and Control	4-8 Sep 2018
Prof. Yoshinori Itaya	Gifu University	Advances in Combustion and Gasification Technology	29 Oct - 2 Nov 2018
Prof. H.C. Verma	IIT Kanpur	Institute lecture by Prof. H.C. Verma, popular lecture titles "Neutrino Katha"	9 Apr 2018
Prof. Shekhar C. Mande	National Centre for Cell Science in Pune	Focused Intensive Physics Camp for BSc Students	11-22 Jun 2018

#### SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
<b>Under TEQIP-III</b>						
1	Prof. Bishnupada Mandal, Dr. Prakash Kotecha, Dr. R. Anandalakshmi	State-of-the-Art Computational Tools in Science & Engineering	MHRD	9-13 Jul 2018	National	17
2	Prof. Bishnupada Mandal, Dr. Prakash Kotecha, Dr. R. Anandalakshmi	Recent Advances in Materials, Energy & Environmental Engineering	MHRD	16-20 Jul 2018	National	25
3	Dr. Akhilesh Kumar Maurya	Urban Traffic Modeling and Control	MHRD	4-8 Sep 2018	National	15
4	Dr. D. Pamu	Nanomaterials and Smart Devices	MHRD	17-22 Sep 2018	National	28
5	Dr. Mamilla Ravi Sankar, Prof. U.S. Dixit	Sustainable Machining Processes	MHRD	22-27 Oct 2018	National	31

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
6	Dr. Rishikesh Bharti, Prof. S. Dutta, Dr. B. Ku-mar	Flood Risk and River Basin Management	MHRD	29 Oct - 2 Nov 2018	National	29
7	Dr. Sudip Mitra, Dr. Meena Khwairak-pam, Dr. Siddhartha Singha	Workshop on Tailoring tech-nologies for Rural Sector: De-velopment and Dissemination	MHRD	29 Oct - 2 Nov 2018	National	13
8	Dr. Chandan Kumar, Dr. Ravindranath Adda	Power Quality Issues in Elec-tric Grid and Mitiga-tion Tecniques	MHRD	19 Nov 2018	National	6
9	Dr. Ravindranath Adda, Dr. Chandan Kumar, Dr. Praveen Tripathy	Power Electronics for Sustain-able Energy Resources	MHRD	20 Nov 2018	National	6
10	Dr. Sougata Karma-kar	Ergonomics in Design and Engineering Educa-tion	MHRD	26-30 Nov 2018	National	28
11	Dr. S. Pal, Dr. Pankaj Biswas	Advances in Welding Re-search and Technology	MHRD	26-30 Nov 2018	National	18
12	Prof. P. Muthukumar	Energy Efficient and Green Energy Technol-ogy	MHRD	26-30 Nov 2018	National	45
13	Prof. Santosh Kumar Dwivedy	STC on Vibration and Noise Analysis of Me-chanical Sys-tems	MHRD	4-8 Dec 2018	National	32
14	Dr. John Jose	Advanced Computer Architec-ture	MHRD	10-14 Dec 2018	National	37
15	Dr. Prakash Kotecha	Recent Advances in Ap-plied Optimization	MHRD	24-28 Dec 2018	National	33
16	Prof. Shyamanta M Hazarika	Fundamentals of Robot-ics and Artificial Intel-ligence	MHRD	4-8 Feb 2019	National	28
17	Dr. Chandan Das, Dr. Mihir Kumar Purkait	Advances in Separation Techniques	MHRD	15 Mar 2019	National	8
18	Dr. Pankaj Kalita	National Conference on Waste to Energy Conver-sion	MHRD	28-29 Dec 2018	National	35
<b>Under PMMMNMTT</b>						
1	Prof. Sunil Khijwania, Prof. N. Selvaraju, Prof. B.K. Sarma	Mathematics TTC	MHRD	7-12 Jan 2019	National	36
2	Prof. Sunil Khijwania	Physics Day (Outreach pro-gram under Center for Excel-lence in Science & Mathemat-ics Educa-tion) :	MHRD	30 Dec 2018	National	56

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
3	Prof. Sunil Khijwania	Brainstorming workshop on the Educational System of NE India: Present Situation, Challenges and Way Ahead	MHRD	26 Aug 2018	National	-
4	Prof. Sunil Khijwania	Physics Workshop for BSc Students	MHRD	11-22 Jun 2018	National	21
5	Prof. Sunil Khijwania	Physics TTC	MHRD	10-17 May 2018	National	28
6	Prof. H.C. Verma, IIT Kanpur, Prof. Sunil Khijwania	Physics TTC	MHRD	4-6 Apr 2018	National	45
7	Prof. H.C. Verma, IIT Kanpur, Prof. Sunil Khijwania	Physics TTC	MHRD	9-11 Apr 2018	National	51
8	Prof. Sunil Khijwania	Institute lecture by Prof H. C. Verma	MHRD	9 Apr 2018	National	250
<b>Under E&amp;ICT Academy</b>						
1	Dr. Ferdous Ahmed (IIIT Guwahati)	Python Programming	MEITY, Govt. of India	11-17 Apr 2018	National	28
2	Dr. Ashish Ranjan (NIT Manipur)	IoT: Gateway to Smart Future	MEITY, Govt. of India	12-17 Apr 2018	National	50
3	Dr. Santosh Biswas (IIT Guwahati) and Dr. Sonali Chauhan (IIT Guwahati)	Embedded Systems	MEITY, Govt. of India	19-25 Apr 2018	National	8
4	Dr. Sushmita Sen Gupta (B N College)	Behavioral Remodeling for Enhancing the Classroom Delivery of Teachers	MEITY, Govt. of India	19-25 Apr 2018	National	68
5	Mr. Maibam Sanju Meetei (RGU Arunachal Pradesh)	Digital Signal Processing	MEITY, Govt. of India	30 Apr - 5 May 2018	National	29
6	Dr. Hemalata Devi (Nonoi College)	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	30 Apr - 5 May 2018	National	32
7	Dr. Amitabh Nag (CIT Kokrajhar)	Network & Cyber Security	MEITY, Govt. of India	7-12 May 2018	National	27
8	Mr. Adarsh Pradhan (GIMT, Guwahati)	Behavioral Remodeling for Enhancing the Classroom Delivery of Teachers	MEITY, Govt. of India	21-26 May 2018	National	46



Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
9	Dr. Niraj Barua (B Borooah College)	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	21-27 May 2018	National	40
10	Dr. Nabojyoti Sharma (Pandu College)	Behavioral Remodeling and use of ICT Tools for Class-room Delivery of Teachers	MEITY, Govt. of India	4-10 Jun 2018	National	41
11	Dr. T Gopalakrishna (Bannari Amman Institute, Tamil Nadu)	Data Analytics using Python Programming	MEITY, Govt. of India	4-8 Jun 2018	National	28
12	Sekhar Kant Saha (MSSV Nagaon)	Use of ICT tools for enhancing the Classroom Delivery of Teachers	MEITY, Govt. of India	11-17 Jun 2018	National	31
13	Prof. P Ramesh (KITs) & Mr. Veera Raghav (KITs)	Machine Learning using Python	MEITY, Govt. of India	25-30 Jun 2018	National	33
14	PI & Co-PI	Behavioral Remodelling & use of ICT Tools for enhancing the Classroom Delivery of Teachers	MEITY, Govt. of India	22-26 Jun 2018	National	35
15	Ms. Rekha Devi (NIELIT Imphal)	Python Programming	MEITY, Govt. of India	25-29 Jun 2018	National	23
16	PI & Co-PI	Behavioural Remodelling for enhancing Classroom Delivery of Teachers	MEITY, Govt. of India	2-8 Jul 2018	National	39
17	Dr. Prabhakaran K (BP Podder Institute of Management)	Behavioural Remodelling for enhancing Classroom Delivery of Teachers	MEITY, Govt. of India	10-15 Jul 2018	National	47
18	PI & Co-PI	Behavioural Remodelling and use of ICT Tools for enhancing the Classroom Delivery of Teachers	MEITY, Govt. of India	25-31 Jul 2018	National	57
19	PI & Co-PI	Internet of Things for emerging Engineering Applications	MEITY, Govt. of India	23-28 Jul 2018	National	37
20	Prof. B Balasubramium	SoC: FPGA Based Design	MEITY, Govt. of India	30 Sep - 3 Aug 2018	National	40
21	Mr. Samrat Hore	Data Science using R Programming	MEITY, Govt. of India	31 Jul - 4 Aug 2018	National	25

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
22	PI & Co-PI	Behavioral Remodelling for enhancing the Classroom De-livery of Teachers	MEITY, Govt. of India	20-29 Aug 2018	National	54
23	Dr. Bhuden Saikia	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	10-16 Sep 2018	National	23
24	Dr. Arnab Maji	Internet of Things : Security Issues	MEITY, Govt. of India	10-14 Sep 2018	National	37
25	PI & Co-PI	Behavioral Remodeling and use of ICT Tools for enhanc-ing the Class-room Delivery of Teachers	MEITY, Govt. of India	12-18 Sep 2018	National	28
26	Dr. Kandarpa Phukan	Behavioral Remodelling and use of ICT Tools for enhanc-ing the Class-room Delivery of Teachers	MEITY, Govt. of India	24-29 Sep 2018	National	33
27	Dr. Paramchari	Machine Learning - Applica-tion and Frameworks	MEITY, Govt. of India	24-28 Sep 2018	National	27
28	Ms Arpana Nath, Ms Bandana Deka, Ms. Gee-tali Das	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	1-7 Oct 2018	National	31
29	Dr. Rudra Shankar Dhar	Application of Synopsys Sen-taurus TCAD Tool in model-ling devices	MEITY, Govt. of India	8-12 Oct 2018	National	24
30	Ms. Indira Gogoi, Dr. Munirul Hussain	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers	MEITY, Govt. of India	22-31 Oct 2018	National	46
31	Dr. Runjun Phookun, Dr. Ananta Pegu	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	29 Oct - 4 Nov 2018	National	42
32	Mr. Gulala Chandra Karmakar	Data Analysis using Statistical Software Package	MEITY, Govt. of India	12-18 Nov 2018	National	35
33	Dr. Gyan Jyoti	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	12-18 Nov 2018	National	38
34	Dr. Juli Thakuria	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	12-18 Nov 2018	National	45
35	Mr. Paresh Kumar Sar-mah & Mr. Santosh Borkakati	Use of ICT Tools for Classroom Teaching	MEITY, Govt. of India	12-18 Nov 2018	National	53
36	Dr. Joyatri Bora and Mr. Madhusudan Mishra	Emerging Trends in Wireless Communication	MEITY, Govt. of India	26-30 Nov 2018	National	36

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
37	Dr. Ripima Buzarbaruah, Mr. Biswajit Kalita	Behavioral Remodeling and use of ICT Tools For Class-room Delivery of Teachers	MEITY, Govt. of India	26 Nov - 1 Dec 2018	National	25
38	Dr. Dhiraj Talukdar, Dr. Dhanju Mani Pathak	Behavioral Remodeling and use of ICT Tools For Class-room Delivery of Teachers	MEITY, Govt. of India	26 Nov -2 Dec 2018	National	54
39	Dr. Dwipen Bezbaruah	Behavioral Remodeling and use of ICT Tools For Class-room Delivery of Teachers	MEITY, Govt. of India	3-8 Dec 2018	National	19
40	Mr. S. Ch. Vijaya Bhaskar	IoT & Embedded System De-sign	MEITY, Govt. of India	3-8 Dec 2018	National	38
41	Dr. Gautomi Dutta Borah, Mr. Prasenjit Borka-koti	Behavioral Remodeling and use of ICT Tools For Class-room Delivery of Teachers	MEITY, Govt. of India	10-16 Dec 2018	National	41
42	Prof. Rashi Borgohain	VLSI DESIGN	MEITY, Govt. of India	17-29 Dec 2018	National	33
43	Dr. Samir Sarkar	Data Analytics using R Programming	MEITY, Govt. of India	8-12 Jan 2019	National	37
44	Mr. Sujan Krishna Samanta	Behavioral Remodelling and Use of ICT Tools for class-room delivery of Teachers	MEITY, Govt. of India	9-15 Jan 2019	National	37
45	Mr. Aniruddha Bera	Behavioral Remodelling and Use of ICT Tools for class-room delivery of Teachers	MEITY, Govt. of India	14-19 Jan 2019	National	36
46	Fr. Vintu Augustine(Principal)	Behavioral Remodelling and Use of ICT Tools for class-room delivery of Teachers	MEITY, Govt. of India	21-27 Jan 2019	National	23
47	Dr.Sastri Ram Kachari	Use of ICT Tools for Class-room Tecahing	MEITY, Govt. of India	21-27 Jan 2019	National	50
48	Dr. L Rajesh	Data Science using Python Programming	MEITY, Govt. of India	28 Jan - 1 Feb 2019	National	32
49	Dr. P. Saravanan	VLSI Design at Deep Submi-cron Node	MEITY, Govt. of India	4-8 Feb 2019	National	35
50	Ms. Nandita Rajbangshi	Behavioral Remodeling and Use of ICT Tools for Class-room Delivery of Teachers	MEITY, Govt. of India	4-9 Feb 2019	National	43
51	Prof.Manisha Ingale, Prof. Rajkumar D Koma-ti	VLSI Design at Deep Submi-cron Node	MEITY, Govt. of India	18-22 Feb 2019	National	30

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
52	Dr Jyoti Koujalagi	Behavioral Remodeling and Use of ICT Tools for Class-room Delivery of Teachers	MEITY, Govt. of India	19-23 Feb 2019	National	40
53	Ms. Femina Brahma	Use of ICT Tools for Class-room Teaching	MEITY, Govt. of India	21-27 Feb 2019	National	43
54	Dr. Pranab Jyoti Deka (Kumar Bhaskar)	Use of ICT Tools for Class-room Teaching	MEITY, Govt. of India	25 Feb - 2 Mar 2019	National	33
55	Mr. Abul Faiz	Use of ICT Tools for Class-room Teaching	MEITY, Govt. of India	4-9 Mar 2019	National	34
56	Dr. Ashish Ranjan	VLSI Design Flow Using Cadence Suite	MEITY, Govt. of India	25-29 Mar 2019	National	42
57	Dr. Sushmita Sen Gupta	Moodle: Open Source Learning Management System	MEITY, Govt. of India	23-27 Mar 2019	National	40
58	Dr. Dhires Chakraborty	Use of ICT Tools For Class-room Teaching	MEITY, Govt. of India	23-29 Mar 2019	National	47
<b>NKN</b>						
1	Prof. Ratnajit Bhattacharjee	Summer FDP on Big Data Analytics	MEITY, Govt. of India	21-25 May 2018	National	73
2	Dr. Gaurav Trivedi	Summer FDP on VLSI Design and Verification	MEITY, Govt. of India	26-30 May 2018	National	41
3	Dr. Praveen Kumar	Summer FDP on Electric Vehicle	MEITY, Govt. of India	28 May - 1 Jun 2018	National	26
4	Prof. Ratnajit Bhattacharjee (IIT Guwahati)	Summer FDP on 5G Communication	MEITY, Govt. of India	11-15 Jun 2018	National	38
5	Dr. Rohit Sinha (IIT Guwahati)	Summer FDP on ANN and Deep Learning	MEITY, Govt. of India	11-15 Jun 2018	National	88
6	Dr. Santosh Biswas (IIT Guwahati)	Summer FDP on Internet of Things	MEITY, Govt. of India	18-22 Jun 2018	National	57
7	Prof. Ratnajit Bhattacharjee	Joint FDP on Wireless and Mobile Communication	MEITY, Govt. of India	03-07 Dec 2018	National	150
8	Dr. Gaurav Trivedi	Joint FDP on DSP and Sensors	MEITY, Govt. of India	10-14 Dec 2018	National	100
9	Dr. Prithwiji Guha	Joint FDP on AI and Machine Learning	MEITY, Govt. of India	17-21 Dec 2018	National	151
<b>Workshop</b>						
1	Mr. Imocha Singh Oinam and Mr. Tejmani Sinam (Manipal University)	Data Analytics using R Programming	MEITY, Govt. of India	9-11 Apr 2018	National	46
2	Dr. Soumik Roy and Dr. Biplob Mondal (Tezpur University)	Mentor Graphics ASIC Design Flow	MEITY, Govt. of India	26-28 Apr 2018	National	29

Sl. No.	Faculty	Name of Course	Funded by	Date	National/International	No. of participants
3	Dr. Utpal Rajguru (Jagiroad Col-lege)	Webpage Designing	MEITY, Govt. of India	14 Apr 2018	National	23
4	PI & Co-PI	Virtual Reality using Unity 3D Modelling	MEITY, Govt. of India	04-06 Jun 2018	National	30
5	Dr. Pratyusha Sharma and Dr. Chitrapriya	Data Analytics using R Pro-gramming	MEITY, Govt. of India	30 Aug - 1 Sep 2018	National	47
6	PI & Co-PI Dr. Gaurav Trivedi	FPGA	MEITY, Govt. of India	10 Nov 18	National	80
<b>Training Programme</b>						
1	PI & Co-PI	Soft Skill	MEITY, Govt. of India	2-6 Apr 2018	National	28
2	PI & Co-PI	Soft Skill	MEITY, Govt. of India	2-8 May 2018	National	57
3	PI & Co-PI	Patent Research	MEITY, Govt. of India	21-23 Jun 2018	National	25
4	PI & Co-PI	IoT for emerging Engineering Applications	MEITY, Govt. of India	16-20 Jul 2018	National	31
5	PI & Co-PI	Winter Training Programme on "Python Programming"	MEITY, Govt. of India	2-7 Jan 2019	National	6
<b>Under Virtual Lab Project</b>						
1	Santosh Biswas and Ratnajit Bhattacharjee	Virtual lab. workshop--- BCET Durgapur	Virtual labs.	25-26 Apr 2018	National	600
2	Santosh Biswas and Ratnajit Bhattacharjee	Virtual lab. workshop— IIT Bhilai and GEC Raipur Dur-gapur	Virtual labs.	26-27 Mar 2019	National	550

**FACULTY MEMBERS ASSOCIATED WITH THE CENTRE**

Sl. No.	Name	Designation and Department
1	Bhattacharjee, Ratnajit	Professor, Department of Electronics and Electrical Engineering
2	Biswas, Santosh	Associate Professor, Department of Computer Science and Engineering
3	Deka, Jatin	Professor, Department of Computer Science and Engineering
4	Gaurav, Trivedi	Associate Professor, Department of Electronics and Electrical Engineering
5	Khijwania, Sunil (Head of the Centre)	Professor, Department of Physics
6	Punekar, R. Mokashi	Professor, Department of Design
7	Shende, Avinash	Associate Professor, Department of Design
8	Soorathia, Keyur	Associate Professor, Department of Design

# CENTRAL INSTRUMENTS FACILITY

## INTRODUCTION

The Central Instruments Facility of IIT Guwahati hosts various sophisticated instruments which cater the need of cutting edge research in many areas of modern science and technology. It is one of the largest such facility in the country. CIF is used by 10 of the 16 academic/research departments and centres of the institutes. The instruments are operated through research scholars as a part of their teaching assistantship under supervision of technical staff of the centre. Apart from regular sample analysis of IIT Guwahati, it is also analyzing samples of other academic and research institutes of north-east region of India at a special discounted rate. In addition, CIF receives samples from all over the country from Jammu & Kashmir in the north to Tamil Nadu in the south. The centre also conducts scientific workshop/conference on sophisticated instruments to facilitate internal as well as external researchers.

**YEAR OF ESTABLISHMENT OF THE CENTRE:** 2004

## EXISTING FACILITIES (MAJOR EQUIPMENT)

- Electron Spin Resonance (ESR) Spectrometer, Make: JEOL, Model: JES-FA200
- Field Emission Scanning Electron Microscope (FESEM) with OXFORD EDS, Make: Zeiss, Model: Sigma
- Laser Micro Raman System, Make: Horiba Jobin Yvon, Model: LabRam HR
- High Temperature Differential Scanning Calorimetry (DSC) / Thermo Gravimetric (TG) System, Make: Netzsch Model: STA449F3A00
- Transmission Electron Microscope (TEM), Make: JEOL, Model: JEM 2100
- Vibrating Sample Magnetometer (VSM), Make: Lakeshore, Model: 7400 series
- Liquid Chromatography Mass Spectrometer (LCMS/MS), Make: Waters, Model: Q-ToF Premier
- Picosecond Time-resolved and Steady State Luminescence Spectrometer, Make: Edinburgh Instruments, Model: Lifespec II & FSP 920.
- Desktop Helium Liquefier, Make: Cryomech, Model: LHEP18
- Physical Property Measurement System (PPMS), Make: Quantum Design, Model: PPMS-9
- Nanoindentor Make: CETR, Model: UNMT-1
- Spectroscopic Ellipsometer Make: SEMILAB, Model: GESSE
- Single Crystal X-ray Diffractometer, Make: Agilent, Model: Single source supernova E (Mo source).
- Surface Area and pore size analyzer and high pressure surface analyzer, Make: Quantachrome Instruments, Model: Autosorb, IQ MP
- Impedance and Material Analyzer (IMA), Make: Novocontrol, Model: BDS 2300
- 600MHz Nuclear Magnetic Resonance (NMR) Spectrometer, Make: Bruker, Model: AVANCE III HD
- 250 KN Servo Hydraulic Universal Testing Machine, Make: BISS, Model: MEDIAN 250
- Matrix Assisted Laser Desorption/Ionization – Time Of Flight, Make: BRUKER Model : AUTOFLEX SPEED
- Field Emission transmission Electron Microscope (FETEM), Make: JEOL, Model: 2100F(HR)
- Isothermal Titration Calorimeter, Make: GE Health Care, Model: iTC 200 Micro-calorimeter
- Field Emission Scanning Electron Microscope (FESEM) with OXFORD windowless EDS, Make: Zeiss, Model: Gemini 300
- Micro Particle Image Velocimetry system, Make: Dantec Model : 9080M0571
- Field Emission Scanning Electron Microscope (FESEM), Make: Zeiss, Model: Sigma 300
- Large Molecule Single Crystal X-ray Diffractometer, Make: Rigaku Model: Micromax 007 HF R-axis IV++ Oxford
- High Temperature Gel Permeation chromatography (HT-GPC) system, Make: Agilent, Model: G7820A
- Atomic Force Microscope, Make: Oxford Instruments, Model: Cypher S



- 9KW Powder X-Ray Diffraction System, Make: Rigaku Technologies, JAPAN, Model: Smartlab
- 5KN Electro mechanical Universal Testing Machine, Make: ZwickRoell, Model: Z005TN Proline.
- Field Emission Scanning Electron Microscope (FESEM), Make: Zeiss, Model: Sigma 300

**MAJOR EQUIPMENT AND FACILITIES ACQUIRED**

- Photovoltaic/ Solar Cell/ Photo-Electrochemical Analyser/ Workstation, Make: CH Instruments Inc., USA, Model: CHI 604E + Amp i-t

- Element EDS Detector for existing Sigma 300 FESEM system; Make: EDAX Inc, USA

**MAJOR AREAS OF RESEARCH AND DEVELOPMENT**

- CIF hosts various sophisticated instruments which cater the need of cutting edge research in many areas of modern science and technology.
- CIF is used by 12 of the 14 Academic/Research Departments and Centres of the Institute.
- The facilities of CIF is also used by external institutes and research organisations throughout India.

**VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES**

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Shri S. S. Sandhu,	Addi-tional Secretary (TE), MHRD	Visit of CIF laboratories	30 Nov 2018
Prof. Keith Jones, Exec Dean (Faculty of Sci-ences) Prof. Murat Karakus, Assoc. Dean of Faculty of Engineering,	Adelaide University Australia	Possible collaboration with IIT Guwahati	31 Jan 2019

**MAJOR EVENTS**

Sl. No.	Visitors	Purpose of visit	Date	Remarks
1	Dr. Sunil Khijwania, Head, Center for Education Technology (CET)	Visit to CIF Laborato-ries	21 Jun 2018	Focused Intensive Physics Camp for BSc Students 11 – 22 June, 2018 Cen-ter for Excellence in Science & Mathe-matics Educa-tion, PMMMMNMTT, IIT Guwahati
2	Centre of Excellence (CoEN) Don Bosco Uni-versity Azara	Visit to CIF laboratories Field Emission Trans-mission Electron Mi-croscope (FETEM), Field Emis-sion scan-ning electron micro-scope (FESEM), Atom-ic Force Microscope (AFM), Powder X-ray Diffractometer (PXR), Universal Testing ma-chine (UTM) and Time resolved fluorescence spectrom-eter (TRPL)	28 Feb 2019	Visit of participants of the Con-ference 'Amazing Nano 2019' was organized upon request received from Prof. Sunandan Baruah, Department of Elec-tronics and communication engineer-ing, Don Bosco University, AZARA
3	Visit of students from GIFU University, JA-PAN	Spring school program for stu-dents of Gifu University, JAPAN or-ganized by Alumni and External relation, IIT Guwahati	11 Mar 2019	The visit was requested by Alumni and External relation, IIT Guwahati

**SPECIAL MENTION**

An amount equal to Rs.3,57,490.60 has been collected as sample charges from the analysis of external samples during the reporting year.

**FACULTY MEMBER ASSOCIATED WITH THE CENTRE**

Qureshi, Mohammad (Head of the Centre)  
Professor, Department of Chemistry

# COMPUTER AND COMMUNICATION CENTRE

## INTRODUCTION

The Computer and Communication Centre of IIT Guwahati is the central computing resource pool of the institute. The Computer and Communication Centre is responsible for:

- Providing Email service and Internet connectivity to the institute
- Catering to the general purpose as well as high computational need of the users
- Maintenance of the campus network
- Hosting and maintenance of Institute's web pages
- Providing EPABX services
- Providing Office Automation services

The Computer and Communication Centre has been involved in development of several in-house software packages. It is also providing assistance to other academic institute of north-east region of India. The centre also conducts summer training to facilitate external students from various institutes of the region.

The computer lab of the centre is equipped with PCs with the latest configurations to facilitate the need of the IITG community. The lab remains open for 16 hours in a day which is accessible to all authorized users of the Institute. Additionally, this year the lab was opened for 24 hrs during mid and end semester examinations. Computer practical for the common courses are held in the Centre. The computer lab facilities of the Centre are also extended to the students of other institutes. The resources of the Centre are constantly upgraded to meet the ever evolving standards of information technology.

The Computer and Communication Centre provide and maintain the PCs of the faculty and staff members of the Institute. In addition to providing direct support to the members of the Institute, the Computer and Communication Centre also frequently hosts write-ups (HOW-TOs, FAQs etc.) in its Intranet website. The Centre also maintains an online E-Notice board for posting and viewing notices electronically campus-wide, a web-based Complain Management Information System etc.

## MAJOR EQUIPMENT AND FACILITIES

The major equipment purchased in the last financial year are:

### New EMail System:

IIT Guwahati was having its own on-premises Emailing facility, but due to the ever changing hardware technology and also the involvement of huge amount of fund in procurement and annual maintenance of Storage and Servers, it was decided that we migrate our Email System to cloud. Detailed survey was carried out and it was found that Microsoft Office 365 was providing 50 GB email storage along with access to a host of other applications including 1TB storage on Onedrive. Finally, after approval, we migrated our on-premises Email System to Microsoft Office 365 on cloud and currently we have approximately 23000 email accounts including IIT Guwahati alumni.

### Large Format Display and Information Kiosk:

The centre has procured Large Format Display for administrative monitoring different devices like Data Center PDU status, UPS status, Traffic analysis of proxy servers and network bandwidth statistics along with for displaying of many other highlights to the users from time to time.

It has also procured two numbers of Information Kiosk for allowing users to check / view their account details, apply new user account for email, proxy and computational server, apply for No Dues etc.

### Video Conference Device & CCTV:

The centre has purchased Panasonic KX-VC1600SX Video Conferencing equipment for centralized Video Conferencing facility for IIT Guwahati. This facility also includes two microphones and one Panasonic 55" FHD Display. The equipment support Skype calls too.

The centre has installed CCTV in all the major areas including CC Lab.

### PARAM-ISHAN:

Around 664 users (including Faculty, research scholars, students and researchers from outside IIT Guwahati) are currently working on the system. This year we have added 250 new users. Around 85% utilization of the total computing power has been observed during the year. Total 4 down time was taken this year, maximum 35 hours.

The PARAM-ISHAN, 250 TF peak computing performance, supercomputing facility was inaugurated by Shri Prakash Javadekar, Hon'ble Minister HRD, Gol on 19th Sept, 2016 at

Data Center, IIT Guwahati. This was a joint project between IIT Guwahati and CDAC Pune. The facility consists of 126 Compute Nodes without Accelerator, 04 nodes of High Memory Compute Nodes without any Accelerator, 16 compute nodes with GPU and 16 Compute Nodes with Xeon Phi.

#### **Computer Network Enhancement:**

The centre is responsible for providing the network connectivity to upcoming hostels/buildings as well as to reinforce the existing network infrastructure. To enhance and secure the internet connectivity to IITG end-user terminals and servers, Centre has started the process of procuring a Next-Generation Firewall (NGFW). This shall overcome http-proxy based limitations and help our users to run latest apps without any hassle.

This year we have also initiated to procure centralized wireless system to cover new and upcoming locations including Guest Houses, Research Building and Academic classrooms.

The centre has also extended the network and voice facility to some new offices and infrastructures, like, Research Building, Academic classroom, Transit quarters etc.

#### **Expansion of existing EPABX system:**

With the expansion of the campus, the Computer Centre has increased the capability of the existing EPABX system and also extended its telephone network to new offices and expansion wings of the institute.

This year the centre has procured around 340 nos. of caller-id phones which shall be distributed where it is necessary.

#### **Office Automation Services**

The Computer and Communication Centre has been involved in development of several in-house software packages for providing services to institute's various office automation works. These include IITG Recruitment, Staff Administration, Faculty Administration, Payroll System, PDA Application, PF Application, Student Profile, Faculty Leave System, Staff Leave System, CCD Portal, Alumni Registration, Student Affairs, E-Payment Application, ID Card Application, MCM Scholarship, Gymkhana Application, RND Project Staff Application, Faculty Recruitment Application, GMIS Application, Sports Recruitment, SA Course Registration, Library Trainee Recruitment, CC Trainee Recruitment, Automation Recruitment, Stock Management, Sishugram Voluntary Donation, Electricity Billing System, No-Dues Application for Staff and Faculty, Telephone Bill Reimbursement, TA Authentication and Performance Evaluation, Record Archival and Management System, Instrument Booking System, Hostel IP Calculator, ERNET Recruitment, Voluntary Donation (as per administration's requirement), MTech Project Allotment, Online (Dual-Degree+MA+MTech-MDes/MS+PhD) application as well as data process, Student Course Registration, Student Course Feedback, Convocation Registration, New Students Registration, Students Course Alias, Freshers Portal for collecting additional information, NAD portal, Supplementary Registration and HSS Course Registration.

In this reporting year, we have released Budget and Purchase System, APAR Application, Central Application Portal (CAP), Central Authentication System (CAS), Library Vendor Registration, BSBE Departmental Library, IPDF Application, IIT Club Contribution portal, GTIS Application, Automation Website and Faculty Forum Contribution portal. We have also newly integrated the admin module to the existing CAP portal, EOSRC Office Automation module to the existing student profile portal, redesign of the existing staff leave system, integration of Form 16 enhancement/Honorary payment/report generation/7th Pay Allowance into the existing payroll system, integration of auto-generated IITG email account selection module into the existing New Students Registration portal, integration of admin module and shortlisting module to the existing IITG Recruitment portal and redesign of the existing CCD portal.

We have plan to implement application software for different purposes for Student affairs, Finance & Accounts, Stores & Purchase, Admin Section and various departments along with the inclusion of Active Directory(AD) Environment Setup for Authentication, AD Self Service Portal for Change Password/Reset Password/Find User, AD Administration Portal, Requisition Form for New Users, S&P Inventory System, File Tracking system, Internship Portal, Room Booking Portal, Student Leave System and integration of STAF module to the existing Student Profile application.

#### **Renewal of License /Software:**

The Centre had renewed the Matlab software with unlimited user campus license.

#### **ONGOING SPONSORED PROGRAMMES**

##### **National Knowledge Network (NKN) Project**

NKN facility have been successfully used to host several Video conferences and events including workshops, review meetings and Virtual classrooms.

##### **ERNET Point of Presence**

IIT Guwahati, a PoP (Point-of-Presence) for ERNET India in the whole of North-Eastern India is entrusted with the task of networking the academic institutions of the region and provide technical assistance where required. Currently the following, two educational and research institutes are using Internet connectivity from the ERNET PoP.

- IIT Guwahati, (1:1) 8 Mbps leased line
- Tezpur University, Assam, (1:1) 2 Mbps leased line
- The PoP backbone has 1 Gbps connectivity to NKN Guwahati, NKN Delhi, and NKN Mumbai

#### **CONSULTANCY AND OTHER COMMUNITY SERVICES**

The Computer Centre has been involved in setting up of campus network and providing consultancy services to nearby educational institutes and state government departments as and when needed.

#### **FACULTY MEMBER ASSOCIATED WITH THE CENTRE**

Kapoor, Kalpesh, (**Head of the Centre**)

Professor, Department of Mathematics

**PART III**

**RESEARCH PUBLICATIONS**

**Journal Papers**

**Conference Papers**

**Books**

**Book Chapters**

**DETAILS OF RESEARCH AND DEVELOPMENT ACTIVITIES**



## Journal Papers

## Biosciences and Bioengineering

Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
Kuldeep Mahato, and Pranjali Chandra	Paper-Based Miniaturized Immunosensor for Naked Eye Alp Detection Based on Digital Image Colorimetry Integrated with Smartphone	Biosensors and Bioelectronics	2019	128	-	9	16
Kuldeep Mahato, Sahil Nagpal, Mahero Ayesha Shah, Ananya Srivastava, Pawan Kumar Maurya, Shounak Roy, Amit Jaiswal, Renu Singh, and Pranjali Chandra	Gold Nanoparticle Surface Engineering Strategies and Their Applications in Biomedicine and Diagnostics	3 Biotech	2019	9	-	1	19
Sachin Kadian, Brahm Dutt Arya, Sumit Kumar, Shaillesh N Sharma, Rishi Pal Chauhan, Ananya Srivastava, Pranjali Chandra, Surinder P Singh	Synthesis and Application of PHT-TiO <sub>2</sub> Nanohybrid for Amperometric Glucose Detection in Human Saliva Sample	Electroanalysis	2018	30	11	2793	2802
Mahmood H Akhtar, Khalil K Hussain, NG Gurudatt, Pranjali Chandra, Yoon-Bo Shim	Ultrasensitive dual probe immunosensor for the monitoring of nicotine induced-brain derived neurotrophic factor released from cancer cells	Biosensors and Bioelectronics	2018	116	-	108	115
Anupriya Baranwal, Pranjali Chandra	Clinical implications and electrochemical biosensing of monoamine neurotransmitters in body fluids, in vitro, in vivo, and ex vivo models	Biosensors and Bioelectronics	2018	121	-	137	152
Vivek Kumar Bajpaia, Madhu Kamle, Shruti Shukla, Dipendra Kumar Mahato, Pranjali Chandra, Seung Kyu Hwang, Pradeep Kumar, Yun Suk Huh, Young-Kyu Han	Prospects of using nanotechnology for food preservation, safety, and security	Journal of Food and Drug Analysis	2018	26	4	1201	1214
Riddhipratim Mandal, Anupriya Baranwal, Ananya Srivastava, Pranjali Chandra	Evolving trends in bio/chemical sensors fabrication incorporating bimetallic nanoparticles	Biosensors and Bioelectronics	2018	117	-	546	561
Anupriya Baranwal, Adarsh Kumar Chiranjivi, Ashutosh Kumar, Vikash Kumar Dubey, Pranjali Chandra	Design of commercially comparable nanotherapeutic agent against human disease-causing parasite, Leishmania	Scientific Reports	2018	8	1	1	10



Biosciences and Bioengineering

Journal Papers

Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
Ira Bhatnagar, Kuldeep Mahato, Kranthi Kiran Reddy Ealla, Amit Asthana, and Pranjal Chandra	Chitosan stabilized gold nanoparticle mediated self-assembled glip Nanobiosensor for diagnosis of invasive aspergillosis	International Journal of Biological Macromolecules	2018	110	-	449	456
Kuldeep Mahato, Pranjal Chandra	A disposable biosensing device for naked-eye Detection of milk pasteurization indicator	Science Trends	2019	-	<a href="http://doi.org/10.31988/SciTrends.47118">http://doi.org/10.31988/SciTrends.47118</a>	--	--
Ashutosh Kumar, Swati Sharma, Lalit Mohan Pandey, Pranjal Chandra	Nanoengineered material based biosensing electrodes for enzymatic biofuel cells applications	Materials Science For Energy Technologies	2018	1	1	38	48
Anupriya Baranwal, Ashutosh Kumar, A Priyadharshini, Gopi Suresh Oggu, Ira Bhatnagar, Ananya Srivastava, Pranjal Chandra	Chitosan: an undisputed bio-fabrication material for tissue engineering and bio-sensing applications	International Journal of Biological Macromolecules	2018	110	-	110	123
Karabi Saikia and Nitin Chaudhary	Antimicrobial peptides from C-terminal amphipathic region of E. coli Ft5A	BBA Biomembranes	2018	1860	12	2506	2514
Debika Datta, Adicherla Harikrishna, Ramakrishnan Nagaraj, Nitin Chaudhary	Self-assembly of $\beta$ -turn motif-connected tandem repeats of A $\beta$ 16-22 and its aromatic analogs	Peptide Science	2018	-	-	e24099	-
Debika Datta, Vishnu Kumar, Sachin Kumar, Ramakrishnan Nagaraj, and Nitin Chaudhary	Hydrogel formation by an aromatic analogue of a $\beta$ -amyloid fragment, A $\beta$ 16-22: a scaffold for 3D cell culture	ACS Omega	2019	4	-	620	627
Ashish, A. P., Ravi, G., Biju, B., Naik, D. N. and Venkata Dasu, V.	Development of high biomass and lipid yielding medium for newly isolated Rhodotorula mucilaginosa.	Fuel	2019	239	-	874	885
Jayachandran, D., Chityala, S., Prabhu, A. A. and Venkata Dasu, V.	Cationic reverse micellar based purification of recombinant glutaminase free L-asparaginase II of Bacillus subtilis WB800N from fermentation medi	Protein Expression and Purification	2019	157	-	1	8
Silpa, U., Ashish, A. P., Pande, R., Hande, R. and Venkata Dasu, V.	Artificial neural network-genetic algorithm (ANN-GA) based medium optimization for the production of human interferon gamma (hIFN- $\gamma$ ) in Kluyveromyces lactis cell factory.	The Canadian Journal of Chemical Engineering	2019	97	4	843	858
Pandey, R., Kumar, N., Monteiro, G. A., Venkata Dasu, V. and Prazeres, D.M.F.	Re-engineering of an Escherichia coli K-12 strain for the efficient production of recombinant human Interferon Gamma.	Enzyme and Microbial Technology.	2018	117	-	23	31

## Biosciences and Bioengineering

Journal Papers	Biosciences and Bioengineering						
Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
Naik, D. N., Mahanta, S., Goud V. V., Venkata Dasu, V. and Rao, S.	Chemical composition analysis of various genetically modified sorghum traits: Pretreatment process optimization and bioethanol production from hemicellulosic hydrolyzates without detoxification.	Journal of Environmental Chemical Engineering,	2018	6	4	5625	5634
Ashish, A. P. and Venkata Dasu, V.	Metabolic engineering of <i>Pichia pastoris</i> GS115 for enhanced pentose phosphate pathway (PPP) flux toward recombinant human interferon gamma (hIFN- $\gamma$ ) production	Molecular Biology Reports	2018	45	5	961	972
Mohan, M., Naik, D. N., Banerjee T., Vaibhav, V G. and Venkata Dasu, V.	Ionic Liquid and Sulfuric Acid-Based Pretreatment of Bamboo: Biomass Delignification and Enzymatic Hydrolysis for the Production of Reducing Sugars.	Industrial and Engineering Chemistry Research	2018	57	31	10105	10117
Kumar, N., Pandey, R., Prabhu, A. A. and Venkata Dasu, V.	Genetic and substrate-level modulation of <i>Bacillus subtilis</i> physiology for enhanced extracellular human interferon gamma production.	Preparative Biochemistry and Biotechnology	2018	48	5	391	401
Prabhu, A. A., Bharali, B., Singh, A. K., Allaka, M., Sukumar, P. and Venkata Dasu, V.	Engineering folding mechanism through Hsp70 and Hsp40 chaperones for enhancing the production of recombinant human interferon gamma (rhIFN- $\gamma$ ) in <i>Pichia pastoris</i> cell factory	Chemical Engineering Science,	2018	181	-	58	67
Pandey, R., Kumar, N., Prabhu, A. A. and Venkata Dasu, V.	Application of medium optimization tools for improving recombinant human interferon gamma production from <i>Kluyveromyces lactis</i>	Preparative Biochemistry and Biotechnology	2018	48	3	279	287
Pandey, R., Prabhu, A. A. and Venkata Dasu, V.	Purification of recombinant human interferon gamma from fermentation broth using reverse micellar extraction: A process optimization study.	Separation Science and Technology	2018	53	3	487	495
Pandey, R. and Venkata Dasu, V.	Optimizing secretory expression of recombinant human interferon gamma from <i>Kluyveromyces lactis</i> .	Preparative Biochemistry and Biotechnology	2018	48	2	202	212
Prabhu, A.A., Purkayastha, A., Mandal, B., Kumar, J.P., Mandal, B. B. and Venkata Dasu, V.	A novel reverse micellar purification strategy for histidine tagged human interferon gamma (hIFN- $\gamma$ ) protein from <i>Pichia pastoris</i> .	International Journal of biological macromolecules,	2018	107	-	2512	2524
Bidhu Bhusan Makut, Debasish Das, Gargi Goswami	Production of microbial biomass feedstock via co-cultivation of microalgae-bacteria consortium coupled with effective wastewater treatment: A sustainable approach	Algal Research	2019	37	-	228	239

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Saumya Ahlawat, Mehak Kaushal, B. Palabhanvi, M. Muthuraj, Gargi Goswami, Debasish Das	Nutrient modulation based process engineering strategy for improved butanol production from <i>Clostridium acetobutylicum</i>	Biotechnology Progress	2018	https://doi.org/10.1002/btpr.2771	-	-	-
Muthusivaramapandian Muthuraj, Baskar Selvaraj, Basavaraj Palabhanvi, Vikram Kumar, Debasish Das	Enhanced lipid content in <i>Chlorella</i> sp. FC2 IITG via high energy irradiation mutagenesis	Korean Journal of Chemical Engineering	2019	36	1	63	70
Bidkar A, Sanpui P, Siddhartha Shankar Ghosh	Combination Therapy with MAPK-Pathway Specific Inhibitor and Folic Acid Receptor Targeted Selenium Nanoparticles Induces Synergistic Anti-proliferative Response in BRAF-mutant Cancer Cells.	ACS Biomaterials Science & Engineering	2019	DOI:10.1021/acsbio materials .9b00112	-	-	-
Simon AT, Dutta S, Chattopadhyay A, Siddhartha Shankar Ghosh	Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Applications	ACS Omega	2019	4	3	4697	4706
Ghosh S, Pal S, Suresh Rajamanickam S, Shome R, Mohanta PR, Siddhartha Shankar Ghosh and Patel BK	Access to Multifunctional AEEgens via Ru(II)-Catalyzed Quinoxaline-Directed Oxidative Annulation	ACS Omega	2019	4	3	5565	5577
Nath B, Raza A, Sethi V, Dalal A, Siddhartha Shankar Ghosh, Biswas G	Understanding flow dynamics, viability and metastatic potency of cervical cancer (HeLa) cells through constricted microchannel	Scientific Reports	2018	8	DOI:10.1038/s41598-018-35646-3	17357	-
Raza A, Siddhartha Shankar Ghosh	Connexin-43 Enhances the Redesignated Cytosine Deaminase Activity for Suicide Gene Therapy in Human Breast Cancer Cells	Biochemistry Insights	2018	DOI: 10.1177/1178626418818182	-	-	-
Das M, Goswami U, Siddhartha Shankar Ghosh, Chattopadhyay A	Bimetallic Fe-Cu-Nanocomposites on Sand-Particles for Inactivation of Clinical Isolates and Point of Use Water Filtration	ACS Applied Bio Materials	2018	1	6	2153	2166
Goswami U, Raghuram K, Kalita S, Chattopadhyay A, Siddhartha Shankar Ghosh	Polyethylene Glycol-Encapsulated Histone Deacetylase Inhibitor Drug-Composite Nanoparticles for Combination Therapy with Artesunate	ACS Omega	2018	3	9	1150	1151

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	Goswami U, Sahoo A, Chattopadhyay A, Siddhartha Shankar Ghosh	In Situ Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria.	ACS Omega	2018	3	6	6113	6119
	Gogoi D, Arora N, Kalita B., Sarma R, Islam T, Siddhartha Shankar Ghosh, Devi R, Mukherjee, A. K.	Anticoagulant mechanism, pharmacological activity, and assessment of preclinical safety of a novel fibrin(ogen)olytic serine protease from leaves of <i>Leucas indica</i>	Scientific Reports	2018	8	1	6210	-
	N. Zehra, D. Dutta, A. H. Malik, Siddhartha Shankar Ghosh and P. K. Iyer	Fluorescence resonance energy transfer-based wash-free bacterial imaging and antibacterial application using a cationic conjugated polyelectrolyte	ACS Applied Materials & Interfaces	2018	10	33	27603	27611
	Naveen Kumar Singh, Priyamvada Jain, Smita Das and Pranab Goswami	Dye coupled aptamer-captured enzyme catalysed reaction for detection of pan malaria and <i>P.falciparum</i> species in laboratory settings and instrument-free paper based platform	Analytical Chemistry	2019	91	6	4213	4221
	Naveen Kumar Singh, Phurpa Dema Thungon, Pedro Esterla and Pranab Goswami	Development of an aptamer-based field effect transistor biosensor for quantitative detection of <i>Plasmodium falciparum</i> glutamate dehydrogenase in serum samples	Biosensors and Bioelectronics	2019	123	-	30	35
	Lightson Ngashangva, Vinay Bachu and Pranab Goswami	Development of new methods for determination of Bilirubin	Journal of Pharmaceutical and Biomedical Analysis	2019	162	-	272	285
	Naveen Kumar Singh, Babina Chakma, Priyamvada Jain and Pranab Goswami	Protein-Induced Fluorescence Enhancement Based Detection of <i>Plasmodium falciparum</i> Glutamate dehydrogenase using carbon dot coupled specific aptamer	ACS Combinatorial Science	2018	20	6	350	357
	Naveen Kumar Singh, Sunil K Arya, Pedro Estrela and Pranab Goswami	Capacitive malaria aptasensor using <i>Plasmodium falciparum</i> glutamate dehydrogenase as target antigen in undiluted human serum	Biosensors and Bioelectronics	2018	117	-	246	252
	Babina Chakma, Priyamvada Jain, Naveen Kumar Singh and Pranab Goswami	Development of Electrochemical Impedance Spectroscopy Based Malaria Aptasensor using HRP-II as target biomarker	Electroanalysis	2018	30	-	1847	1854

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Priyanka Nath, Arun Dhillon, Krishan Kumar, Kedar Sharma, Sumitha Banu Jamaldeen, Vijayanand Suryakant Moholkar and Arun Goyal	Development of bi-functional chimeric enzyme (CtGH1-L1-CtGH5-F194A) from endoglucanase (CtGH5) mutant F194A and $\beta$ -1,4-glucosidase (CtGH1) from Clostridium thermocellum with enhanced activity and structural integrity	Bioresource Technology	2019	282	-	494	501
Ritesh S. Malani, Sachin B. Umriwad, Arun Goyal and Vijayanand S. Moholkar	Ultrasound-assisted enzymatic biodiesel production using blended feedstock of non-edible oils: Kinetic analysis	Energy Conversion and Management	2019	188	-	142	150
Aruna Rani, Vikky Rajulapat and Arun Goyal	Antitumor effect of chondroitin AC lyase (PsPL8A) from Pedobacter saltans on melanoma and fibrosarcoma cell lines by in vitro analysis	Pharmacological Reports	2019	71	-	167	174
Arup Jyoti Borah, Mayank Agarwal, Arun Goyal and Vijayanand S. Moholkar	Physical insights of ultrasound-assisted ethanol production from composite feedstock of invasive weeds.	Ultrasonics Sonochemistry	2019	51	-	378	385
Arup Jyoti Borah, Kuldeep Roy, Arun Goyal and Vijayanand S. Moholkar	Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds	Bioresource Technology	2019	272	-	389	397
Arun Dhillon, Vikky Rajulapati and Arun Goyal	Bio-scouring of cotton fabric and enzymatic degumming of jute fibres by a thermo-alkaline recombinant rhamnogalacturonan lyase, CtrGLf from Clostridium thermocellum.	The Canadian Journal of Chemical Engineering	2018	9999	doi:10.1002/cjce.23342	1	5
Ritesh S. Malani, Vivek Shinde, Sumedh Ayachit, Arun Goyal and Vijayanand S. Moholkar	Physical insight into Ultrasound-assisted biodiesel production using heterogeneous base catalyst and mixed non-edible oils	Ultrasonics Sonochemistry	2018	doi.org/10.1016/j.ultsonch.2018.11.021	-	-	-
Aruna Rani, Riwivo Baruah and Arun Goyal	Prebiotic Chondroitin Sulfate Disaccharide Isolated from Chicken Keel Bone Exhibiting Anticancer Potential Against Human Colon Cancer Cells	Nutrition and cancer	2018	doi.org/10.1080/01635581.2018.1521446	-	-	-
Krishan Kumar, Priyanka Nath and Arun Goyal	Structure characterization of an endo $\beta$ -1,3-glucanase of family 81 glycoside hydrolase (CtLam81A) from Clostridium thermocellum	Journal of Proteins and Proteomics	2018	9	3	137	148
Ritesh S. Malani, Harshad Sardar, Yash Malviya, Arun Goyal and Vijayanand S. Moholkar	Ultrasound-Intensified Biodiesel Production from Mixed Nonedible Oil Feedstock Using Heterogeneous Acid Catalyst Supported on Rubber De-oiled Cake	ACS Industrial and Engineering Chemistry Research	2018	57	-	14926	14938

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Sumitha Banu Jamaldeen, Kedar Sharma, Vijay S. Moholkar and Arun Goyal	Comparative analysis of pretreatment methods on Sorghum ( <i>Sorghum durra</i> ) stalk agrowaste for holocellulose content	Preparative Biochemistry and Biotechnology	2018	48	6	457	464
S.M. Khade, S.K. Srivastava, Krishan Kumar, Kedar Sharma, Arun Goyal and A.D. Tripathi	Optimization of clinical uricase production by <i>Bacillus cereus</i> under submerged fermentation, its purification and structure characterization. Process	Process Biochemistry	2018	75	-	49	58
Arun Dhillon, Kedar Sharma, Vikky Rajulapati and Arun Goyal	The multi-ligand binding first family 35 Carbohydrate Binding Module (CBM35) of <i>Clostridium thermocellum</i> targets rhamnogalacturonan I	Archives of Biochemistry and Biophysics	2018	654	-	194	208
Karthika B., Kedar Sharma, Aruna Rani, R. Vikky and Arun Goyal	Deciphering the mode of action, structural and biochemical analysis of recombinant heparinase II/III (PsPL12a) a new member of family 12 polysaccharide lyase from <i>Pseudopedobacter saltans</i>	Annals of Microbiology	2018	68	-	409	418
Krishan Kumar, Márcia Correia, Virginia R. Pires, Arun Dhillon, Kedar Sharma, Vikky Rajulapati, Carlos M.G.A. Fontes, Ana Luísa Carvalho and Arun Goyal	Novel insights into the degradation of $\beta$ -1,3-glucans by the cellulosome of <i>Clostridium thermocellum</i> revealed by structure and function studies of a family 81 glycoside hydrolase.	International Journal of Biological Macromolecules	2018	117	-	890	901
Prerana Gogoi and Shankar Prasad Kanaujia	Role of structural features in oligomerization, active-site integrity and ligand binding of ribose-1,5-bisphosphate isomerase	Computational and Structural Biotechnology Journal	2019	17	-	333	344
Monika Chandravanshi, Anjaney Sharma, Pratik Dasgupta, Suraj Kumar Mandal and Shankar Prasad Kanaujia	Identification and characterization of ABC transporters for carbohydrate uptake in <i>Thermus thermophilus</i> HB8	Gene	2019	696	-	135	148
Ankit Kumar Sinha, Angshu Dutta, Monika Chandravanshi and Shankar Prasad Kanaujia	An insight into bacterial phospholipase C classification and their translocation through Tat and Sec pathways: A data mining study	Meta Gene	2019	20	100547	-	-
Suraj Kumar Mandal, Rahi Adhikari, Anjaney Sharma, Monika Chandravanshi, Prerana Gogoi and Shankar Prasad Kanaujia	Designating ligand specificities to metal uptake ABC transporters in <i>Thermus thermophilus</i> HB8	Metallomics – Royal Society of Chemistry	2019	11	-	597	612



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Prerana Gogoi, Prerana Mordina and Shankar Prasad Kanaujia	Structural insights into the catalytic mechanism of 5-methylthioribose 1-phosphate isomerase.	Journal of Structural Biology	2019	205	1	67	77
Prerana Gogoi and Shankar Prasad Kanaujia	Archaeal and eukaryal translation initiation factor 1 differ in their RNA interacting loops.	FEBS Letters	2018	592	9	1602	1610
Ghosh KK, Prakash A, Shrivastav P, Balamurugan V, Kumar M	Evaluation of a novel outer membrane surface-exposed protein, LIC13341 of <i>Leptospira</i> , as an adhesin and serodiagnostic candidate marker for leptospirosis	Microbiology	2018	164	8	1023	1037
Kumar P, Barari SK, Tripathi MK, Kumari RK, Kumar M	Foot and Mouth Disease: An Economically Devastating Disease of the livestock	Journal of Veterinary Sciences	2018	4	1	9	12
Kumar P, Dey A, Kumar A, Ray PK, Chandran PC, Kumari RK, Kumar M	The effect of PPR on the reproductive health of Black Bengal goats and the possible role played by oxidative stress	Tropical Animal Health and Production	2018	50	7	1441	1447
Meher N, Panda S, Kumar S and Iyer PK	Aldehyde group driven aggregation-induced enhanced emission in naphthalimides and its application for ultradetection of hydrazine on multiple platforms	Chemical Science	2018	9	-	3978	3985
Kumar S	Investigation of the sexual transmission of Zika virus: More to explore.	The Lancet Global Health	2018	6	6	e24	E25
Jakhesara SJ, Nath B, Pal JK, Joshi CG, Kumar S	Emergence of a genotype I variant of avian infectious bronchitis virus from Northern part of India.	Acta Tropica	2018	183	-	57	60
Das M, Kumar S	Analysis of codon usage pattern of infectious laryngotracheitis virus immunogenic glycoproteins and its biological implications	Infection, Genetics and Evolution	2018	62	-	53	59
Patwa R, Soundararajan N, Mulchandani N, Bhasney SM, Shah M, Kumar S, Kumar A, Katiyar V	Silk Nano-Discs: A Natural Material for Cancer Therapy.	Biopolymers	2018	109	11	e23231	-
Barman NN, Nath B, Kumar V, Sen A, Dutta TK, Dutta B, Rahman T, Kumar S	The emergence of porcine circovirus 2 infections in the Northeastern part of India: A retrospective study from 2011 to 2017	Transboundary and Emerging Diseases	2018	65	6	1959	1967
Kumar S	Reduction in antimicrobial resistance by the way of extensive vaccination.	Human Vaccines & Immunotherapeutics	2018	14	12	2955	2956

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<b>Authors</b>	<b>Paper Title</b>	<b>Journal Name</b>	<b>Year</b>	<b>Volume</b>	<b>Issue Number (If any)</b>	<b>Starting Page</b>	<b>Ending Page</b>
Akhtar N, Shah A, Kumar V, Pradhan N, Panda S, Morla S, Kumar S and Manna D	Diphenylethylenediamine-Based Potent Anionophores: Transmembrane Chloride Ion Transport and Apoptosis Inducing Activities	ACS Applied Materials & Interfaces.	2018	10	40	33803	33813
Kumar A, Manjgowda MC, John Mary DJS, Pal U, Kumar S, Limaye AM	Estrogen receptor-Alpha is a determinant of protocadherin-8 expression in breast cancer cells	Gene Reports	2018	14	-	6	11
Das M, Baro S, Kumar S	Evaluation of imidazole and its derivative against Newcastle disease virus infection in chicken: A drug repurposing approach.	Virus Research	2018	260	-	114	122
Datta D, Kumar V, Kumar S, Nagaraj R, Chaudhary N	Hydrogel formation by an aromatic analog of A Beta-amyloid fragment, A Beta16-22- a scaffold for 3-D cell culture	ACS Omega	2019	4	1	620	627
Pandey G, Morla S, Nemade HB, Kumar S, Ramakrishnan V	Modulation of aggregation with Electric Field; Potential non-invasive therapy for tauopathies.	RSC Advances	2019		9	4744	4750
Khatoon E, Barman NN, Deka M, Hussain MI, Borah P, Kumar S	Cytokine responses in pigs after natural infection with classical swine fever virus.	Acta Virologica	2019	63	1	60	69
Dave U, Srivathsan A, Kumar S	Analysis of codon usage pattern in the viral proteins of chicken anemia virus and its possible biological relevance.	Infection, Genetics and Evolution	2019	69	-	93	106
Buhrmann C, Yazdi M, Popper B, Kunnumakkara AB, Aggarwal BB, Shakibaei M	Induction of the Epithelial-to-Mesenchymal Transition of Human Colorectal Cancer by Human TNF- $\beta$ (Lymphotoxin) and its Reversal by Resveratrol.	Nutrients	2019	11	3	E704	-
Sailo BL, Banik K, Girisa S, Bordoloi D, Fan L, Halim CE, Wang H, Kumar AP, Zheng D, Mao X, Sethi G, Kunnumakkara AB	FBXW7 in Cancer: What Has Been Unraveled Thus Far?	Cancers (Basel)	2019	11	2	E246	-
Girisa S, Shabnam B, Monisha J, Fan L, Halim CE, Arfuso F, Ahn KS, Sethi G, Kunnumakkara AB.	Potential of Zerumbone as an Anti-Cancer Agent	Molecules	2019	24	4	E734	
Singh YP, Sosmitha G, Banik K, Ghosh S, Swathi P, Deka M, Padmavathi G, Kotoky J, Sethi G, Fan L, Mao X, Halim CE, Arfuso F, Kunnumakkara AB	Potential application of zerumbone in the prevention and therapy of chronic human diseases	J Funct Foods.	2019	53	-	248	258

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Nair A, Amalraj A, Jacob J, Kunnumakkara AB, Gopi S	Non-Curcuminoids from Turmeric and Their Potential in Cancer Therapy and Anticancer Drug Delivery Formulations	Biomolecules	2019	9	1	E13	-
Maruthanila VL, Elancheran R, Roy NK, Bhattacharya A, Kunnumakkara AB, Kabilan S, Kotoky J	In silico Molecular Modelling of Selected Natural Ligands and their Binding Features with Estrogen Receptor Alpha.	Curr Comput Aided Drug Des.	2019	15	1	89	96
Banerjee K, Padmavathi G, Bhattacharjee D, Saha S, Kunnumakkara AB, Bhabak KP	Potent anti-proliferative activities of organochalcogenocyanates towards breast cancer	Org Biomol Chem	2018	16	45	8769	8782
Haque MA, Sailo BL, Padmavathi G, Kunnumakkara AB, Jana CK	Nature-inspired development of unnatural meroterpenoids as the non-toxic anti-colon cancer agents	Eur J Med Chem	2018	160	-	256	265
Gupta SC, Kunnumakkara AB, Aggarwal S, Aggarwal BB	Inflammation, a Double-Edge Sword for Cancer and Other Age-Related Diseases	Front Immunol	2018	9	-	2160	-
Bordoloi D, Banik K, Shabnam B, Padmavathi G, Monisha J, Arfuso F, Dharmarajan A, Mao X, Lim LHK, Wang L, Fan L, Hui KM, Kumar AP, Sethi G, Kunnumakkara AB	TIPE Family of Proteins and Its Implications in Different Chronic Diseases	Int J Mol Sci.	2018	19	10	E2974	-
Jude S, Amalraj A, Kunnumakkara AB, Divya C, Löffler BM, Gopi S	Development of Validated Methods and Quantification of Curcuminoids and Curcumin Metabolites and Their Pharmacokinetic Study of Oral Administration of Complete Natural Turmeric Formulation (Cureit™) in Human Plasma via UPLC/ESI-Q-TOF-MS Spectrometry.	Molecules	2018	23	10	E2415	-
Shabnam B, Padmavathi G, Banik K, Girisa S, Monisha J, Sethi G, Fan L, Wang L, Mao X, Kunnumakkara AB.	Sorcin a Potential Molecular Target for Cancer Therapy.	Transl Oncol.	2018	11	6	1379	1389
Kunnumakkara AB, Banik K, Bordoloi D, Harsha C, Sailo BL, Padmavathi G, Roy NK, Gupta SC, Aggarwal BB.	Googling the Guggul (Commiphora and Boswellia) for Prevention of Chronic Diseases.	Front Pharmacol.	2018	9	-	686	-

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	Ranaware AM, Banik K, Deshpande V, Padmavathi G, Roy NK, Sethi G, Fan L, Kumar AP, Kunnammakkara AB	Magnolol: A Neolignan from the Magnolia Family for the Prevention and Treatment of Cancer	Int J Mol Sci	2018	19	8	E2362	-
	Monisha J, Roy NK, Padmavathi G, Banik K, Bordoloi D, Khwairakpam AD, Arfuso F, Chinnathambi A, Alahmadi TA, Alharbi SA, Sethi G, Kumar AP, Kunnammakkara AB.	NGAL is Downregulated in Oral Squamous Cell Carcinoma and Leads to Increased Survival, Proliferation, Migration and Chemoresistance	Cancer Lett.	2018	432	-	260	271
	Khwairakpam AD, Bordoloi D, Thakur KK, Monisha J, Arfuso F, Sethi G, Mishra S, Kumar AP, Kunnammakkara AB	Possible use of Punica granatum (Pomegranate) in cancer therapy	Pharmacol Res.	2018	133	-	53	64
	Sailo BL, Banik K, Padmavathi G, Javadi M, Bordoloi D, Kunnammakkara AB	Tocotrienols: The promising analogues of vitamin E for cancer therapeutics	Pharmacol Res.	2018	130	-	259	271
	Ajay Kumar, Mohan C. Manjgowda, Dixcy Jaba Sheeba John Mary, Uttariya Pal, Sachin Kumar, Anil Mukund Limaye	Estrogen receptor- $\alpha$ is a determinant of protocadherin-8 expression in breast cancer cells	Gene Reports	2019	14	-	6	11
	Mohan C. Manjgowda, Anil M. Limaye	DNA methylation dependent suppression of GPER1 in colorectal cancer	Medical Research Archives	2018	6	-	4	-
	Shreya Mehrotra, Dimple Chouhan, Rocktotpal Konwarh, Manishekhar Kumar, Jadi Praveen Kumar and Biman B. Mandal.	A comprehensive review on silk at nanoscale for regenerative medicine and allied applications.	ACS Biomaterials Science & Engineering	2019	DOI: 10.1021/acs.biomaterials.8b01560	-	-	-
	Shreya Mehrotra, Joseph Christakiran Moses, Ashutosh Bandyopadhyay, Biman B. Mandal.	3D printing/bioprinting based tailoring of in vitro tissue models: Recent advances and challenges. (COVER PAGE)	ACS Applied Bio Materials	2019	DOI: 10.1021/acsabm.9b00073	-	-	-

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Ankit Gangrade and Biman B. Mandal.	An Injectable Carbon Nanotube Impregnated Silk Based Multifunctional Hydrogel for Localized Targeted and On Demand Anticancer Drug Delivery	ACS Biomaterials Science & Engineering	2019	DOI: 10.1021/acs biomaterials.9b00416	-	-	-
Joseph Christakiran Moses, Mainak Dey, K. Bayya Devi, Mangal Roy, Samit K. Nandi and Biman B. Mandal.	Synergistic effects of silicon/zinc doped brushite and silk scaffolding in augmenting the osteogenic and angiogenic potential of composite biomimetic bone grafts. (COVER PAGE)	ACS Biomaterials Science & Engineering	2019	5	3	1462	1475
Nabanita Saha, Rushita Shah, Prerak Gupta, Biman B. Mandal, Radostina Alexandrova, Maja Dutour Sikiric, Petr Saha.	PVP - CMC Hydrogel: An excellent bioinspired and biocompatible scaffold for osseointegration.	Materials Science and Engineering C	2019	95	-	440	449
Khushwant Singh, Ankit Gangrade, Achintya Jana, Biman B. Mandal and Neeladri Das.	Design, synthesis, characterization and antiproliferative activity of organoplatinum compounds bearing 1,2,3-triazole ring	ACS Omega	2019	4	1	835	841
Prerak Gupta, Joseph Christakiran Moses and Biman B. Mandal.	Surface patterning and innate physico-chemical attributes of silk films concomitantly govern vascular cell dynamics.	ACS Biomaterials Science & Engineering	2019	5	2	933	949
Bibhas K. Bhunia and Biman B. Mandal.	Exploring gelation and physico-chemical behavior of in-situ bioresponsive silk hydrogels for disc degeneration therapy.	ACS Biomaterials Science & Engineering	2019	5	2	870	886
Jadi Praveen Kumar and Biman B. Mandal.	Silk sericin induced pro-oxidative stress leads to apoptosis in human cancer cells.	Food & Chemical Toxicology	2019	123	-	275	287
Dimple Chouhan, Shreya Mehrotra, Omkar Majumder and Biman B. Mandal.	Magnetic actuator device assisted modulation of cellular behavior and tuning of drug release on silk platform.	ACS Biomaterials Science & Engineering	2019	5	1	92	105
Jadi Praveen Kumar; Rocktotpal Konwarh; Manishekhar Kumar; Ankit Gangrade; Biman B. Mandal.	Potential nanomedicine applications of multifunctional carbon nanoparticles developed using green technology	ACS Sustainable Chemistry & Engineering	2018	6	1	1235	1245
Khushwant Singh, Ankit Gangrade, Sourav Bhowmick, Achintya Jana, Biman B. Mandal, Neeladri Das.	Self-assembly of a [1+1] ionic hexagonal macrocycle and its antiproliferative activity.	Frontiers in Chemistry	2018	6	-	87	-

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	Rituparna Duarah, Yogendra Pratap Singh, Prerak Gupta, Biman B. Mandal, Niranjana Karak.	Smart self-tightening surgical suture from tough bio-based hyperbranched polyurethane/reduced carbon dot nanocomposite.	Biomedical Materials	2018	13	4	45004	-
	Sween Gilotra, Dimple Chouhan, Nandana Bhardwaj, Samit K. Nandi and Biman B. Mandal.	Potential of silk sericin based nanofibrous mats for wound dressing applications.	Materials Science and Engineering C	2018	90	-	420	432
	Rana Dalapati, Soutick Nandi, Helge Reinsch, Bibhas K. Bhunia, Biman B Mandal, Norbert Stock, Shyam Biswas.	Fluorogenic naked-eye sensing and live-cell imaging of cyanide by hydrazine-functionalized CAU-10 metal-organic framework.	CrystEngComm	2018	20	-	4194	4201
	Sourav Bhowmick, Achintya Jana, Khushwant Singh, Prerak Gupta, Ankit Gangrade, Biman B. Mandal and Neeladri Das.	Coordination driven Self-assembly of Ionic Irregular Hexagonal Metallamacrocycles via an Organometallic Clip and their Cytotoxicity Potency.	Inorganic Chemistry	2018	57	7	3615	3625
	Saundray Raj Soni, Nimmy Kumari, Bibhas K. Bhunia, Biswatrish Sarkar, Biman B. Mandal and Animesh Ghosh.	Synthesis and characterization of a non-cytotoxic and biocompatible acrylamide grafted pullulan – Application in pH responsive controlled drug delivery.	International Journal of Biological Macromolecules	2018	120	-	753	762
	Saundray Raj Soni, Bibhas Bhunia, Nimmy Kumari, Subhashis Dan, Sudipta Mukherjee, Biman B. Mandal and Animesh Ghosh.	Therapeutically effective controlled release formulation of pirfenidone from non-toxic biocompatible carboxymethyl pullulan-poly(vinyl alcohol) interpenetrating polymer networks.	ACS Omega	2018	3	9	11993	12009
	Saundray Raj Soni, Nimmy Kumari, Bibhas K. Bhunia, Biswatrish Sarkar, Biman B. Mandal and Animesh Ghosh.	In vitro and in vivo evaluation of pirfenidone loaded acrylamide grafted pullulan-poly(vinyl alcohol) interpenetrating polymer networks.	Carbohydrate Polymers	2018	202	-	288	298
	Adil M. Rather, Arpita Shome, Bibhas K. Bhunia, Aparna Panuganti, Biman B Mandal, Uttam Manna.	Simultaneous and controlled release of two different bioactive small molecules from nature inspired single material.	Journal of Materials Chemistry B	2018	6	-	7692	7702



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Jadi Praveen Kumar, Shamshad Alam, Abhishek Jain, Kausar Ansari and Biman B. Mandal.	Protective activity of silk sericin against UV radiation-induced skin damage by downregulating oxidative stress.	ACS Applied Bio Materials,	2018	1	6	2120	2132
Yogendra Pratap Singh, Joseph Christakiran Moses, Nandana Bhardwaj and Biman B. Mandal.	Injectable hydrogels: a new paradigm for osteochondral tissue engineering.	Journal of Materials Chemistry B	2018	6	-	5499	5529
Sudamna Chakravarty, Bedanta Gogoi, Biman B Mandal, Nandana Bhardwaj and Neelopal Sen Sarma.	Silk fibroin as a platform for dual sensing of vitamin B12 using photoluminescence and electrical techniques.	Biosensors and Bioelectronics	2018	112	-	18	22
Dimple Chouhan, Janani Guru, Bijayashree Chakraborty, Samit Nandi and Biman B Mandal.	Functionalized PVA-Silk blended nanofibrous mats promote diabetic wound healing via regulation of extracellular matrix and tissue remodeling.	Journal of Tissue Engineering and Regenerative Medicine	2018	12	3	e1559	e1570
Bibhas K. Bhunia and Biman B. Mandal.	Modulation of extracellular matrix by annulus fibrosus cells on tailored silk based angle-ply intervertebral disc construct.	Materials and Design	2018	158	-	74	87
Adil Rather, Arpita Shome, Suresh Kumar, Bibhas K. Bhunia, Biman B Mandal, Hemant Srivastava and Uttam Manna.	Alkali Metal-ion Assisted Michael Addition Reaction in Controlled Tailoring of Topography in Superhydrophobic Polymeric Monolith.	Journal of Materials Chemistry A	2018	6	-	17019	17031
Yogendra Pratap Singh, Joseph Christakiran Moses, Bibhas K. Bhunia, Samit K. Nandi and Biman B. Mandal.	Hierarchically structured seamless silk scaffolds for osteochondral interface tissue engineering. (COVER PAGE)	Journal of Materials Chemistry B	2018	6	-	5671	5688
Joseph Christakiran Moses, Samit K. Nandi and Biman B Mandal.	Multifunctional cell instructive silk-bioactive glass composite reinforced scaffolds towards osteoinductive, proangiogenic and resorbable bone grafts.	Advanced Healthcare Materials	2018	7	10	e1701418	-
Dimple Chouhan, Naresh Thatikonda, Linnea Nilebäck, Mona Widhe, My Hedhammar and Biman B. Mandal.	Recombinant spider silk functionalized silkworm silk matrices as potential bioactive wound dressings and skin grafts.	ACS Applied Materials and Interfaces	2018	10	28	23560	23572

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	Dimple Chouhan, Tshewuzo-u Lohe, Pavan Kumar Samudrala and Biman B. Mandal.	In situ forming silk fibroin hydrogel promotes skin regeneration in full thickness burn wounds.	Advanced Healthcare Materials	2018	7	24	e180 1092	-
	Manishekhar Kumar, Prerak Gupta, Sohenii Bhattacharjee, Samit K. Nandi and Biman B. Mandal.	Immunomodulatory injectable silk hydrogels maintaining functional islets and promoting anti-inflammatory M2 macrophage polarization.	Biomaterials	2018	187	-	1	17
	Glingston S, Deb R, Kumar S, Nagotu S	Organelle dynamics and viral infections: at cross roads	Microbes and Infection	2018	21	1	20	32
	Banerjee R, Deb R, Roy K, Chatterjee S, Nagotu S	Uptake and intracellular fate of nona-arginine peptide in yeast	Biopolymers: Peptide Science	2018	Doi.org/ 10.1002/ pep2. 24101	-	-	-
	Deori NM, Kale A, Maurya PK, Nagotu S	Peroxisomes: role in cellular ageing and age related disorders	Biogerontology	2018	19	5	303	324
	Paul, T., Baskaran, D., Pakshirajan, K., & Pugazhenth, G	Continuous bioreactor with cell recycle using tubular ceramic membrane for simultaneous wastewater treatment and bio-oil production by oleaginous Rhodococcus opacus	Chemical Engineering Journal	2019	367	-	76	85
	Goswami, L., Kumar, R. V., Pakshirajan, K., Pugazhenth, G.	A novel integrated biodegradation-microfiltration system for sustainable wastewater treatment and energy recovery	Journal of Hazardous Materials	2019	365	-	707	715
	Tai Tang, V., Pakshirajan, K.	Novel advanced porous concrete in constructed wetlands: Preparation, characterization and application in urban storm runoff treatment	Water Science and Technology	2018	78	-	2374	2382
	Goswami, L., Kumar, R. V., Borah, S. N., Manikandan, N. A., Pakshirajan, K., Pugazhenth, G.	Membrane Bioreactor and integrated membrane bioreactor systems for micropollutant removal from wastewater: A review.	Journal of Water Process Engineering	2018	26	-	314	328
	Singh, A., Manikandan, N.A., Sankar, M.R., Pakshirajan, K., Roy, L.	Experimental Investigations and Surface Morphology of Bio-Micromachining on Copper	Materials Today	2018	5	2	4225	4234
	Goswami, L., Manikandan, N. A., Dolman, B., Pakshirajan, K., Pugazhenth, G	Biological treatment of wastewater containing a mixture of polycyclic aromatic hydrocarbons using oleaginous bacterium Rhodococcus opacus	Journal of Cleaner Production	2018	196	-	1282	1291

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Kiran, M.G., Pakshirajan, K., Das, G.	Metallic wastewater treatment by sulfate reduction using anaerobic rotating biological contactor reactor under high metal loading conditions	Frontiers of Environmental Science and Engineering	2018	12	4	1	12
Kumar, M., Sinharoy, A., Pakshirajan, K.	Process integration for biological sulfate reduction in a carbon monoxide fed packed bed reactor	Journal of Environmental Management	2018	219	-	294	303
Gopi Kiran, M., Pakshirajan, K., Das, G.	Heavy metal removal from aqueous solution using sodium alginate immobilized sulfate reducing bacteria: Mechanism and process optimization	Journal of Environmental Management	2018	218	-	486	496
Varun Saxena, Pranjal Chandra, & Lalit M. Pandey	Design and characterization of novel Al-doped ZnO nanoassembly as an effective nanoantibiotic	Applied Nanoscience	2018	8	8	1925	1941
Ajeet Singh, Abshar Hasan, Sakshi Tiwari and Lalit M. Pandey	Therapeutic Advancement in Alzheimer Disease: New Hopes on the Horizon?	CNS & Neurological Disorders - Drug Targets.	2018	17	-	571	589
Swati Sharma, Varun Saxena, Anupriya Baranwal, Pranjal Chandra and Lalit M Pandey	Engineered nanoporous materials mediated heterogeneous catalysts and their implications in biodiesel production	Materials Science for Energy Technologies	2018	1	-	11	21
Rasmi Ranjan Behera, Apurba Das, Pamu Dobbidi, Lalit M Pandey and M.R. Sankar	Mechano-tribological properties and in vitro bioactivity of biphasic calcium phosphate coating on Ti-6Al-4V	Journal of the Mechanical Behavior of Biomedical Materials	2018	86	-	143	157
Abshar Hasan, Gyan Waibhaw and Lalit M. Pandey	Conformational and Organizational Insights into Serum Proteins during Competitive Adsorption on Self-Assembled Monolayers	Langmuir	2018	34	28	8178	8194
Swati Sharma, Sakshi Tiwari, Abshar Hasan, Varun Saxena and Lalit M. Pandey	Recent advances in conventional and contemporary methods for remediation of heavy metal-contaminated soils	3 Biotech	2018	8	-	2160	2190
Swati Sharma, Abshar Hasan, Naveen Kumar and Lalit M. Pandey	Removal of methylene blue dye from aqueous solution using immobilized Agrobacterium fabrum biomass along with iron oxide nanoparticles as biosorbent	Environmental Science and Pollution Research	2018	25	22	21605	21615
Poulami Datta, Pankaj Tiwari and Lalit M. Pandey	Isolation and characterization of biosurfactant producing and oil degrading Bacillus subtilis MG495086 from formation water of Assam oil reservoir and its suitability for enhanced oil recovery	Bioresource Technology	2018	270	-	439	448

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Sunayan Deka, Varun Saxena, Abshar Hasan, Pranjali Chandra and Lalit M. Pandey	Synthesis, characterization and in vitro analysis of $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> -GdFeO <sub>3</sub> biphasic materials as therapeutic agent for magnetic hyperthermia applications	Materials Science and Engineering: C	2018	92	-	932	941
Rasmi Ranjan Behera, Abshar Hasan, Mamilla Ravi Sankar and Lalit Mohan Pandey	Laser cladding with HA and functionally graded TiO <sub>2</sub> -HA precursors on Ti-6Al-4V alloy for enhancing bioactivity and cyto-compatibility	Surface and Coatings Technology	2018	352	-	420	436
Abshar Hasan, Sudip K. Pattanayek, and Lalit M. Pandey	Effect of Functional Groups of Self-Assembled Monolayers on Protein Adsorption and Initial Cell Adhesion	ACS Biomaterial Science and Engineering	2018	4	9	3224	3233
Ravi, Lalit M. Pandey	Enhanced adsorption capacity of designed bentonite and alginate beads for the effective removal of methylene blue	Applied Clay Science	2018	169	-	102	111
Varun Saxena, Swati Sharma, Lalit Mohan Pandey	Fe(III) doped ZnO nano-assembly as a potential heterogeneous nano-catalyst for the production of biodiesel	Materials Letters	2018	237	-	232	235
Abhishek Roy, Shivam Tiwari, Srijeeb Karmakar, K. Anki Reddy, and Lalit Mohan Pandey	The effect of the stoichiometric ratio of zinc towards the fibrillation of Bovine Serum Albumin (BSA): A mechanistic insight	International Journal of Biological Macromolecules	2018	123	-	409	419
Srijeeb Karmakar, Nandini Sarkar, and Lalit M. Pandey	Proline functionalized gold nanoparticles modulates lysozyme fibrillation	Colloids and Surfaces B: Biointerfaces	2018	174	1	401	408
Srijeeb Karmakar, Laipubam Gayatri Sharma, Abhishek Roy, Anjali Patel, and Lalit Mohan Pandey	Neuronal SNARE complex: A protein folding system with intricate protein-protein interactions, and its common neuropathological hallmark, SNAP25.	Neurochemistry International	2018	122	-	196	207
Poulomi Saha, Mohd Faheem Khan and Sanjukta Patra	Truncated $\alpha$ amylase: an improved candidate for textile processing	Preparative Biochemistry and Biotechnology	2018	14	-	1	11
Nivedita Singh, Ashwinee Kumar Shreshtha, M. S. Thakur and Sanjukta Patra	Xanthine scaffold: scope and potential in drug development	Heliyon	2018	4	10	e00829	-
Debamitra Chakravorty and Sanjukta Patra	RankProt: A multi criteria-ranking platform to attain protein thermostabilizing mutations and its in vitro applications-Attribute based prediction method on the principles of Analytical Hierarchical Process	PloS One	2018	13	10	e0203036	-

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Nivedita Singh, Swagata Patra and Sanjukta Patra.	Identification of Xanthine Derivatives as Inhibitors of Phosphodiesterase 9A Through in silico and Biological Studies	Combinatorial Chemistry & High Throughput Screening	2018	21	7	476	486
Mohd Faheem Khan and Sanjukta Patra	Deciphering the rationale behind specific codon usage pattern in extremophiles	Scientific Reports	2018	8	1	15548	-
Satakshi Hazra and Sanjukta Patra	Alleviating the Neglected Tropical Diseases: Recent Developments in Diagnostics and Detection	Current Topics in Medicinal Chemistry	2018	18	18	1559	1574
Dey, P., Mukherjee, S., Das, G. and Ramesh, A.	Micellar chemotherapeutic platform based on a bifunctional salicylaldehyde amphiphile delivers a "combo-effect" for heightened killing of MRSA.	Journal of Materials Chemistry B	2018	6	14	2116	2125
Sahareen, T., Dey, P., Mukherjee, S., Das, G and Ramesh, A.	Potential of pyridine amphiphiles as staphylococcal nuclease inhibitor	ChemBioChem	2018	19	13	1400	1408
Singh, R., Samanta, S., MULLICK, P., Ramesh, A. * and Das, G. *	Al <sup>3+</sup> sensing through different turn-on emission signals vis-a-vis two different excitations: applications in biological and environmental realms.	Analytica Chimica Acta	2018	1025	-	172	180
Gaurav Jerath, Ruchika Goyal, Vishal Trivedi, T.R. Santhoshkumar and Vibin Ramakrishnan	Syndiotactic peptides for targeted delivery	Acta Biomaterialia	2019	87	-	130	139
Prakash Kishore Hazam, Ruchika Goyal and Vibin Ramakrishnan	Peptide based Antimicrobials: Design Strategies and Therapeutic Potential	Progress in Biophysics and Molecular Biology	2019	142	-	10	22
Gaurav Pandey, Sudhir Morla, Harshal B. Nemade, Sachin Kumar and Vibin Ramakrishnan	Modulation of Aggregation with Electric Field; Scientific Roadmap for a Potential Non-Invasive Therapy Against Tauopathies.	RSC Advances	2019	9	-	4744	4750
Jahnu Saikia, Gaurav Pandey, Sejitha Sasideharan, Ferrin Antony, Harshal B. Nemade, Sachin Kumar, Nitin Chaudhary, and Vibin Ramakrishnan	Electric Field Disrupts Amyloid Aggregation; Potential Non-invasive Therapy for Alzheimer's Disease	ACS Chemical Neuroscience	2019	doi:10.1021/acschemneuro.8b00490	-	-	-
Prakash Kishore Hazam, Akhil, R., Gaurav Jerath, Jahnu Saikia and Vibin Ramakrishnan	Topological effects on the designability and bactericidal potency of antimicrobial peptides.	Biophysical Chemistry	2019	142	-	10	18

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Ranbhor Ranjit, Anil Kumar, Abhijit Tendulkar, Kirti Patel, Vibin Ramakrishnan, and Susheel Durani	Automated Design Tool for Hetero-chiral Protein Folds	Physical biology	2018	15	6	66005	66010
S Basak, I Chakrabarty, V Hedao, Rahul G Shelke, L Rangan	Assessment of genetic variation among wild <i>Alpinia nigra</i> (Zingiberaceae) population: genome mining and molecular marker approach.	Molecular Biology Reports	2018	46	1	177	189
P Baruah, A Singh, L Rangan, A Kumar, A Khare	Optimization of copper nanoparticles synthesized by pulsed laser ablation in distilled water as a viable SERS substrate for karanjin.	Materials Chemistry and Physics	2018	220	-	111	117
S Basak, L Rangan	Production, characterization and inhibition of fungal cellulases utilizing rice bran as substrate in solid state fermentation.	Microbiology: Current Research	2018	2	4	69	74
R Das, RG Shelke, L Rangan, S Mitra	Estimation of nuclear genome size and characterization of Ty1-copia like LTR retrotransposon in <i>Mesua ferrea</i> L.	Journal Plant Biochemistry and Biotechnology	2018	27	4	478	487
I Chakrabarty, PK Baruah, AN Panda, A Khare, L Rangan	Hybrid formulation of Cu nanoparticles and labdane diterpene from <i>Alpinia nigra</i> : a vibrational spectroscopic study.	Journal of Applied Spectroscopy	2018	85	5	983	990
Sharma PK, Saharia M, Srivastava R, Kumar S, Sahoo L	Tailoring Microalgae for Efficient Biofuel Production	Frontiers in Marine Science	2018	5	382	1	19
Srivastava R, Kumar S, Kobayashi Y, Kusunoki K, Tripathi P, Kobayashi Y, Koyama H, Sahoo L	Comparative genome-wide analysis of WRKY transcription factors in two Asian legume crops: Adzuki bean and mung bean	Scientific Reports	2018	8	16971	1	18
Borghain P, Chowardhara B, Saha B, Awasthi J, Kitaniya S, Sahoo L, Panda SK	Establishment of highly efficient regeneration system in <i>Tomato var. pusa ruby</i> amenable to <i>Agrobacterium tumifaciens</i> mediated plant transformation system	International Journal of Plant Research	2018	31	4	62	67
Nahar S, Vemireddy L, Sahoo L, Tanti B	Antioxidant protection mechanisms reveals significant response in drought induced oxidative stress in some traditional rice of Assam, India	Rice Science	2018	25	4	185	196
Nahar S, L, Sahoo L, Tanti B	Screening of drought tolerant rice through morpho-physiological and biochemical approaches	Biocatalysis and Agricultural Biotechnology	2018		-	150	159



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Bordoloi S, Hussain R, Gadi VK, Bora H, Sahoo L, Karangat R, Garg A, Sreedeeep S	Monitoring soil cracking and plant parameters for a mixed grass species.	Géotechnique Letters.	2018	8	-	1	7
Bordoloi S, Gadi VK, Hussain R, Sahoo L, Garg A, Sreedeeep S, Mei G, Poulsen TG	Influence of fiber from waste weed Eichhornia Crassipes on water retention and cracking characteristics of vegetated soils	Géotechnique Letters.	2018	8	-	1	25
Gadi VK, Hussain R, Bordoloi S, Hossain S, Singh SR, Garg A, Sreedeeep S, Karangat R, Sahoo L	Relating stomatal conductance and surface area with evapotranspiration induced suction in a heterogeneous grass cover	Journal of Hydrology	2019	568	-	867	876
Abhishek Kumar, D. Mukherjee, and P. Satpati	Mutations in Parkinson's Disease Associated Protein DJ-1 Alter the Energetics of DJ-1 Dimerization.	J. Chem. Inf. Model.	2019	DOI: 10.1021/acs.jcim.8b00687	-	-	-
K. Roy, S. Ghosh, M. Chetia, P. Satpati, S. Chatterjee	Dicyclohexylurea derivatives of amino acids as dye absorbent organogels and anion sensors	Organic & biomolecular chemistry	2019	17	11	3026	3039
C. Lind, M. Esguerra, W. Jespers, P. Satpati, H. Gutierrez-de-Terán, J. Åqvist,	Free energy calculations of RNA interactions.	Methods	2019	doi:10.1016/j.meth.2019.02.014	-	-	-
G. Pandit, H. Ilyas, S. Ghosh, A. P. Bidkar, Sk. A. Mohid, A. Bhunia, P. Satpati, and S. Chatterjee	Insights into the Mechanism of Antimicrobial Activity of Seven-Residue Peptides.	J. Med. Chem.	2018	61	17	7614	7629
Abhishek Kumar and P. Satpati	Principle of K <sup>+</sup> /Na <sup>+</sup> selectivity in the active site of Group II intron at various stages of self-splicing pathway.	J Mol Graph Model, 84, 1-9 (2018)	2018	84	-	1	9
Amit Kumar and P. Satpati	Energetics of preferential binding of RIG-I to double-stranded viral RNAs with 5' tri/di phosphate over 5' monophosphate.	ACS Omega	2018	3	4	3786	3795
Ajmani Abhishek, Narayanan Saranya, Patra Chandni, Narayanasamy Selvaraju	Studies on the remediation of Chromium (VI) from simulated wastewater using novel biomass of Pinus kesiya cone	Desalination and Water Treatment	2018	114	-	192	204
N Saranya, Abhishek Ajmani, V Sivasubramanian, N Selvaraju	Hexavalent Chromium removal from simulated and real effluents using Artocarpus heterophyllus peel biosorbent-Batch and Continuous studies	Journal of Molecular Liquids	2018	265	-	779	790

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E Nakkeeran, Chandni Patra, Tasrin Shahnaz, S Rangabhashiyam, N Selvaraju	Continuous biosorption assessment for the removal of hexavalent chromium from aqueous solutions using <i>Strychnos nux vomica</i> fruit-shell	Bioresource Technology Reports	2018	3	-	256	260
V Karthik, K Saravanan, C Patra, B Ushadevi, S Vairam, N Selvaraju	Biosorption of Acid Yellow 12 from simulated wastewater by non-viable <i>T. harzianum</i> : Kinetics, Isotherm and Thermodynamics studies	International Journal of Environmental Sciences and Technology	2018	doi.org/10.1007/s1376201820734	-	-	-
Shravan Kumar, Selvaraju Narayanasamy, R. Prasanna Venkatesh	Removal of Cr(VI) from synthetic solutions using water Caltrop Shell as a low-cost biosorbent	Separation Science and Technology	2018	doi.org/10.1080/01496395.2018.156033	-	-	-
Abhishek Ajmani, Tasrin Shahnaz, Saranya Narayanan, Narayansamy Selvaraju	Equilibrium, kinetics and thermodynamics of hexavalent chromium biosorption on pristine and zinc chloride activated <i>Senna siamea</i> seed pods	Chemistry and Ecology	2019	35	4	379	396
Srikanth Katla, Bappa Karmakar, Subbi Rami Reddy Tadi, Naresh Mohan, B Anand, Uttariya Pal, Senthilkumar Sivaprakasam	High level extracellular production of recombinant human interferon alpha 2b in glycoengineered <i>Pichia pastoris</i> : culture medium optimization, high cell density cultivation and biological characterization	Journal of Applied Microbiology	2019	126	5	1438	1453
Rohit Seshrao Ghodke, Jyoti prasad Kakati, Subbi Rami Reddy Tadi, Naresh Mohan and Senthilkumar Sivaprakasam	Kinetic modeling of hyaluronic acid production in <i>Palmyra</i> palm ( <i>Borassus flabellifer</i> ) based medium by <i>Streptococcus zooepidemicus</i> MTCC 3523	Biochemical Engineering	2018	137	-	284	293
Boehm V, Britto-Borges T, Steckelberg AL, Singh KK, Gerbracht JV, Gueney E, Blazquez L, Altmueller J, Dieterich C, Gehring NH	Exon Junction Complexes Suppress Spurious Splice Sites to Safeguard Transcriptome Integrity	Molecular Cell	2018	72	3	482	495
Aparajita Dutta, Tushar Dubey, Kusum Kumari Singh, Ashish Anand	SpliceVec: Distributed feature represents for splice junction prediction	Computational Biology and Chemistry	2018	74	-	434	441
Mohd. Ziauddin Ansari, Amrendra Kumar, Dileep Ahari, Anurag Priyadarshi, Padmavathi Lolla, Rashna Bhandari and Rajaram Swaminathan	Protein charge transfer absorption spectra: an intrinsic probe to monitor structural and oligomeric transitions in proteins	Faraday Discussions	2018	207	-	91	113

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Rejat Anand, Manish Agarwal, Venkata Satish Kumar Mattaparthi, Rajaram Swaminathan, Sitangshu Bikas Santra	Consequences of Heterogeneous Crowding on an Enzymatic Reaction: A Residence Time Monte Carlo Approach	ACS Omega	2019	4	-	727	736
Dibakar Gohain and Ranjan Tamuli	Calcineurin responsive zinc-finger-1 binds to a unique promoter sequence to upregulate neuronal calcium sensor-1, whose interaction with MID-1 increases tolerance to calcium stress in <i>Neurospora crassa</i>	Molecular Microbiology	2019	doi.org/ 10.1111/ mmi. 14234	-	-	-
Haridhasapavalan KK, Borgohain MP, Dey C, Saha B, Narayan G, Kumar S, Thummer RP	An insight into non-integrative gene delivery approaches to generate transgene-free induced pluripotent stem cells	Gene	2018	686	-	146	159
Saha B, Krishna Kumar H, Borgohain MP, Thummer RP	Prospective applications of Induced Pluripotent Stem Cells in Military Medicine	Med J Armed Forces India	2018	74	4	313	320
Aniruddha Das, Sooram Banesh, Vishal Trivedi and Shyam Biswas	Extraordinary Sensitivity for H <sub>2</sub> S and Fe(III) Sensing in Aqueous Medium by Al-MIL-53-N3 Metal-Organic Framework: In Vitro and In Vivo Sensing Applications.	Dalton Transactions	2018	47	-	2690	2700
Deka, S.J., Trivedi, V	Potentials of PKC in cancer progression and anticancer drug development.	Curr Drug Discov Technol.	2018	doi: 10.2174/1570163815666180219113614	-	-	-
Soutick Nandi, Sooram Banesh, Vishal Trivedi and Shyam Biswas	A dinitro-functionalized metal-organic framework featuring visual and fluorogenic sensing of H <sub>2</sub> S in living cells, human blood plasma and environmental samples.	Analyst	2018	143	6	1482	1491
Deka, S.J., Gorai, S., Manna, D., Trivedi, V.	Biochemical studies and Virtual Screening of Phytochemical reservoir from northeastern Indian plants to identify anti-cancer agents.	Journal of Biologically Active Products from Nature	2018	8	2	104	124
Vimee Raturi., Kumar Abhishek Subhashis Jana, Subhendu Sekhar, Sekhar Bag and Trivedi, V.	Virtual Screening, Molecular modelling and biochemical studies to exploit PF14_0660 as a target to identify novel anti-malarials.	Letters in Drug Design & Discovery	2019	16	doi: 10.2174/1570163815666180727121200	-	-

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	Chowdhury, Sayan; Mondal, Subrata; Muthuraj, Balakrishnan; S N, Balaji; Trivedi, Vishal; Iyer, Parameswar	Remarkably Efficient Blood-Brain Barrier Crossing Polyfluorene-Chitosan Nanoparticle Selectively Tweaks Amyloid Oligomer in CSF and A $\beta$ 1–40	ACS Omega	2018	3	-	8059	8066
	Chowdhury, Sayan; S N, Balaji; Mondal, Subrata; Meher, Niranjan; Trivedi, Vishal; Iyer, Parameswar	Modulating Early Stage Amyloid Aggregates by Dipeptide Linked Perylenebisimides: Structure Activity Relationship, Inhibition and Modulation in Human CSF and A $\beta$ 1–40	ACS Applied Bio Materials	2018	1	2	403	413
	Mostakim SK, Soutick Nandi, Rakesh Kumar Singh, Vishal Trivedi, and Shyam Biswas	Selective sensing of peroxynitrite by Hf-based UiO-66-B(OH) <sub>2</sub> metal-organic framework: Applicability to cell imaging	Inorganic Chemistry	2018	57	16	10128	10136
	Banesh, S., Ramakrishnan V, and Trivedi, V.	Mapping of Phosphatidylserine recognition region on CD36 Ectodomain	Archives of Biochemistry and Biophysics	2018	660	15	1	10
	Soutick Nandi, Ena Sharma, Vishal Trivedi and Shyam Biswas	Metal-Organic Framework Showing Highly Selective and Sensitive Detection of Exogenous and Endogenous Formaldehyde	Inorganic Chemistry	2018	57	24	15149	15157
	Kimjolly Lhouvum, Balaji, SN, Jawed, AM and Trivedi, V	Plasmodium falciparum PF11625c offers an opportunity to design potent anti-malarials: Biochemical characterization and testing potentials in drug discovery	Acta Tropica	2019	191	-	116	127
	Kumar, S and Trivedi, V	Extracellular Methemoglobin promotes Cytoadherence of Uninfected RBC to Endothelial cells: Insight into cerebral malaria pathology	Journal of Cellular Biochemistry	2019	DOI:10.1002/jcb.28390	-	-	-
	Das, Aniruddha; Das, Sourik; Trivedi, Vishal; Biswas, Shyam	A Dual Functional MOF-Based Fluorescent Sensor for Intracellular Phosphate and Extracellular 4-Nitrobenzaldehyde.	Dalton Trans	2019	48	-	1332	1343
	Mahesh R, Naira VR and Maiti SK	Concomitant production of fatty acid methyl ester (biodiesel) and exopolysaccharides using efficient harvesting technology in flat panel photobioreactor with special sparging system via Scenedesmus abundans	Bioresource Technology	2019	278	-	231	241

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Maibam PD, Maiti SK	A Strategy for Simultaneous Xylose Utilization and Enhancement of Cellulase Enzyme Production by <i>Trichoderma reesei</i> Cultivated on Liquid Hydrolysate Followed by Induction with Feeding of Solid Sugarcane Bagasse	Waste and Biomass Valorization	2019	DOI:https://doi.org/10.1007/s12649019.006456	-	-	-
Naira VR, Das D and Maiti SK	Real time light intensity based carbon dioxide feeding for high cell-density microalgae cultivation and biodiesel production in a bubble column photobioreactor under outdoor natural sunlight	Bioresource Technology	2019	284	-	43	55
Panda SK and Maiti SK	An approach for simultaneous detoxification and increment of cellulase enzyme production by <i>Trichoderma reesei</i> using rice straw	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	2019	DOI: http s://doi.org/10.1007/s12649019.006456	-	-	-
Singh NK, Naira VR and Maiti SK	Production of biodiesel by autotrophic <i>Chlorella pyrenoidosa</i> in a sintered disc lab scale bubble column photobioreactor under natural sunlight	Preparative Biochemistry and Biotechnology	2019	DOI: https://doi.org/10.1080/10826068.2018.1536991	-	-	-
Panda SK and Maiti SK	An approach for simultaneous detoxification and increment of cellulase enzyme production by <i>Trichoderma reesei</i> using rice straw	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	2019	DOI: 10.1080/15567036.2019.1568641	-	-	-
Singh NK, Naira VR and Maiti SK	Production of biodiesel by autotrophic <i>Chlorella pyrenoidosa</i> in a sintered disc lab scale bubble column photobioreactor under natural sunlight	Preparative Biochemistry and Biotechnology	2019	DOI: https://doi.org/10.1080/10826068.2018.1536991	-	-	-
Surajbhan Sevda, Ibrahim M. Abu-Reesh	Improved salt removal and power generation in a cascade of two hydraulically connected up-flow microbial desalination cells	Journal Of Environmental Science And Health, Part A	2018	53	4	326	337
Surajbhan Sevda, T.R.Sreekishnan, Narcis Pous, Sebastia Puig, Deepak Pant	Bioelectroremediation of perchlorate and nitrate contaminated water: A review	Bioresource Technology	2018	225	-	331	339
Rintu Banerjee, S.P. JeevanKumar, Ninad Mehendale, Surajbhan Sevda, Vijay Kumar Garlapati	Intervention of microfluidics in biofuel and bioenergy sectors: Technological considerations and future prospects	Renewable and Sustainable Energy Reviews	2019	101	-	548	558

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Surajbhan Seveda, Swati Sharma, Chetan Joshi, Lalit Pandey, Namrata Tyagi, Ibrahim AbuReesh and T.R. Sreerishnan	Biofilm formation and electron transfer in bioelectrochemical systems	Environmental Technology Reviews	2018	7	1	220	

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<b>Authors</b>	<b>Paper Title</b>	<b>Journal Name</b>	<b>Year</b>	<b>Volume</b>	<b>Issue Number (if any)</b>	<b>Starting Page</b>	<b>Ending Page</b>
R Suresh., A. Sivaram, V. Venkatasubramanian	A Hierarchical Approach for Causal Modeling of Process Systems.	Computers and Chemical Engineering	2018	126	170	183	
M Changmai, M Pasawan, MK Purkait	A hybrid method for the removal of fluoride from drinking water: Parametric study and cost estimation	Elsevier, Separation and Purification Technology	2018	206	140	148	
Suman Saha, Chandan Das	A lab-scale spinning basket membrane module for the assessment of Humic acids ultrafiltration with effect of sonication on membrane fouling	Chemical Eng. Comm	2018	205	1457	1468	
Prabirkumar Saha	A Nash Game Approach to Mixed H <sub>2</sub> /H <sub>2</sub> MPC: Part 3 - Output Feedback Case	International Journal of Automation and Computing	2018	15	612	620	
B. T. Sangtam, and S. K. Majumder	A new empirical correlation for prediction of Gas hydrate dissociation Equilibrium	Petroleum Science and Technology	2018	36	1432	1438	
Sandeep Singh Chauhan, Chinta Sivadurgaprasad, Rajasekhar Kadambur, Prakash Kotecha	A novel strategy for the combinatorial production planning problem using integer variables and performance evaluation of recent optimization algorithms	Swarm and Evolutionary Computation	2018	43	225	243	
Suresh Kelothu, Rajkumar Surin Ritu, Vinoth Kumar R., Manish Kumar, Pugazhenthhi G.	A Simple Sonication Assisted Solvent Blending Route for Fabrication of Exfoliated Polystyrene (PS)/Clay Nanocomposites: Role of Various Clay Modifiers	Materials Today: Proceedings	2018	5	13191	13210	
Amit Baran Dasa, V.V.Goud, Chandan Das	Adsorption/desorption, diffusion and thermodynamic properties of anthocyanin from purple rice bran extract on various adsorbents	Journal of Food Process Engineering	2018	41	1	11	

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Venkatanarasimha R Chelli, Satyadip Chakraborty, Animes Kumar Golder	Ag-doping on TiO <sub>2</sub> using plant-based glycosidic compounds for high photonic efficiency degradative oxidation under visible light	Journal of Molecular Liquids	2018	271	-	380	388
Venkatanarasimha Rao Chelli, Animes Kumar Golder	Ag-doping on ZnO support mediated by bio-analytes rich in ascorbic acid for photocatalytic degradation of dipyrone drug	Chemosphere	2018	208	-	149	158
Rima Biswas, Abhigyan Malviya, Pallab Ghosh, Tamal Banerjee and Sk. Musharaf Ali	Alkali metal ion partitioning with calix[4]arene-benzo-crown 6 ionophore in acidic medium: insights from experiments, statistical mechanical framework, and molecular dynamics simulations	The Journal of Physical Chemistry B	2018	122	-	2102	2112
Sandeep Singh Chauhan, Prakash Kotecha	An efficient multi-unit production planning strategy based on continuous variables	Applied Soft Computing	2018	68	-	458	477
M. Gebremedhin, S. Mishra, K. Mohanty	Augmentation of native microalgae based biofuel production through statistical optimization of campus sewage wastewater as low-cost growth media	Journal of Environmental Chemical Engineering	2018	6	-	6623	6632
JC Nasaba, A Singh	Axial and radial patterns of a bidispersed suspension in a fully filled horizontal rotating cylinder	Physical Review E	2018	98	5	053102-1	053102-12
Raj Kumar Das, Snigdha Saha, Venkatanarasimha Rao Chelli, Animes Kumar Golder	Bio-inspired AgNPs, multilayers-reduced graphene oxide and graphite nanocomposite for electrochemical sensing	Bulletin of Materials Science	2018	41	3	86	96
Fekadu Mosisa Wako, Ali Shemsedin Reshad, Machhindra S.Bhalerao, Vaibhav V.Goud	Catalytic cracking of waste cooking oil for biofuel production using zirconium oxide catalyst	Industrial Crops and Products	2018	118	-	282	289
P Dhar, SS Gaur, A Kumar, V Katiyar	Cellulose Nanocrystal Templated Graphene Nanorolls for High Performance Supercapacitors and Hydrogen Storage: An Experimental and Molecular Simulation Study P Dhar, SS Gaur, A Kumar, V Katiyar	Scientific Reports	2018	8	1	3886	-
R Sharma, A Kumar, R K Upadhyay	Characteristic of a multi-pass membrane separator for hydrogen separation through self-supported PdAg membranes	International Journal of Hydrogen Energy	2018	43	10	5019	5032



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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
R. K. Mishra, K. Mohanty	Characterization of non-edible lignocellulosic biomass in terms of their candidacy towards alternative renewable fuels	Biomass Conversion and Biorefinery	2018	8	-	799	812
Narendra Naik Deshavath, Sushmita Mahanta, Vaibhav V.Goud, Veeranki Venkat Dasu, Srinivasa RaoP	Chemical composition analysis of various genetically modified sorghum traits: Pretreatment process optimization and bioethanol production from hemicellulosic hydrolyzates without detoxification	Journal of Environmental Chemical Engineering	2018	6	4	5625	5634
Sumitha Banu Jamalidheen, Kedar Sharma, Aruna Rani, Vijayanand S. Moholkar, Arun Goyal	Comparative analysis of pretreatment methods on sorghum (Sorghum durra) stalk agrowaste for holocellulose content	Preparative Biochemistry and Biotechnology	2018	48	-	457	464
S. Bhattacharya, P. Banerjee, S. Bhattacharya S., R. Ratour, K.S., S. K. Majumder, P. Das, S. Datta	Comparative Assessment on the Removal of Ranitidine and Prednisolone Present In Solution Using Graphene Oxide (GO) Nanoplatelets	Desalination and Water Treatment	2018	132	-	287	296
Mood Mohan, Tamal Banerjee and Vaibhav V. Goud.	COSMO-RS-Based Screening of Antisolvents for the Separation of Sugars from Ionic Liquids: Experimental and Molecular Dynamic Simulations	ACS Omega	2018	3	-	7358	7370
R Patwa, A Kumar, V Katiyar	Crystallization kinetics, morphology, and hydrolytic degradation of novel bio-based poly (lactic acid)/crystalline silk nano-discs nanobiocomposites.	Journal of Applied Polymer Science	2018	135	33	46590	
Debarshi Mallick, Maneesh Kumar Poddar, Pinakeswar Mahanta, Vijayanand S. Moholkar	Discernment of synergism in pyrolysis of biomass blends using thermogravimetric analysis	Bioresource Technology	2018	261	-	294	305
B. K. Goshika and S. K. Majumder	Dispersion of liquid-liquid phase by a jet-induced gas-liquid-liquid mixing column developed for separation of organic pollutants, ( <a href="https://doi.org/10.1080/01496395.2018.1504796">https://doi.org/10.1080/01496395.2018.1504796</a> )	Separation Science and Technology	2018	54	4	535	548
Manash Pratim Borthaku, Gautam Biswas, Dipankar Bandyopadhyay	Dynamics of drop formation from submerged orifices under the influence of electric field	Physics of Fluids	2018	30	12	122104-1	122104-12
S. K. Hotta, N. Sahoo, K. Mohanty, P. Mahanta	Effect of Compression Ratio on the Performance of a Constant Speed Spark Ignition Engine Operating on Raw Biogas	Journal of Energy and Environmental Sustainability	2018	5	-	53	57

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M. Singh, A. K. Pal, S. M. Bhasney, P. Bhagabati, V. Katiyar	Effect of Dicumyl Peroxide on a Poly (lactic acid) (PLA)/Poly (butylene succinate)(PBS)/Functionalized Chitosan-Based Nanobiocomposite for Packaging: A Reactive Extrusion Study.	ACS Omega	2018	3	10	13298	13312
Sadhana Kumari, Nilay Kumar and Raghendra Gupta	Effect of Gas-Liquid Ratio on the Wall Shear Stress in Slug Flow in Capillary Membranes	Asia-Pacific Journal of Chemical Engineering	2018	-	-	-	-
R. Patwa,, A. Kumar, V. Katiyar	Effect of silk nano-disc dispersion on mechanical, thermal, and barrier properties of poly(lactic acid) based bionanocomposites	Journal of Applied Polymer Science	2018	-	-	46671	46683
Rahul Saha, Ramgopal Uppaluri, Pankaj Tiwari	Effects of interfacial tension, oil layer break time, emulsification and wettability alteration on oil recovery for carbonate reservoirs	Colloids and Surfaces A: Physicochemical and Engineering Aspects	2018	559	-	92	103
Surjendu Maity, Joydip Chaudhuri, Shirsendu Mitra, Saptak Rarotra, Dipankar Bandyopadhyay	Electric Field Assisted Multicomponent Reaction in a Microfluidic Reactor for Superior Conversion and Yield	Electrophoresis	2018	40	3	401	409
Abir Ghosh, Dipankar Bandyopadhyay, Ashutosh Sharma	Electric Field Mediated Elastic Contact Lithography of Thin Viscoelastic Films for Miniaturized and Multiscale Patterns	Soft Matter	2018	14	19	3963	3977
Dipankar Bandyopadhyay, Manash Pratim Borthakur, Gautam Biswas	Electric field mediated separation of water-ethanol mixture in carbon-nanotubes integrated to nanoporous graphene membrane	The Royal Society of Chemistry	2018	209	-	259	271
Prince Kumar Baranwal, R. Prasanna Venkatesh	Electrochemical investigation of synergetic effect of thiosulphate and chloride ions in carbon steel corrosion	Journal of Materials Research and Technology	2018	-	-	-	-
R Phukan, SB Gogoi, P Tiwari	Enhanced oil recovery by alkaline-surfactant-alternated-gas/CO2 flooding	Journal of Petroleum Exploration and Production Technology	2018	2	-	1	14
B. K. Goshika and S. K. Majumder	Entrainment and holdup of gas-liquid-liquid dispersion in an ejector-induced downflow gas-liquid-liquid contactor	Chemical Engineering & Processing: Process Intensification	2018	125	-	112	123
P. J. Sarma, K. Mohanty	Epipremnum aureum and Dracaena braunii as indoor plants for enhanced bio-electricity generation in a plant microbial fuel cell (PMFC) 18with electrochemically modified carbon fiber brush anode	Journal of Bioscience and Bioengineering	2018	126	-	404	410

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BJ Medhi, V Agrawal, A Singh	Experimental investigation of particle migration in suspension flow through bifurcating microchannels	AIChE J	2018	64	6	2293	2307
Amit Baran Das, Vaibhav Vasant Goud, Chandan Das	Extraction and characterization of phenolic content from purple and black rice ( <i>Oryza sativa</i> L) bran and its antioxidant activity	Journal of Food Measurement and Characterization	2018	12	1	332	345
Bolledu Ravi, Mitradip Bhattacharjee, Abir Ghosh, Dipankar Bandyopadhyay	Fabrication of Pixelated Liquid Crystal Nanolenses Employing the Contact Line Instabilities of Evaporating Films	Nanoscale	2018	11	4	1680	1691
G. Chakraborty, A. Gupta, G. Pugazhenthii, V. Katiyar	Facile dispersion of exfoliated graphene/PLA nanocomposites via in situ polycondensation with a melt extrusion process and its rheological studies	Journal of Applied Polymer Science	2018	135	33	1	11
R Prakash, SK Majumder, A Singh	Flotation technique: Its mechanisms and design parameters	Chemical Engineering and Processing - Process Intensification	2018	127	-	249	270
Sadhana Kumari, Nilay Kumar and Raghendra Gupta	Flow and Heat Transfer in Slug Flow in Microchannels: Effect of Bubble	International Journal of Heat and Mass Transfer.	2018	129	-	812	826
Amit Kumar Singh, Saptak Rarotra, Viswanath Pasumarthi, Tapas K. Mandal and Dipankar Bandyopadhyay	Formic acid powered reusable autonomous ferroboots for efficient hydrogen generation under ambient conditions	Journal of Materials Chemistry A	2018	6	19	9209	9219
S. Mondal and S. K. Majumder	Frictional pressure drop of aqueous-organic two-phase flow through packed and unpacked rectangular serpentine millichannel	Experimental Thermal and Fluid Science	2018	94	-	215	230
G. Chatterjee, K.P. Shadangi, K. Mohanty	Fuel properties and composition study of Cassia Siamea seed crude pyrolytic oil and char	Fuel	2018	234	-	609	615
A. Gupta, N. Mulchandani, M. Shah, S. Kumar, V. Katiyar	Functionalized chitosan mediated stereocomplexation of poly (lactic acid): influence on crystallization, oxygen permeability, wettability and biocompatibility behavior.	Polymer	2018	142	-	196	208
A. Vamsi Krishna, Sonu Kumar, K. Anki Reddy, Julian Talbot	Granular silo flow of inelastic dumbbells: clogging and its reduction	Physical Review E	2018	98	22904	-	-
Vijaykumar L Dhadge, Chitta Ranjan Medhi, Murchana Changmai, Mihir Kumar Purkait	House hold unit for the treatment of fluoride, iron, arsenic and microorganism contaminated drinking water	Chemosphere	2018	199	-	728	736

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Kibrom Albele Gebru, Chandan Das	Humic acid removal using cellulose acetate membranes grafted with poly (methyl methacrylate) and aminated using tetraethylenepentamine (TEPA)	J. Environ. Manage	2018	217	-	600	610
Bakuru, Vasudeva Rao; Velaga, Bharath; Peela, Nageswara Rao	Hybridization of Pd Nanoparticles with UiO-66(Hf) Metal-Organic Framework and the Effect of Nanostructure on the Catalytic Properties	Chemistry-a European Journal	2018	24	60	15978	15982
Atanu Kumar Paul Venu Babu Borugadda Machhindra S. Bhalerao Vaibhav V. Goud	In situ epoxidation of waste soybean cooking oil for synthesis of biolubricant basestock: A process parameter optimization and comparison with RSM, ANN, and GA	The Canadian Journal Of Chemical Engineering	2018	96	-	1451	1461
Abir Ghosh, Dipankar Bandyopadhyay, Ashutosh Sharma	Influence of Curvature on the Contact Instabilities of Thin Viscoelastic Coatings on the Fiber Surfaces	Physics of Fluids	2018	30	11	114101-1	114101-18
R Saha, RVS Uppaluri, P Tiwari	Influence of emulsification, interfacial tension, wettability alteration and saponification on residual oil recovery by alkali flooding	Journal of industrial and engineering chemistry	2018	59	5	286	296
Rima Biswas, Pallab Ghosh, Tamal Banerjee, Sk. Musharaf Ali and Ashish Kumar Singha Deb...	Interfacial behavior of Cs+, K+, Na+, and Rb+ extraction in the presence of dibenzo-18-crown 6 from the nitrobenzene/water biphasic system: experimental, quantum chemical, and molecular dynamic studies	ACS Omega	2018	3	-	1663	1674
G. Chakraborty, R. B. Valapa, G. Pugazhenthii, V. Katiyar	Investigating the properties of poly (lactic acid)/ exfoliated graphene based nanocomposites fabricated by versatile coating approach.	International journal of biological macromolecules	2018	113	-	1080	1091
Mood Mohan , Narendra Naik Deshavath, Tamal Banerjee , Vaibhav V. Goud , and Veeranki Venkata Dasu	Ionic Liquid and Sulfuric Acid-Based Pretreatment of Bamboo: Biomass Delignification and Enzymatic Hydrolysis for the Production of Reducing Sugars	Industrial & Engineering Chemistry Research	2018	57	81	10105	10117
Debashis Kundu, Sankar Chakma, Gopal Pugazhenthii, and Tamal Banerjee	Ionic Liquid Facilitated Dehydrogenation of tert-Butylamine Borane	ACS Omega	2018	3	2	2273	2281
P Datta, P Tiwari, LM Pandey	Isolation and characterization of biosurfactant producing and oil degrading Bacillus subtilis MG495086 from formation water of Assam oil reservoir and its suitability for Enhanced Oil recovery	Bioresource technology	2018	270	-	439	448

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Swarnotpol Kashyap, Prabu V	Laboratory-Scale Studies on Humidified O <sub>2</sub> -Fed High-Ash Coal-Based Underground Coal Gasification	Energy & Fuels	2018	32	9	9132	9141
N. Tripathi, V. Katiyar	Lactic acid oligomer (OLLA) grafted gum arabic based green adhesive for structural applications	International journal of biological macromolecules	2018	120	-	711	720
N. Siti, E. Woo, Y. T. Yeh, F. Luo, V. Katiyar	Lamellae Assembly in Dendritic Spherulites of Poly (L-lactic Acid) Crystallized with Poly (p-Vinyl Phenol)	Polymers	2018	10	5	1	21
Anand Bharti, Rupesh Verma, Prema, Sarvesh Namdeo, Abhigyan Malviya, Tamal Banerjee and Stanley I. Sandler	Liquid-liquid equilibria and C OSMO-SAC modeling of organic solvent/ionic liquid - hydroxyacetone -water mixtures	Fluid Phase Equilibria	2018	462	-	73	84
Rupesh Verma and Tamal Banerjee	Liquid-Liquid Extraction of Lower Alcohols Using Menthol-Based Hydrophobic Deep Eutectic Solvent: Experiments and COSMO-SAC Predictions	Industrial Energy and Chemistry Research	2018	57	9	3371	3381
Rupesh Verma, Pyarimohan Dehury, Anand Bharti and Tamal Banerjee	Liquid-liquid extraction, COSMO-SAC predictions and process flow sheeting of 1-butanol enhancement using mesitylene and oleyl alcohol	Journal of Molecular Liquids	2018	265	-	824	839
Sonu Kumar, Manish Dhiman, K. Anki Reddy	Magnus effect in granular media	Physical Review E	2018	99	12902	-	-
Ardhendu Sekhar Giri, Animes Kumar Golder	Mechanism and identification of reaction byproducts for the degradation of Chloramphenicol drug in heterogeneous photocatalytic process	Groundwater for Sustainable Development	2018	7	-	343	347
Arup Jyoti Borah, Kuldeep Roy, Arun Goyal, Vijayanand S. Moholkar	Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds	Bioresource technology	2018	272	-	389	397
Beomguk Park, Pengpeng Qiu, Binota Thokchom, Vijayanand S. Moholkar, Younggyu Son, Jeehyeong Khim,	Mechanistic investigations in sonochemical degradation of trihalomethanes in presence of nonporous and mesoporous silica nanospheres	Journal of water process engineering	2018	24	-	26	34
Amit H. Batghare, Saiprasad Pati, Kuldeep, Roy, Vijayanand S. Moholkar	Mechanistic investigations in ultrasound-assisted extraction of astaxanthin from Phaffia rhodozyma MTCC 7536	Bioresource Technology Reports	2018	4	-	166	173

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Belachew Zegale Tizazu, Kulddeep Roy, Vijayanand S. Moholkar	Mechanistic investigations in ultrasound-assisted xyloitol fermentation	Ultrasonics sonochemistry	2018	48	-	321	328
Lalit Goswami, Vinoth Kumar R., Siddhartha Narayan Borah, Arul Manikandan N., Pakshirajan Kannan, Pugazhenthhi G.,	Membrane bioreactor and integrated membrane bioreactor systems for micropollutant removal from wastewater: A review	Journal of Water Process Engineering	2018	26	-	314	328
H. Sahu, S. Dube, K. Mohanty	MgO supported groundnut (Arachis hypogaea) shell for methanolysis of waste cooking oil	Waste and Biomass Valorization <a href="https://doi.org/10.1007/s12649-018-0289-7">https://doi.org/10.1007/s12649-018-0289-7</a>	2018	-	-	-	-
Visva Bharati Barua, Vaibhav V.Goud, Ajay S.Kalamdhad	Microbial pretreatment of water hyacinth for enhanced hydrolysis followed by biogas production	Renewable Energy	2018	126	-	21	29
Mitradip Bhattacharjee, Seim Timung, Tapas Kumar Mandal, Dipankar Bandyopadhyay	Microfluidic Schottky-Junction Photovoltaics with Superior Efficiency Stimulated by Plasmonic Nanoparticles and Streaming Potential	Nanoscale Advances	2018	1	3	1155	1164
K. Dhir and S. K. Majumder	Model of transient CO <sub>2</sub> gas hydrate particle size distribution at its equilibrium condition ( <a href="https://doi/10.1080/10916466.2018.1509089">https://doi/10.1080/10916466.2018.1509089</a> )	Petroleum Science and Technology	2018	36	21	1733	1740
R Suresh., R. Rengaswamy	Modeling and Control of Battery Systems - Part I: Revisiting Butler-Volmer Equations to Model Non-linear Coupling of Various Capacity Fade Mechanisms.	Computers and Chemical Engineering	2018	119	-	336	351
R Suresh., R. Rengaswamy	Modeling and Control of Battery Systems - Part II: A Model Predictive Controller for Optimal Charging.	Computers and Chemical Engineering	2018	119	-	326	335
Papu Kumar Naik, Mood Mohan, Tamal Banerjee., Sandip Paul, and Vaibhav V. Goud	Molecular Dynamic Simulations for the Extraction of Quinoline from Heptane in the Presence of a Low-Cost Phosphonium-Based Deep Eutectic Solvent.	The Journal of Physical Chemistry B	2018	122	14	4006	4015
Abhijit Gogoi, K. Anki Reddy, Pranab Mondal	Multilayer Graphene Oxide Membrane in Forward Osmosis: Molecular Insights	ACS Applied Nano Materials	2018	1	-	4450	4460
Mood Mohan, Pasumarthi Viswanath, Tamal Banerjee & Vaibhav V. Goud	Multiscale modelling strategies and experimental insights for the solvation of cellulose and hemicellulose in ionic liquids	Molecular Physics: An International Journal at the Interface Between Chemistry and Physics	2018	116	-	2108	2128

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Tukhar Jyoti Konch, Raj Kumar Gogoi, Abhijit Gogoi, Kundan Saha, Jumi Deka, K. Anki Reddy, Kalyan Raidongia	Nanofluidic transport through humic acid modified graphene oxide nanochannels	Materials Chemistry Frontiers	2018	2	-	1647	1654
Pallab Ghosh	Nonlinear viscoelastic behavior of aqueous foam under large amplitude oscillatory shear flow	KoreaAustralia Rheol. J	2018	30	3	147	159
Venkatanarasimha R Chelli, Animes Kumar Golder	One pot green synthesis of Pt, Co and Pt@Co core-shell nanoparticles using Sechium edule	Journal of Chemical Technology & Biotechnology	2018	https://doi.org/10.1002/jctb.5838	-	-	-
Rupesh Verma, Mood Mohan, Vaibhav V. Goud, and Tamal Banerjee	Operational Strategies and Comprehensive Evaluation of Menthol Based Deep Eutectic Solvent for the Extraction of Lower Alcohols from Aqueous Media.	ACS Sustainable Chemistry & Engineering	2018	12	6	16920	16932
Sushma Chakraborty, Chandan Das, Ramagopal Uppaluri	Optimal fabrication of carbonate free kaolin based low cost ceramic membranes using mixture model response surface methodology	Applied Clay Science	2018	162	-	101	112
S Konidena, J Lee, KA Reddy, A Singh	Particle dynamics and pattern formation in a rotating suspension of positively buoyant particles	Physical Review Fluids	2018	3	4	044301-1	04401-19
Dr. Pallab Ghosh	Partitioning of Cs+ and Na+ ions by dibenzo-18-crown-6 ionophore in biphasic aqueous systems of octanol and ionic liquid.	Radiochim. Acta	2018	106	6	477	495
S. Murugavelh, K. Mohanty	Performance of Halomonas sp to reduce hexavalent chromium in batch and continuous fixed film reactor	Journal of Environmental Chemical Engineering	2018	6	-	2561	2567
Mood Mohan Tamal Banerjee Vaibhav V. Goud	Phase transition properties, chemical purity, and solubility of coniferyl alcohol and D-mannose: Experimental and Cosmo-RS predictions	Canadian Journal of Chemical Engineering	2018	9999	-	1	7
Arup Jyoti Borah, Mayank Agarwal, Arun Goyal, Vijayanand S. Moholkar	Physical insights of ultrasound-assisted ethanol production from composite feedstock of invasive weeds	Ultrasonics sonochemistry	2018	51	-	378	385
S. S. Borkotoky, A. K. Pal, V. Katiyar	Poly (lactic acid)/modified chitosan-based microcellular foams: Thermal and crystallization behavior with wettability and porosimetric investigations	Journal of Applied Polymer Science	2018	136	12	1	13



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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
S. Patel and S. K. Majumder	Prediction of transient pressure change during natural gas hydrate formation	Petroleum Science and Technology	2018	36	21	1820	1828
Mayur Kevat, Tamal Banerjee)	Process Simulation and Energy Analysis for Chemical Looping Combustion and Chemical Looping with Oxygen Uncoupling for Sawdust Biomass	Energy Technology	2018	6	-	1237	1247
Sushobhan Pradhan, Pritam Kumar Dikshit, Vijayanand S. Moholkar	Production, ultrasonic extraction, and characterization of poly (3- $\alpha$ -hydroxybutyrate) (PHB) using <i>Bacillus megaterium</i> and <i>Cupriavidus necator</i>	Polymers for Advanced Technologies	2018	29	-	2392	2400
R. K. Mishra, K. Mohanty	Pyrolysis characteristics and kinetic parameters assessment of three waste biomass	Journal of Renewable and Sustainable Energy	2018	10	-	01310 21-18	-
R. K. Mishra, K. Mohanty	Pyrolysis kinetics and thermal behavior of waste sawdust biomass using thermogravimetric analysis	Bioresource Technology	2018	251	-	63	74
Kibrom Albele Gebru, Chandan Das	Removal of chromium (VI) ions from aqueous solutions using amine-impregnated TiO <sub>2</sub> nanoparticles modified cellulose acetate membranes	Chemosphere	2018	191	-	673	684
Shravan kumar, N. Selvaraju, R. Prasanna Venkatesh	Removal of Cr(VI) from Synthetic Solutions Using Water Caltrop Shell as a Low-Cost Biosorbent	Separation Science and Technology	2018	-	-	-	-
Vinoth Kumar R., Pakshirajan Kannan, Pugazhenthhi G.	Removal of methyl orange from synthetic wastewater using analcime-C, MCM-41 and $\beta$ -Al <sub>2</sub> O <sub>3</sub> composite membranes	International Journal of Environmental Technology and Management	2018	21	3-4	111	125
Sagnik Middy, Mitradip Bhattacharjee, anjan Mandal, Bandyopadhyay Bandyopadhyay	RGO-Paper Sensor for Point-of-Care Detection of Lipase in Blood Serum	IEEE Sensors Letters	2018	2	3	2000404	2000 404
Suresh Kelothu, Vinoth Kumar R., Rijumoni Boro, Manish Kumar, Pugazhenthhi G.	Rheological Behavior of Polystyrene (PS)/Co-Al Layered Double Hydroxide (LDH) Blend Solution obtained Through Solvent Blending Route: Influence of LDH Loading and Temperature	Materials Today: Proceedings	2018	5	1	1359	1371
Siddharth Thakur, Saptak Rarotra, Mitradip Bhattacharjee, Gayatri Natu, Tapas Kumar Mandal, Ashok Kumar Dasmahapatra, Dipankar Bandyopadhyay	Self-Organized Large-Scale-Integration of Mesoscale Ordered Heterojunctions for Process-Intensified Photovoltaics	Physical Review Applied	2018	10	6	064012- 1	064012- 15

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Amit Kumar Singh, Saptak Rarotra, Viswanath Pasumarthi, Tapas Kumar Mandal, Dipankar Bandyopadhyay	Self-Propelling Ferrobots to Synthesize Pure Hydrogen and Oxygen under Ambient Condition for PEM Fuel Cells	The Journal of Materials Chemistry A	2018	6	19	9209	9219
Prabirkumar Saha	Separation of hexavalent chromium from industrial effluent through liquid membrane using environmentally benign solvent: A study of experimental optimization through response surface methodology	Chemical Engineering Research and Design	2018	132	-	564	583
H Katsuragi, K Anki Reddy, K Endo	Shape dependence of resistance force exerted on an obstacle placed in a gravity-driven granular silo flow	AIChE Journal	2018	64	-	3849	3856
Rahul Saha, Ramgopal Uppaluri, Pankaj Tiwari	Silica Nanoparticle Assisted Polymer Flooding of Heavy Crude Oil: Emulsification, Rheology, and Wettability Alteration Characteristics	Industrial & Engineering Chemistry Research	2018	57	-	6364	6376
R. Patwa, N. Soundararajan, N. Mulchandani, S. M. Bhasney, M. Shah, S. Kumar, A. Kumar	Silk nano-discs: A natural material for cancer therapy	Biopolymers	2018	109	11	1	15
Soumya Sasma, Vaibhav V.Goud, Kaustubha Mohanty	Simultaneous ethanol and hydrogen production by fermentation from <i>Bon bogori</i> ( <i>Ziziphus rugosa</i> )	Renewable Energy Focus	2018	26	-	71	80
S. Mondal and S. K. Majumder	Single and aqueous-organic two-phase frictional pressure drop and local entropy generation in rectangular millichannel: Experiment and its analysis ( <a href="https://doi.org/10.1016/j.cep.2018.10.015">https://doi.org/10.1016/j.cep.2018.10.015</a> )	Chemical Engineering & Processing: Process Intensification	2018	134	-	72	85
Joydip Chaudhuri, Tapas K. Mandal and Dipankar Bandyopadhyay,	Steady and oscillatory Lorentz-force-induced transport and digitization of two-phase microflows	Physical Review Applied	2018	10	3	034057-1	034057-13
Mihir Kumar Purkait, Manish Kumar Sinha, Piyal Mondal, Randeep Singh	Stimuli Responsive Polymeric Membranes: Smart Polymeric Membranes	Academic Press	2018	-	-	-	-
K Ruby and S. K. Majumder	Studies on stability and properties of micro and nano-particle-laden ionic microbubbles	Powder Technology	2018	335	-	77	90
S. Mondal and S. K. Majumder	Studies on the copper extraction in a channel-based packed extraction device ( <a href="https://doi.org/10.1016/j.mineng.2018.05.013">https://doi.org/10.1016/j.mineng.2018.05.013</a> )	Minerals Engineering	2018	126	-	194	206

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P Dhar, R. K. M, S. M. Bhasney, P. Bhagabati, A. Kumar, V. Katiyar,	Sustainable Approach for Mechanical Recycling of Poly(lactic acid)/Cellulose Nanocrystal Films: Investigations on Structure Property Relationship and Underlying Mechanism	Industrial & Engineering Chemistry Research	2018	57	43	14493	14508
Payel Sen, G. Pugazhenth	Synergistic effect of dual nanofillers (MWCNT and Ni Al LDH) on the electrical and thermal characteristics of polystyrene nanocomposites	Journal of Applied Polymer Science	2018	135	29	46513	46524
Smruti Ranjan Dash, Subhendu Sekhar Bag, Animes Kumar Golder	Synergized AgNPs formation using microwave in a bio-mediated route: Studies on particle aggregation and electrocatalytic sensing of ascorbic acid from biological entities	Journal of Electroanalytical Chemistry	2018	827	-	181	192
Preethi Arulmurugan, Arul Manikandan N., Pugazhenth G.	Synthesis and Characterization of Polystyrene (PS)/Modified Ni Al LDH Nanocomposites: Role of Composition, Modifier and Synthesis route of LDH	Macromolecular Symposia	2018	382	1	1800078	1800089
Shatrudhan Palsaniya, Harshal B. Nemade, Ashok Kumar Dasmahapatra	Synthesis of polyaine/graphene/MoS2 nanocomposite for high performance supercapacitor electrode	Polymer	2018	150	-	150	158
B Baruah, P Tiwari, P Thakur, R Katak	TGA-FTIR analysis of Upper Assam oil shale, optimization of lab-scale pyrolysis process parameters using RSM	Journal of analytical and applied pyrolysis	2018	135	-	397	405
Pallab Ghosh	The effect of silica nanoparticles on the stability of aqueous foams	J. Dispersion Sci. Technol	2018	40	2	206	218
P Das, P Tiwari	The effect of slow pyrolysis on the conversion of packaging waste plastics (PE and PP) into fuel	Waste management	2018	79	-	615	624
Abhishek Roy, Shivam Tiwari, Srijeeb Karmakar, K. Anki Reddy, Lalit M. Pandey	The effect of stoichiometric ratio of Zinc towards the fibrillation of Bovine Serum Albumin (BSA): A mechanistic insight	International Journal of Biological Macromolecules	2018	123	-	409	419
K Kumar, A Kumar	Enhanced CO2 Adsorption and Separation in Ionic Liquid-Impregnated Mesoporous Silica MCM-41: A Molecular Simulation Study	The Journal of Physical Chemistry	2018	122	15	8216	8227
Sanjukta Bhoi, K. Mohanty and Tamal Banerjee	Thermal Degradation and Kinetic Studies of Ionic Liquid and Mixed Solvent pretreated Indian Coals	International Journal of Oil, Gas and Coal Technology	2018	-	-	-	-

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S. S. Borkotoky,, G. Chakraborty, V. Katiyar	Thermal degradation behaviour and crystallization kinetics of poly (lactic acid) and cellulose nanocrystals (CNC) based microcellular composite foams	International journal of biological macromolecules	2018	118	-	1518	1531
R. Prakash, S. K. Majumder, A Singh	Gas holdup and frictional pressure drop contributions in microstructured two-and three-phase bubbling bed with Newtonian and non-Newtonian liquids: Effect of coarse and fine particles with surface active agent	Chemical Engineering & Processing: Process Intensification	2018	133	-	40	57
R. K. Mishra, K. Mohanty	Thermocatalytic conversion of non-edible Neem seeds towards clean fuel and chemicals	Journal of Analytical and Applied Pyrolysis	2018	134	-	83	92
Ali Shemsedin Reshad, Pankaj Tiwari, Vaibhav V.Goud	Thermo-chemical conversion of waste rubber seed shell to produce fuel and value-added chemicals	Journal of the Energy Institute	2018	91	6	940	950
Pyarimohan Dehury, Janardan Singh and Tamal Banerjee.	Thermophysical and Forced Convection Studies on (Alumina + Menthol)-Based Deep Eutectic Solvents for Their Use as a Heat Transfer Fluid.	ACS Omega	2018	3	-	18016-	18027
K. Samal, K. Maiti, K. Mohanty, C. Das	Ultrafiltration of Aqueous PVA using spinning basket membrane module	Water, Air & Soil Pollution	2018	229	-	2	9
Belachew Zegale Tizazu, Kuldeep Roy, Vijayanand S. Moholkar	Ultrasound enhancement of xylitol production from sugarcane bagasse using immobilized <i>Candida tropicalis</i> MTCC 184	Bioresource Technology	2018	268	-	247	258
Ritesh S Malani, Vivek Shinde, Sumedh Ayachit, Arun Goyal, Vijayanand S. Moholkar	Ultrasound assisted biodiesel production using heterogeneous base catalyst and mixed non edible oils	Ultrasonics sonochemistry	2018	-	-	-	-
Fahimeh Zare, Ramin Jannesar, MK Purkait, Mehrorang Ghaedi	Ultrasound-assisted dispersive micro-solid-phase extraction using hydrophobic thiolated ionic liquids immobilized on gold nanoparticles for the preconcentration and determination of amino acids in human plasma samples	Separation Science Plus	2018	1	6	419	429
Ritesh S Malani, Harshad Sardar, Yash Malviya, Arun Goyal, Vijayanand S. Moholkar	Ultrasound-Intensified Biodiesel Production from Mixed Nonedible Oil Feedstock Using Heterogeneous Acid Catalyst Supported on Rubber De-oiled Cake	Industrial & Engineering Chemistry Research	2018	57	-	14926	14938

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Anvesh Dixit, Sagnik Middy, Shirsendu Mitra, Surjendu Maity, Mitradip Bhattacharjee, Dipankar Bandyopadhyay	Unexplored Pathways to Charge Storage in Supercapacitors	The Journal of Physical Chemistry C	2018	123	1	195	204
Raj Kumar Das, Animes Kumar Golder	Use of plant based analytes for the synthesis of NiO nanoparticles in catalyzing electrochemical H <sub>2</sub> O <sub>2</sub> production	Journal of Electroanalytical Chemistry	2018	823	-	9	19
P. Das, P Tiwari	Valorization of packaging plastic waste by slow pyrolysis	Resources, Conservation and Recycling	2018	128	19	69	77
Shrinivas P.S., Deepak Mishra and Raghvendra Gupta	Vortex characteristics due to nozzle clogging in water caster mould: modelling and validation	Canadian Metallurgical Quarterly	2018	-	-	-	-
Abhijit Gogoi, Tukhar Jyoti Konch, Kalyan Raidongia, K. Anki Reddy	Water and salt dynamics in multilayer graphene oxide (GO) membrane: role of lateral sheet dimensions	Journal of Membrane Science	2018	563	-	785	793
M. Barooah, B. Mandal	Enhanced CO <sub>2</sub> separation performance by PVA/PEG/silica mixed matrix membrane	Journal of Applied Polymer Science	2018	135	28	1	12
B. Prasad, B. Mandal	Preparation and characterization of CO <sub>2</sub> -selective facilitated transport membrane composed of chitosan and poly(allylamine) blend for CO <sub>2</sub> /N <sub>2</sub> separation	Journal of Industrial and Engineering Chemistry	2018	66	-	419	429
A. Dey, S. K. Dash, B. Mandal	Equilibrium CO <sub>2</sub> solubility and thermophysical properties of aqueous blends of 1-(2-aminoethyl) piperazine and N-methyldiethanolamine	Fluid Phase Equilibria	2018	463	-	91	105
B. Prasad, B. Mandal	Graphene Incorporated Bio-Polymeric Mixed Matrix Membrane for Enhanced CO <sub>2</sub> Separation by Regulating the Support Pore Filling	ACS Applied Materials and Interfaces	2018	10 (33)	-	27810	27820
B. Das, K. Mohanty	A green and facile production of catalysts from waste red mud for the one-pot synthesis of glycerol carbonate from glycerol	Journal of Environmental Chemical Engineering	2019	7	-	102888	-
Sagnik Middya, Mitradip Bhattacharjee, Dipankar Bandyopadhyay	A Multipurpose and Reusable Nano-BG-FET for Point-of-Care Estimation of Ammonia in Air and Urea in Human Urine	Nanotechnology	2019	30	14	145502	145502

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Mitradip Bhattacharjee, Siddharth Thakur, Ashok Kumar Dasmahapatra, Dipankar Bandyopadhyay	Acoustic Wave Catalyzed Urea Detection Utilizing a Pulsatile Microdroplet Sensor	ACS Sustainable Chemistry and Engineering	2019	-	-	-	-
R Phukan, SB Gogoi, P Tiwari	Alkaline-surfactant-alternated-gas/CO <sub>2</sub> flooding: Effects of key parameters	Journal of Petroleum Science and Engineering	2019	173	-	547	557
Abhishek Shukla, Vaibhav V.Goud, Chandan Das	Antioxidant potential and nutritional compositions of selected ginger varieties found in Northeast India	Industrial Crops and Products	2019	128	-	167	176
N. K. Kalita, M. K. Nagar, C. Mudenu, A. Kalamdhad, V. Katiyar	Biodegradation of modified Poly (lactic acid) based biocomposite films under thermophilic composting conditions.	Polymer Testing	2019	-	-	-	-
Debashis Kundu and Tamal Banerjee	Carboxymethyl Cellulose–Xylan Hydrogel: Synthesis, Characterization, and in Vitro Release of Vitamin B12	ACS Omega	2019	3	-	4793	4803
Ardendu Sekhar Giri, Animes Kumar Golder	Ciprofloxacin degradation in photo-Fenton and photo-catalytic processes: Degradation mechanisms and iron chelation	Journal of Environmental Sciences	2019	80	-	82	92
S. K. Hotta, N. Sahoo, K. Mohanty	Comparative assessment of a spark ignition engine fueled with gasoline and raw biogas	Renewable Energy	2019	134	-	1307	1319
Navneet Mishra, Barnali Bhui, Prabu V.	Comparative evaluation of performance of high and low ash coal fuelled chemical looping combustion integrated combined cycle power generating systems	Energy	2019	169	-	305	318
S. Mishra, K. Mohanty	Comprehensive characterization of microalgal isolates and lipid-extracted biomass as zero-waste bioenergy feedstock: An integrated bioremediation and biorefinery approach	Bioresource Technology	2019	273	-	177	184
R Singh, VSK Yadav, MK Purkait	Cu <sub>2</sub> O photocatalyst modified antifouling polysulfone mixed matrix membrane for ultrafiltration of protein and visible light driven photocatalytic pharmaceutical removal	Elsevier, Separation and Purification Technology	2019	-	212	191	204
B Baruah, R Katakji, P Thakur, P Tiwari	Detailed physicochemical and thermochemical investigation of Upper Assam oil shale	Journal of Thermal Analysis and Calorimetry	2019	-	-	1	12

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Priyanka Nath, Arun Dhillon, Krishan Kumar, Kedar Sharma, Sumitha Banu Jamaldeen, Vijayanand S. Moholkar, Arun Goyal	Development of bi-functional chimeric enzyme (CtGH1-L1-CtGH5-F194A) from endoglucanase (CtGH5) mutant F194A and $\beta$ -1,4-glucosidase (CtGH1) from Clostridium thermocellum with enhanced activity and structural integrity	Bioresource Technology	2019	282	-	494	501
Mriganka Saha, Ritesh Malani, Philip Bernstein Saynik, Arupjyoti Borah, Ritesh S. Malani, Prachi Arya, Shivangi Jha, Vijayanand S. Moholkar	Dioxane-based extraction process for production of high quality lignin	Bioresource Technology Reports	2019	5	-	206	211
Manash Pratim Borthakur, Dipankar Bandyopadhyay, Gautam Biswas, Sahu Kirti	Dynamics of an arched liquid jet under the influence of gravity	European Journal of Mechanics / B Fluids	2019	74	-	1	9
S Konidena, KA Reddy, A Singh	Dynamics of bidensity particle suspension in horizontal rotating cylinder	Physical Review E	2019	99	1	013111-1	013111-13
Manash Pratim Borthakur, Gautam Biswas Biswas, Dipankar Bandyopadhyay	Dynamics of deformation and pinch-off of a migrating compound droplet in a tube	PHYSICAL REVIEW E	2019	97	4	043112-1	043112-9
MM Reddy, P Tiwari, A Singh	Effect of carrier fluid rheology on shear-induced particle migration in asymmetric T-shaped bifurcation channel	International Journal of Multiphase Flow	2019	111	-	272	284
M. Dash, K. Mohanty	Effect of different ionic liquids and anti-solvents on dissolution and regeneration of Miscanthus towards bioethanol	Biomass and Bioenergy	2019	124	-	33	42
Shirsendu Mitra, Shreya Mukherjee, Abir Ghosh, Dipankar Bandyopadhyay	Effects of Fluid-Structure-Interaction and Surface Heterogeneity on the Electrophoresis of Finite Sized Microparticles	Ind. Eng. Chem. Res	2019	-	-	-	-
Joydip Chaudhuri, Tapas Kumar Mandal, Dipankar Bandyopadhyay	Electric Field Mediated Squeezing to Bending Transitions of Interfacial Instabilities for Digitization and Mixing of Two-Phase Microflows	Physics of Fluids	2019	-	-	-	-
Satarupa Dutta, Abir Ghosh, Partho Sarathi Gooch Pattader, Dipankar Bandyopadhyay	Electric Field Mediated von Kármán Vortices in Stratified Microflows: Transition from Linear to Chaotic Instabilities	Journal of Fluid Mechanics	2019	865	-	169	211



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S Dutta, A Ghosh, PSG Pattader, D Bandyopadhyay	Electric field mediated von Kármán vortices in stratified microflows: transition from linear instabilities to coherent mixing	Journal of Fluid Mechanics	2019	865	-	169	211
JyotiKainthola, Mohd Shariq, Ajay S.Kalamdhada, Vaibhav V.Goud	Enhanced methane potential of rice straw with microwave assisted pretreatment and its kinetic analysis	Journal of Environmental Management	2019	232	15	188	196
Pyarimohan Dehury, Ashvini Kumar Upadhayay and Tamal Banerjee.	Evaluation and Conceptual Design of Triphenylphosphonium Bromide based Deep Eutectic Solvent as Novel Thermal Nanofluid for Concentrated Solar Power.	Bulletin of Materials Science	2019	-	-	-	-
Barnali Bhui, Prabu V	Experimental and kinetic studies on in-situ CO <sub>2</sub> gasification based chemical looping combustion of low ash coal using Fe <sub>2</sub> O <sub>3</sub> as the oxygen carrier	Journal of CO <sub>2</sub> Utilization	2019	29	-	103	116
B. Das, K. Mohanty	Exploring the promotional effects of K, Sr and Mg on the catalytic stability of red mud for the synthesis of glycerol carbonate from renewable glycerol	Industrial & Engineering Chemistry Research (Accepted)	2019	-	-	-	-
Aritra Das, Ramagopal Uppaluri, Chandan Das	Feasibility of poly-vinyl alcohol/starch/glycerol/citric acid composite films for wound dressing applications	International Journal of Biological Macromolecules	2019	131	-	998	1007
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	Flexible Paper Touchpad for Parkinsons Hand Tremor Detection	Sensors and Actuators A	2019	-	-	-	-
Takatsune Furuta, Sonu Kumar, K. Anki Reddy	Hirofumi Niiya and Hiroaki Katsuragi, 2018, Packing-dependent granular friction exerted on a rod withdrawn from a granular layer: the role of shear jamming	Journal of Physics	2019	21	23001	-	-
Shyamali Sarma, Ortega David, Nigel P. Minton, Vikash Kumar Dubey, Vijayanand S. Moholkar	Homologous overexpression of Hydrogenase and Glycerol dehydrogenase in Clostridium pasteurianum to enhance hydrogen production from crude glycerol	Bioresource Technology	2019	284	-	168	177
Venu Babu Borugaddaab, Vaibhav V.Goud	Hydroxylation and hexanoylation of epoxidized waste cooking oil and epoxidized waste cooking oil methyl esters: Process optimization and physico-chemical characterization	Industrial Crops and Products	2019	133	-	151	159
S. K. Hotta, N. Sahoo, K. Mohanty	Ignition Advancement Study for Optimized Characteristics of a Raw Biogas Operated Spark Ignition Engine	International Journal of Green Energy	2019	16	-	101	113

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T. Ghosh, Y. Teramoto, V. Katiyar	Influence of Non-Toxic Magnetic Cellulose Nanofibers on Chitosan based Edible Nanocoating: A Candidate for Improved Mechanical, Thermal, Optical, and Texture Properties.	Journal of agricultural and food chemistry	2019	-	-	-	-
Ekaterina A Shevchenko, Shirsendu Mitra, Sergei A Ermakov, Anatolii G Titov, Anatolii A Ermakov, Partho Sarathi Gooh Pattader	Joint mass transfer of two components associated with the spontaneous interfacial convection in the liquid-liquid extraction system	Chemical Engineering Science	2019	195	-	301	311
R Patwa, M Singh, A Kumar, V Katiyar	Kinetic modelling of thermal degradation and non-isothermal crystallization of silk nano-discs reinforced poly (lactic acid) bionanocomposites.	Polymer Bulletin	2019	76	3	1349	1382
Prince Kumar Baranwal, R. Prasanna Venkatesh	Kinetics of carbon steel dissolution in ammonium chloride solution containing sodium thiosulfate	International Journal of Chemical Kinetics	2019	-	-	-	-
Mitradip Bhattacharjee, Dipankar Bandyopadhyay	Mechanisms of Humidity Sensing using CdS Nanoparticles	Sensors and Actuators A	2019	285	-	241	247
Amit Baran Dasa, V.V.Goud, Chandan Das	Microencapsulation of anthocyanin extract from purple rice bran using modified rice starch and its effect on rice dough rheology	International Journal of Biological Macromolecules	2019	124	1	573	581
Shatrudhan Palsaniya, Harshal B. Nemade, Ashok Kumar Dasmahapatra	Mixed Surfactant Mediated Synthesis of Hierarchical PANI Nanorods for Enzymatic Glucose Biosensor	ACS Appl. Polym. Mater.	2019	10.1021/acsapm.8b00103	-	-	-
Debashis Kundu, Shankar Chakma, Sainiwetha Saikrishnan, G. Pugazhenthii and Tama Banerjee	Molecular modeling and experimental insights for the dehydrogenation of ethylene diamine bisborane using hydrogen sulfate based ionic liquid.	Journal of Industrial and Engineering Chemistry	2019	70	-	472	483
S. M. Bhasney, P. Bhagabati, A. Kumar, V. Katiyar	Morphology and crystalline characteristics of poly(lactic acid [PLA])/linear low density polyethylene [LLDPE]/microcrystalline cellulose [MCC] fiber composite.	Composites Science and Technology	2019	171	-	54	61
Jyoti Kainthola, Ajay S. Kalamdhada, Vaibhav V. Goud	Optimization of methane production during anaerobic co-digestion of rice straw and hydrilla verticillata using response surface methodology	Fuel	2019	235	1	92	99

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R. Prakash, S. K. Majumder, A. Singh	Particle-laden bubble size and its distribution in microstructured bubbling bed in presence and absence of a surface active agent.	Industrial & Engineering Chemistry Research	2019	58	8	3499	3522
Mitradip Bhattacharjee, Sagnik Mirdya, Dipankar Bandyopadhyay	Point-of-Care Stress Detection of Muscles Using a Flexible Surface Potential Measurement Prototype	Medical Devices and Sensors	2019	-	-	-	-
anjan Mandal, Mitradip Bhattacharjee, Arun Chattopadhyay, Dipankar Bandyopadhyay	Point-of-care-testing of $\pm$ -amylase activity in human blood serum	Biosensors and Bioelectronics	2019	124	-	75	81
S. S. Borkotoky, T. Ghosh, P. Bhagabati, V. Katiyar	Poly (lactic acid)/modified gum arabic (MG) based microcellular composite foam: Effect of MG on foam properties, thermal and crystallization behavior.	International journal of biological macromolecules	2019	125	-	159	170
V Volli, MK Purkait, CM Shu	Preparation and characterization of animal bone powder impregnated fly ash catalyst for transesterification	Elsevier, Science of The Total Environment	2019	-	-	-	-
Vihangraj V Kulkarni, Animes Kumar Golder, Pranab Kumar Ghosh	Production of composite clay bricks: A value-added solution to hazardous sludge through effective heavy metal fixation	Construction and Building Materials	2019	201	-	391	400
Barnali Bhui, Prabu V	Prospects and issues of integration of co-combustion of solid fuels (coal and biomass) in chemical looping technology	Journal of Environmental Management	2019	231	-	1241	1256
Debashis Kundu, Sankar Chakma, Gopal Pugazhenthii and Tamal Banerjee	Reactive insights into the hydrogen production from ammonia borane facilitated by phosphonium based ionic liquid	Korean Journal of Chemical Engineering	2019	36	3	456	467
Srinu Nagireddi, Animes K. Golder, Ramgopal Uppaluri	Role of EDTA on the Pd(II) adsorption characteristics of chitosan cross-linked 3-amino-1,2,4-triazole-5-thiol derivative from synthetic electroless plating solutions	International Journal of Biological Macromolecules	2019	127	-	320	329
Murali Pujari, Amrita Agarwal, Ramgopal Uppaluri, A Verma	Role of surfactant-induced chromia barriers on performance characteristics of Pd composite membranes	Chemical Engineering Communications	2019	-	-	-	-
K. Samal, N. Raj, K. Mohanty	Saponin extracted waste biomass of Sapindus mukorossi for adsorption of methyl violet dye in aqueous system	Surfaces and Interfaces	2019	14	-	166	174

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Bharath, Velaga, Nageswara Rao Peela	Seed-assisted and OSDA-free synthesis of H-mordenite zeolites for efficient production of 5-hydroxymethylfurfural from glucose	Microporous and Mesoporous Materials	2019	279	-	211	219
P Mondal, NS Samanta, V Meghnani, MK Purkait	Selective glucose permeability in presence of various salts through tunable pore size of pH responsive PVDF-co-HFP membrane	Elsevier, Separation and Purification Technology	2019	221	-	-	249-260
Sunny Kumar, Abir Ghosh, Joydip Chaudhuri, Seim Timung, Ashok Kumar Dasmahapatra, Dipankar Bandyopadhyay,	Self-organized Superspreading of Droplets to Form Toroids	Physical Review	2019	-	-	-	-
Anindya Patra, Manendra Chauhan, Sam Keene, Gaurangi Gogoi, K. Anki Reddy	Shane Ardo, Dasari Prasad and Mohammad Qureshi, 2018, Combined Experimental and Theoretical Insights into the Synergistic Effect of Cerium Doping and Oxygen Vacancies in BaZrO <sub>3</sub> - $\delta$ Hollow Nanospheres for Efficient Photocatalytic Hydrogen Production	Journal of Physical Chemistry C	2019	123	1	233	249
Kuldeep Roy, Vijayanand S. Moholkar	Sulfadiazine Degradation using Hybrid AOP of Heterogeneous Fenton/Persulfate System Coupled with Hydrodynamic Cavitation	Chemical Engineering Journal	2019	-	-	-	-
Abhishek Shukla, S.N.Naik, Vaibhav V.Goud, Chandan Das	Supercritical CO <sub>2</sub> extraction and online fractionation of dry ginger for production of high-quality volatile oil and gingerols enriched oleoresin	Industrial Crops and Products	2019	130	-	352	362
P. Bhagabati, D. Hazarika, V. Katiyar	Tailor-made ultra-crystalline, high molecular weight poly ( $\mu$ -caprolactone) films with improved oxygen gas barrier and optical properties: a facile and scalable approach.	International Journal of biological macromolecules	2019	124	-	1040	1052
R. K. Mishra, K. Mohanty	Thermal and catalytic pyrolysis of pine sawdust (Pinus ponderosa) and Gulmohar seed (Delonix regia) towards production of fuel and chemicals	Materials Science for Energy Technologies	2019	2	-	139	149
Ali ShemsedinReshad, PankajTiwari, Vaibhav V.Gouda	Thermal and co-pyrolysis of rubber seed cake with waste polystyrene for bio-oil production	Journal of Analytical and Applied Pyrolysis	2019	139	-	333	343
M Changmai, M Pasawan, MK Purkait	Treatment of oily wastewater from drilling site using electrocoagulation followed by microfiltration	Elsevier, Separation and Purification Technology	2019	-	210	463	472

## Chemical Engineering

Journal Papers	Chemical Engineering						
Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
Ritesh S. Malani, Sachin B. Umriwad, Karan Kumar, Arun Goyal, Vijayanand S. Moholkar	Ultrasound-assisted enzymatic biodiesel production using blended feedstock of non-edible oils: Kinetic analysis	Energy Conversion and Management	2019	188	-	142	150
H. Horo, S. Das, B. Mandal, L. M. Kundu	Development of a photoresponsive chitosan conjugated prodrug nano-carrier for controlled delivery of antitumor drug 5-fluorouracil	International Journal of Biological Macromolecules	2019	121	-	1070	1076
M. Barooah, B. Mandal	Synthesis, characterization and CO <sub>2</sub> separation performance of novel PVA/PG/ZIF-8 mixed matrix membrane	Journal of Membrane Science	2019	572	-	198	209
S. Li, C. Li, C., X. Song, B. Su., B. Mandal, B. Prasad, X. Gao, C. Gao	Graphene Quantum Dots Doped Thin Film Nano-composite Polyimide Membrane with Enhanced Solvent Resistance for Solvent Resistant Nanofiltration	ACS Applied Materials and Interfaces	2019	11	6	6527	6540

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Journal Papers	Chemistry						
Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
Singh M.P., Shankar K., Baruah J.B.	Study on the interactions of nitrophenols with bis-8-hydroxyquinolinium zinc-2,6-pyridinedicarboxylate	Inorganica Chimica Acta	2019	489	-	204	210
Singh M.P., Baruah J.B.	Photophysical Properties of Phthalimide and Pyromellitic Diimide Tethered Imidazolium Nitrophenolate Salts	ChemistrySelect	2019	4	1	10	16
Tarai A., Baruah J.B.	Separation or combination of non-covalently linked partners provides polymorphs of N-(ary)-2-(propan-2-ylidene)hydrazine carbothioamides	CrystEngComm	2019	21	9	1397	1406
Tarai A., Baruah J.B.	Water-Assisted Emission Enhancement of 2-Hydroxynaphthaldoxime and Related Compounds	ChemistrySelect	2018	3	41	11406	11413
Khakhary P., Singh M.P., Bhuyana A., Baruah J.B.	Cocrystals of Naphthalenediols with Aliphatic Amines and Their Photoluminescence Properties	ChemistrySelect	2018	3	27	7983	7990
Singh M.P., Tarai A., Baruah J.B.	Changes in Emission Properties by $\pi$ -Stacking and Conformation Adjustment of an Imidazole-Tethered Naphthalimide Derivative	ChemistrySelect	2018	3	23	6364	6373

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
Baruah J.B.	Predominantly ligand guided non-covalently linked assemblies of inorganic complexes and guest inclusions	Journal of Chemical Sciences	2018	130	5	56	-
Simon A.T., Dutta D., Chattopadhyay A., Ghosh S.S.	Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Applications	ACS Omega	2019	4	3	4697	4706
Mandal N., Bhattacharjee M., Chattopadhyay A., Bandyopadhyay D.	Point-of-care-testing of $\alpha$ -amylase activity in human blood serum	Biosensors and Bioelectronics	2019	124-125	-	75	81
Roy S., Bhandari S., Manna M., De S., Chattopadhyay A.	The nature of binding of quinolate complex on the surface of ZnS quantum dots	Physical Chemistry Chemical Physics	2019	21	2	589	596
Goswami U., Kandimalla R., Kalita S., Chattopadhyay A., Ghosh S.S.	Polyethylene Glycol-Encapsulated Histone Deacetylase Inhibitor Drug-Composite Nanoparticles for Combination Therapy with Artesunate	ACS Omega	2018	3	9	11504	11516
Goswami U., Sahoo A.K., Chattopadhyay A., Ghosh S.S.	In Situ Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria	ACS Omega	2018	3	6	6113	6119
Roy S., Manna M., Chattopadhyay A.	Complex Transfer Reaction from ZnO to ZnS Quantum Dots Driven by Surface Anions	Journal of Physical Chemistry C	2018	122	18	9939	9946
Basu S., Bhandari S., Pan U.N., Paul A., Chattopadhyay A.	Crystalline nanoscale assembly of gold clusters for reversible storage and sensing of CO <sub>2</sub> : Via modulation of photoluminescence intermittency	Journal of Materials Chemistry C	2018	6	30	8205	8211
M. Das, U. Goswami, S. Ghosh, and A. Chattopadhyay	Bimetallic Fe-Cu-Nanocomposites on Sand-Particles for Inactivation of Clinical Isolates and Point of Use Water Filtration	ACS Applied Bio Materials	2018	1	-	2153	2166
U. N. Pan, P. Sanpui, A. Paul, and A. Chattopadhyay	Synergistic Anticancer Potential of Artemisinin When Loaded with 8-Hydroxyquinoline-Surface Complexed-Zinc Ferrite Magnetofluorescent Nanoparticles and Albumin Composite	ACS Applied Bio Materials	2018	1	-	1229	1235
S. K. Sailapu, D. Dutta, A. K. Sahoo, S. S. Ghosh and A. Chattopadhyay	Single Platform for Gene and Protein Expression Analyses Using Luminescent Gold Nanoclusters	ACS Omega	2018	3	-	2119	2129

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
A. Dutta, U. Goswami, and A. Chattopadhyay	Probing Cancer Cells through Intracellular Aggregation-Induced Emission Kinetic Rate of Copper Nanoclusters	ACS Applied Material Interfaces	2018	10	-	19459	19472
S. Pramanik, S. Bhandari, U. N. Pan, S. Roy and A. Chattopadhyay	A White Light-Emitting Quantum Dot Complex for Single Particle Level Interaction with Dopamine Leading to Changes in Color and Blinking Profile	Small	2018	14	-	1800323	
R. Gattu, S. Mondal, S. Ali, A. T. Khan	Iodine monobromide catalysed regioselective synthesis of 3-arylquinolines from $\alpha$ -aminoacetophenones and: Trans - $\beta$ -nitrostyrenes	Organic and Biomolecular Chemistry	2019	17	2	347	353
A. Ghosh, R. Gattu, A. T. Khan	Synthesis of Benzothiazoles via Condensation Reaction of 2-Aminothiophenols and $\beta$ -Oxodithioesters Using a Combination of PTSA and CuI as Catalyst	ChemistrySelect	2018	3	48	13773	13776
S. Bhattacharjee, R. Gattu, A. T. Khan	Triethylamine-Mediated One-Pot Synthesis of Benzo[f]chromene Derivatives	ChemistrySelect	2018	3	17	4760	4763
R. Gattu, S. Bhattacharjee, K. Mahato, A. T. Khan	Electronic effect of substituents on anilines favors 1,4-addition to: Trans - $\beta$ -nitrostyrenes: Access to N-substituted 3-aryllindoles and 3-aryllindoles	Organic and Biomolecular Chemistry	2018	16	20	3760	3770
S. Ghosh, S. Pal, S. Rajamanickam, R. Shome, P. R. Mohanta, S. S. Ghosh, B. K. Patel	Access to Multifunctional AEEgens via Ru(II)-Catalyzed Quinoxaline-Directed Oxidative Annulation	ACS Omega	2019	4	3	5565	5577
A. Behera, A. Rakshit, A.K. Sahoo, B. K. Patel	One Pot Sequential Synthesis of N-[2-(Phenylsulfonyl)phenyl]acetamides: A Ring Opening Rearrangement Functionalization (RORF)	European Journal of Organic Chemistry	2019	2019	5	1154	1165
B. A. Mir, S. J. Singh, R. Kumar, B. K. Patel	tert-Butyl Nitrite Mediated Different Functionalizations of Internal Alkenes: Paths to Furoxans and Nitroalkenes	Advanced Synthesis and Catalysis	2018	360	19	3801	3809
A Behera, P. Sau, A. K. Sahoo, B. K. Patel	Cyano-Sacrificial (Arylthio)arylamination of Quinoline and Isoquinoline N-Oxides Using N-(2-(Arylthio)aryl) cyanamides	Journal of Organic Chemistry	2018	83	18	11218	11231
K. Talukdar, S. Roy, R. Bag, T. Punniyamurthy	Room Temperature Rh-Catalyzed Oxidative Tandem C-C/N Bond Formation of Quin-oxalines with Alkynes: Synthesis of Substituted Heterocyclic Quaternary Ammonium Salts	Organic and Biomolecular Chemistry	2019	17	-	2148	2152



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S. Banerjee, P. B. De, S. Pradhan, T. A. Shah, T. Punniyamurthy	Ru(II)-Catalysed Regioselective C-N Bond Formation of Indolines and Carbazole with Acyl Azides	European Journal of Organic Chemistry	2019		7	1677	1684
T. A. Shah, P. B. De, S. Pradhan and T. Punniyamurthy	Transition-metal-catalyzed site-selective C7-functionalization of indoles: advancement and future prospects	Chemical Communications	2019	55	-	572	587
V. Satheesh, H. K. Srivastava, S. V. Kumar, M. Sengoden and T. Punniyamurthy	Stereospecific Al-Catalysed Tandem C-N/C-Se Bond Formation of Isoselenocyanates with Aziridines: Synthesis and DFT Study	Advanced synthesis & catalysis	2019	361	1	55	58
V. Satheesh, S. V. Kumar, and T. Punniyamurthy	Expedient stereospecific Co-catalyzed tandem C-N and C-O bond formation of N-methylanilines with styrene oxides	Chemical Communications	2018	54	-	11813	11816
P. B. De, S. Banerjee, S. Pradhan, and T. Punniyamurthy	Ru(II)-catalyzed C7-acyloxylation of indolines with carboxylic acids	Organic and Biomolecular Chemistry	2018	16	-	5889	5898
B. K. Das, S. Pradhan and T. Punniyamurthy	Stereospecific Ring Opening and Cycloisomerization of Aziridines with Propargylamines: Synthesis of Functionalized Piperazines and Tetrahydropyrazines	Organic Letters	2018	20	-	4444	4448
S. V. Kumar, S. Ellairaja, V. Satheesh, V. S. Vasantha, and T. Punniyamurthy	Rh-Catalyzed regioselective C-H activation and C-C bond formation: Synthesis and photophysical studies of indazole[2,3-a]quinolines	Organic Chemistry Frontiers	2018	5	-	2630	2635
R. Bag, and T. Punniyamurthy	K2S2O8-Mediated Dioxygenation of Aryl Alkenes Using N-Hydroxylamines and Air	ChemistrySelect	2018	3	-	6152	6155
V. Satheesh, S. V. Kumar, M. Vijay, D. Barik, and T. Punniyamurthy	Metal-Free [3+2]-Cycloaddition of Thiiranes with Isothiocyanates, Isoselenocyanates and Carbodiimides: Synthesis of 2-Imino-Dithiolane/Thiaselenolane/Thiazolidines	Asian Journal of Organic Chemistry	2018	7	-	1583	1586
M. Vijay, V. Satheesh, S. V. Kumar, and T. Punniyamurthy	Regiospecific Bi - Catalysed Domino C - N/C - S Bonds Formation: Synthesis of 1,4 - Thiazines / 1,4 - Thiomorpholines	Advanced synthesis & catalysis	2018	360	16	3030	3037
T. Sarkar, S. Pradhan, and T. Punniyamurthy	Ruthenium(II)-Catalyzed Positional Selective C-H Oxygenation of N-Aryl-2-pyrimidines	Journal of Organic Chemistry	2018	83	-	6444	6453
S. Roy, S. Pradhan, and T. Punniyamurthy	Copper-mediated regioselective C-H etherification of naphthylamines with arylboronic acids using water as an oxygen source	Chemical Communications	2018	54	-	3899	3902

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
P. B. De, S. Pradhan, T. A. Shah, and T. Punniyamurthy	Iodine-Mediated Intramolecular C-H Amination of Benzimidazoles: A Metal-Free Route to Dihydroimidazobenzimidazoles	Synthesis	2018	50	-	3224	3230
P. Terangpi, S. Chakraborty and M. Ray	Improved removal of hexavalent chromium from 10 mg/L solution by new micron sized polymer clusters of aniline formaldehyde condensate,	Chemical Engineering Journal	2018	350	-	599	607
C. Das, T. Dutta and M. Ray	Effect of Ligand and Bridge substitution on Chiral Recognition of 1-Phenylethylammonium Cation by an Anionic Binuclear Ni(II) complex,	Inorganica Chimica Acta	2019	486	-	367	376
M. Das and A. K. Saikia	Stereoselective Synthesis of Pyrroloisindolone and Pyrdoisindolone via aza-Prins Cyclization of Endocyclic N-Acyliminium Ions	Journal of Organic Chemistry	2018	83	11	6178	6185
P. Saha and A. K. Saikia	Ene Cyclization Reaction in Heterocycle Synthesis	Organic and Biomolecular Chemistry	2018	16	16	2820	2840
N. R. Devi, M. Borah, S. Sultana and A. K. Saikia	Regio- and Diastereo-selective Synthesis of Dihydropyrans and Pyrano-Pyrans via Oxonium-ene Reaction of $\beta$ -allenols and Aldehydes	Journal of Organic Chemistry	2018	83	24	14987	14998
U. Borthakur, S. Biswas and A. K. Saikia	Vinylsilanes in Highly Diastereo- and Regio-selective Synthesis of Dihydropyrans	ACS Omega	2019	4	2	2630	2636
S. Sarkar, N. Devi, S. Ruidas, B. Porashar and A. K Saikia	Stereoselective Synthesis of 4-O-Tosyltetrahydropyrans via Prins Cyclization Reaction of Enol Ethers	SynOpen	2019	3	1	36	45
N. Behera, V. Manivannan	Molecular structures of some bivalent metal complexes of 1-(4-acetylphenyl)imidazole and co-ligands	Polyhedron	2018	149	-	84	94
S. Kayal, U. Manna, G. Das	Fixation of atmospheric CO <sub>2</sub> and recognition of anions/hydrated anions: Differential binding mode in protonated vs. neutral tripodal urea/thiourea receptors	Inorganica Chimica Acta	2019	486	-	576	581
R. Singh, G. Das	Turn-on Pb <sup>2+</sup> sensing and rapid detection of biothiols in aqueous medium and real samples	Analyst	2019	144	2	567	572
U. Manna, G. Das	Halo-phenyl based linear dipodal receptors for entrapment of anions/anionic associations within neutral non-cooperative self-assemblies	CrystEngComm	2019	21	1	65	76

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
U. Manna, A. Das, G. Das	Self-Assemblies of Positional Isomeric Linear Bis-Urea Ligands with Oxyanions/Hydrated Oxyanions: Evidence of F- and OH- Induced Atmospheric CO <sub>2</sub> Fixation	Crystal Growth and Design	2018	18	11	6801	6815
R. Singh, S. Samanta, P. Mullick, A. Ramesh, G. Das	Al <sup>3+</sup> sensing through different turn-on emission signals vis-à-vis two different excitations: Applications in biological and environmental realms	Analytica Chimica Acta	2018	1025	-	172	180
S. Kayal, U. Manna, G. Das	Steric influence of adamantane substitution in tris-urea receptor: encapsulation of sulphate and fluoride-water cluster	Journal of Chemical Sciences	2018	130	7	-	-
S. Samanta, S. Halder, G. Das	Twisted-Intramolecular-Charge-Transfer-Based Turn-On Fluorogenic Nanoprobe for Real-Time Detection of Serum Albumin in Physiological Conditions	Analytical Chemistry	2018	90	12	7561	7568
U. Manna, G. Das	Progressive Cation Triggered Anion Binding by Electron-Rich Scaffold: Case Study of a Neutral Tripodal Naphthyl Thiourea Receptor	Crystal Growth and Design	2018	18	5	3138	3150
T. Sahareen, P. Dey, S. Mukherjee, G. Das, A. Ramesh	Potential of pyridine amphiphiles as staphylococcal nuclease inhibitor	ChemBioChem	2018	19	13	1400	1408
U. Manna, G. Das	Neutral host-guest capsular associations by a homologous halophenyl-substituted organic tris-urea receptor series: Solid and solution state studies	New Journal of Chemistry	2018	42	23	19164	19177
U. Manna, G. Das	Halo-methylphenyl substituted neutral tripodal receptors for cation-assisted encapsulation of anionic guests of varied dimensionality	CrystEngComm	2018	20	31	4406	4420
T. B. Raju, P. Gopikrishna, J. V. Vaghasiya, S. S. Soni, P.K. Iyer	The solvatochromism and aggregation-induced enhanced emission of triphenylamine substituted styrene derivatives and its application in dye sensitized solar cells	Journal of Photochemistry and Photobiology A: Chemistry	2019	376	-	12	21
A.S. Tanwar, S. Patidar, S. Ahirwar, S. Dehingia, P.K. Iyer	Receptor free inner filter effect based universal sensors for nitroexplosive picric acid using two polyfluorene derivatives in the solution and solid states	Analyst	2019	144	2	669	676
R. Ratha, M.A. Afroz, R.K. Gupta, P.K. Iyer	Functionalizing benzothiadiazole with non-conjugating ester groups as side chains in a donor-acceptor polymer improves solar cell performance	New Journal of Chemistry	2019	43	10	4242	4252

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L. Sarala, R. Babu Yathirajula , P. Gopikrishna, E. Elayappillai, S.S.M. Bella, P. K. Iyer, P.M. Johnson	Pronounced luminescence efficiency and thermal stability of small imidazole architect 2-(1, 4, 5-triphenyl-1H-imidazol-2-yl)phenol for efficient non-doped blue OLEDs	Journal of Photochemistry and Photobiology A: Chemistry	2018	365	-	232	237
N. Meher, P.K. Iyer	Spontaneously Self-Assembled Naphthalimide Nanosheets: Aggregation-Induced Emission and Unveiling a-PET for Sensitive Detection of Organic Volatile Contaminants in Water	Angewandte Chemie - International Edition	2018	57	28	8488	8492
R. Ratha, A. Singh , T. B. Raju , P. K. Iyer	Insight into the synthesis and fabrication of 5,6-alt-benzothiadiazole-based D- $\pi$ -A-conjugated copolymers for bulk-heterojunction solar cell	Polymer Bulletin	2018	75	7	2933	2951
R. K. Gupta, D. Das, P.K. Iyer, A. S. Achalkumar	First Example of White Organic Electroluminescence Utilizing Perylene Ester Imides	ChemistrySelect	2018	3	18	5123	5129
N. Meher, S. Panda, S. Kumar, P. K. Iyer	Aldehyde group driven aggregation-induced enhanced emission in naphthalimides and its application for ultradetection of hydrazine on multiple platforms	Chemical Science	2018	9	16	3978	3985
M. S. Ansari, A. Baniik, A. Kalita, P. K. Iyer, M. Qureshi	Multifunctional hierarchical 3-D ZnO superstructures directly grown over FTO glass substrates: Enhanced photovoltaic and selective sensing applications	Journal of Materials Chemistry A	2018	6	32	15868	15887
K. Ahmad, A. Pal, A. Chattopadhyay and A. Paul	Synthesis of single-particle level white-light-emitting carbon dots via a one-step microwave method	Journal of Materials Chemistry C	2018	6	-	6691	6697
C. Gayen, S. Basu, U. N. Pan and A. Paul	Few Particle-Level Chromaticity Index-Based Discrimination of Biothiols Using Chemically Interactive Dual-Emitting Nanoprobe	ACS Omega	2018	3	12	17220	17226
C. Gayen, U. Goswami , K. Gogoi, S. Basu, A. Paul	Crystallization-Induced Emission Enhancement of Nanoclusters and One-Step Conversion of "Nanocluster Nanoparticle" as the Basis for Intracellular Logic Operations	ChemPhysChem	2019	20	-	953	958
S. K. Behera, M. Pegu, G. Krishnamoorthy	Modulation of Twisted Intramolecular Charge Transfer Emission of 2-(4'-N,N-Dimethylaminophenyl)imidazopyridines in Aqueous Cucurbit[7]uril+	ChemistrySelect	2018	3	16	4147	4155
S. Sahu, M. Das, A. K. Bharti, Krishnamoorthy G.	Proton transfer triggered proton transfer: A self-assisted twin excited state intramolecular proton transfer	Physical Chemistry Chemical Physics	2008	20	42	27131	27139

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B. Mondal , S. Saha, D. Borah, R. Mazumdar, B. Mondal	Nitric Oxide Dioxxygenase Activity of a Nitrosyl Complex of Cobalt(II) Porphyrinate in the Presence of Hydrogen Peroxide via Putative Peroxynitrite Intermediate	Inorganic Chemistry	2019	58	2	1234	1240
G. Borgohain and S. Paul	Atomistic Level Understanding of the Stabilization of Protein Trp Cage in Denaturing and Mixed Osmolyte Solutions	Computational and Theoretical Chemistry	2018	1131	-	78	89
P. K. Naik, M. Mohan, T. Banerjee, S. Paul and V. V. Goud	Molecular Dynamic Simulations for the Extraction of Quinoline from Heptane in the Presence of Low Cost Phosphonium Based Deep Eutectic Solvent	Journal of Physical Chemistry B	2018	122	14	4006	4015
R. Paul and S. Paul	Synergistic Host-Guest Hydrophobic and Hydrogen Bonding Interactions in the Complexation Between Endo-Functionalized Molecular Tube and Strongly Hydrophilic Guest Molecules in Aqueous Solution	Physical chemistry chemical Physics	2018	20	-	16540	16550
K. G. Chattaraj and S. Paul	Understanding of Structure and Thermodynamics of Melamine Association in Aqueous Solution From a Unified Theoretical and Experimental Approach	Journal of Chemical Information and Modeling	2018	58	8	1610	1624
Srijita Paul and S. Paul	How Does Aqueous Choline-O- Sulfate Solution Nullify the Action of Urea in Protein Denaturation?	Journal of Chemical Information and Modeling	2018	58	9	1858	1869
Saikat Pal and S. Paul	Conformational Deviation of Thrombin Binding G-quadruplex Aptamer (TBA) in Presence of Divalent Cation Sr <sup>2+</sup> : A Classical Molecular Dynamics Simulation Study	International Journal of Biological Macromolecules	2019	121	-	350	363
K. G. Chattaraj and S. Paul	How Does Temperature Modulate the Structural Properties of Aggregated Melamine in Aqueous Solution - An Answer From Classical Molecular Dynamics Simulation	Journal of Chemical Physics	2019	150	-	064501-1	064501-16
R. Paul and S. Paul	How Does the Complexation Ability Between Host Endo-Functionalized Molecular Tube and Strongly Hydrophilic Guest Molecules in Water Depend on Guest Concentration?	Journal of Molecular Liquids	2019	283	-	507	514

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A.S. Patra, M.S. Chauhan, S. Keene, G. Gogoi, K. A. Reddy, S. Ardo, D.L.V.K. Prasad, M. Qureshi	Combined Experimental and Theoretical Insights into the Synergistic Effect of Cerium Doping and Oxygen Vacancies in BaZrO <sub>3-δ</sub> Hollow Nanospheres for Efficient Photocatalytic Hydrogen Production	Journal of Physical Chemistry C	2019	123	1	233	249
A. Banik, M.S. Ansari, M. Qureshi	Efficient Energy Harvesting in SnO <sub>2</sub> -Based Dye-Sensitized Solar Cells Utilizing Nano-Amassed Mesoporous Zinc Oxide Hollow Microspheres as Synergy Boosters	ACS Omega	2018	3	10	14482	14493
A. S. Patra, G. Gogoi, M. Qureshi	Ordered-Disordered BaZrO <sub>3-δ</sub> Hollow Nanosphere/Carbon Dot Hybrid Nanocomposite: A New Visible-Light-Driven Efficient Composite Photocatalyst for Hydrogen Production and Dye Degradation	ACS Omega	2018	3	9	10980	10991
A. Banik, M. S. Ansari, S. Alam, M. Qureshi	Thermodynamic Barrier and Light Scattering Effects of Nanocube Assembled SrTiO <sub>3</sub> in Enhancing the Photovoltaic Properties of Zinc Oxide Based Dye Sensitized Solar Cells	Journal of Physical Chemistry C	2018	122	29	16550	16560
G. Gogoi, S. Keene, A.S. Patra, T. K. Sahu, S. Ardo, M. Qureshi	Hybrid of g-C <sub>3</sub> N <sub>4</sub> and MoS <sub>2</sub> Integrated onto Cd <sub>0.5</sub> Zn <sub>0.5</sub> S: Rational Design with Efficient Charge Transfer for Enhanced Photocatalytic Activity	ACS Sustainable Chemistry and Engineering	2018	6	5	6718	6729
T.K. Sahu, A.K. Shah, G. Gogoi, A.S. Patra, M.S. Ansari, M. Qureshi	Effect of surface overlayer in enhancing the photoelectrochemical water oxidation of in situ grown one-dimensional spinel zinc ferrite nanorods directly onto the substrate	Chemical Communications	2018	54	74	10483	10486
S.S. Bag, S. De	Pyrenylthiourea Alanine as a Switch-On Fluorescent Sensor for Hg(II) Ions	ChemistrySelect	2018	3	42	11758	11764
S.R. Dash, S.S. Bag, A.K. Golder	Synergized AgNPs formation using microwave in a bio-mediated route: Studies on particle aggregation and electrocatalytic sensing of ascorbic acid from biological entities	Journal of Electroanalytical Chemistry	2018	827	-	181	192
S.S. Bag, H. Gogoi	Design of "click" Fluorescent Labeled 2'-deoxyuridines via C5-[4-(2-Propynyl(methyl)amino)]phenyl Acetylene as a Universal Linker: Synthesis, Photophysical Properties, and Interaction with BSA	Journal of Organic Chemistry	2018	83	15	7606	7621

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## Journal Papers

Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
A. Mandal, S. M. Mandal, S. Jana, S. S. Bag, A. K. Das, A. Basak	Synthesis of furan-fused 1,4-dihydrocarbazoles via an unusual Garratt-Braverman Cyclization of indolyl propargyl ethers and their antifungal activity	Tetrahedron	2018	74	27	3543	3556
S. S. Bag, S. K. Das, H. Gogoi	Design of a fused triazolyl 2-quinolinone unnatural nucleoside via tandem CuAAC-Ullmann coupling reaction and study of photophysical property	Tetrahedron	2018	74	18	2218	2229
S.S. Bag, S. De	Multipurpose isothiocyanyl alanine/lysine: Use as solvatochromic IR probes and in site specific labeling/ligation of short peptides	Bioorganic and Medicinal Chemistry Letters	2018	-	-	1404	1409
S. S. Bag, A. Yashmeen	A relay FRET event in a designed trichromophoric pentapeptide containing an: O-, m -aromatic-amino acid scaffold	Chemical Communications	2018	54	70	9765	9768
B. N. Ratha, R. K. Kar, S. Kalita, S. Kalita, S. Raha, A. Singha, K. Garai, B. Mandal, A. Bhunia	Sequence Specificity of Amylin-Insulin Interaction: A Fragment-based Insulin Fibrillation Inhibition Study	Biochimica et Biophysica Acta (BBA)-Proteins and Proteomics	2019	1867	4	405	415
S. R. Manne, J. Chandra, B. Mandal	Synthesis of o-Nitroarylamines via Ipsos Nucleophilic Substitution of Sulfonic Acids	Organic Letters	2019	21	3	636	639
R. S. Giri, B. Mandal	Unique crystallographic signatures of Boc-Gly-Phe-Phe-OMe and Boc-Gly-Phg-Phe-OMe and their self-association	Crystal Engineering Communications	2019	21	2	236	243
J. Chandra, S. R. Manne, S. Mondal and B. Mandal	(E)-Ethyl-2-cyano-2-((2,4,6-trichlorobenzoyl)oxy)imino)acetate: A Modified Yamaguchi Reagent for Enantioselective Esterification, Thioesterification, Amidation, and Peptide Synthesis	ACS Omega	2018	3	6	6120	6133
A. Paul, S. Kumar, S. Kalita, A. Kumar Ghosh, A. C. Mondal, B. Mandal	A Peptide Based Pro-drug Disrupts Alzheimer's Amyloid into Non-toxic Species and Reduces A $\beta$ Induced Toxicity In Vitro	International Journal of Peptide Research and Therapeutics	2018	24	1	201	211
S. R. Manne, J. Chandra, R. S. Giri, T. Kalita, B. Mandal	Synthesis of $\beta$ -Amino Alcohols Using Ethyl 2-Cyano-2-(2-nitrobenzenesulfonyloxyimino)acetate (o-Nosyl(OXY))	ChemistrySelect	2018	3	4	992	996
R. S. Giri, and B. Mandal	Boc-Val-Val-OMe (A $\beta$ 39-40) and Boc-Ile-Ala-OMe (A $\beta$ 41-42) crystallize in parallel $\beta$ -sheet arrangement but generate different morphology	Crystal Engineering Communications	2018	20	-	4441	4448



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G. Mukherjee, A. Alili, P. Barman, D. Kumar, C.V. Sastri, S. P. de Visser	Interplay Between Steric and Electronic Effects: A Joint Spectroscopy and Computational Study of Nonheme Iron(IV)-Oxo Complexes	Chemistry - A European Journal	2019	25	19	5086	5098
S.S. Nag, G. Mukherjee, P. Barman, C.V. Sastri	Influence of induced steric on the switchover reactivity of mononuclear Cu(II)-alkylperoxo complexes	Inorganica Chimica Acta	2019	485	-	80	85
G. Mukherjee, C.W.Z. Lee, S.S. Nag, A. Alili, F.G. Cantú Reinhard, D. Kumar, C.V. Sastri, S. P. De Visser	Dramatic rate-enhancement of oxygen atom transfer by an iron(IV)-oxo species by equatorial ligand field perturbations	Dalton Transactions	2018	47	42	14945	14957
N. Akhtar, A. Saha, V. Kumar, N. Pradhan, S. Panda, S. Morla, S. Kumar and D. Manna	Diphenylethylenediamine-Based Potent Anionophores: Transmembrane Chloride Ion Transport and Apoptosis Inducing Activities	ACS applied materials & interfaces	2018	10	40	33803	33813
S. Panda, N. Pradhan and D. Manna	Ring-Opening of Indoles: An Unconventional Route for the Transformation of Indoles to 1 H-Pyrazoles Using Lewis Acid	ACS combinatorial science	2018	20	10	573	578
A. Roy, S. Das and D. Manna	Effect of Molecular Crowding Agents on the Activity and Stability of Immunosuppressive Enzyme Indoleamine 2, 3-Dioxygenase 1	Chemistry Select	2018	3	23	6294	6301
A. Saha, S. Panda, N. Pradhan, K. Kalita, V. Trivedi, D. Manna,	Azidophosphonate Chemistry as a Route for a Novel Class of Vesicle-Forming Phosphonolipids	Chemistry-A European Journal	2018	24	5	1121	1127
S. Gorai, D. Paul, R. Borah, N. Haloi, M. K. Santra, D. Manna	Role of Cationic Groove and Hydrophobic Residues in Phosphatidylinositol-Dependent Membrane-Binding Properties of Tks5-Phox Homology Domain	Chemistry Select	2018	3	4	1205	1214
S. J. Deka, A. Roy, D. Manna, V. Trivedi	Integrating virtual screening and biochemical experimental approach to identify potential anti-cancer agents from drug databank	Journal of bioinformatics and computational biology	2018	16	3	1850002	185 0002
S. J. Deka, S. Gorai, D. Manna, V. Trivedi	Biochemical Studies and Virtual Screening of Phytochemical Reservoir from Northeastern Indian Plants to Identify Anti-Cancer Agents	Journal of Biologically Active Products from Nature	2018	8	2	104	124
H. Horo, S. Das, B. Mandal and L. M. Kundu	Development of a photoresponsive chitosan conjugated prodrug nano-carrier for controlled delivery of antitumor drug 5-fluorouracil	International Journal of Biological Macromolecules	2019	121	-	1070	1076

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K. Verma, G. Saha, L. M. Kundu, V. K. Dubey	Biochemical characterization of a stable azoreductase enzyme from Chromobacterium violaceum: Application in industrial effluent dye degradation	International Journal of Biological Macromolecules	2019	121	-	1011	1018
K. Radhakrishnan, S. Das and L. M. Kundu	Synthesis of Size-Expanded Nucleobase Analogues for Artificial Base-Pairing Using a Ligand-Free, Microwave-Assisted Copper(I)-Catalyzed Reaction	Chemistry Select	2018	3	46	13098	13102
S. Das, H. Horo and L. M. Kundu	Biopolymers and Peptide Based materials for Targeted Antitumor Drug Delivery: An Overview	Novel Approaches in Drug Design and Dev	2019	4	4	1	4
G. C. Paul, P. Sarkar, C. Mukherjee	Effect of H-bond and molecular geometry towards innocent and non-innocent behavior of 3,5-di-tert-butyl-2-aminophenol units attached to a piperazine backbone: Co(III) and Cu(II) complexes	Inorganica Chimica Acta	2019	486	-	213	220
G. C. Paul, K. Das, S. Maity, S. Begum, H. K. Srivastava, and C. Mukherjee	Geometry-Driven Iminosequinone Radical to Cu(II) Electron Transfer and Stabilization of an Elusive Five-Coordinate Cu(I) Complex: Synthesis, Characterization, and Reactivity with KO <sub>2</sub>	Inorganic Chemistry	2019	58	-	1782	1793
P. Sarkar and C. Mukherjee	A Non-innocent Pincer H <sub>3</sub> LONS Ligand and Its Corresponding Octahedral Low-Spin Fe(III) Complex Formation via Ligand-Centric Homolytic S-S Bond Scission	Dalton Transactions	2018	47	-	13337	13341
B. Phukan, K. P. Malikidogo, C. S. Bonnet, E. Toth, S. Mondal, C. Mukherjee	A Bishydrated, Eight-Coordinate Gd(III) Complex with Very Fast Water Exchange: Synthesis, Characterization, and Phantom MR Imaging"	ChemistrySelect	2018	3	-	7668	7673
R. K. Gupta, H. Ulla, M. N. Satyanarayan and A. S. Achalkumar	Perylene-Triazine based star-shaped green light emitter for organic light emitting diodes	European Journal of Organic Chemistry	2018	-	-	1608	1613
H. K. Singh, B. Pradhan, S. K. Singh, R. Nandi, D. S. S. Rao, S. K. Prasad, A. S. Achalkumar and B. Singh	Substituted Aroylhydrazone based polycatenars: Tuning of Liquid Crystalline Self-assembly	ChemistrySelect	2018	3	-	4027	4037

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S. Nath, S. K. Pathak, B. Pradhan, R. K. Gupta, K. A. Reddy, G. Krishnamoorthy, and A. S. Achalkumar	A Sensitive and Selective Sensor For Picric Acid in solution and gel state, along with A Fluorescence Switching Response	New Journal of Chemistry	2018	42	-	5382	5394
M. Baral, S. K. Prasad, H. Patel, A. S. Achalkumar and C. V. Yelamaggad	Giant enhancement of photoluminescence and tertiary emission in a chiral nematic by matching photonic bandgap and excitation wavelength	Journal of Molecular Liquids	2018	262	-	354	362
R. K. Gupta, D. Das, P. K. Iyer and A. S. Achalkumar	First example of White Organic Electroluminescence from Perylene Ester Imides	ChemistrySelect	2018	3	-	5123	5129
R. K. Gupta and A. S. Achalkumar	Microwave assisted method for the synthesis of perylene ester imides as a gateway towards unsymmetrical perylene bisimides	Journal of Organic Chemistry	2018	83	-	6290	6300
V. V. Mohanan, B. Pradhan, V. Sridurai, C. V. Yelamaggad, A. S. Achalkumar, G. G. Nair	Giant enhancement and facile tuning of photoluminescence in a soft anisotropic magnetogel	Nanoscale	2018	-	-	15686	15695
G. Shanker, A. Bindushree, K. Chaitra, P. Pratap, R. K. Gupta, A. S. Achalkumar and C. V. Yelamaggad	Room temperature helical fluids in a single component system	Journal of Molecular Liquids	2019	-	275	849	858
R. K. Gupta and A. S. Achalkumar	Perylene based liquid crystals as materials for organic electronics	Langmuir	2019	-	35 (7)	2455	2479
D. P. Singh, K. Agrahari, A. S. Achalkumar, C. V. Yelamaggad, R. Manohar and M. Depriester	Preparation and photophysical properties of soft-nano composites comprising guest anatase TiO <sub>2</sub> nanoparticle and host hecate mesogens	Journal of Luminescence	2019	-	205	304	309
D. P. Singh, A. K. Mishra, A. S. Achalkumar, C. V. Yelamaggad, and M. Depriester	Transmuting the blue fluorescence of hekates mesogens derived from Tris(N-salicylideneaniline) core via ZnS/ZnS:Mn <sup>2+</sup> semiconductor quantum dots dispersion	Journal of Luminescence	2019	-	210	7	13
S. Halder, S. Saha, S. Mandal and C. K. Jana	C–H functionalization azide reaction enabled stereoselective Ugi- to $\alpha$ -tetrazolyl alicyclic amines	Green Chemistry	2018	20	15	3463	3467
S. Mandal, S. Dwari, and C. K. Jana	Functionalization Enabled Diastereoselective Multicomponent Reaction of N-heterocycles to Fused Heteropolycycles Metal Free C-H	The Journal of Organic Chemistry	2018	83	16	8874	8887

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Md A. Haque, B. L. Sailo, G. Padmavathi, A. B. Kunnumakkara, C. K. Jana	Nature-inspired development of unnatural meroterpenoids as the non-toxic anti-colon cancer agents	European Journal of Medicinal Chemistry	2018	160	-	256	265
S. K. Roy, A. Tiwari, Md Saleem and C. K. Jana	Metal Free Direct (Csp <sup>2</sup> )-H Arylaminations Using Nitrosoarenes to 2-hydroxy-di(hetaryl) Amines as Multifunctional A $\beta$ -aggregation Modulators	Chemical Communications	2018	54	100	14081	14084
S. Haldar and C. K. Jana	Direct (Het)Arylation of Tetrahydro-isoquinoline via a Metal and Oxidant Free C(sp <sup>3</sup> )- Functionalization Enabled Three Component Reaction	Organic and Biomolecular Chemistry	2019	17	7	1800	1804
S. Dwari and C. K. Jana	Regio- and Enantioselective (Het)arylation of $\beta$ -Alkenyl Pyrroline to $\alpha$ -Aryl- $\beta$ -alkenyl Pyrrolidines	ACS Omega	2019	4	1	2445	2454
B. Pramanik, S. Ahmed, N. Singha, B. K. Das, P. Dowari and D. Das	Unorthodox Combination of Cation- $\pi$ and Charge-Transfer Interactions within a Donor Acceptor Pair	Langmuir	2019	35	2	478	488
P. Dowari, S. Saha, B. Pramanik, S. Ahmed, N. Singha, A. Ukil, and D. Das	Multiple Cross-Linking of a Small Peptide to Form Size Tuneable Bio-Polymer with Efficient Cell Adhesion and Proliferation Property	Bio-macromolecules	2018	19	10	3994	4002
J. H. Mondal, B. Pramanik, M. Shinde, R. Khurana, N. Barooah, A. Bhasikuttan, D. Das, J. Mohanty	DNA-induced Novel Optical Features of Ethyl Viologen-tethered Peryleneimide Triad.	Journal Physical Chemistry C	2018	122	31	18061	18069
S. Ahmed, K. Natarajan A. Sankar, B. Pramanik, K. Mohanta and D. Das	Solvent Directed Morphogenesis and Electrical Properties of a Peptide-Peryleneimide Conjugate	Langmuir	2018	34	28	8355	8364
S. Ghosh, B. Pramanik and D. Das	Self-Aggregation of a Naphthalene-monoimide Amphiphile and its Charge-Transfer Complexation Driven Morphogenesis in Water	ChemNanoMat	2018	4	8	867	873
B. Pramanik and D. Das	Aggregation Induced Emission or Hydrolysis by Water? The Case of Schiff Bases in Aqueous Organic Solvents	Journal Physical Chemistry C	2018	122	6	3655	3661
D. K. Sahu, T. Pal and K. Sahu	A New Phase Transfer Strategy to Convert Protein-Capped Nanomaterials into Uniform Fluorescent Nanoclusters in Reverse Micellar Phase	ChemPhysChem	2018	19	-	2153	2158

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
D. Singha, D. K. Sahu, and K. Sahu	Anomalous Spectral Modulation of 4-Aminophthalimide inside Acetonitrile/AOT/n-Heptane Microemulsion: New Insights on Reverse Micelle to Bicontinuous Microemulsion Transition	Journal Physical Chemistry B	2018	122	-	6966	6974
K. Sahu, N. Nandi, S. Dolai, A. Bera	A Ratio-Analysis Method for the Dynamics of Excited State Proton Transfer: Pyranine in Water and Micelles	Journal Physical Chemistry B	2018	122	-	6610	6615
D. K. Sahu, D. Singha, K. Sahu	Sensing of iron(III)-biomolecules by surfactant-free fluorescent copper nanoclusters	Sensing and Bio-Sensing Research	2019	22	-	100250-1	100250-8
N. Nandi, K. Sahu	Analysis of excited state proton transfer dynamics of HP TS in methanol-water mixtures from time-resolved area-normalised emission spectrum (TRANES)	Journal of Photochemistry & Photobiology A	-	374	-	138	144
R. Maity, S. C. Sahoo and S. C. Pan	Organocatalytic Asymmetric Michael–Acyl Transfer Reaction of $\alpha$ -Nitroketones with 2-Hydroxybenzylidene Ketones	European Journal of Organic Chemistry	2019	2019	12	2297	2304
S. C. Sahoo, R. Maity, and S. C. Pan	DBU-Mediated Addition of $\alpha$ -Nitroketones to $\alpha$ -Cyano-enones and $\alpha,\beta$ -Unsaturated $\alpha$ -Ketoesters: Synthesis of Dihydrofurans and Conjugated Dienes	ACS Omega	2019	4	2	2792	2803
S. Mukhopadhyay and S. C. Pan	Organocatalytic Asymmetric Synthesis of 2,5-disubstituted Oxazolidines	Advanced synthesis & catalysis	2019	361	5	1028	1032
S. C. Sahoo and S. C. Pan	Catalytic Enantioselective Synthesis of 3,4,5-Trisubstituted Isoxazoline N-oxides and Regioselective Synthesis of 3,4,5-Trisubstituted Isoxazoles.	European Journal of Organic Chemistry	2019	2019	6	1385	1389
N. Bania, and S. C. Pan	Organocatalytic asymmetric Michael/hemi-ketalization/acyl transfer reaction of 1,3-propanediones with (E)-2-(2-nitrovinyl)phenols.	Organic & Biomolecular Chemistry	2019	17	-	1718	1721
" S. Mukhopadhyay and S. C. Pan "	Organocatalytic asymmetric synthesis of highly substituted pyrrolidines bearing a stereogenic quaternary centre at the 3-position	Organic & Biomolecular Chemistry	2018	16	-	9349	9353
M. Balha and S. C. Pan	Organocatalytic Asymmetric Synthesis of Bridged Acetals with Spirooxindole Skeleton	The Journal of Organic Chemistry	2018	83	23	14703	14712

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C. Gharui, D. Behera and S. C. Pan	Organocatalytic Asymmetric Domino Michael/Acyl Transfer Reaction Between $\alpha$ -Nitroketones and in situ-Generated ortho-Quinone Methides: Route to 2-(1-Arylethyl)phenols	Advanced synthesis & catalysis	2018	360	23	4502	4508
B. Mondal and S. C. Pan	Organocatalytic Asymmetric Cascade Reaction between o-Hydroxycinnamaldehydes and $\gamma/\delta$ -Hydroxyenones: A Route to Tetrahydrofuran/Tetrahydropyran-Fused 3,4-Dihydrocoumarins	Advanced synthesis & catalysis	2018	360	22	4348	4353
B. Mondal, M. Balha and S. C. Pan	Organocatalytic Asymmetric Synthesis of Highly Substituted Tetrahydrofurans and Tetrahydropyrans via Double Michael Addition Strategy	Asian Journal of Chemistry	2018	7	9	1788	1792
S. Mukhopadhyay and S. C. Pan	An organocatalytic asymmetric Mannich reaction for the synthesis of 3,3-disubstituted-3,4-dihydro-2-quinolones	Organic & Biomolecular Chemistry	2018	16	-	5407	5411
B. Mondal, R. Maity, and S. C. Pan	Highly Diastereo- and Enantioselective Synthesis of Spiro-tetrahydrofuran-pyrazolones via Organocatalytic Cascade Reaction between $\gamma$ -Hydroxyenones and Unsaturated Pyrazolones	The Journal of Organic Chemistry	2018	83	15	8645	8654
K. Mondal and S. C. Pan	Organocatalytic Asymmetric Domino Michael/Acyl Transfer Reaction between $\gamma/\delta$ -Hydroxyenones and $\alpha$ -Nitroketones.	The Journal of Organic Chemistry	2018	83	9	5301	5312
N.J. Castellanos, Z. Martinez Rojas, H.A. Camargo, S. Biswas, G. Granados-Oliveros	Congo red decomposition by photocatalytic formation of hydroxyl radicals ( $\cdot$ OH) using titanium metal-organic frameworks	Transition Metal Chemistry	2019	44	1	77	87
B. Santra, D. Mandal, V. Gupta, P. Kalita, V. Kumar, R.S. Narayanan, A. Dey, N. Chrysochos, A. Mohammad, A. Singh, M. Zimmer, R. Dalapati, S. Biswas, C. Schulzke, V. Chandrasekhar, D. Scheschkewitz, A. Jana	Structural Diversity in Supramolecular Organization of Anionic Phosphate Monoesters: Role of Cations	ACS Omega	2019	4	1	2118	2133
A. Das, S. Das, V. Trivedi, S. Biswas	A dual functional MOF-based fluorescent sensor for intracellular phosphate and extracellular 4-nitrobenzaldehyde	Dalton Transactions	2019	48	4	1332	1343

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C. Gogoi, M. Yousufuddin, S. Biswas	A new 3D luminescent Zn(ii)-organic framework containing a quinoline-2,6-dicarboxylate linker for the highly selective sensing of Fe(iii) ions	Dalton Transactions	2019	48	5	1766	1773
S. Nandi, E. Sharma, V. Trivedi, S. Biswas	Metal-Organic Framework Showing Selective and Sensitive Detection of Exogenous and Endogenous Formaldehyde	Inorganic Chemistry	2018	57	24	15149	15157
M. Sk, S. Banesh, V. Trivedi, S. Biswas	Selective and Sensitive Sensing of Hydrogen Peroxide by a Boronic Acid Functionalized Metal-Organic Framework and Its Application in Live-Cell Imaging	Inorganic Chemistry	2018	57	23	14574	14581
M. Sk, S. Nandi, R.K. Singh, V. Trivedi, S. Biswas	Selective Sensing of Peroxynitrite by Hf-Based UiO-66-B(OH) 2 Metal-Organic Framework: Applicability to Cell Imaging	Inorganic Chemistry	2018	57	16	10128	10136
C. Gogoi, S. Biswas	A new quinoline based luminescent Zr(iv) metal-organic framework for the ultrasensitive recognition of 4-nitrophenol and Fe(iii) ions	Dalton Transactions	2018	47	41	14696	14705
R. Dalapati, S. Nandi, H. Reinsch, B.K. Bhunia, B.B. Mandal, N. Stock, S. Biswas	Fluorogenic naked-eye sensing and live-cell imaging of cyanide by a hydrazine-functionalized CAU-10 metal-organic framework	CrystEngComm	2018	20	29	4194	4201
R. J. Das, K. Mahata	Synthesis, Photophysical, Electrochemical, and Halochromic Properties of peri-Naphthoindigo	Organic Letters	2018	20	-	5027	5031
R. K. Gogoi and K. Raidongia	Intercalating cation specific self-repairing of vermiculite nanofluidic membrane	Journal of Material Chemistry A	2018	6	44	21990	21988
T. J. Konch, R. K. Gogoi, A. Gogoi, K. Saha, J. Deka, K. Anki Reddy and K. Raidongia	Nanofluidic transport through humic acid modified graphene oxide nanochannels	Material Chemistry Frontiers	2018	2	9	1647	1654
A. Das, S. Sengupta, J. Deka, A. M. Rather, K. Raidongia and U. Manna	Synthesis of fish scale and lotus leaf mimicking, stretchable and durable multilayers	Journal of Material Chemistry A	2018	6	33	15993	16002
K. Saha, J. Deka, S. Hens, S. Saikia and K. Raidongia	Chemical reactions under the nanofluidic confinement of reconstructed lamellar membranes	Journal of Material Chemistry A	2018	6	45	22931	22939
A. Gogoi, T. J. Konch, K. Raidongia and K. Anki Reddy	Water and salt dynamics in multilayer graphene oxide (GO) membrane: Role of lateral sheet dimensions	Journal of Membrane Science	2018	563	-	785	793



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J. Deka, K. Saha, T. J. Konch, R. K. Gogoi, S. Saikia, P. P. Saikia, G. K. Dutta and K. Raidongia	Reconstruction of Soil Components into Multifunctional Freestanding Membranes	ACS Omega	2019	4	1	1292	1299
K. Das, A. Mondal and D. Srimani	Selective Synthesis of 2-Substituted and 1,2-Disubstituted Benzimidazoles Directly from Aromatic Diamines and Alcohols Catalyzed by Molecularily Defined Nonphosphine Manganese(I) Complex	Journal of Organic Chemistry	2018	83	-	9553	9560
K. Das, A. Mondal and D. Srimani	Phosphine Free Mn-complex catalysed dehydrogenative C-C and C-Heteroatom bond formation: a sustainable approach to synthesize quinoxaline, pyrazine, benzothiazole and quinoline derivatives	Chemical Communications	2018	54	-	10582	10585
K. Banerjee, G. Padmavathi, D. Bhattacharjee, S. Saha, A. B. Kunnumakara, K. P. Bhabak	Potent Anti-proliferative Activities of Organochalcogenocyanates towards Breast Cancer	Organic & Biomolecular Chemistry	2018	16	-	8769	8782
D. Parbat, U. Manna	Fish-Scale' Mimicked Stretchable and Robust Oil-Wettability That Perform in Practically Relevant Various Physically/Chemically Severe Scenarios	Journal of Materials Chemistry A	2018	6	-	22027	22036
A. M. Rather, U. Manna	Green and Rapid Synthesis of Durable and Super-Oil (under Water) and Water (in Air) Repellent Interfaces	ACS Applied Materials & Interfaces	2018	10	-	23451	23457
A. M. Rather, A. Shome, S. Kumar, B. Bhunia, B. B. Mandal, H. K. Srivastava, U. Manna	Alkali Metal-ion Assisted Michael Addition Reaction in Controlled Tailoring of Topography in Superhydrophobic Polymeric Monolith	Journal of Materials Chemistry A	2018	6	-	17019	17031
A. Shome, A. M. Rather, U. Manna	Aloe Vera Mucilage Derived Highly Tolerant Underwater Superoleophobic Coating	Journal of Materials Chemistry A	2018	6	-	22465	22471
A. M. Rather, A. Shome, B. Bhunia, A. Panuganti, B. B. Mandal, U. Manna	Simultaneous and Controlled Release of Two Different Bioactive Small Molecules from Nature Inspired Single Material	Journal of Materials Chemistry B	2018	6	-	7692	7702
N. Jana, D. Parbat, U. Manna	Rational Use of Dual Chemical Reactivity in Single Interface for Optimizing both Superhydrophobicity and Underwater-Superoleophobicity	Chemistry of Materials	2019	31	5	1479	1484
G. Pandit, K. Roy, U. Agarwal, S. Chatterjee	Self-Assembly Mechanism of a Peptide-Based Drug Delivery Vehicle	ACS Omega	2018	3	-	3143	3155

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	G. Pandit, H. Ilyas, S. Ghosh, A. P. Bickar, Sk. A. Mohid, A Bhunia, P. Satpati, S. Chatterjee	Insights into the Mechanism of Antimicrobial Activity of Seven-Residue Peptides	Journal of Medicinal Chemistry	2018	61	-	7614	7629
	K. Roy, S. Ghosh, M. Chetia, P. Satpati, S. Chatterjee	"Dicyclohexylurea derivatives of amino acids as dye absorbent organogels and anion sensors"	Organic & Biomolecular Chemistry	2019	17	-	3026	3039

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Journal Papers	Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
	Mayur Shirish Jain, Rohit Jambhulkar, Ajay S Kalamdhad	Biochar amendment for batch composting of nitrogen rich organic waste: Effect on degradation kinetics, composting physics and nutritional properties	Bioresource technology	2018	253	-	204	213
	Mayur Shirish Jain, Mohit Daga, Ajay S Kalamdhad	Composting physics: A degradation process-determining tool for industrial sludge	Ecological engineering	2018	116	-	14	20
	Visva Bharati Barua, Vaibhav V Goud, Ajay S Kalamdhad	Microbial pretreatment of water hyacinth for enhanced hydrolysis followed by biogas production	Renewable Energy	2018	126	-	21	29
	Jyoti Kainthola, Ajay S Kalamdhad, Vaibhav V Goud	Optimization of methane production during anaerobic co-digestion of rice straw and hydrilla verticillata using response surface methodology	Fuel	2019	235	-	92	99
	Mayur Shirish Jain, Ajay S Kalamdhad	Efficacy of batch mode rotary drum composter for management of aquatic weed (Hydrilla verticillata (L.f.) Royle)	Journal of environmental management	2018	221	-	20	27
	Visva Bharati Barua, Ajay S Kalamdhad	Anaerobic biodegradability test of water hyacinth after microbial pretreatment to optimise the ideal F/M ratio	Fuel	2018	217	-	91	97
	Gaurav Goel, Ajay S Kalamdhad	A practical proposal for utilisation of water hyacinth: Recycling in fired bricks	Journal of Cleaner Production	2018	190	-	261	271
	Mayur Shirish Jain, Mohit Daga, Ajay S Kalamdhad	Composting physics: A science behind bio-degradation of lignocellulose aquatic waste amended with inoculum and bulking agent	Process Safety and Environmental Protection	2018	116	-	424	432

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Kunwar Raghvendra Singh, Rahul Dutta, Ajay S Kalamdhad, Bimlesh Kumar	An investigation on water quality variability and identification of ideal monitoring locations by using entropy based disorder indices	Science of The Total Environment	2019	647	-	1444	1455
Gaurav Goel, Ajay S Kalamdhad, Anupam Agrawal	Parameter optimisation for producing fired bricks using organic solid wastes	Journal of Cleaner Production	2018	205	-	836	844
Biswanath Saha, Arun Sathyan, Payal Mazumder, Shirjini Paul Choudhury, Ajay S Kalamdhad, Meena Khwaitrakpam, Umesh Mishra	Biochemical methane potential (BMP) test for Ageratum conyzoides to optimize ideal food to microorganism (F/M) ratio	Journal of environmental chemical engineering	2018	6	4	5135	5140
Mayur Shirish Jain, Mohit Daga, Ajay S Kalamdhad	Physical parameters evaluation during production of soil conditioner from aquatic waste: Hydrilla verticillata (Lf) Royle	Environmental Technology & Innovation	2018	11	-	64	73
V Sudharsan Varma, Ravi Prasad, Shampa Deb, Ajay S Kalamdhad	Effects of Aeration During Pile Composting of Water Hyacinth Operated at Agitated, Passive and Forced Aerated Condition	Waste and biomass valorization	2018	9	8	1339	1347
Vempalli Sudharsan Varma, Kondusamy Dhamodharan, Ajay S Kalamdhad	Characterization of bacterial community structure during in-vessel composting of agricultural waste by 16S rRNA sequencing	3 Biotech	2018	8	7	301-1	301-8
Naba Kumar Kalita, Mukesh Kumar Nagar, Chethana Mudnur, Ajay Kalamdhad, Vimal Katiyar	Biodegradation of modified Poly (lactic acid) based biocomposite films under thermophilic composting conditions	Polymer Testing	2019	-	-	-	-
Jyoti Kainthola, Mohd Shariq, Ajay S Kalamdhad, Vaibhav V Goud	Enhanced methane potential of rice straw with microwave assisted pretreatment and its kinetic analysis	Journal of environmental management	2019	232	-	188	196
Isha Vishan, Biswanath Saha, Senthilkumar Sivaprakasam, Ajay Kalamdhad	Evaluation of Cd (II) biosorption in aqueous solution by using lyophilized biomass of novel bacterial strain Bacillus badius AK: Biosorption kinetics, thermodynamics and mechanism	Environmental Technology & Innovation	2019	14	-	100323-1	100323-14
Mayur Shirish Jain, Ajay S Kalamdhad	Drum composting of nitrogen-rich Hydrilla Verticillata with carbon-rich agents: Effects on composting physics and kinetics	Journal of environmental management	2019	231	-	770	779

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Kunwar Raghvendra Singh, Ankit Pratim Goswami, Ajay S Kalamdhad, Bimlesh Kumar	Assessment of surface water quality of Pagladia, Beki and Kolong river (Assam, India) using multivariate statistical techniques	International Journal of River Basin Management	2019	-	just-accepted	1	43
Kunwar Raghvendra Singh, Ankit Pratim Goswami, Ajay S Kalamdhad, Bimlesh Kumar	Development of irrigation water quality index incorporating information entropy	Environment, Development and Sustainability	2019	-	-	1	14
Kunwar Raghvendra Singh, Rahul Dutta, Ajay S Kalamdhad, Bimlesh Kumar	Information entropy as a tool in surface water quality assessment	Environmental Earth Sciences	2019	78	1	15-Jan	15-Dec
Mayur Shirish Jain, Siddhartha Paul, Ajay S Kalamdhad	Utilization of Biochar as an amendment during lignocellulose waste composting: Impact on composting physics and Realization (probability) amongst physical properties	Process Safety and Environmental Protection	2019	121	-	229	238
Siddhant Dash, Smitom Swapna Borah, Ajay Kalamdhad	Monitoring and assessment of Deepor Beel water quality using multivariate statistical tools	Water Practice and Technology	2018	13	4	893	908
Kunwar Raghvendra Singh, Rahul Dutta, Ajay S Kalamdhad, Bimlesh Kumar	Risk characterization and surface water quality assessment of Manas River, Assam (India) with an emphasis on the TOPSIS method of multi-objective decision making	Environmental Earth Sciences	2018	77	23	780-1	780-10
Visva Bharati Barua, Vidhi Rathore, Ajay S Kalamdhad	Comparative evaluation of anaerobic co-digestion of water hyacinth and cooked food waste with and without pretreatment	Bioresource Technology Reports	2018	4	-	202	208
Anamika Gautam, Shalu Rawat, Lata Verma, Jiwan Singh, Samiksha Sikarwar, BC Yadav, Ajay S Kalamdhad	Green synthesis of iron nanoparticle from extract of waste tea: An application for phenol red removal from aqueous solution	Environmental nanotechnology, monitoring & management	2018	10	-	377	387
Jayeeta Hazarika, Utpal Ghosh, Ajay S Kalamdhad, Meena Khwairakpam, Jiwan Singh	Fractionation and Reduction in Bioavailability of Toxic Heavy Metals During Rotary Drum Composting of Paper Mill Sludge	Nature Environment and Pollution Technology	2018	17	3	999	1004
Trishna Choudhury, Hemant B Kaushik	Seismic Response Sensitivity to Uncertain Variables in RC Frames with Infill Walls	Journal of Structural Engineering	2018	144	10	040 18184-1	040 18184-16
Partha Pratim Sarkar, C Mallikarjuna	Effect of perception and attitudinal variables on mode choice behavior: A case study of Indian city, Agartala	Travel Behaviour and Society	2018	12	-	108	114

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Suvin P Venthuruthiyil, Mallikarjuna Chunchu	Trajectory reconstruction using locally weighted regression: a new methodology to identify the optimum window size and polynomial order	Transportmetrica A: Transport Science	2018	14	10	881	900
Syed Omar Ballari, Pranab Kar, Mallikarjuna Chunchu	Passenger Car Equivalents for the Heterogeneous Traffic on Divided Rural Highways Based on Simulation Model	Transportation in Developing Economies	2018	4	2	14-Jan	14-13
Tadikonda Venkata Bharat, Mohammad Ubaid	Analytical Model for Consolidation Settlements Under Centrifuge Environment	Canadian Geotechnical Journal	2018	Just accepted	-	-	-
Yagom Gapak, Venkata Bharat Tadikonda	Hysteretic Water-Retention Behavior of Bentonites	Journal of Hazardous, Toxic, and Radioactive Waste	2018	22	3	0401 8008-1	0401 8008-9
Tadikonda Venkata Bharat, Yagom Gapak	Hydration kinetics of bentonite buffer material: Influence of vapor pressure, bentonite plasticity, and compaction density	Applied Clay Science	2018	157	-	41	50
A. K. Shakya, P. K. Ghosh	Simultaneous removal of arsenic and nitrate in absence of iron in an attached growth bioreactor to meet drinking water standards: Importance of sulphate and Empty Bed Contact Time	Journal of Cleaner Production	2018	186	-	304	312
A. K. Shakya, P. Rajput, P. K. Ghosh	Investigation on stability and leaching characteristics of mixtures of biogenic arseno sulfides and iron sulphides formed under reduced conditions.	Journal of Hazardous Materials.	2018	353	-	320	328
A. K. Shakya, P. K. Ghosh	Effects of Backwashing Strategy and Dissolved Oxygen on Arsenic Removal to Meet Drinking Water Standards in a Sulfidogenic Attached Growth Reactor.	Journal of Hazardous Materials	2019	369	-	309	317
A. K. Shakya, P. K. Ghosh	Concurrent removal of nitrate, arsenic and iron from simulated and real-life groundwater to meet drinking water standards: Effects of operational and environmental parameters.	Journal of Environmental Management	2019	235	-	9	18
A. K. Shakya, P. K. Ghosh	Stability against arsenic leaching from biogenic arsenosulphides generated under reduced environment	Journal of Cleaner Production	2019	208	-	1557	1562
Sophia Leichombam, Rajib Kumar Bhattacharjya	New Hybrid Optimization Methodology to Identify Pollution Sources Considering the Source Locations and Source Flux as Unknown	Journal of Hazardous, Toxic, and Radioactive Waste	2018	23	1	4018037	401 8037

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Rajib Kumar Bhattacharjya	A Modified Penalty Parameter Approach for Optimal Estimation of UH with Simultaneous Estimation of Infiltration Parameters	Journal of The Institution of Engineers (India): Series A	2018	99	3	609	615
Praiy Terangpi, Saswati Chakraborty, Manabendra Ray	Improved removal of hexavalent chromium from 10 mg/L solution by new micron sized polymer clusters of aniline formaldehyde condensate	Chemical Engineering Journal	2018	350	-	599	607
Sachin Kumar Tomar, Saswati Chakraborty	Effect of air flow rate on development of aerobic granules, biomass activity and nitrification efficiency for treating phenol, thiocyanate and ammonium	Journal of environmental management	2018	219	-	178	188
Biju Prava Sahariah, J Anandkumar, Saswati Chakraborty	Pyridine influence on a sequential anaerobic–anoxic–aerobic FMBR system for phenol, thiocyanate and ammonia removal	Environmental technology	2018	39	14	1786	1794
Biju Prava Sahariah, J Anandkumar, Saswati Chakraborty	Stability of continuous and fed batch sequential anaerobic–anoxic–aerobic moving bed bioreactor systems at phenol shock load application	Environmental technology	2018	39	15	1898	1907
Arti Choudhary, Sharad Gokhale	On-road measurements and modelling of vehicular emissions during traffic interruption and congestion events in an urban traffic corridor	Atmospheric Pollution Research	2019	10	2	480	492
Arti Choudhary, Sharad Gokhale	Evaluation of emission reduction benefits of traffic flow management and technology upgrade in a congested urban traffic corridor	Clean Technologies and Environmental Policy	2019	21	2	257	273
Sharad Gokhale	Environmental Noise Pollution	Handbook of Environmental Engineering	2018	-	-	565	582
Phani Gopal, Sanandam Bordoloi, Ravali Ratnam, Peng Lin, Weiling Cai, Poly Buragohain, Ankit Garg, S Sreedeeep	Investigation of infiltration rate for soil-biochar composites of water hyacinth	Acta Geophysica	2019	67	1	231	246
Sanandam Bordoloi, Ankit Garg, S Sreedeeep, Peng Lin, Guoxiong Mei	Investigation of cracking and water availability of soil-biochar composite synthesized from invasive weed water hyacinth	Bioresource technology	2018	263	-	665	677
S Bordoloi, VK Gadi, R Hussain, L Sahoo, A Garg, S Sreedeeep, G Mei, TG Poulsen	Influence of Eichhornia crassipes fibre on water retention and cracking of vegetated soils	Géotechnique Letters	2018	8	2	130	137

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Ankit Garg, Sanandam Bordoloi, Somnath Mondal, Jun-Jun Ni, S Sreedeeep	Investigation of mechanical factor of soil reinforced with four types of fibers: An integrated experimental and extreme learning machine approach	Journal of Natural Fibers	2018	-	-	1	15
HV Kurugodu, S Bordoloi, Y Hong, Ankit Garg, Akhil Garg, S Sreedeeep, AH Gandomi	Genetic programming for soil-fiber composite assessment	Advances in Engineering Software	2018	122	-	50	61
S Sreedeeep, B Hazra, A Prakash	Uncertainty quantification in water retention characteristic curve of fly ash using copulas	Journal of Testing and Evaluation	2018	47	4	-	-
Sanandam Bordoloi, Phani Gopal, Rishita Boddu, Qinhua Wang, Yi-Feng Cheng, Ankit Garg, S Sreedeeep	Soil-biochar-water interactions: Role of biochar from Eichhornia crassipes in influencing crack propagation and suction in unsaturated soils	Journal of Cleaner Production	2019	210	-	847	859
Poly Buragohain, S Sreedeeep, Peng Lin, Ankit Garg	Investigation of fly ash for sorption of copper ions in multiple contaminant system: An implication on re-use of waste material under concept of sponge city	Measurement	2018	124	-	522	528
Junjun Ni, Bordoloi Sanandam, Ankit Garg, Wei Shao, S Sreedeeep	Simple Model on Water Retention and Permeability in Soil Mixed with Lignocellulose Fibres	KSCE Journal of Civil Engineering	2019	23	1	138	146
Poly Buragohain, Ankit Garg, S Sreedeeep, Rishita Boddu, Weiling Cai, Huasheng Liang, Phani Gopal, Sanandam Bordoloi	Model Development for Computing Cracking in Soil Reinforced with Fibers from Three Different Bioresources	Advances in Civil Engineering Materials	2018	7	1	669	693
CB Gupt, SK Yamsani, A Prakash, CR Medhi, S Sreedeeep	Appropriate Liquid-to-Solid Ratio for Sorption Studies of Bentonite	Journal of Environmental Engineering	2019	145	2	040 18138-1	040 18138-9
S Peddaiah, A Burman, S Sreedeeep	Experimental Study on Effect of Waste Plastic Bottle Strips in Soil Improvement	Geotechnical and Geological Engineering	2018	36	5	2907	2920
A Prakash, B Hazra, S Sreedeeep	Probabilistic Analysis of Unsaturated Fly Ash Slope	Journal of Hazardous, Toxic, and Radioactive Waste	2019	23	1	0601 8002-1	0601 8002-7
Poly Buragohain, Ankit Garg, Song Feng, Peng Lin, S Sreedeeep	Understanding the retention and fate prediction of copper ions in single and competitive system in two soils: An experimental and numerical investigation	Science of The Total Environment	2018	634	-	951	962



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Poly Buragohain, S Sreedeeep, Peng Lin, Junjun Ni, Ankit Garg	Influence of soil variability on single and competitive interaction of ammonium and potassium: experimental study on seven different soils	Journal of Soils and Sediments	2019	19	1	186	197
Arghadeep Biswas, A Murali Krishna	Behaviour of circular footing resting on layered foundation: sand overlying clay of varying strengths	International Journal of Geotechnical Engineering	2019	13	1	9	24
Pradeep Kumar Dammala, Shiv Shankar Kumar, A Murali Krishna, Subhamoy Bhattacharya	Dynamic soil properties and liquefaction potential of northeast Indian soil for non-linear effective stress analysis	Bulletin of Earthquake Engineering	2019	-	-	1	35
Subhamoy Bhattacharya, A Murali Krishna, Saleh Jalbi, Pradeep Kumar Dammala, Djillali Amar Bouzid	Impedance Functions for Double-D-Shaped Caisson Foundations	Journal of Testing and Evaluation	2018	47	3	-	-
Shiv Shankar Kumar, A Murali Krishna, Arindam Dey	Dynamic properties and liquefaction behaviour of cohesive soil in northeast India under staged cyclic loading	Journal of Rock Mechanics and Geotechnical Engineering	2018	10	5	958	967
Shiv Shankar Kumar, A Murali Krishna, Arindam Dey	High Strain Dynamic Properties of Perfectly Dry and Saturated Cohesionless Soil	Indian Geotechnical Journal	2018	48	3	549	557
Shiv Shankar Kumar, Arindam Dey, A Murali Krishna	Response of saturated cohesionless soil subjected to irregular seismic excitations	Natural Hazards	2018	93	1	509	529
S Bali Reddy, A Murali Krishna, Krishna R Reddy	Sustainable Utilization of Scrap Tire Derived Geomaterials for Geotechnical Applications	Indian Geotechnical Journal	2018	48	2	251	266
Dooradarshi Chatterjee, A Murali Krishna	Stability analysis of two-layered non-homogeneous slopes	International Journal of Geotechnical Engineering	2018	-	-	1	7
Sanhita Das, Akhilesh Kumar Maurya	Multivariate analysis of microscopic traffic variables using copulas in staggered car-following conditions	Transportmetrica A: transport science	2018	14	10	829	854
Suresh Nama, Gourab Sil, Akhilesh Maurya, Avjit Maji	PW 1968 Development of acceleration and deceleration models for curves on four-lane highways in mountainous terrains	Injury Prevention	2018	24	Suppl 2	A79	-
Sanhita Das, Akhilesh Kumar Maurya	Bivariate modeling of time headways in mixed traffic streams: a copula approach	Transportation Letters	2018	-	-	1	11

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Arunabha Banerjee, Akhilesh Kumar Maurya, Gregor Lämmel	A review of pedestrian flow characteristics and level of service over different pedestrian facilities	Collective Dynamics	2018	3	-	1	52
Swarup Mahato, Arunasis Chakraborty	Sequential clustering of synchrosqueezed wavelet transform coefficients for efficient modal identification	Journal of Civil Structural Health Monitoring	2019	-	-	1	21
Amit Kumar Rathi, Arunasis Chakraborty	Dimension adaptive finite difference decomposition using multiple sparse grids for stochastic computation	Structural Safety	2018	75	-	119	132
Abhishek Kumar, Nirranjan Borah, Sambit Prasanjit Naik, Baro Olympa	Detailed Review on Methodologies Available to Find Preinstrumental Missing Earthquakes of the Present Catalogue with the Relevance to Seismicity Assessment of the Northeast India	Indian Geotechnical Journal	2018	-	-	1	15
Olympa Baro, Abhishek Kumar, Alik Ismail-Zadeh	Seismic hazard assessment of the Shillong Plateau, India	Geomatics, Natural Hazards and Risk	2018	9	1	841	861
Abhishek Kumar N. H. Harinarayan Vishal VermaSaurabh AnandUddipana BorahMousumi Bania	Seismic Site Classification and Empirical Correlation Between Standard Penetration Test N Value and Shear Wave Velocity for Guwahati Based on Thorough Subsoil Investigation Data	Pure and Applied Geophysics	2018	175	8	2721	2738
Devdeep Basu, Madhuliatha Boga, Arindam Dey	A time-domain nonlinear effective-stress non-Masing approach of ground response analysis of Guwahati city, India	Earthquake Engineering and Engineering Vibration	2019	18	1	61	75
Rana Acharyya, Arindam Dey	Assessment of bearing capacity of interfering strip footings located near sloping surface considering ANN-technique	Journal of Mountain Science	2018	15	12	2766	2780
Bande Giridhar Rajesh, Sai Kiran Chukka, Arindam Dey	Finite element modeling of embankment resting on soft ground stabilized with prefabricated vertical drains	Geotechnical Engineering	2018	49	4	63	72
Jumrik Taipodia, Dipiyoti Baglari, Arindam Dey	Effect of Source Characteristics on the Resolution of Dispersion Image from Active MASW Survey	Indian Geotechnical Journal	2018	-	-	1	14
Priyanka Talukdar, Ruplekha Bora, Arindam Dey	Numerical investigation of hill slope instability due to seepage and anthropogenic activities	Indian Geotechnical Journal	2018	48	3	585	594
Amalash Jana, Arindam Dey	Combined functioning of geotextile as barrier and drainage material in unsaturated earth retaining structures	Indian Geotechnical Journal	2018	48	2	342	359

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Rana Acharyya, Arindam Dey	Assessment of bearing capacity and failure mechanism of isolated and interfering strip footings on sloping ground	International Journal of Geotechnical Engineering	2018	-	-	-	-
Dipjyoti Baglari, Arindam Dey, Jumrik Taipodia	A state-of-the-art on passive MASW survey for subsurface profiling	Innovative Infrastructure Solutions	2018	3	66	1	13
Rana Acharyya, Arindam Dey	Assessment of bearing capacity for strip footing located near sloping surface considering ANN model	Neural Computing and Applications	2018	-	-	1	14
Rana Acharyya, Arindam Dey	Importance of dilatancy on the evolution of failure mechanism of a strip footing resting on horizontal ground	INAE Letters	2018	3	3	131	142
hiv Shankar Kumar, A Murali Krishna, Arindam Dey	Dynamic properties and liquefaction behaviour of cohesive soil of Northeast India under staged cyclic loading	Journal of Rock Mechanics and Geotechnical Engineering	2018	10	5	958	967
Jumrik Taipodia, Arindam Dey, Dipjyoti Baglari	Influence of signal preprocessing parameters on the resolution of dispersion image in active MASW survey	Journal of Geophysics and Engineering	2018	15	4	1310	1326
Rana Acharyya, Arindam Dey	Assessment of failure mechanism of a strip footing on horizontal ground considering flow rules	Innovative infrastructure Solutions	2018	3	49	1	16
Thokchom Bebina Devi, Anurag Sharma, Bimlesh Kumar	Flow characteristics in a partly vegetated channel with emergent vegetation and seepage	International journal of ecohydrology & hydrobiology	2019	19	1	93	108
Varsha Shivpure, Anurag Sharma, Bimlesh Kumar	Scale Invariance of Power Spectrum in Sediment Transport Mechanics	National Academy Science Letters	2018	41	2	81	83
TT Devi, B Kumar	Design of Self-Aerating Unbaffled Stirred Tank with Concave Blade Impeller	Journal of Engineering Thermophysics	2018	27	2	254	269
Anurag Sharma, Bimlesh Kumar	Probability distribution functions of turbulence using multiple criteria over non-uniform sand bed channel	ISH Journal of Hydraulic Engineering	2018	-	-	1	10
Anurag Sharma, Dragutin T Mihailović, Bimlesh Kumar	Randomness representation of Turbulence in an alluvial channel affected by downward seepage	Physica A: Statistical Mechanics and its Applications	2018	509	-	74	85
Anurag Sharma, Bimlesh Kumar	Sheet flow hydrodynamics over a non-uniform sand bed channel	International Journal of Sediment Research	2018	33	3	313	326

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Thokhom Bebina Devi, Anurag Sharma, Bimlesh Kumar	Flow characteristic in a partly vegetated channel with emergent vegetation	Ecohydrology & Hydrobiology	2019	19	1	93	108
Bandita Barman, Arup Kumar Sarma, Bimlesh Kumar	Mining pit migration of an alluvial channel: experimental and numerical investigations	ISH Journal of Hydraulic Engineering	2018	-	-	1	9
Anurag Sharma, Bimlesh Kumar	High-Order Velocity Moments of Turbulent Boundary Layers in Seepage Affected Alluvial Channel	Journal of Fluids Engineering	2018	140	8	081204-1	081204-8
Rutuja Chavan, Bimlesh Kumar	Prediction of scour depth and dune morphology around circular bridge piers in seepage affected alluvial channels	Environmental Fluid Mechanics	2018	18	4	923	945
Bimlesh Kumar	Discussion of "Gene expression programming to predict Manning's n in meandering flows"	Canadian Journal of Civil Engineering	2018	45	8	703	703
Bandita Barman, Bimlesh Kumar, Arup Kumar Sarma	Turbulent flow structures and geomorphic characteristics of a mining affected alluvial channel	Earth Surface Processes and Landforms	2018	43	9	1811	1824
Rutuja Chavan, B Venkataramana, Pratik Acharya, Bimlesh Kumar	Comparison of Scour and Flow Characteristics Around Circular and Oblong Bridge Piers in Seepage Affected Alluvial Channels	Journal of Marine Science and Application	2018	17	2	254	264
Anurag Sharma, Bimlesh Kumar	Flow resistance in seepage-affected alluvial channel	ISH Journal of Hydraulic Engineering	2018	-	-	1	11
Basuraj Bhowmik, Manu Krishnan, Budhaditya Hazra, Vikram Pakrashi	Real-time unified single- and multi-channel structural damage detection using recursive singular spectrum analysis	Structural Health Monitoring	2019	18	2	563	589
Sreedeep Sekharan, Vinay Kumar Gadi, Sanandam Bordoloi, Abhisekh Saha, Himanshu Kumar, Budhaditya Hazra, Ankit Garg	Sustainable Geotechnics: A Bio-geotechnical Perspective	Frontiers in Geotechnical Engineering	2019	-	-	313	331
Atma Prakash, Sanandam Bordoloi, Budhaditya Hazra, Ankit Garg, Wang Qinhua	Probabilistic Analysis of Soil Suction and Crack Intensity in Fiber Reinforced Soil Under Drying-Wetting Cycles: An Experimental and Copula Modeling Approach	Environmental Geotechnics	2018	-	-	1	52
Shivam Raj Singh, Atma Prakash, Budhaditya Hazra, Ajit Sarmah, Ankit Garg, Hong-Hu Zhu	Stochastic modelling of relative water permeability in vegetative soils with implications on stability of bioengineered slope	Stochastic Environmental Research and Risk Assessment	2018	32	12	3541	3559

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	Uttam P Goswami, B Hazra, Manish Kumar Goyal	Copula-based probabilistic characterization of precipitation extremes over North Sikkim Himalaya	Atmospheric research	2018	212	-	273	284
	Uttam P Goswami, K Bhargav, B Hazra, Manish Kumar Goyal	Spatiotemporal and joint probability behavior of temperature extremes over the Himalayan region under changing climate	Theoretical and Applied Climatology	2018	134	01-Feb	477	498
	Shivam Raj Singh, Atma Prakash, Ankit Garg, Budhaditya Hazra, Gaurav Kumar Das	Stochastic Modeling of Relative Permeability for Vegetated Covers	International Journal of Geomechanics	2018	18	9	06018 020-1	06018 020-6
	Paul Cahill, Budhaditya Hazra, Raid Karoumi, Alan Mathewson, Vikram Pakrashi	Vibration energy harvesting based monitoring of an operational bridge undergoing forced vibration and train passage	Mechanical Systems and Signal Processing	2018	106	-	265	283
	Sandip Das, Budhaditya Hazra	Frequency-dependent principal component analysis of multicomponent earthquake ground motions	Earthquake Engineering & Structural Dynamics	2018	47	5	1360	1366
	Paul Cahill, Budhaditya Hazra, Raid Karoumi, Alan Mathewson, Vikram Pakrashi	Data of piezoelectric vibration energy harvesting of a bridge undergoing vibration testing and train passage	Data in brief	2018	17	-	261	266
	Tharun Dolla, Boeing Singh Laishram	Procurement of low carbon municipal solid waste infrastructure in India through public-private partnerships	Built Environment Project and Asset Management	2018	8	5	449	460
	Abhay Tawalare, and Boeing Laishram	Relational Contracting Conceptual Model for Public Sector Construction Organisations: An Indian Context	Construction Economics and Building	2018	18	2	70	91
	Aparimita Priyadarshini Naik, Biplab Ghosh, Sreeja Pekkatt	Estimating soil hydraulic properties using mini disk infiltrometer	ISH Journal of Hydraulic Engineering	2019	25	1	62	70
	Biplab Ghosh, Sreeja Pekkatt	A critical evaluation of the variability induced by different mathematical equations on hydraulic conductivity determination using disc infiltrometer	Acta Geophysica	2019	-	-	1	15
	Biplab Ghosh, Sreeja Pekkatt	A critical evaluation of measurement induced variability in infiltration characteristics for a river sub-catchment	Measurement	2019	132	-	47	59

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Lavish Pamwani, Amit Shelke	Damage detection using dissimilarity in phase space topology of dynamic response of structure subjected to shock wave loading	Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems	2018	1	4	041004-1	041004-13
Anowarul Habib, Amit Shelke, U Amjad, Ullrich Pietsch, S Banerjee	Nonlocal Damage Mechanics for Quantification of Health for Piezoelectric Sensor	Applied Sciences	2018	8	9	1683-1	1683-19
Lavish Pamwani, Anowarul Habib, Frank Melandsø, Balpreet Ahluwalia, Amit Shelke	Single-input and multiple-output surface acoustic wave sensing for damage quantification in piezoelectric sensors	Sensors	2018	18	7	2017-1	2017-19
Sai Sharath Parsi, Anupouju Rajeev, Ahsan Uddin, Amit Shelke, Nasim Uddin	Probabilistic contact force model for low velocity impact on honeycomb structure	Sustainable and Resilient Infrastructure	2018	-	-	1	15
Aneesh T.D, Reji Srinivas, Archana.M.Nair, Krishna.R.prasad, Arun T.J and Bhuvaneshwari Ande	Estimation of Runoff with respect to Temporal and Spatial Land use changes in Cochin Urban Agglomerate, India: A case-study of 2018 flood	International Journal of Scientific & Engineering Research	2018	9	11	498	502
Manas Khan, Ashutosh Sharma, Manish Kumar Goyal	Assessment of future water provisioning and sediment load under climate and LULC change scenarios in a peninsular river basin, India	Hydrological Sciences Journal	2019	-	just-accepted	-	-
Vishal Singh, Ashutosh Sharma, Manish Kumar Goyal	Projection of hydro-climatological changes over eastern Himalayan catchment by the evaluation of RegCM4 RCM and CMIP5 GCM models	Hydrology Research	2019	50	1	117	137
Vishal Singh, Manish Kumar Goyal	An improved coupled framework for Glacier classification: an integration of optical and thermal infrared remote-sensing bands	International journal of remote sensing	2018	39	20	6864	6892
Jhiliam Sinha, Ashutosh Sharma, Manas Khan, Manish Kumar Goyal	Assessment of the impacts of climatic variability and anthropogenic stress on hydrologic resilience to warming shifts in Peninsular India	Scientific reports	2018	8	1	13833-1	13833-14
Ashutosh Sharma, Manish Kumar Goyal	District-level assessment of the ecohydrological resilience to hydroclimatic disturbances and its controlling factors in India	Journal of hydrology	2018	564	-	1048	1057

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<b>Authors</b> Gilbert Hinge, Rao Y Surampalli, Manish Kumar Goyal	Journal of Hazardous, Toxic, and Radioactive Waste	2018	22	4	0401 8016-1	0401 8016-8
Adani Azhoni, Manish Kumar Goyal	Science of the Total Environment	2018	626	-	468	477
Manish Kumar Goyal, Rao Y Surampalli	Journal of Environmental Engineering	2018	144	7	0401 8054-1	0401 8054-10
Sai Kumar Annadanam, Sri Harsha Kota	Journal of Cleaner Production	2019	213	-	610	617
Rajyalakshmi Garaga, CKR Avinash, Sri Harsha Kota	Air Quality, Atmosphere & Health	2019	12	1	11	20
Shovan Kumar Sahu, Hongliang Zhang, Hao Guo, Jianlin Hu, Qi Ying, Sri Harsha Kota	Air Quality, Atmosphere & Health	2019	12	3	327	340
Rajyalakshmi Garaga, Sri Harsha Kota	Journal of Health and Pollution	2018	8	20	1	12
Hao Guo, Sri Harsha Kota, Kaiyu Chen, Shovan Kumar Sahu, Jianlin Hu, Qi Ying, Yuan Wang, Hongliang Zhang	Atmospheric Chemistry and Physics	2018	18	20	15219	15229
Sri Harsha Kota, Hao Guo, Lauri Myllyvirta, Jianlin Hu, Shovan Kumar Sahu, Rajyalakshmi Garaga, Qi Ying, Aifang Gao, Sunil Dahiya, Yuan Wang, Hongliang Zhang	Atmospheric environment	2018	180	-	244	255
Sandip S. Sathe, Chandan Mahanta	Journal of Environmental Management	2019	231	-	166	181
Lalit Saikia, Chandan Mahanta, Suranjana Borah	Current science	2018	115	6	1179	1185



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Runti Choudhury, B. Nath, Mahfuzur R Khan, Chandan Mahanta, T. Ellis, Alexander van Geen	The Impact of Aquifer Flushing on Groundwater Arsenic Across a 35-km Transect Perpendicular to the Upper Brahmaputra River in Assam, India	Water Resources Research	2018	54	10	8160	8173
Jyotish Kumar Das and Bulu Pradhan	Effect of cation type of chloride salts on corrosion behaviour of steel in concrete powder electrolyte solution in the presence of corrosion inhibitors	Construction and Building Materials	2019	208	-	175	191
Basha, S.H., and Kaushik, H.B.	A Novel Macromodel for Prediction of Shear Failure in Columns of Masonry Infilled RC Frames under Earthquake Loading	Bulletin of Earthquake Engineering, Springer Nature B.V.	2019	17	4	2219	2244
Kotoky, N., Deb, S.K., and Dutta, A.	HyFRC bridge piers with different detailings at pier foundation interface	ASCE, Bridge Engineering	2018	23	6	-	-
Kotoky, N., Dutta, A., and Deb, S.K	Comparative study on seismic vulnerability of highway bridge with conventional and HyFRC piers	Bulletin of Earthquake Engineering, Springer	2019	17	-	2281	2306
Patel, S. K. and Singh, B.	Shear strength and deformation behaviour of glass fibre-reinforced cohesive soil with varying dry unit weight	Indian Geotechnical Journal	2018	DOI:10.1007/s40098-018-0323-5	40098	14 pp.	-
Patel, S. K. and Singh, B.	A parametric study on the vertical pullout capacity of suction caisson foundation in cohesive soil	Innovative Infrastructure Solutions	2019	DOI:10.1007/s41062-018-0188-6	s41062	11 pp.	-
Mali, S. and Singh, B.	Behavior of large piled raft foundation on different soil profiles for different loadings and different pile raft configurations	Innovative Infrastructure Solutions	2019	DOI:10.1007/s41062-018-0193-9	s41062	16 pp.	-
Tadikonda Venkata Bharat, Yagom Gapak	Hydration kinetics of bentonite buffer material: Influence of vapor pressure, bentonite plasticity, and compaction density	Applied Clay Science	2018	157	-	41	50
Chinamani Choudhury and Tadikonda Venkata Bharat	Wetting-induced collapse behavior of kaolinite: influence of fabric and inundation pressure	Canadian Geotechnical Journal	2018	55	-	956	967
Brahmacharimayum, B., Mohanti, M. and Ghosh, P. K.	Theoretical and practical aspects of biological sulphate reduction	Global NEST Journal	2019	21	2	222	244
Shakya, A. K. and Ghosh, P. K.	Effects of Backwashing Strategy and Dissolved Oxygen on Arsenic Removal to Meet Drinking Water Standards in a Sulfidogenic Attached Growth Reactor	Journal of Hazardous Materials	2019	369	-	309	317

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	Kulkarni, V. V., Golder, A. K. and Ghosh, P. K.	Production of composite clay bricks: A value-added solution to hazardous sludge through effective heavy metal fixation	Construction and Building Materials	2019	201		391	400
	Shakya, A. K., Rajput, P. and Ghosh, P. K.	Investigation on stability and leaching characteristics of mixtures of biogenic arseno sulfides and iron sulphides formed under reduced conditions	Journal of Hazardous Materials.	2018	353		320	328
	Shakya, A. K. and Ghosh, P. K.	Simultaneous removal of arsenic, iron and nitrate in an attached growth bioreactor to meet drinking water standards: Importance of sulphate and Empty Bed Contact Time	Journal of Cleaner Production	2018	186,		1011	1020
	Mohanty, M., Brahmacharimayum, B. and Ghosh, P. K.	Effects of Phenol on Sulfate Reduction by Mixed Microbial Culture: Kinetics and Bio-kinetics Analysis	Water Science and Technology	2019	77	4	1079	1088
	Abhishek Dixit, Lekshmi K, Rishikesh Bharti , and Chandan Mahanta	Net Sea–Air CO2 Fluxes and Modeled Partial Pressure of CO2 in Open Ocean of Bay of Bengal	JSTARS, IEEE	2019	Accepted and will be included in a future issue		1	8
	Vichya Ganesh Rangarajan, Rishikesh Bharti*, Sandeep Kumar Mondal, Chandan Pradhan, S. Dutta	Remote Sensing for Martian Studies: Inferences from Syrtis Major	Journal of the Indian Society of Remote Sensing, Springer	2018	46	9	1537	1551
	Sanhita Das, Akhilesh K Maurya	Modelling Maneuverability of Motorized Two-Wheelers during Filtering in Urban Roads	Transport Research Record	2019	In press		In press	
	Gourab Sil, Suresh Nama, Avijit Maji, Akhilesh Kumar Maurya	Modelling 85th Percentile Speed Using Spatially Evaluated Free Flow Vehicles for Consistency based Geometric Design	Journal of Transportation Engineering	2019	Accepted for publication			
	Banerjee, Arunabha, Maurya, Akhilesh Kumar, Lammel, Gregor	Pedestrian flow characteristics and level of service on dissimilar facilities: A critical review	Collective Dynamics	2018	3	-	1	52
	Mahapatra, Geetimuta, Maurya, Akhilesh Kumar, Chakraborty, Partha	Parametric Study of Microscopic Two-dimensional Traffic Flow Models: A Literature Review	Canadian Journal of Civil Engineering	2018	45(11)		909	921
	Mahapatra, Geetimuta, Maurya, Akhilesh Kumar	Dynamic Parameters of Vehicles under Heterogeneous Traffic Stream with Non-Lane Discipline: An Experimental Study	Journal of Traffic and Transportation Engineering	2018	July		-	-

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Choudhary, R., Julaganti, A., Kumar, A., and Dipak, U.	Application of WMA Technology to Bituminous Base Course Mixes	The Baltic Journal of Road and Bridge Engineering	2018	13	2	94	103
Julaganti, A., Choudhary, R., and Kumar, A.	Permanent Deformation Characteristics of Warm Asphalt Binders under Reduced Aging Conditions	KSCE Journal of Civil Engineering	2018	23	1	160	172
Kumar, A., Choudhary, R., Kandhal, P.S., Julaganti, A., Behera, O.P., Singh, A.K. and Kumar, R.	Fatigue Characterisation of Modified Asphalt Binders Containing Warm Mix Asphalt Additives	Road Materials and Pavement Design	2018	Publi shed Online	-	-	-
Pattanaik, M.L., Choudhary, R., and Kumar, B.	Laboratory Evaluation of Mix Design Parameters of Open-Graded Friction Course Mixes with Electric Arc Furnace Steel Slag	Advances in Civil Engineering Materials, ASTM	2018	7	1	616	632
Kandhal, P.S., Choudhary, R., and Kumar, A.	Quality Control and Quality Assurance in Bituminous Road Construction in India	Indian Highways, Indian Roads Congress	2018	46	10	11	18
Kumar, A., Choudhary, R., and Nirmal, S.K.	Salient Attributes of Open Graded Friction Courses towards Enhanced Road Safety in Hilly and High Rainfall Regions of India	Journal of the Indian Roads Congress	2018	79	2	11	19
Serur Bedewi A. Sarma A.K.	Current and projected water demand and water availability estimates under climate change scenarios in the Weyib River basin in Bale mountainous area of Southeastern Ethiopia	Theoretical and Applied Climatology	2018	133	03-Apr	727	735
Patowary, S. Sarma, A. K.	GIS-based estimation of soil loss from hilly urban area incorporating hill cut factor into RUSLE	Water Resources Management	2018	32	10	3535	3547
Sarma, A. K.	Sustainable approach of rainwater management and application for mitigating climate change impact on tea agriculture in northeast India	Journal of Earth Science and Climatic Change	2018	9	-	13	13

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Pradeep Kumar Sharma, Santosh Biswas and Pinaki Mitra	Energy Efficient Heuristic Application Mapping for 2-D Mesh-based Network-on-Chip	Microprocessors and Microsystems, Elsevier	2018	64		88	100
P.P. Nair, A. Sarkar, S. Biswas	Design of Light Weight Exact DES Diagoners using Measurement Limitation: Case Study of EFI system	International Journal of Systems Science, Taylor & Francis	2018	49	8	1760	1783
Basant Subba, Santosh Biswas, Sushanta Karmakar	A game theory based multi layered intrusion detection framework for VANET	Future Generation Computer Systems (FGCS), Elsevier	2018	82		12	28
G. Panicker, K.V. Krishna and P. Bhaduri	Monoids of non-halting programs with tests	Algebra Universalis, Springer	2018	79	8		
R. Devaraj, A. Sarkar, S. Biswas	Supervisory Control Approach and its Symbolic Computation for Power-aware RT Scheduling	IEEE Transactions on Industrial Informatics	2018				
Biswajit Bhowmik, Santosh Biswas, Jatindra Kumar Deka	On-line Analysis of Stuck-at Faults in on-Chip Network Interconnects	Journal of Circuits, Systems, and Computer	2018	27	13		
S. Moulik, A. Sarkar and H. K. Kapoor	Energy Aware Frame Based Fair Scheduling	Sustainable Computing: Informatics and Systems (SUSCOM), Elsevier	2018				
Bala Prakasa Rao Killi, S. V. Rao	On Placement of Controllers and Hypervisors in Virtualized Software Defined Network	IEEE Transactions on Network and Service Management	2018	15	2	840	853
Ramanuj Chouksey, Chandan Karfa and Purandar Bhaduri	Translation Validation of Code Motion Transformations Involving Loops	IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems	2018				
Biswajit Bhowmik, Santosh Biswas, Jatindra Kumar Deka, Bhargab Bhattacharya	Reliability-Aware Test Methodology for Detecting Manufacturing Short-Channel Faults in On-Chip Networks	IEEE Trans. on VLSI systems	2018	26	6	1026	1039
M. Agarwal, S. Biswas and S. Nandi	An Efficient Scheme to Detect Evil Twin Rogue Access Point Attack in 802.11 Wi-Fi Networks	International Journal of Wireless Information Networks (IJWI)	2018	25	2	130	145

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Aparajita Dutta, Tushar Dubey, Kusum Kumari Singh, Ashish Anand	SpliceVec: Distributed feature representations for splice junction prediction	Computational Biology and Chemistry, Elsevier	2018	74	-	434	441
S. Agarwal and H. K. Kapoor	Reuse-Distance-Aware Write-Intensity Prediction of Dataless Entries for Energy-Efficient Hybrid Caches (TVLSI)	IEEE Transactions on Very Large Scale Integration (TVLSI)	2018	-	-	-	-
Saptarshi Pyne, Alok R Kumar, A Anand	Rapid Reconstruction of Time-varying Gene Regulatory Networks.	IEEE Transactions on Computational Biology and Bioinformatics	2018	-	-	-	-
Manas Khatua, Seyed Hamid Safavi, Ngai-Man Cheung	Sparse Laplacian Component Analysis for Internet Traffic Anomalies Detection	IEEE Transactions on Signal and Information Processing over Networks	2018	4	4	697	611
Rajlakshmi Saikia, Sanasam Ranbir Singh and Priyankoo Sarmah	Effectiveness of using language independent transcribers for spoken language identification for different Indian languages	International Journal of Asian Language Processing	2018	28	2	95	106
B.Shilpa and T. Venkatesh	Delay Management in Mesh-based P2P Live Streaming Using a Three-stage Peer Selection Strategy	Journal of Network and Systems Management, Springer	2018	26	2	401	425
Basant Subba, Santosh Biswas, Sushanta Karmakar	A game theory based multi layered intrusion detection framework for wireless sensor networks	International Journal of Wireless Information Networks (IJWI)	2018	-	-	-	-
S. Chakraborty and H. K. Kapoor	Analysing the Role of Last Level Caches in Controlling Chip Temperature	IEEE Transactions on Sustainable Computing (TSUSC)	2018	-	-	-	-
Ramanuj Chouksey, Chandan Karfa, Kunal Banerjee, Pankaj Kumar Kalita and Purandhar Bhaduri	A Counter-Example Generation Procedure for Path based Equivalence Checkers	IET Software	2018	-	-	-	-
Sunil Kumar Sahu, A Anand	Drug-Drug Interaction Extraction from Biomedical Text Using Long Short Term Memory Network.	Journal of Biomedical Informatics	2018	-	-	-	-
Sunil Kumar Sahu, A Anand.	What matters in a transferable neural network model for relation classification in the biomedical domain?	Artificial Intelligence in Medicine	2018	87	-	60	66

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Neelakshi Sarma, Sanasam Ranbir Singh, Diganta Goswami	Influence of social conversational features on language identification in highly multilingual online conversations	Information Processing and Management	2019	56	1	151	166
Badal Soni, Pradip K. Das and Dalton Meitei Thounaojam	Dual System for Copy-move Forgery Detection using Block-based LBP-HF and FWHT Features	Engineering Letters	2018	vol. 26	1	171	180
Debanjan Sadhukan, S. V. Rao	Minimum Cost Event Driven WSN with Spatial Differentiated QoS Requirements	Wireless Networks	2019				
Bala Prakasa Rao Killi, S. V. Rao	Towards improving resilience of controller placement with minimum backup capacity in software defined networks	Computer Networks	2019	vol. 149		102	114
Vasudevan MS, Santosh Biswas, Aryabartta Sahu	Automation of Test Program Synthesis for Processor Post-silicon Validation	J. Electronic Testing	2018	34	1	83	108
Manojit Ghose, Aryabartta Sahu, Sushanta Karmakar:	Energy Efficient Online Scheduling of Real Time Tasks on Large Multi-threaded Multiprocessor Systems.	J. Inf. Sci. Eng	2018	34	6	Rajesh .d	1615
Ranjan Maity and Samit Bhattacharya	Is My Interface Beautiful? – A Computational Model-based Approach.	IEEE Transactions on Computational Social Systems	2019	6	1	149	161
Ranjan Maity and Samit Bhattacharya	A Quantitative Approach to Measure Webpage Aesthetics.	International Journal of Technology and Human Interaction (IJTHI).	2018	16	2		
Sunil Dutt, Satyabrata Dash, Sukumar Nandi and Gaurav Trivedi	Analysis, Modeling and Optimization of Equal Segment Based Approximate Adders	IEEE Transactions on Computers	2019	68	3	314	330
Pranav Kumar Singh, Sahil Sharma, Sunit Kumar Nandi and Sukumar Nandi	Multipath TCP for V2I Communication in SDN Controlled Small Cell Deployment of Smart City	Vehicular Communications	2019	15		1	15
Sunil Dutt, Sukumar Nandi and Gaurav Trivedi	Accuracy Enhancement of Equal Segment Based Approximate Adders	IET Computers & Digital Techniques	2018	12	5	206	215
N Sett, Devesh N A, S R Singh and S Nandi	Exploiting reciprocity towards link prediction	Knowledge and Information Systems	2018	55	1	1	13
Simi Zerine Sleetba, John Jose, Mini M.G.	An Energy Efficient Fault Tolerant Technique for Deflection Routers in 2D Mesh NoCs	IET Computers & Digital Techniques (IET-CDT)	2018	12	3	69	79

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Dipika Deb, John Jose, Shirshendu Das, Hemangee K. Kapoor	Cost Effective Routing Techniques in 2D Mesh NoC using On-Chip Transmission Lines	Elsevier Journal of Parallel and Distributed Computing (JPDC)	2019	123	-	118	129
S. Agarwal and H. K. Kapoor	Improving the Lifetime of Non-Volatile Cache by Write Restriction	IEEE Transactions on Computers (TC)	2019	-	-	-	-
B Bhowmik, JK Deka, S Biswas, BB Bhattacharya	Performance-Aware Test Scheduling for Diagnosing Coexistent Channel Faults in Topology-Agnostic Networks-on-Chip	ACM Transactions on Design Automation of Electronic Systems (TODAES)	2019	24	2	-	-
R Bhattacharya, S Kumar, S Biswas	Fault diagnosis in switched linear systems by emulation of behavioral models on FPGA: A case study of current-mode buck converter	International Journal of Numerical Modelling: Electronic Networks, Devices	2018	35	5	-	-
Sathisha Basavaraju, Sibaji Gaj, Arijit Sur,	Object Memorability Prediction using Deep Learning: Location and Size Bias	Journal of Visual Communication and Image Representation, Elsevier	2019	59	-	117	127
Shuvendu Rana, Arijit Sur	View invariant DIBR-3D image watermarking using DT-CWT	Multimedia Tools and Applications	2018	-	-	1	29
Benny George Kenkireth , Mrityunjay Singh	On the minimal alphabet size in multidimensional unrepitative configurations	Discrete Applied Mathematics	2018	255	-	258	266

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
C.Vigneshkumar and Uirmi Ravindra Salve	A matrix based modeling for analyzing design information of construction safety helmet	Injury Prevention	2018	24	-	A241	A242
Toney Sebastian, Pradeep G. Yammiyavar, and Stevan Jones	Role of Product Experience in Product Purchase: Indian Users	"SCMS Journal of Indian Management"	2019	Volume XVI	1	95	104
Nath, S., Kalita, T., Tiwari, R. and Karmakar, S.	Ergonomic design intervention to ameliorate exposure to vibration during use of hand-held vibrating tool for stone-polishing activities in unorganised sector.	Occupational and Environmental Medicine	2018	75	Suppl 2	A518	A519

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Karmakar, S.	"Virtual Ergonomics: Research and Application in India [Editorial]"	Journal of Ergonomics	2018	1	2	104	105
Ganapathi, P., & Sorathia, K.	Investigating controller less input methods for smartphone based virtual reality platforms	In Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct	2018			166	173
Bhowmick, S., Darbar, R., & Sorathia, K.	Pragati: design and evaluation of a mobile phone-based head mounted virtual reality interface to train community health workers in rural India	In Proceedings of the 10th Nordic Conference on Human-Computer	2018			299	310

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (if any)	Starting Page	Ending Page
Vinay Kumar Pandey, Indrani Kar and Chitralekha Mahanta	Multiple model adaptive control using second level adaptation for a class of nonlinear systems with linear parameterizations	International Journal of Dynamics and Control (Springer)	2018	6	3	1319	1334
Nabanita Adhikary and Chitralekha Mahanta	Sliding mode control of position commanded robot manipulators	Control Engineering Practice (Elsevier)	2018	81		183	198
"Tousif Khan Nizami, Arghya Chakravarty and Chitralekha Mahanta	Analysis and Experimental Investigation into a Finite Time Current Observer Based Adaptive Backstepping Control of Buck Converter	in Journal of the Franklin Institute (Elsevier)	2018	DOI: 10.1016/j.jfranklin.			
G. Saxena and R. Paily	Wide Bandgap Zinc Oxide Thin Films Prepared by RF Magnetron Sputtering at Room Temperature	Sensing and Bio-Sensing Research, IETE Journal of Research, Taylor & Francis Group	2018	Published online			
Vimal Kumar Singh Yadav, Gayatri Natu and Roy Paily	Analysis of Super-fine Resolution Printing of Polyaniline and Silver Microstructures for Electronic Applications	Transactions on Components, Packaging and Manufacturing Technology	2018	8	9	1678	1685



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Brajesh Rawat and Roy Paily	Modeling of Graphene-based Field-Effect Transistors through 1-D Real-Space Approach	Journal of Computational Electronics, Springer	2018	17	1	90	100
H. Lala, S. Karmakar, S. Ganguly	Detection and localization of faults in smart hybrid distributed generation systems: A Stockwell transform and artificial neural network-based approach	International Transactions on Electrical Energy Systems (Wiley)	2019	29	2	e2725	8
Shubh Lakshmi, S. Ganguly	A comparative study among UPQC models with and without real power injection to improve energy efficiency of radial distribution networks	Journal of Energy Systems (Springer)	doi: 10.1007/s12667-018-0310-z.		-	-	-
Shubh Lakshmi, S. Ganguly	Modelling and allocation planning of voltage-sourced converters to improve the rooftop PV hosting capacity and energy efficiency of distribution networks	IET Generation, Transmission, and Distribution	2018	12	20	4462	4471
H. Lala, S. Karmakar, S. Ganguly	Fault detection and localization using continuous wavelet transform and artificial neural network based approach in distribution system	International Journal on Electrical Engineering & Informatics	2018	10	2	203	219
Upasana Sarma and S. Ganguly	Determination of the component sizing for the PEM fuel cell-battery hybrid energy system for locomotive application using particle swarm optimization	Journal of Energy Storage (Elsevier)	2018	19	-	247	259
Shubh Lakshmi, S. Ganguly	Simultaneous optimization of photovoltaic hosting capacity and energy loss of radial distribution networks with open unified power quality conditioner allocation	IET Renewable Power Generation	2018	12	12	1382	1389
P. Samal, S. Mohanty, S. Ganguly	Modeling, optimal sizing, and allocation of DSTATCOM in unbalanced radial distribution systems using differential evolution algorithm	Int. J. Numerical Modelling (Wiley, In press)	2018	31	5	e2351	14
Shubh Lakshmi, S. Ganguly	Modelling and allocation of Open-UPQC-integrated PV generation system to improve the energy efficiency and power quality of radial distribution networks	IET Renewable Power Generation	2018	12	5	605	613
Mrinmoy Bharadwaj, Jitendra Prajapati and Ratnajit Bhattacharjee	Novel graphene based antennas for the terahertz region	Semiconductor Science and Technology	2018	34	1		

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Jitendra Prajapati, Mrimoy Bharadwaj, Amitabh Chatterjee and Ratnajit Bhattacharjee	Radiation field analysis of photoconductive antenna using an improved carrier dynamics	Accepted Manuscript, Semiconductor Science and Technology	2018				
Dibyajoti Das , Prabin Kumar Bora, and Ratnajit Bhattacharjee	Blind Modulation Recognition of the Lower Order PSK Signals Under the MIMO Keyhole Channel	IEEE Communications Letters	2018	22	9	1834	1837
Kukil Khanikar, Rohit Sinha, , and Ratnajit Bhattacharjee	Cooperative Spectrum Sensing Using Quantized Energy Statistics in the Absence of Dedicated Reporting Channel	IEEE Transactions on Vehicular Technology	2018	67	5	4149	4160
Mohit Kumar Joshi , Student Member, IEEE, Sandeep Kumar Vyas , Tapeshwar Tiwari, and Ratnajit Bhattacharjee	Optimal Design of a Coaxial Cavity Based on Quality-Factor Maximization for High-Power Coaxial Magnetron in X-Band	IEEE Transactions on Plasma Science	2018	46	3	503	510
P. Kumar and K. Dhaka	Performance Analysis of Wireless Powered DF Relay System Under Nakagami-m Fading	IEEE Transactions on Vehicular Technology	2018	67	8	7073	7085
P. Kumar and K. Dhaka	Average BER and resource allocation in wireless powered decode-and-forward relay system	IET Communications	2019	13	4	379	386
P. Rathore, K. Dhaka, and S. K. Bose	Network coding assisted multicasting in multi-hop wireless networks	Computer Communications	2019	138		45	53
Rishikesh Kulkarni, Pramod Rastogi	Simultaneous estimation of multiple phases in digital holographic interferometry using state space analysis	Optics and Lasers in Engineering	2018	104		109	116
Rishikesh Kulkarni, Pramod Rastogi	Two-step phase demodulation algorithm based on quadratic phase parameter estimation using state space analysis	Optics and Lasers in Engineering	2018	110		41	46
Yongcheng Li, Lin Zhu, Sanjay K. Bose, Gangxiang Shen	Energy-Saving in IP over WDM Networks by Putting Protection Router Cards to Sleep	IEEE/OSA Journal of Lightwave Technology	Jul-18	36	14	3003	3017
[3] Y. Sheng, Y. Zhang, Hong Guo, Sanjay K. Bose, Gangxiang Shen	Benefits of unidirectional design based on decoupled transmitters and receivers in tackling traffic asymmetry for elastic optical networks	Journal of Optical Communications and Networking	Aug-18	10	8 Article number 8438290	C1	C14
Bikash Sah, Praveen Kumar, Ramesh K. Rayudu, Sanjay K. Bose, Krishna Pavan Inala	Impact of Sampling Interval on a Vehicle to Grid System with Fuzzy Logic Controller	IEEE Transactions on Industrial Informatics	-	doi: 10.1109/ TII. 2018. 2886633		-	-

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Ning Wang, Gangxiang Shen, Sanjay Kumar Bose, Weidong Shao	Zone-Based Cooperative Content Caching and Delivery for Radio Access Network with Mobile Edge Computing	IEEE Access	Dec-18	7	doi: 10.1109/ACCESS.2018.2888602	4031	4044
Gangxiang Shen, Longfei Li, Ya Zhang, Sanjay K. Bose, Moshe Zuckerman	Naive Bayes Classifier-Assisted Least Loaded Routing for Circuit-Switched Networks	IEEE Access	Jan-19	7	doi: 10.1109/ACCESS.2019.2892063	11854	11867
Xiaoling Wang, Sanjay K. Bose, Gangxiang Shen,	Exploiting Idle Capacity in Optical Networks to Pre-plan as Many Additional Paths as Possible for Enhancing Service Connection Availability	IEEE Networking Letters	Jan-19	doi: 10.1109/LNET.2019.2897297	-	-	-
Chao Guo, Kai Xu, Sanjay Bose, Moshe Zuckerman	Efficient and Green Embedding of Virtual Data Centers with Mixture of Unicast and Multicast Services	IEEE Transactions on Cloud Computing	Feb-19	doi: 10.1109/TCC.2019.2897273.	-	-	-
Yongcheng Li, Yonghu Yan, Wei Chen, Sanjay K. Bose, Gangxiang Shen, " , "	Upgrading Network Links with Ultra Low Loss Fibers: Strategies and Benefits	Accepted for publication in Journal of Optical Communications and Networking	-	-	-	-	-
Ya Zhang, Xu Zhou, Ning Deng, Sanjay K. Bose, Gangxiang Shen	Exploiting efficiency of ultra-dense wavelength switched network for carrying metro network traffic	Photonic Network Communications (Elsevier)	Feb-19	https://doi.org/10.1007/s1107-018-00824-w	-	-	-
A. Agrawal and R. S. Kshetrimayum	Analytical BER Calculation of TAS/MRC based Two Hop UWB System Over IEEE 802.15.4a Channel Model	IETE Technical Review	2018	35	5	467	475
R. S. Sangam and R. S. Kshetrimayum	Notched UWB filter using exponential tapered impedance line stub loaded microstrip resonator	The Journal of Engineering	2018	2018	9	768	772
A. Bhowal and R. S. Kshetrimayum	Performance Analysis of One-way and Two-way relay for Underwater Optical Wireless Communications	OSA Continuum	2018	1	4	1400	1413
R. S. Sangam, S. Poolakkal, R. Palthiya, N. Nallam, R. S. Kshetrimayum	Dual-port, aperture coupled and tapered fed patch antenna for full-duplex ISM applications	Microwave and Optical Technology Letters	2019	61	2	542	545
A. Bhowal and R. S. Kshetrimayum	Outage Probability Bound of Decode and Forward Two Way Full Duplex Relay employing Spatial Modulation over Cascaded $\alpha$ - $\mu$ Channels	International Journal of Communication Systems	2019	32	3	1	15
Prasenjit Ghorai, Somanath Majhi and Saurabh Pandey	A Real-Time Approach for Dead-Time Plant Transfer Function Modeling Based on Relay Autotuning	International Journal of Dynamics and Control	2018	6	3	950	960

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Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
Venkataramana Kasi, Somanath Majhi and Anup Kumar Gogoi	Identification and PID Tuning Techniques for Stable and Unstable SOPDT Processes	International Journal of Dynamics and Control	2018	6	3	1194	1206
Venkataramana Kasi, Somanath Majhi and Anup Kumar Gogoi	Identification of DC-DC Buck Converter Dynamics using Relay Feedback Method with Experimental Validation	IET Circuits, Devices and Systems	2018	12	6	777	784
Trusna Meher and Somanath Majhi	Relay Based Identification of Hammerstein Model	International Journal of Dynamics and Control	2018	6	4	1599	1607
Saurabh Pandey, Somanath Majhi and Prasenjit Ghorai	Limit Cycle Based Identification of Time Delay SISO Processes	IFAC Journal of Systems and Control	2018	6	-	43	52
Bajarangbali and Somanath Majhi	Estimation of First and Second Order Process Models	Proceedings of The National Academy of Sciences (NASA)	2018	88	4	557	563
M Bhaskar Naik, Praveen Kumar and Somanath Majhi	Smart Public Transportation Network Expansion and its Interaction with the Grid	International Journal of Electrical Power and Energy Systems	2019	105	-	365	380
Venkataramana Kasi, Somanath Majhi and Anup Kumar Gogoi	Modelling and Estimation of DC-DC Buck Converter Dynamics using Relay Feedback Output with Performance Evaluation	IEEE Trans on Circuits and Systems II: Express Briefs	2019	66	3	427	431
R. Chopra, C. R. Murthy and G. Rangarajan,	Statistical Tests for Detecting Granger Causality	IEEE Transactions on Signal Processing	2018	66	22	5803	5816
R. Chopra, C. R. Murthy, H. A. Suraweera, E. G. Larsson	Analysis of Non-Orthogonal Training in Massive MIMO under Channel Aging with SIC Receivers	IEEE Signal Processing Letters	2019	26	2	282	286
R. Chopra, R. Annavaajala and C. R. Murthy	Physical Layer Security in Wireless Sensor Networks Using Distributed Co-Phasing	Accepted for publication in IEEE Transactions on Information Forensics and Security	2019	pp	99		
Chandan Kumar, Rongwu Zhu, Giampaolo Buticchi, Marco Liserre	Sizing and SOC-Management of a Smart Transformer-Based Energy Storage System	IEEE Transactions on Industrial Electronics,	2018	65	8	6709	6718
Subhasis Mandal, S. R. Mahadeva Prasanna, Suresh Sundaram	An improved discriminative region selection methodology for online handwriting recognition	International Journal on Document Analysis and Recognition	2019	22	1	1	14

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Vivek Venugopal, Suresh Sundaram	Modified Sparse Representation Classification Framework for Online Writer Identification	IEEE Transactions on Systems, Man, and Cybernetics: Systems	2018	10.1109/TSMC.2018.2871267	-	-	-
Vivek Venugopal, Suresh Sundaram	Online Writer Identification With Sparse Coding-Based Descriptors	IEEE Transactions On Information Forensics And Security	2018	13	10	2538	2552
Qianqian Shi, Debabrata Sikdar, Runfang Fu, Kae Jye Si, Dashen Dong, Yiyi Liu, Malin Premaratne, Wenlong Cheng	2D Binary Plasmonic Nanoassemblies with Semiconductor/p-Doping-Like Properties	Advanced Materials	2018	30	-	1801118 (1 of 6)	1801118 (6 of 6)
Y. Ma, C. Zagar, D. J. Klemme, D. Sikdar, L. Velleman, Y. Montelongo, S. Oh, A. R. Kucernak, J. B. Edel, A. A. Kornyshev	A Tunable Nanoplasmonic Mirror at an Electrochemical Interface	ACS Photonics	2018	5	11	4604	4616
D. Dong, Q. Shi, D. Sikdar, Y. Zhao, Y. Liu, R. Fu, M. Premaratne, and W. Cheng,	Site-specific Ag coating on concave Au nanoarrows by controlling surfactant concentration	Nanoscale Horizons	2019	DOI: 10.1039/c8nh00431e			
V. Harikrishna, Rafi Ahamed Shaik	Design Procedure for Multifinger MOSFET Two-stage OTA with Shallow Trench Isolation Effect	IET Circuits, Devices and Systems	2018	12	5	513	522
Babita J, Anil Mahanta and Rafi Ahamed Shaik	Mixed-Signal Demodulator for IEEE 802.15.6 IR-UWB WBAN Energy Detection based Receiver	IET Circuits, Devices and Systems	2018	12	5	523	531
V. Harikrishna, Rafi Ahamed Shaik	Low-voltage PVT-insensitive bulk-driven OTA with enhanced DC-gain in 65-nm CMOS process	AEU- International Journal of Electronics and Communications, Elsevier	2018	90	-	88	96
Mohd. Tasleem Khan, Rafi Ahamed Shaik, Surya Prakash Matcha	An Improved Convergent Distributed Arithmetic based Low Complexity LMS based Adaptive Filter	IET Circuits, Devices and Systems	2018	12	6	792	801
Karam Singh, Rafi Ahamed Shaik	Low Power Motion Estimation Algorithm and Architecture of HEVC/H.265 for Consumer Applications	IEEE Trans. Consumer Electronics	2018	64	3	267	275
Mohd. Tasleem Khan, Rafi Ahamed Shaik	Optimal Complexity Architectures for Pipelined Distributed Arithmetic-Based LMS Adaptive Filter	IEEE Trans. Circuits and Systems I	2019	66	2	630	642

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Darpan Mishra and Ramesh Kumar Sonkar	Analysis of a Process Simulated Graded-Index Strained Silicon-Germanium Optical Phase Shifter	Optical Materials, <a href="https://doi.org/10.1016/j.optmat.2019.02.001">https://doi.org/10.1016/j.optmat.2019.02.001</a>	2019	89		604	608
Darpan Mishra, R. K. Sonkar	Design and Analysis of a Graded-Index Strained SiGe Optical PN Phase Shifter	IEEE Photonics Journal	2018	10	6	1	14
Mohd. Mansoor Khan and Ramesh Kumar Sonkar	Analytical Model for Signal and Gain Modulation on Thulium Doped Fiber Amplifiers in S and near-C Bands including Amplified Spontaneous Emission: Signal Power Analysis	Optical Engineering	2019	58	2		
Manoranjan Minz, Ramesh Kumar Sonkar,	Numerical Design and Analysis of a 3-channel Grating Assisted Mode-Division (De)multiplexer	Optik - International Journal for Light and Electron Optics (in press)	2018	-	-	-	-
Darpan Mishra and Ramesh Kumar Sonkar	Analysis of Germanium Doped Silicon Vertical PN Junction Optical Phase Shifter	J. Opt. Soc. Am. B, (in press)	2019	-	-	-	-
Mohd. Mansoor Khan and Ramesh Kumar Sonkar	Signal Wavelength Effect on Overmodulation in Thulium Doped Fiber Amplifiers with Amplified Spontaneous Emission: A Simulink Pedestal	Journal of Optical Communications	2018	-	-	-	-
Vivek Lukose and Harshal B. Nemade	Finite element simulation of one-port surface acoustic wave resonator with thick interdigital transducer for gas sensing	Microsystem Technologies	2019	25	2	441	446
Basudeba Behera and Harshal B. Nemade	Investigating translational motion of a dual friction-drive surface acoustic wave motor through modeling and finite element simulation	Simulation	2019	95	2	117	125
Basudeba Behera and Harshal B. Nemade	Dual friction-drive SAW motor utilizing cylindrical shaft as external load driver	Ferroelectrics Letters Section	2019	45	01-Mar	8	13
S Rai, P Tripathy, S K Nayak	Using sparsity to estimate oscillatory mode from ambient data	Sadhana	2019	44	4	90	
Kitaba Tefera, Praveen Tripathy and Ravindranath Adda	Electromagnetic and Mechanical Stress Analysis of Wind-Driven Synchronous Reluctance Generator	CES TRANSACTIONS ON ELECTRICAL MACHINES AND SYSTEMS	-	3	1	107	114
Tilendra Choudhary, M.K.Bhuyan, and L.N.Sharma	Orthogonal subspace projection based framework to extract heart cycles from SCG signal	Biomedical Signal Processing and Control, Elsevier	2019	50	-	45	51

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Amit Vishwakarma and M.K. Bhuyan	Image fusion using adjustable non-subsampled shearlet transform	IEEE Transactions on Instrumentation and Measurement	2018	-	-	1	12
Amit Vishwakarma, M.K. Bhuyan, and Yuji Iwahori	An optimized non-subsampled shearlet transform-based image fusion using hessian features and unsharp masking	Journal of Visual Communication and Image Representation, Elsevier	2018	57	-	48	60
Amit Vishwakarma, M.K. Bhuyan, and Yuji Iwahori	Non-subsampled shearlet transform-based image fusion using modified weighted saliency and local difference	Multimedia Tools and Applications, Springer	2018	77	24	32013	32040
Sunil Kumar, M.K. Bhuyan	Hierarchical Uncorrelated Multiview Discriminant Locality Preserving Projection for Multiview Facial Expression Recognition	Journal of Visual Communication and Image Representation (JVCI), Elsevier	2018	54		171	181
Tilendra Choudhary, L.N. Sharma, and M.K. Bhuyan	Automatic Detection of Aortic Valve Opening using Seismocardiography in Healthy Individuals	IEEE Journal of Biomedical and Health Informatics	2018	DOI:10.1109/JBHI.2018.28.29608.			
Tilendra Choudhary, L.N. Sharma, and M.K. Bhuyan	Heart Sound Extraction from Sternal Seismocardiographic Signal	IEEE Signal Processing Letters	2018	25	4	482	486
Rohit Sinha, Abhishek Dey, Hemant Kathania, Syed Shah Nawazuddin	Improving Children's Mismatched ASR using Structured Low-Rank Feature Projection	Speech Communication, Elsevier	2018	105	10.1016/j.specom.2018.11.001	103	113
Nagendra Kumar and Rohit Sinha	Enrollee-constrained Sparse Coding of Test Data for Speaker Verification	Pattern Recognition Letters	2018	116	10.1016/j.patrec.2018.08.034	15	21
Nagendra Kumar and Rohit Sinha	Improved Structured Dictionary Learning via Correlation and Class Based Block Formation	IEEE Transactions on Signal Processing	2018	66	19	5082	5095
Syed Shah Nawazuddin, Nagaraj Adiga, Hemant Kathania, Gayadhar Pradhan and Rohit Sinha	Studying the role of pitch-adaptive spectral estimation and speaking-rate normalization in automatic speech recognition	Digital Signal Processing, Elsevier	2018	79	10.1016/j.dsp.2018.05.003	142	151
Sishir Kalita, S. R. M. Prasanna, S. Dandapat	Importance of glottis landmark for the assessment of cleft lip and palate speech intelligibility	Journal Acoustic Society America	2018	144	5		

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Himakshi Choudhury, S. R. M. Prasanna	Representation of online handwriting using multi-component sinusoidal model	Pattern Recognition	2019	91		200	215
Himakshi Choudhury, S. R. M. Prasanna	Handwriting recognition using sinusoidal model parameters	Pattern Recognition Letters	2019	121		87	96
Himakshi Choudhury, Subhasis Mandal, S. R. M. Prasanna	Exploiting forced alignment of time-reversed data for improving HMM-based handwriting segmentation	Expert Systems with Applications	2019	121		158	169
Subhasis Mandal, S. R. M. Prasanna, Suresh Sundaram	GMM posterior features for improving online handwriting recognition	Expert Systems with Applications	2019	97	-	421	433
Subhasis Mandal, S. R. M. Prasanna, Suresh Sundaram	An improved discriminative region selection methodology for online handwriting recognition	International Journal on Document Analysis and Recognition (IJ DAR)	2019	22	-	1	14
Ramesh K. Bhukya, Biswajit Dev Sarma and S.R.M. Prasanna	End Point Detection Using Speech-Specific Knowledge for Text-Dependent Speaker Verification	Circuits, Systems, and Signal Processing Journal	2018	37	-	5507	5539
Ramesh K. Bhukya, S.R.M. Prasanna and Biswajit Dev Sarma	Robust Methods for Text-Dependent Speaker Verification	Circuits, Systems, and Signal Processing Journal	2019 (in press)	-	-	-	-
Vikram C M, S Macha, Sishir Kalita, and S R M Prasanna	Acoustic analysis of misarticulated trills in cleft lip and palate children	JASA Express Letters	2018	143	6;doi:10.1121/1.5042339.	-	-
A. K. Dubey, A. Tripathi, S. R. M. Prasanna, and S. Dandapat	Detection of hypernasality based on vowel space area	JASA Express Letters	2018	143	5;doi:10.1121/1.5039718	-	-
Dibyajyoti Das, Prabin Kumar Bora, Ratnajit Bhattacharjee	Blind Modulation Recognition of the Lower Order PSK Signals Under the MIMO Keyhole Channel	IEEE Communications Letters	2018	22	9	1834	1837
Sandeep Ramesh Nath, PK Bora	Perceptual video hashing based on temporal wavelet transform and random projections with application to indexing and retrieval of near-identical videos	Multimedia Tools and Applications	2019	doi.org/10.1007/s1104201971890		-	-
Aniruddha Mazumdar, Prabin Kumar Bora	Estimation of lighting environment for exposing image splicing forgeries	Multimedia Tools and Applications	2019	doi.org/10.1007/s1104201871472		-	-
Vineeta Das, Samarendra Dandapat, Prabin Kumar Bora	A novel diagnostic information based framework for super-resolution of retinal fundus images	Computerized Medical Imaging and Graphics	2019	72	-	22	33
Sunil Dutt, Satyabrata Dash, Sukumar Nandi and Gaurav Trivedi	Analysis, Modeling and Optimization of Equal Segment Based Approximate Adders	IEEE Transactions on Computers	2019	68	3	314	330



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Satyabrata Dash, Deepak Joshi, Gaurav Trivedi	Multiobjective Analog/RF Circuit Sizing using an Improved Brain Storm Optimization Algorithm	Memetic Computing	2018	doi.org/10.1007/s1229301802629			
Dheeraj Kumar Sinha, M. S. Ansari, Ashok Ray, Gaurav Trivedi, Amitabh Chatterjee, and Ronald D. Schrimpf	Fast Ionization-front Induced Anomalous Switching Behavior in Trigger Bipolar Transistors of Marx-bank Circuits Under Base-drive Conditions	IEEE TRANSACTIONS ON PLASMA SCIENCE	2018	46	6	2064	2071
Sunil Dutt, Sukumar Nandi, Gaurav Trivedi	Accuracy Enhancement of Equal Segment Based Approximate Adders	IET Computers & Digital Techniques	2018	12	5	206	215
Satyabrata Dash, Sukanta Dey, Deepak Joshi, Gaurav Trivedi	Minimizing Area of VLSI Power Distribution Networks Using River Formation Dynamics	Journal of Systems and Information Technology	2018	20	4	417	429
Satyabrata Dash, Deepak Joshi, Ayushparth Sharma, Gaurav Trivedi	A hierarchy in mutation of genetic algorithm and its application to multi-objective analog/RF circuit optimization	Analog Integrated Circuits and Signal Processing	2018	94	1	27	47
Sameer Pawanekar, Kalpesh Kapoor, Gaurav Trivedi	Kapees3: A High-Quality VLSI Placement Tool Using Nesterov's Method for Density Penalty	World Scientific Journal of Circuits, Systems and Computers	2018	27	8		
V Das, S Dandapat, PK Bora	A novel diagnostic information based framework for super-resolution of retinal fundus images	Computerized Medical Imaging and Graphics	2019	72		22	33
AP Kamson, LN Sharma, S Dandapat	Multi-centroid diastolic duration distribution based HSMM for heart sound segmentation	Biomedical Signal Processing and Control	2019	48		265	272
Kalita, Sishir, S. R. Mahadeva Prasanna, and S. Dandapat	Importance of glottis landmarks for the assessment of cleft lip and palate speech intelligibility	The Journal of the Acoustical Society of America	2018	144.5		2656	2661
Kalita, Sishir, S. R. Mahadeva Prasanna, and S. Dandapat	Intelligibility assessment of cleft lip and palate speech using Gaussian posteriorgrams based on joint spectro-temporal features	The Journal of the Acoustical Society of America	2018	144.4		2413	2423
Dubey, A. K., Tripathi, A., Prasanna, S. R. M., & Dandapat, S.	Detection of hypernasality based on vowel space area	The Journal of the Acoustical Society of America	2018	143	5	EL412	EL417
Chetan, Apoorv, Rajesh K. Tripathy, and Samarendra Dandapat	A diagnostic system for detection of atrial and ventricular arrhythmia episodes from electrocardiogram	Journal of Medical and Biological Engineering	2018	38.2	-	304	315

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C Upendra Reddy, Kashyap Kumar Prabhakar, Amit Kumar Singh and Praveen Kumar	Direct Torque Control Induction Motor Drive Performance Evaluation Based on Torque Error Status Selection Methods	IET Electrical Systems in Transportation	2019	10.1049/iet-est.2018.5005		-	-
Singh, A., Reddy, U., Prabhakar, K., and Kumar, P	Selection of Reference Flux Linkage for Direct Torque Control Based Induction Motor Drive in Electric Vehicle Applications	SAE Int. J. Alt. Power	2019	8	1	-	-
C. Upendra Reddy ; Kashyap Kumar Prabhakar ; Amit Kumar Singh ; Praveen Kumar	Speed Estimation Technique Using Modified Stator Current Error-Based MRAS for Direct Torque Controlled Induction Motor Drives	IEEE Journal of Emerging and Selected Topics in Power Electronics	2019	10.1109/JESTPE.2019.2.901523		-	-
Kashyap Kumar Prabhakar, C. U. Reddy, A. K. Singh, Praveen Kumar	Efficiency and Performance Analysis of DTC based IM Drivetrain Using Variable DC-link Voltage for Electric Vehicle Applications	IET Electrical Systems in Transportation	2018	8	3	205	214
Mohammed Nasir Ansari, Ankit Dalal, Praveen Kumar	"A Method for Determining Nonlinear Inductances of Electrical Equivalent Circuit for Three-Phase Induction Motor"	Electric Power Components and Systems	2018	46	4	379	390

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## Humanities and Social Sciences

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Shakuntala Mahanta, Amalesh Gope	Tonal polarity in Sylheti in the context of noun faithfulness	Language Sciences	2018	69	-	80	97
Ranu Roychoudhuri	Photographs of People, Monument for a City	South Asia: Journal of South Asian Studies	2018	-	-	-	-
Pranti Dutta, Bodhisattva Sengupta	Barriers of Maternal Health Seeking Behavior: A Bayesian Analysis	Journal of Womens Health Care	2018	7	4	1	12
Tripathi, N., & Bharadwaja, M	Psychological empowerment and stress: Role of personality and power distance	Journal of Indian Business Research	2018	0	0	0	0
Tripathi, N., Bharadwaja, M., Ghosh, V., & Katak, B	CSR Activities of a hospital: Perspective of stakeholders	International Journal of Business Excellence	2018	15	4	502	519
Ghosh, V., Tripathi, N., Mukerjee, H.S., Kabra, G	Transforming human resource management processes through intelligent systems	Indian Journal of Industrial Relations	2018	53	4	707	710

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Sorokowska, A., Groyecka, A., Karwowski, M., Frackowiak, T. ...Tripathi, N. ...Sorokowski, P.	Global study of social odor awareness	Chemical Senses	2018	0	0	0	0
Munimi Saikia and S. Borbora	India's outward foreign direct investment: the home-country economic perspective	International Journal of Comparative Management	2018	1	2	162	184
S. Borbora	Tourist Potentiality Index: A Case Study at Dibrugarh National Park in Assam, India	Review of Integrative Business and Economics Research	2018	7	4	149	159
Gunjan Kumar, S. Borbora	Institutional environment differences and their application for entrepreneurship development in India	Journal of Entrepreneurship in Emerging Economies	2018	online	1	1	24
Neel, K. & Hussain, D.	Self- Determination, Nurtured Heart Approach, and Motivation: Development and Testing of an Intervention Strategy for Students with Learning Disabilities	Current Psychology	2018	NA	NA	NA	NA
Neel, K. & Hussain, D.	Integrating Nurtured Heart Approach with Self-Determination Theory: A Proposed Intervention Model for Managing Disruptive Behaviors of Children	Child Care in Practice	2018	NA	NA	NA	NA
B. Kharmyliem, N. Kipgen	Urban water governance: Examining the role of traditional institutions in Shillong, Meghalaya	Journal of North East India Studies	2018	8	1	1	21
Sundaraman T and Daksha Parmar	Professionalizing Public Health Management	Seminar Monthly Symposium	2019		#714		
Bayan, Baban and Dutta, M. K.	What Influences Adoption and Use Intensity of Artificial Insemination Technology among Smallholder Dairy Farmers in Assam? A Double Hurdle Approach	Indian Journal of Agricultural Economics	2019	73	4	445	458
Barman Hemanta, Dutta, Mrinal Kanti, Nath, Hiranya K.	The Telecommunications Divide among Indian States	Telecommunications Policy	2018			530	551
Sahinii Lemaina Veikho and Priyankoo Sarmah	Vowels and tones in Poula	Linguistics of the Tibeto-Burman Area	2018	41	1	22	44

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Tiatenjen Tzudir, Tiatoshi Jamir, Sukanya Sharma	Scientific analysis of iron ore, iron slag and soils of termite nest from the site of Wui, Nagaland using Optical Microscopy, XRD, Electrical Furnace Test and FESEM	Current Science	2019	116	2	311	319
Pankaj Singha, Eshita Mal, Alika Khare, Sukanya Sharma	A study of archaeological pottery of Northeast India using laser induced breakdown spectroscopy (LIBS)	Journal of Cultural Heritage	2018	33	0	71	82
Jitendra Kumar and Sukanya Sharma	Reconnaissance in Search of Sarutaru	Pratna Samiksha	2018	9	0	1	14
Sukanya Sharma	The Heritage Issue in India	Journal of Space and Culture	2018	6	3	1	4
Jitendra Kumar and Sukanya Sharma	Slope Instability and Rearrangement of Sealed Sites: A Study in Digaru-Kolong River Valley	Puratattava	2019	48	0	199	209
Deepshikha Das & Bidisha Som	Childhood Bilingualism and Category Formation: Case of Gender	International Languages and Knowledge Book Series.	2019	2	1	0	0
Som, B, Kalita, R & Mishra, R K.	Culture cues facilitate object naming in both native and second language: evidence from Bodo-Assamese bilinguals	Journal of Cultural cognitive Science	2018	2	1	45	57
Vasundhara Jairath	Book Review: Staking Claims: The Politics of Social Movements in Contemporary Rural India	Contributions to Indian Sociology	2018	52	2	259	261
Vasundhara Jairath	Book Review: Life in Oil: CofAin Survival in the Petroleum Fields of Amazonia	Conservation and Society	2018	16	4	-	-
Vipul Dutta	The "Indian" staff college: Politics and practices of military institution-building in Twentieth century India	The Journal of Strategic Studies	2019	-	-	-	-
Vipul Dutta	Book Review: India, Empire, and the First World War Culture: Writings, Images and Songs	Biblio: A Review of Books	2019	24	01-Mar	24	24
Vipul Dutta	(Special Article) Educating Future Generals	Economic and Political Weekly	2018	53	32	47	54
Anamika Barua and Sumit Vij	Treaties can be a non-starter: a multi-track and multilateral dialogue approach in Brahmaputra Basin	Journal of Water Policy	2018	NA	NA	NA	NA
Anamika Barua	Talking with the Chinese on the Brahmaputra	The Third Pole	2018	NA	NA	NA	NA

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Sumit Vij and Anamika Barua	It's all about power: the Brahmaputrasá in South Asia	Flows	2018	NA	NA	NA	NA
Anamika Barua	Water Diplomacy as an approach to regional cooperation in South Asia: A case from the Brahmaputra Basin	Journal of Hydrology	2018	NA	NA	NA	NA
A Barua, S Vij, M Zulfiquar Rahman	Powering or sharing water in the Brahmaputra River basin	International journal of water resources development	2018	34	5	829	843
Khanolkar Prasad	Yahaan Phaltu Bethna Sakht Mana Hai: Idling, Storytelling and Planning	Urbanisation	2019	3	2	1	16
Khanolkar Prasad	Review: NO ONE WILL LET HER LIVE	Pacific Affairs	2018	91	3	628	630
S. Mallick	Ideology in sociology of science	Social Change and Development	2018	15	1	59	71
Mithilesh Kumar Jha	Neo-Liberal Transformations and Challenges of Governing India	Economic and Political Weekly	2018	53	47	-	-
Mithilesh Kumar Jha	Book Review: Political Violence in Ancient India by Upinder Singh. Harvard University Press, Delhi, 2017.	Seminar	2018	-	-	-	-
Mithilesh Kumar Jha	Feature Essay, Language Movement and Democracy in India	The London School of Economics and Political Science Review of Books	2018	-	-	-	-
Mithilesh Kumar Jha	Bhasha Aandolan Aur Bharatiya Lokatantra	Sablog	2019	-	-	-	-
Mithilesh Kumar Jha	Maithili Movement: Historical Roots and Contemporary Challenges	Madhubani Literature Festival 2018	2018	-	-	-	-
Mithilesh Kumar Jha	Which way will the wind blow in the Karnataka elections?	Qrius	2018	-	-	-	-
Mithilesh Kumar Jha	Could Vajpayee's death be a post-Gandhian moment for Indian politics?	Qrius	2018	-	-	-	-
Debapriya Basu	Owning the Body of the City in Isabella Whitney's	Litcrit: An Indian Response to Literature	2018	44:02:00	86	7	12

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A. Chaddha, S.N. Bora	"Approximate controllability of impulsive neutral stochastic differential equations driven by Poisson jumps doi:10.1007/s10883-016-9348-1	Journal of Dynamical and Control Systems	2018	24	-	101	128
J. Borah, S.N. Bora	Existence of mild solution of a class of nonlocal fractional order differential equation with not instantaneous impulses	Fractional Calculus and Applied Analysis	2018	In Press	-	-	-
A. Chaddha, R. Sakthivel, S.N. Bora	Solvability of control problem for fractional nonlinear differential inclusions with nonlocal conditions	Nonlinear Analysis: Modelling and Control	2018	In Press	-	-	-
Pratima Biswas, Ashok Singh Sairam	Modeling Privacy Approaches for Location Based Services	Computer Networks, Elsevier	2018	140	-	1	14
Ramesh Prasad Panda, K. V. Krishna	"On connectedness of power graphs of finite groups 1850184-1 to 1850184-20, 2018, DOI: 10.1142/S0219498818501840. 17(10)"	Journal of Algebra and Its Applications,	2018	17	10	18501 84-1	185018 4-20
Gayatri Panicker, K.V. Krishna, Purander Bhaduri	"Monoids of non-halting programs with tests. Algebra Universalis doi:10.1007/s00012-018-0490-3	Algebra Universalis	2018	79	1	-	-
Sougata Biswas, Jiten C Kalita	Moffatt eddies in the driven cavity: a quantification study by an HOC approach	Computers Mathematics with Applications	2018	76	3	471	487
Naba Kanta Sarma, Anupam Saikia	Torsion of elliptic curves over imaginary quadratic fields of class number 1	Rocky Mountain J. Math.	2018	48	8	2689	2703
A. Das, S. Natesan	Uniformly convergent numerical method for singularly perturbed 2D delay parabolic convection-diffusion problems on Bakhvalov-Shishkin	International Journal of Mathematical Modelling and Numerical Optimisation.	2018	8	4	305	330
N. Balasubramani, M. Guru Prem Prasad, S. Natesan	Rational Cubic Fractal Spline for Visualization of Shaped Data	Neural, Parallel and Scientific Computations	2018	26	2	183	210
Manees Kumar Singh, S. Natesan	Richardson Extrapolation Technique for Singularly Perturbed System of Parabolic Partial Differential Equations with Exponential Boundary Layers.	Applied Mathematics and Computation	2018	333	-	254	275
A. Das, S. Natesan	Fractional step method for singularly perturbed 2D delay parabolic convection diffusion problems on Shishkin mesh	International Journal of Applied and Computational Mathematics.	2018	4	2	-	-

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A. Das, S. Natesan	Higher-order convergence with fractional-step method for singularly perturbed 2D parabolic convection-diffusion problems on Shishkin mesh	Computers & Mathematics with Applications.	2018	75	7	2387	2403
A. Das, S. Natesan	Second-order uniformly convergent numerical method for singularly perturbed delay parabolic partial differential equations	International Journal of Computer Mathematics	2018	95	3	490	510
S. Barik, D. C. Dalal	Transvers concentration distribution in an open channel flow with bed absorption : A multi-scale approach	Communications in Nonlinear Science and Numerical Simulation	2018	65	-	1	19
Koyel Chakravarty, D. C. Dalal	Mathematical modelling of liposomal drug release to tumour	Mathematical Biosciences	2018	306	-	82	96
"Nilay Mondal, K. Chakravarty, D. C. Dalal	Mathematical modeling of drug delivery in tissue cells using electroporation	AIP Conference Proceeding	2018	1975	-	30017	30025
N. Balasubramani, M. Guru Prem Prasad, S. Natesan	Constrained and convex interpolation through rational cubic fractal interpolation surface	Computational and Applied Mathematics	2018	37	5	6308	6331
Tamal Pramanick, Rajen K. Sinha	Composite finite element approximation for nonlinear parabolic problems in nonconvex polygonal domains	Numer. Methods Partial Differential Equations	2018	34	6	2316	2335
Tamal Pramanick, Rajen K. Sinha	Two-scale composite finite element method for parabolic problems with smooth and nonsmooth initial data	J. Appl. Math. Comput.	2018	58	01-Feb	469	501
Jhuma Sen Gupta, Rajen K. Sinha, G.M.M. Reddy, Jinank Jain	A posteriori error analysis of the Crank-Nicolson finite element method for linear parabolic interface problems: a reconstruction approach	J. Comput. Appl. Math.	2018	340	-	173	190
Jhuma Sen Gupta, Rajen K. Sinha	A posteriori error analysis of semilinear parabolic interface problems using elliptic reconstruction	Appl. Anal.	2018	97	4	552	570
R. Alam, N. Behera	Generalized Fiedler pencils for rational matrix functions	SIAM Journal on Matrix Analysis and Applications	2018	39	2	587	610
A. Ghosh, R. Alam	Sensitivity and backward perturbation analysis of multiparameter eigenvalue problems	SIAM Journal on Matrix Analysis and Applications	2018	39	4	1750	1775

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"S Barik, D. Kalita, S Pati, G Sahoo	Spectra of graphs resulting from various graph operations and products: a survey	Special Matrices	2018	6	1	323	342
Sonjoy Pan, Siddhartha P. Chakrabarty	Threshold dynamics of HCV model with cell-to-cell transmission and a noncytolytic cure in the presence of humoral immunity,	Communications in Nonlinear Science and Numerical Simulation	2018	61	-	180	197
R. Barman, N. Saikia	Certain character sums and hypergeometric series	Pacific Journal of Mathematics	2018	295	2	271	289
C. Ray, R. Barman	New congruences for overpartitions into odd parts.	INTEGERS: Electronic J. Combinatorial Number Theory	2018	50	18	1	20
R. Barman, T. Komatsu	Lehmer's generalized Euler numbers in hypergeometric functions	J. Korean Math. Soc..	2018	In Press	-	-	-
R. Barman, N. Saikia	Supercongruences for truncated hypergeometric series and p-adic gamma function	Mathematical Proceedings Cambridge Phil. Soc.	2018	In Press	-	-	-
M. Tripathi, R. Barman	A finite field analogue of the Appell's series F4	Research in Number Theory	2018	4	3	1	23
Kaushik Mondal, Partha Sarathi Mandal, Bhabani, P. Sinha	A Robust Deterministic Approach to Node Localization using NLOS Signal	International J. Communication Networks and Distributed Systems (Inderscience).	2018	20	3	263	290
Barun Gorain, Partha Sarathi Mandal	Approximation Algorithms for Barrier Sweep Coverage	International Journal of Foundations of Computer Science (World Scientific)	2018	In Press	-	-	-
Manjanna Basappa, Gautam K. Das	Discrete unit square cover problem	Discrete Mathematics, Algorithms and Applications	2018	10	6	18500 72-1	18500 72-18
D. Samanta, D. Kundu, A. Ganguly	Order restricted Bayesian analysis of a simple step stress model	Sankhya, Ser. B	2018	80	2	195	221
R. Bürger, K. Sudarshan Kumar, R. Ruiz-Baier, H. Torres	Coupling of discontinuous Galerkin schemes for viscous flow in porous media with adsorption	SIAM J. Sci. Comput.	2018	40	-	B637	B662



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B. Deka	A Weak Galerkin Finite Element Method for Elliptic Interface Problems with Polynomial Reduction	Numerical Mathematics Theory Methods and Applications	2018	11	3	655	672
B. Deka, P. Roy	Weak Galerkin Finite Element Methods for Parabolic Interface Problems with Nonhomogeneous Jump Conditions	Numerical Functional Analysis and Optimization	2019	40	3	259	279
A. Kothiyari, B. Das, S. Bora and M. N. Belur	On the distance to nearest singular descriptor dynamical systems with impulsive initial conditions	IEEE Transactions on Automatic Control	2019	64	3	1137	1149
A. Sarkar, S.N. Bora	"Hydrodynamic forces due to water wave interaction with a bottom-mounted surface-piercing compound porous cylinder doi:10.1016/j.oceaneng.2018.10.019"	Ocean Engineering	2019	171	-	59	70
M. Hassan, S.N. Bora	Diffraction of water waves by a finite circular hollow cylinder in water of infinite depth	Applied Sciences	2019	In Press	-	-	-
V. Gupta, S.N. Bora, J. Nieto	Dhage iterative principle for quadratic perturbation of fractional boundary value problems with finite delay	Mathematical Methods in Applied Sciences	2019	In Press	-	-	-
K. Chakravarty, D.C. Dalal	Stability Analysis of Drug Dynamics Model : A Mathematical Approach	International Journal of Biomathematics	2019	In Press	-	-	-
S. Barik, D.C. Dalal	Multi-scale analysis for concentration distribution in an oscillatory couette flow	Proceedings of Royal Society A	2019	In Press	-	-	-
K. Chakravarty, D.C. Dalal	A nonlinear mathematical model of drug delivery from polymeric matrix	Bulletin of Mathematical Biology	2019	81	-	105	130
Madhusudhan Bera, M. Guru Prem Prasad	Fixed points and dynamics of two-parameter family of hyperbolic cosine like functions	Journal of Mathematical Analysis and Applications	2019	469	2	1070	1079
Chiranjit Ray, Rupam Barman	Arithmetic properties of cubic and over cubic partition pairs	The Ramanujan Journal	2019	In Press	-	-	-
Pankaj Kumar, Jiten C Kalita	A transformation free $\Psi$ -v formulation of the Navier-Stokes equations on compact nonuniform grids	Journal of computational and applied mathematics	2019	353	-	291	317
Debasish Pattanayak, Kaushik Mondal, Ramesh H., Partha Sarathi Mandal	Gathering of mobile robots with weak multiplicity detection in presence of crash-faults	Journal of Parallel and Distributed Computing (Elsevier)	2019	123	-	145	155

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A. Arapostathis, A. Biswas, Subhamay Saha	Strict monotonicity of principal eigenvalues of elliptic operators in $\mathbb{R}^d$ and risk-sensitive control	J. Math. Pures Appl.	2019	124	-	169	219
Chandan Pal, Somnath Pradhan	Risk sensitive control of pure jump processes on a general state space	STOCHASTICS	2019	91	2	155	174

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Nath, B., Biswas, G., and Dalal, A.	Influence of electric field on deformation of a drop in shear flow	Physics of Fluids	2019	31	4	042102-1	042102-13
Deka, H., Biswas, G., Sahu K.C., Kulkarni, Y., and Dalal, A.	Coalescence Dynamics of a Compound Drop on a Deep Liquid Pool	Journal of Fluid Mechanics	2019	866	-	R2-1	R2-11
Deka, H., Tsai, P.-H., Biswas, G., Dalal, A., Ray, B., and Wang, A.-B.	Dynamics of Formation and Oscillation of Non-spherical Drops	Chemical Engineering Science	2019	201	-	413	423
Deka, H., Biswas, G., Chakraborty, S., and Dalal, A.	Coalescence Dynamics of Unequal Sized Drop	Physics of Fluids	2019	31	-	012105-1	012105-17
Bhardwaj, S., Dalal, A., and Mukherjee, P.P.	Mesoscale Understanding of Capillarity Driven Two-phase Flow in a Packed Bed Architecture	International Journal of Heat and Mass Transfer	2019	136	-	116	127
Parmananda, M., Dalal, A., and Natarajan, G.	Numerical appraisal of three low Mach number algorithms for radiative-convective flows in enclosures	Computers and Mathematics with Applications	2019	77	8	2162	2181
Manik, J., Dalal, A., and Natarajan, G.	A Parametric Study on the Droplet Detachment Process from the Ceiling Under the Effect of Gravity	Engineering Computations	2019	36	2	445	465
Randive, P., Dalal, A., and Mukherjee, P.	Probing the Influence of Confinement and Wettability on Droplet Displacement Behavior: A Mesoscale Analysis	European Journal of Mechanics, B/Fluids	2019	75	-	327	338
Nath, B., Raza, A., Sethi, V., Dalal, A., Ghosh, S., and Biswas, G.	Understanding Flow Dynamics, Viability and Metastatic Potency of Cervical Cancer (HeLa) Cells Through Constricted Microchannels	Scientific Reports	2018	8	-	17357-1	17357-10
Bhardwaj, S., Dalal, A., Mukherjee, P.P., and Biswas, G.	Analysis of Droplet Dynamics in a Partially Obstructed Confinement in a Three-dimensional Channel	Physics of Fluids	2018	30	-	102102-1	102102-14

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Pandey, V., Biswas, G., and Dalal, A.	Effect of Surface Wettability and Electric Field on Transition of Film Boiling to Nucleate Boiling	Numerical Heat Transfer, Part A	2018	74	3	1105	1120
Pandey, V., Biswas, G., Dalal, A., and Welch, S.W.J.	Bubble Lifecycle During Heterogeneous Nucleate Boiling	ASME Journal of Heat Transfer	2018	140	12	121503-1	121503-17
Parmananda, M., Thirumalaisamy, R., Dalal, A., and Natarajan, G.	Investigations of Turbulence-radiation Interaction in Non-Oberbeck-Boussinesq Buoyancy-driven Flows	International Journal of Thermal Sciences	2018	134		298	316
Bhardwaj, S., and Dalal, A.	Sweeping of the Entrapped Fluid out of the Groove in a Three-dimensional Channel Using Lattice Boltzmann Method	European Journal of Mechanics, B/Fluids	2018	2		328	339
Kotoky, S., Dalal, A., and Natarajan, G.	Effects of Specularity and Particle-particle Restitution Coefficients on the Recirculation Characteristics of Dispersed Gas-particle Flows Through a Sudden Expansion	Advanced Powder Technology	2018	29	10	2463	2475
Borghain, P., Arumughan, J., Dalal, A., and Natarajan, G.	Design and Performance of a Three-dimensional Micromixer with Curved Ribs	Chemical Engineering Research and Design	2018	136		761	775
Parmananda, M., Dalal, A., and Natarajan, G.	Unified Framework for Buoyancy Induced Radiative-convective Flow and Heat Transfer on Hybrid Unstructured Meshes	International Journal of Heat and Mass Transfer	2018	126		908	925
Nath, B., Biswas, G., Dalal, A., and Sahu, K. C.	Cross-stream Migration of Drops Suspended in Poiseuille Flow in the Presence of an Electric Field	Physical Review E	2018	97		63106-1	63106-13
Manik, J., Dalal, A., and Natarajan, G.	A Generic Algorithm for Three-dimensional Multiphase Flows on Unstructured Meshes	International Journal of Multiphase Flow	2018	106		228	242
Thirumalaisamy, R., Natarajan, G., and Dalal, A.	A Charge-conservative Approach for Simulating Electrohydrodynamic Two-phase Flows Using Volume-of-fluid	Journal of Computational Physics	2018	230	5	1939	1955
Deka, H., Ray, B., Biswas, G., Dalal, A.	Dynamics of Tongue Shaped Cavity Generated During the Impact of High-speed Microdrops	Physics of Fluids	2018	30		42103-1	42103-14
Randive, P., Dalal, A., and Mukherjee, P.P.	Mesosopic Modeling of Capillarity-induced Two-phase Transport in a Microfluidic Porous Structure	Transport in Porous Media	2018	122	3	673	691
Borghain, P., Choudhary, D., Dalal, A., and Natarajan, G.	Numerical Investigation of Mixing Enhancement for Multi-species Flows in Wavy Channels	Chemical Engineering & Processing: Process Intensification	2018	127		191	205

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Arbab Kr. De	A diffuse interface immersed boundary method for complex moving boundary problems	Journal of Computational Physics	2018	366	-	226	251
Arbab Kr. De, V. Eswaran, P. K. Mishra	Dynamics of plumes in turbulent Rayleigh-Benard convection	European Journal of Mechanics - B/Fluids	2018	72	-	164	178
Arup Nandy, C. S. Jog	Conservation Properties of the Trapezoidal Rule for Linear Transient Electromagnetics	Journal of Advances in Mathematics and Computer Science	2018	26	4	1	26
Arup Nandy, C. S. Jog	A monolithic finite-element formulation for magnetohydrodynamics	Sadhana: Indian Academy of Sciences	2018	43	-	151	-
Nada Barakat and Deepak Sharma	Modeling and Bi-Objective Optimization of Soil Cutting and Pushing Process for Bulldozer and its Blade	Journal of The Institution of Engineers (India): Series C	2019	100	1	129	143
Deepak Sharma and Nada Barakat	Evolutionary Bi-Objective Optimization for Bulldozer and its Blade in Soil Cutting	Journal of The Institution of Engineers (India): Series C	2019	100	2	295	310
V. Pandey, G. Biswas and A. Dalal	Effect of surface wettability and electric field on transition of film boiling to nucleate boiling	Numerical Heat Transfer, Part A	2018	74	-	1105	1120
S. Bhardwaj, A. Dalal, G. Biswas and P. P. Mukherjee	Analysis of droplet dynamics in a partially obstructed confinement in a three-dimensional Channel	Physics of Fluids	2018	30	-	102102-1	102102-14
V. Pandey, G. Biswas, A. Dalal and S.W.J. Welch	Bubble Lifecycle During Heterogeneous Nucleate Boiling	Journal of Heat Transfer (ASME)	2018	140	-	121503-1	121503-17
B. Nath, G. Biswas, A. Dalal, and K. C. Sahu	Cross-stream migration of drops suspended in Poiseuille flow in the presence of an electric field	Physical Review E	2018	97	-	063106-1	063106-13
M.P. Borthakur, D. Bandyopadhyay and G. Biswas	Electric field mediated separation of water-ethanol mixtures in carbon nanotubes integrated in nanoporous graphene membranes	Faraday Discuss	2018	209	-	259	271
M. P. Borthakur, G. Biswas and D. Bandyopadhyay	Dynamics of drop formation from submerged orifices under the influence of electric field	Physics of Fluids	2018	30	-	1	11
M. P. Borthakur, G. Biswas and D. Bandyopadhyay	Dynamics of an arched liquid jet under the influence of gravity	European Journal of Mechanics / B Fluids	2018	74	-	1	9
S. Sajith, K.S.R.K. Murthy and P.S. Robi	A simple technique for estimation of mixed mode (I/II) stress intensity factors.	Journal of Mechanics of Materials and Structures	2018	13	-	141	154

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S. Sajith, K.S.R.K. Murthy and P.S. Robi	Prediction of accurate mixed mode fatigue crack growth curves using the Paris' law.	Journal of The Institution of Engineers (India): Series C.	2019	100	1	165	174
M.K. Hussian and K.S.R.K. Murthy	A point substitution displacement technique for estimation of elastic notch stress intensities of sharp V-notched bodies	Theoretical and Applied Fracture Mechanics	2018	97		87	97
P. Paul, K.S.R.K. Murthy and D. Chakraborty	A strain gage technique for mode I notch stress intensity factor of sharp Vnotched configurations	Theoretical and Applied Fracture Mechanics	2018	94		57	90
K. Saikia, M. Pandey, D.N. Basu	Numerical investigation of the effect of inlet subcooling on flow instabilities in a parallel channel natural circulation boiling system	Nuclear Engineering and Design	2019	114		13	21
A. Iqbal, M. Pandey	Effect of local thermophysical properties and flashing on ow boiling pressure drop in microchannels	International Journal of Multiphase Flow	2018	106		311	324
A. Iqbal, M. Pandey	A simple methodology to incorporate flashing and variation of thermophysical properties for flow boiling pressure drop in a microchannel	International Journal of Thermal Sciences	2018	132		137	145
S. Singh, D. Kumar, M. Ravi Sankar, K. Rajurkar	Nanofinishing of Microslots on Surgical Stainless Steel by Abrasive Flow Finishing Process: Experimentation and Modeling	ASME Journal of Micro-Nano Manufacturing	2018	6	2	21005-1	21005-12
K.K. Gajrani, M.R. Sankar and U.S. Dixit	Environmentally friendly machining with MoS2 filled mechnaically micro-textured cutting tools	Journal of Mechanical Science and Technology	2018	32	8	3797	3805
K.K. Gajrani, S. Suresh and M.R. Sankar	Environmental friendly hard machining performance of uncoated and MoS2 coated mechanical micro-textured tungsten carbide cutting tools	Tribology International	2018	125		141	155
Apurba Das, Anil Kumar Chikkala, Gyan Prakash Bharti, Rasmii Ranjan Behera, M. Ravi Sankar, Alike Khare, Pamu Dobbidi	Effect of Thickness on Optical and Microwave Dielectric Properties of Hydroxiapatite Films Deposited by RF Magnetron Sputtering	Journal of Alloys and Compounds	2018	739		729	736
Rasmii Ranjan Behera, A. Das, D. Pamu, L.M. Pandey, M. Ravi Sankar	Mechano-tribological properties and in vitro bioactivity of biphasic calcium phosphate coating on Ti-6Al-4V	Journal of the Mechanical Behavior of Biomedical Materials	2018	86		143	157

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Anwesa Barman, Manas Das	Nano-finishing of bio-titanium alloy to generate different surface morphologies by changing Magnetorheological polishing fluid compositions	Precision Engineering	2018	51	-	145	152
Anwesa Barman, Manas Das	Simulation and experimental investigation of finishing forces in magnetic field assisted finishing process	Journal of Materials and Manufacturing Processes	2018	133	11	1223	1232
Chandan Kumar, Manas Das, C.P. Paul, K.S. Bindra	Characteristics of fiber laser weldments of two phases ( $\alpha+\beta$ ) titanium alloy	Journal of Manufacturing Processes	2018	35	-	351	359
Chandan Kumar, Manas Das, C.P. Paul, K.S. Bindra	Comparison of bead shape, microstructure and mechanical properties of fiber laser beam welding of 2 mm thick plates of Ti-6Al-4V alloy	Optics and Laser Technology	2018	105	-	306	321
P. Dinesh, M.R. Behera, P.G. Ranjith, N. Muthu	An element-free Galerkin method using vertically averaged multiphase flow model for carbon sequestration	Computers and Geotechnics	2018	105	-	195	210
S. Brahmachary, G. Natarajan and N. Sahoo	On maximum ballistic coefficient axisymmetric geometries in hypersonic flows	Journal of Spacecraft and Rockets	2018	55	-	518	522
S. Brahmachary, G. Natarajan, V. Kulkarni and N. Sahoo	A sharp-interface immersed boundary framework for simulations of high-speed inviscid compressible flows	International Journal of Numerical Methods in Fluids	2018	86	-	770	791
N. Sahoo, V. Kulkarni and R. K. Peetala	Conjugate heat transfer study in hypersonic flows	Journal of the Institution of Engineers (India): Series C	2018	99	2	151	158
S. Agarwal and N. Sahoo	An experimental investigation towards calibration of a shock tube and stagnation heat flux determination	International Journal of Aerodynamics	2018	6	1	18	40
S. Pandian, S. L. N. Desikan and N. Sahoo	Experimental investigation of starting characteristics and wave propagation from a shallow open cavity and its acoustic emission at supersonic speed	Physics of Fluids	2018	30	-	16104-1	16104-11
Vigneshwaran K, Gurpreet Singh Sodhi, Muthukumar P, Arvind VK, Balamurugan G, Sriiram S, Senthilmurugan S	Experimental investigation of a Cast-Steel based Thermal Energy Storage System, Energy Procedia	Energy Procedia	2018	176	-	627	

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B Kiran Naik, P Muthukumar, P Sunil Kumar	A novel finite difference model coupled with recursive algorithm for analyzing heat and mass transfer processes in a cross flow dehumidifier/regenerator	International Journal of Thermal Sciences	2018	131	-	1	-
P Muthukumar, Alok Kumar, Nithin N Raju, K Malleswararao, Muhammad M Rahman	A critical review on design aspects and developmental status of metal hydride based thermal machines	International Journal of Hydrogen Energy	2018	43	37	17753	-
Lav Kumar Kaushik, P Muthukumar	Life cycle Assessment (LCA) and Techno-economic Assessment (TEA) of medium scale (5–10 kW) LPG cooking stove with two-layer porous radiant burner	Applied Thermal Engineering	2018	133	-	316	-
Niraj Kumar Mishra, P Muthukumar, Snehasish Panigrahy	A Review on Clean Combustion Within Porous Media	Air Pollution and Control	2018		-	209	-
S. Shyam, B. Mehta, P. K. Mondal, S. Wongwises	Investigation into the thermo-hydrodynamics of ferrofluid flow under the influence of constant and alternating magnetic field by InfraRed Thermography	International Journal of Heat and Mass Transfer	2019	135	-	1233	17779
P. Kaushik, P. K. Mondal, P. K. Kundu, S. Wongwises	Rotating electroosmotic flow through a polyelectrolyte-grafted microchannel: An analytical solution	Physics of Fluids	2019	31	2	22009	18
H. Gaikwad, P. Baghel, R. Sarma, P. K. Mondal	Transport of neutral solutes in a viscoelastic solvent through a porous microchannel	Physics of Fluids	2019	31	2	22006	34
S. Dutta, P. K. Mondal, P. Goswami	Slipping hydrodynamics of Powell-Eyring fluid in a cylindrical microchannel under electrical double layer phenomenon	Physica Scripta	2019	94	2	25002	326
A. Gogoi, K. Anki Reddy, P. K. Mondal	Multilayer Graphene Oxide Membrane in Forward Osmosis: Molecular Insights	ACS Applied Nano Materials	2018	1	9	4450	224
R. Sarma, N. Deka, K. Sarma, P. K. Mondal	Electroosmotic flow of Phan-Thien–Tanner fluids at high zeta potentials: An exact analytical solution	Physics of Fluids	2018	30	6	62001	-
G. Kunti, P. K. Mondal, A. Bhattacharya, S. Chakraborty	Electrothermally modulated contact line dynamics of a binary fluid in a patterned fluidic environment	Physics of Fluids	2018	30	9	92005	-
P. K. Mondal, S. Chaudhry	Effects of gravity on the thermo-hydrodynamics of moving contact lines	Physics of Fluids	2018	30	4	42109	-

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H. S. Gaikwad, P. K. Mondal, S. Wongwises	Softness induced enhancement in net throughput of non linear bio fluids in nanofluidic channel under EDL phenomena	Scientific Reports - Nature	2018	8	1	7893-1	-
H. S. Gaikwad, A. Roy, P. K. Mondal, N. Chimres, S. Wongwises	Irreversibility analysis in a slip aided electroosmotic flow through an asymmetrically heated microchannel: The effects of joule heating and the conjugate heat transfer	Analytica Chimica Acta	2018	1045	-	85	-
A. Mukherjee, P. K. Mondal	Analysis of Heat Transfer Through Optically Participating Medium in a Concentric Spherical Enclosure: The Role of Dual-Phase-Lag Conduction and Radiation	Journal of Thermal Science and Engineering Applications	2018	10	4	41022	-
R. Sarma, A. Nath, T. Konwar, P. K. Mondal, S. Wongwises	Thermo-hydrodynamics of a viscoelastic fluid under asymmetrical heating	International Journal of Heat and Mass Transfer	2018	125	-	515	-
Purnendu Kumar Mandal, P.S. Robi,	Influence of micro-alloying with silver on microstructure and mechanical Properties of Al-Cu alloy	Materials Science and Engineering A.	2018	A722	1	99	-
D. G. Gunjo, P. Mahanta and P. S. Robi	Melting enhancement of a latent heat storage with dispersed Cu, CuO and Al <sub>2</sub> O <sub>3</sub> nanoparticles for solar thermal applications	Renewable Energy. 121C (2018)pp: 652-665.	2018	121	-	652	-
S. Behera, P. Kumari	Free Vibration of Levy-type Rectangular Laminated Plates using Efficient Zig-Zag Theory	Advances in Computational Design	2018	3	-	213	-
Poonam Kumari, Shranish Kar	Static behavior of arbitrarily supported composite laminated cylindrical shell panels: An analytical 3D elasticity approach	Composite Structures	2019	207	-	949	043105-13
Agyapal Singh, Poonam Kumari, and Rupam Hazarika	Analytical Solution for Bending Analysis of Axially Functionally Graded Angle-Ply Flat Panels	Mathematical Problems in Engineering	2018	ID 2597484	-	1	-
Sandeep Singh, R. Tiwari	Model Based Identification of Crack and Bearing Dynamic Parameters In Flexible Rotor Systems Supported with an Auxillary Active Magnetic Bearing	Mechanism and Machine Theory	2018	122	https://doi.org/10.1016/j.mechtheory.2018.01.006	292	524



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P. Gangsar, R. Tiwari	Multi-fault Diagnosis of Induction Motor at Intermediate Operating Conditions using Wavelet Packet Transform and Support Vector Machine	ASME, Journal of Dynamic Systems, Measurement and Control	2018	140	8		50-18
J. S. Rapur, R. Tiwari	Automation of Multi-Fault Diagnosing of Centrifugal Pumps using Multi-Class Support Vector Machine with Vibration and Motor-Current Signals in Frequency Domain	Journal of the Brazilian Society of Mechanical Sciences and Engineering (BMSE)	2018	40	https://doi.org/10.1007/s4043001812029	278	111
R. S. Srinivas, R. Tiwari and Ch. K. Babu	Application of Active Magnetic Bearings in Flexible Rotordynamic Systems - A State-of-the-Art Review	Mechanical Systems and Signal Processing	2018	106	-	537	665
A. Panda, J. S. Rapur and R. Tiwari	Prediction of Flow Blockages and Impending Cavitation in Centrifugal Pumps using Support Vector Machine (SVM) Algorithms Based on Vibration Measurements	Measurement	2018	130	-	44	-
P. Gangsar and R. Tiwari	A Support Vector Machine based Fault Diagnostics of Induction Motors for Practical Situation of Multi-Sensor Limited Data Case Measurement	Measurement	2018	135	-	694	-
Arnab Chanda and S. K. Dwivedy	Nonlinear dynamic analysis of flexible workpiece and tool in turning operation with delay and internal resonance	Journal of Sound and Vibration	2018	434	-	358	17
Devarshi Kashyap, P. Kishore Kumar, and S. Kanagaraj	4D printed porous radiopaque shape memory polyurethane for endovascular embolization	Additive Manufacturing	2018	24	-	687	-
R. Vignesh Babu, S. Kanagaraj	Thermal, electrical and mechanical characterization of microwave sintered Copper/carbon nanotubes (CNT) composites against sintering duration, CNT diameter and its concentration	Journal of Materials Processing Tech	2018	258	-	296	298
R. Vignesh Babu, Avanish Verma Kumwar, M. Charan, S. Kanagaraj	Tweaking the diameter and concentration of carbon nanotubes and sintering duration in Copper based composites for heat transfer applications	Advanced Powder Technology	2018	29	-	2356	572
S Pushp, A Saikia, A Khan, SM Hazarika	A cognitively enhanced collaborative control architecture for an intelligent wheelchair: Formalization, implementation and evaluation	Cognitive Systems Research	2018	49	-	114	-

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R Bhattacharyya, SM Hazarika	Object affordance driven inverse reinforcement learning through conceptual abstraction and advice	Paladyn Journal of Behavioral Robotics	2018	9	1	277	56
U Talukdar, SM Hazarika, JQ Gan	A Kernel Partial least square based feature selection method	Pattern Recognition	2018	83	-	91	-
U Talukdar, SM Hazarika, JQ Gan	Motor imagery and mental fatigue: inter-relationship and EEG based estimation	Journal of computational neuroscience	2019	46	1	55	711
Dipankar Bora, Manoj Kumar, Sachin Singh Gautam	Ductile fracture at high velocity impact of cylindrical tubes	Materials Today: Proceedings	2018	5	-	18983	309
S. Panda, A Kumar	A design of active constrained layer damping treatment for vibration control of circular cylindrical shell structure	Journal of Vibration and Control	2018	24	24	5811	2367
A Kumar, S Panda, V Narsaria, A Kumar	Augmented constrained layer damping in plates through the optimal design of a 0-3 viscoelastic composite layer.	Journal of Vibration and Control	2018	24	23	5514	127
A Kumar, S Panda, A Kumar, V Narsaria	Performance of a graphite wafer-reinforced viscoelastic composite layer for active-passive damping of plate vibration	Compoiste Structures	2018	186	-	303	294
Manish Kumar Dubey and Satyajit Panda	Electromechanical properties and actuation capability of an extension mode piezoelectric fiber composite actuator with cylindrically periodic microstructure	Archive of Applied Mechanics	2018	88	-	2261	106
Singh S. S., Baruah P. K., Khare A. and Joshi S. N.	Incubation studies and the threshold for surface damage and cavity formation in the processing of polycarbonate by Nd:YAG laser	Optics and Laser Technology	2018	108	-	592	-
N Devarani, SN Joshi	Surface Alloying of Ti-6Al-4V on P20 Mold Steel using Electric Discharge Processing (EDP)	Materials Today: Proceedings	2018	5	2	8523	-
G Bolar, M Mekonen, A Das, SN Joshi	Experimental Investigation on Surface Quality and Dimensional Accuracy during Curvilinear Thin-Wall Machining	Materials Today: Proceedings	2018	5	2	6461	-
G Bolar, A Das, SN Joshi	Measurement and analysis of cutting force and product surface quality during end-milling of thin-wall components	Measurement	2018	121	-	190	-

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R. Kant and S N Joshi	Numerical investigations into influence of scanning path curvature on deformation behavior during curvilinear laser bending of magnesium sheets	Journal of Thermal Stresses	2018	41	3	313	18991
SS Singh, PK Baruah, A Khare, SN Joshi	Effect of laser beam conditioning on fabrication of clean micro-channel on stainless steel 316L using second harmonic of Q-switched Nd: YAG laser	Optics and Laser Technology	2018	99	-	107	5841
Bipul Das, Sukhomay Pal, Swarup Bag	Monitoring of friction stir welding process using main spindle motor current	Journal of The Institution of Engineers (India): Series C	2018	99	6	711	-
R. Shufen and U.S. Dixit	A review of theoretical and experimental research on various autofrettage processes	ASME Journal of Pressure Vessel Technology	2018	140	5	-	8531
R. Shufen and U.S. Dixit	A review of theoretical and experimental research on various autofrettage processes	ASME Journal of Pressure Vessel Technology	2018	140	5	50802-1	287
U.S. Dixit, V. Yadav, R.G. Naryanan and N. Bhardwaj	Friction in micromanufacturing: a review	Journal of Micromanufacturing	2018	1	1	76	716
K.K. Gajrani, M.R. Sankar and U.S. Dixit	Environmentally friendly machining with MoS <sub>2</sub> filled mechanically micro-textured cutting tools	Journal of Mechanical Science and Technology	2018	32	8	3797	-
PP. Dutta, K. Kalita and U.S. Dixit	Electromagnetic-force-assisted bending and straightening of AH36 steel strip by laser irradiation	Lasers in Manufacturing and Materials Processing	2018	5	3	201	300
R. Shufen and U.S. Dixit	An analysis of thermal autofrettage process with heat treatment	International Journal of Mechanical Sciences	2018	144	-	134	226
V. Kumar and U.S. Dixit	A model for the estimation of hardness of laser bent strips	Optics and Laser Technology	2018	107	-	491	16
A. Bisht, V. Yadav, S. Suwas and U.S. Dixit	Deformation behavior of AM30 magnesium alloy	Journal of Materials Engineering and Performance	2018	27	9	4900	6550
N. Alom and U. K. Saha	Influence of blade profiles on Savonius rotor performance: Numerical simulation and experimental validation	Energy Conversion and Management	2019	186	-	267	50802-15
N. Alom and U. K. Saha	Evolution and progress in the development of Savonius wind turbine rotor blade profiles and shapes	ASME Journal of Solar Energy Engineering	2019	141	6	030801-15	91

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N. Alom and U. K. Saha	Examining the aerodynamic drag and lift characteristics of a newly developed elliptical-bladed Savonius rotor	ASME Journal of Energy Resources Technology	2018	141	5	051201-12	-
N. Alom and U. K. Saha	An insight into the drag and lift characteristics of modified Bach and Benesh profiles of Savonius wind rotor	Energy Prodedia	2018	144	-	50	221
A. Sarkar and U. K. Saha	A critique on the research activities and potential benefits of dual fuel diesel engine run on biogas and biofuel-blended biodiesel	ASME Journal of Engineering for Gas Turbines and Power	2019	141	-	6	14
A. Sarkar and U. K. Saha	Role of global fuel-air equivalence ratio and preheating on the behavior of biogas fueled diesel engine under dual fuel mode	Fuel	2018	232	-	743	145
P. K. Talukdar, V. Kulkarni and U. K. Saha	Performance estimation of Savonius wind and Savonius hydrokinetic turbines under identical power input	AIP Journal of Renewable and Sustainable Energy Reviews	2018	10	5	064704-1	277
P. K. Talukdar, V. Kulkarni and U. K. Saha	Field testing of model helical-bladed hydrokinetic turbine for small-scale power generation	Renewable Energy	2018	127	-	158	-
A. Zayoud, P. Mahanta and U. K. Saha	A Novel method of pure oxy-fuel circulating fluidized bed combustion with zero recirculation flue gas – Experimental validation	Materials Today: Proceedings	2018	5	-	50	050801-14
Ashish J. Chaudhari, Vinayak Kulkarni and Niranjan Sahoo	State-of-the-art technology in variable compression ratio mechanism for spark ignition engine	Sadhana	2018	43	211		090801-26
Hotta, S.K., Sahoo, N., Mohanty, K. and Mahanta, P.	Effect of Compression Ratio on the Performance of a Constant Speed Spark Ignition Engine Operating on Raw Biogas	Journal of Energy and Environmental Sustainability	2018	5	-	53	754
Hotta, S.K., Sahoo, N., Mohanty, K. and Mahanta, P.	Effect of Compression Ratio on the Performance of a Constant Speed Spark Ignition Engine Operating on Raw Biogas	Journal of Energy and Environmental Sustainability	2018	5	-	53	4018031-13
Hotta, S.K., Sahoo, N. and Mohanty, K.	Ignition Advancement Study for Optimized Characteristics of a Raw Biogas Operated Spark Ignition Engine	Journal of green energy	2018	16	1	101	064704-15
Kumar, A., Singh, A., Kumar, A., Singh, M.K., Mahanta, P. and Mukhopadhyay, S.C.	Sensing Technologies for Monitoring Intelligent Buildings: A Review.	Bioresource technology	2018	261	-	294	49

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Gunjo, D.G., Jena, S.R., Mahanta, P. and Robi, P.S.,	Melting enhancement of a latent heat storage with dispersed Cu, CuO and Al <sub>2</sub> O <sub>3</sub> nanoparticles for solar thermal application.	IEEE Sensors Journal,	2018	18	12	4847	56
Deb, S., Tammi, K., Kalita, K. and Mahanta, P.,	Impact of Electric Vehicle Charging Station Load on Distribution Network.	Renewable Energy	2018	121		652	127
Zayoud, A., Mahanta, P. and Saha, U.K.,	A Novel Method of Pure Oxy-fuel Circulating Fluidized Bed Combustion with Zero Recirculation Flue Gas-Experimental Validation.	Energies	2018	11	1	178	
Deb, S., Tammi, K., Kalita, K., & Mahanta, P.	Review of recent trends in charging infrastructure planning for electric vehicles	Wiley Interdisciplinary Reviews: Energy and Environment	2018	7	6		
Kumar, G., Kalita, K., Tammi, K.	Analysis of Bridge Currents and UMP of an Induction Machine With Bridge Configured Winding Using Coupled Field and Circuit Modeling	IEEE Transactions on Magnetics	2018	54	9		57
Rakesh Bhadra, Pardeep Pankaj, Pankaj Biswas and U. S. Dixit	Thermo-mechanical analysis of CO <sub>2</sub> Laser butt welding on AISI 304 steel thin plates	Internation Journal of Steel Structures	2019	19	1	14	27
Arun Kadian & Biswas Pankaj	The study of material flow behaviour in dissimilar material FSW of AA6061 and Cu-B370 alloys plates	Journal of Manufacturing Processes	2018	34, Part A			4860
V. Kumar, U.S. Dixit and J. Zhang	Determination of thermal conductivity, absorptivity and heat transfer coefficient during Laser-based manufacturing	Measurement	2019	131	January	319	
V. Kumar, U.S. Dixit and J. Zhang	Determination of thermal conductivity, specific heat capacity and absorptivity during Laser-based materials processing	Measurement	2019	139	June	213	

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Venkanna Kanneboina and Pratima Agarwal	Role of hydrogen flow rate on microstructure of a-Si:H(n) films: Spectroscopic ellipsometry studies	Journal of Electronic Materials	2019	48	-	2404	2410
Ramakrishna Madaka, Venkanna Kanneboina and Pratima Agarwal	Low-Temperature Growth of Amorphous Silicon Films and Direct Fabrication of Solar Cells on Flexible Polyimide and Photo-Paper Substrates	Journal of Electronic Materials	2018	47	-	4710	4720

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	Ramakrishna Madaka, Venkanna Kanneboina and Pratima Agarwal	Enhanced performance of amorphous silicon solar cells (110°C) on flexible substrates with a-SiC:H(p) window layer and H <sub>2</sub> plasma treatment at n/i and i/p interface	Semiconductor Science and Technology	2018	33	8	85009	-
	Ramakrishna Madaka, Venkanna Kanneboina and Pratima Agarwal	Exploring the photo paper as flexible substrate for fabrication of a-Si:H based thin film solar cells at low temperature (110 °C): Influence of radio frequency power on opto-electronic properties	Thin Solid Films	2018	662	-	155	164
	Sudin Ganguly, Saurabh Basu and Santanu K. Maiti	Interface sensitivity on spin transport through a three-terminal graphene nanoribbon	Superlattices and Microstructures	2018	1201	-	650	658
	Sudin Ganguly, Saurabh Basu and Santanu K. Maiti	Controlled engineering of spin-polarized transport properties in a zigzag graphene nanojunction	Euro. Phys. Lett.	2018	124	1	17005	-
	Sudin Ganguly, Saurabh Basu and Santanu K. Maiti	Unconventional charge and spin dependent transport properties of a graphene nanoribbon with line-disorder	Euro. Phys. Lett.	2018	124	5	57003	-
	Sk Noor Nabi and Saurabh Basu	Quantum phases of a spin-1 ultracold Bose gas with three-body interactions	Euro. Phys. Lett.	2018	121	-	46002	-
	Priyadarshini Kapri, Priyanka Adhikary, Subham Sinha and Saurabh Basu	Controlled thermoelectric response of a tunable Rashba coupled metal-insulator-superconductor junction	Physica E	2018	99	-	67	74
	Priyadarshini Kapri and Saurabh Basu	Tunable refrigeration properties of nano-scale Rashba coupled junction devices	Physica E	2018	103	-	383	390
	Priyadarshini Kapri and Saurabh Basu	Andreev reflection across a Kane-Mele normal-superconductor nano-junction	Euro. Phys. Lett.	2018	124	1	17002	-
	Priyadarshini Kapri and Saurabh Basu	"Thermopower generation and thermoelectric cooling in a Kane-Mele normal-insulator-superconductor nano-junction"	Euro. Phys. Lett.	2019	125	4	47003	-
	Sunayana Dutta, Pankaj Kumar Mishra, Budhaditya Chatterjee and Saurabh Basu	Dynamics of interacting bosons in a double-well potential	Euro. Phys. Lett.	2018	124	3	30002	-
	Sunayana Dutta, Marios C Tsatsos, Saurabh Basu and Axel U. J. Lode	Management of the Correlations of Ultracold Bosons in Triple Wells	New J. Phys.	2019	Accepted	-	-	-

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Priyanka Sinha, Sudin Ganguly and Saurabh Basu	Analytic and numeric computation of edge states and conductivity of a Kane-Mele nanoribbon	Physica E	2018	103	-	314	322
Basabendu Barman, Subhaditya Bhattacharya and Mohammadreza Zakeri	Multipartite Dark Matter in SU(2) <sub>N</sub> extension of Standard Model and signatures at the LHC	JCAP	2018	9	23	-	-
Subhaditya Bhattacharya, Purusottam Ghosh and Narendra Sahu	"Multipartite Dark matter with Scalars, fermions and signatures at LHC"	JHEP	2019	2	59	-	-
B. Bhuyan (Belle Collaboration)	Measurement of time-dependent CP violation in $B^0 \rightarrow K^0_s \pi^0 \pi^0$ decays	Physical Review D	2019	99	1	011102	-
B. Bhuyan (Belle Collaboration)	Search for a light CP-odd Higgs boson and low-mass dark matter at the Belle experiment	Physical Review Letters	2019	122	1	011801	-
B. Bhuyan (Belle Collaboration)	Search for the rare decay of $B^+ \rightarrow l^+ \nu_l \gamma$ with improved hadronic tagging	Physical Review D	2018	98	11	112016	-
B. Bhuyan (Belle Collaboration)	Measurement of the branching fraction and time-dependent CP asymmetry for $B^0 \rightarrow J/\psi \pi^0$ decays	Physical Review D	2018	98	11	112008	-
B. Bhuyan (NOvA Collaboration)	New constraints on oscillation parameters from $\nu_e$ appearance and $\nu_\mu$ disappearance in the NOvA experiment	Physical Review D	2018	98	-	032012	-
B. Bhuyan (Belle Collaboration)	Search for $\Upsilon(1S, 2S) \rightarrow Z^+ Z_c^-$ and $e^+ e^- \rightarrow Z^+ Z_c^-$ at $\sqrt{s} = 10.52 - 10.58$ and $10.867$ GeV	Physical Review D	2018	97	11	112004	-
B. Bhuyan (BaBar Collaboration)	Study of $\Upsilon(1S)$ radiative decays to $\gamma \pi^+ \pi^-$ and $\gamma K^+ K^-$	Physical Review D	2018	97	11	112006	-
B. Bhuyan (Belle Collaboration)	Search for $B \rightarrow \mu^+ \bar{\nu}_\mu$ decays at the Belle experiment	Physical Review Letters	2018	121	3	031801	-
Santanu Konwar and Bosanta R. Boruah	Estimation of inter-modal cross talk in a modal wavefront sensor	OSA Continuum	2018	1	1	78	91
R. Kalita, S.S. Goutam Buddha and Bosanta R. Boruah	A laser scanning microscope executing intra frame polarization switching of the illumination beam	Review of Scientific Instruments	2018	89	9	093705	-
N. Sarma, K. Bora and D. Borah	Compatibility of A4 flavour symmetric minimal extended seesaw with 3+1 neutrino data	European Physical Journal C	2019	79	2 (article id.129)	36	-
D. Borah, P. S. Bhupal Dev and A. Kumar	TeV scale leptogenesis, inflaton dark matter and neutrino mass in a scotogenic model	Physical Review D	2019	99	-	055012	-

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D. Borah and B. Karmakar	Linear seesaw for Dirac neutrinos with A4 flavour symmetry	Physics Letters B	2019	789	-	59	70
A. Biswas, D. Borah and A. Dasgupta	UV complete framework of freeze-in massive particle dark matter	Physical Review D	2019	99	-	015033	-
D. Borah, A. Dasgupta and S. Patra	Neutrinoless double beta decay in minimal left-right symmetric model with universal seesaw	International Journal of Modern Physics A	2018	33	-	1850198	-
A. Biswas, D. Borah and D. Nanda	keV Neutrino Dark Matter in a Fast Expanding Universe	Physics Letters B	2018	786	-	364	-
A. Biswas, D. Borah and D. Nanda	When freeze-out precedes freeze-in: sub-TeV fermion triplet dark matter with radiative neutrino mass	Journal of Cosmology and Astroparticle Physics	2018	1809	-	014	-
D. Borah, B. Karmakar and D. Nanda	Common origin of Dirac neutrino mass and freeze-in massive particle dark matter	Journal of Cosmology and Astroparticle Physics	2018	1807	-	039	-
D. Borah, B. Fuks, D. Goswami and P. Poulose	Investigating the scalar sector of left-right symmetric models with leptonic probes	Physical Review D	2018	98	-	035008	-
D. Borah, M. K. Das and A. Mukherjee	Common origin of non-zero $\theta_{13}$ and baryon asymmetry of the Universe in a TeV scale seesaw model with A4 flavour symmetry	Physical Review D	2018	97	-	115009	-
D. Borah and B. Karmakar	A4 Flavour Model for Dirac Neutrinos: Type I and Inverse Seesaw	Physics Letters B	2018	780	-	461	-
I. K. Dihinia, S. Das, D. Maity and S. Chakrabarti	Limitations of the pseudo-Newtonian approach in studying the accretion flow around a Kerr black hole	Phys. Rev. D	2018	98	-	083004-1	083004-13
S. Airen, F. Capozzi, S. Chakraborty, B. Dasgupta, G. Raffelt and T. Stirner	Normal-mode Analysis for Collective Neutrino Oscillations	Journal of Cosmology and Astroparticle Physics	2018	1812	-	19	-
S. Chakraborty	Supernova neutrinos: Flavor conversion independent of their mass	Journal of Astrophysics and Astronomy	2018	39	-	-	-
Santabrata Das and Biplob Sarkar	Standing shocks in magnetized advection accretion flows onto a rotating black hole	Monthly Notices of the Royal Astronomical Society	2018	480	3	3446	3456
Ramiz Aktar, Anuj Nandi and Santabrata Das	Accretion-ejection in rotating black holes: a model for 'outliers' track of radio-X-ray correlation in X-ray binaries	Astrophysics and Space Science	2019	364	2	22	-



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Toru Okuda, C. B. Singh, Santabrata Das, Ramiz Aktar, Anuj Nandi, Elisabete M. de and Gouveia Dal Pino	A possible model for the long-term flares of Sgr A*	Publications of the Astronomical Society of Japan	2019	In Press	-	-	-
K. V. Rajitha, C. Mishra, Tarak N. Dey and P. K. Panigrahi	Phase-controlled stable solitons in nonlinear fibers	JOSA B	2019	36	1	1	6
Sandeep Sharma and Tarak N. Dey	Controlled light shaping via phase-dependant electromagnetically induced transparency	JOSA B	2019	36	4	960	965
Debasish Das and Subhradip Ghosh	Site Occupancies and their Effects on the Physical Properties of Spinel Co (Cr <sup>1-x</sup> Fex) <sub>2</sub> O <sub>4</sub> : An Ab Initio Study	Physics Status Solidi B	2018	DOI:10.1002/pssb.201800025		1800025	1800032
Sheuly Ghosh and Subhradip Ghosh	Role of composition, site ordering, and magnetic structure for the structural stability of off-stoichiometric Ni <sub>2</sub> MnSb alloys with excess Ni and Mn	Physical Review B	2019	99	-	064112	064124
Sumaiya Parveen, Kamal K. Paul, Ruma Das and P. K. Giri	Large exciton binding energy, high photoluminescence quantum yield and improved photostability of organo-metal halide hybrid perovskite quantum dots grown on a mesoporous titanium dioxide template	Journal of Colloids & Interface Science	2019	539	-	619	633
Kamal K. Paul, Larionette P.L. Mawlong and P. K. Giri	Trion Inhibited Strong Excitonic Emission and Broadband Giant Photoresponsivity from Chemical Vapor Deposited Monolayer MoS <sub>2</sub> Grown In-situ on TiO <sub>2</sub> Nanostructure	ACS Applied Materials and Interface	2018	10	49	42812	42825
Kamal Kumar Paul, N. Sreekanth, Ravi K. Biroju, A. J Pattison, A. Guha, T. N. Narayanan, D. E. López, N. V. Rees, W. Theis and P. K. Giri	Strongly Enhanced Visible Light Photoelectrocatalytic Hydrogen Evolution Reaction in n-doped MoS <sub>2</sub> / TiO <sub>2</sub> (B) Heterojunction by Selective Decoration of Platinum Nanoparticles at the MoS <sub>2</sub> Edge Sites	Journal of Materials Chemistry A	2018	6	-	22681	22696
Ramesh Ghosh, Joydip Ghosh, Ruma Das, Larionette P. L. Mawlong, Kamal Kumar Paul and P. K. Giri	Multifunctional Ag Nanoparticle Decorated Si Nanowires for sensing, photocatalysis and light Emission Applications	Journal of Colloids & Interface Science	2018	532	--	464	473
Larionette P. L. Mawlong, Kamal Kumar Paul and P. K. Giri	Direct CVD Growth of Monolayer MoS <sub>2</sub> on TiO <sub>2</sub> Nanorods and Evidence for Doping induced Strong Photoluminescence Enhancement	Journal of Physical Chemistry C	2018	122	--	15017	15025

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Kamal Kumar Paul, Subhadip Jana and P. K. Giri	Tunable and High Photoluminescence Quantum Yield from Ligand-free TiO <sub>2</sub> Quantum Dots self-grown on F-doped TiO <sub>2</sub> Nanoglowers	Particle & Particle Systems Characterization	2018	1800198	-	1	16
Kamal Kumar Paul, N. Sreekanth, Ravi K. Biroju, Tharangattu N. Narayanan and P. K. Giri	Solar Light Driven Photoelectrocatalytic Hydrogen Evolution and Dye Degradation by Metal-free Few-layer MoS <sub>2</sub> Nanoflower/TiO <sub>2</sub> (B) Nanobelts Heterostructure	Solar Energy Materials and Solar Cells	2018	185	-	364	374
B. Choudhury, Kamal K. Paul, D. Sanyal, P. K. Giri and A. Hazarika	Nitrogen-Related Defects in Graphitic Carbon Nitride Nanosheets Probed by Positron Annihilation and Photoluminescence Spectroscopy	Journal of Physical Chemistry C	2018	122	-	9209	9219
Joydip Ghosh, Ramesh Ghosh and P. K. Giri	Mesoporous Si Nanowire Templated Controlled Fabrication of Organometal Halide Perovskite Nanoparticles with High Photoluminescence Quantum Yield for Light-Emitting Applications	ACS Applied Nano Materials	2018	1	-	1551	1562
Eshita Mal Rajendhar Junjuri, Manoj Kumar Gundawar and Alika Khare	Optimization of Temporal Window for Application of Calibration Free-Laser Induced Breakdown Spectroscopy (CF-LIBS) on Copper alloys in air employing single line.	J. of Atomic and Analytical Spectrometry	2019	34	2	319	330
Gyan Prakash Bharti and Alika Khare	Quenching of visible photoluminescence and observation of two photon absorption induced photoluminescence in pulsed laser deposited Zn <sub>1-x</sub> Ti <sub>x</sub> O (0.000 ≤ x ≤ 0.050) thin films	J. Phys. D	2019	52	1	015103	-
Ishani Chakrabarty, Prahlaad Kumar Baruah, Aditya N. Panda, Alika Khare and Latha Rangan	Hybrid formulation of Cu nanoparticles and Labdane Diterpene from <i>Alpinianigra</i> : A vibrational spectroscopic study	J. of Appl Spectroscopy	2018	85	5	983	990
Pankaj Singh, Eshita Mal, Alika Khare and Sukanya Sharma	A study of archaeological pottery of Northeast India using laser induced breakdown spectroscopy	J. Cultural Heritage	2018	33	-	71	82
Prahlaad K. Baruah, Anuma Singh, Latha Rangan, Ashwini K. Sharma and Alika Khare	Optimization of copper nanoparticles synthesized by pulsed laser ablation in distilled water as a viable SERS substrate for karanjin	Mat. chemistry and Physics	2018	220	-	111	117
Arpita Nath and Alika Khare	Functional Activity of TiO <sub>2</sub> Nanocolloids Generated from Diverging High Power Laser Beams	Radiation Effects and Defects in Solids	2018	173	11-12	915	920

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Prahlad K Baruah, A K Sharma and Alika Khare	Effective control of particle size, surface plasmon resonance and stoichiometry of Cu <sub>x</sub> Cu <sub>1-x</sub> O nanoparticles synthesized by laser ablation of Cu in distilled water	Optics and Laser Technology	2018	108	-	574	582
S. Sunderlal Singh, P. K. Baruah, Alika Khare and S. N. Joshi	Incubation studies and the threshold for surface damage and cavity formation in the processing of polycarbonate by Nd:YAG laser	Optics and Laser Technology	2018	108	-	592	601
Partha P. Dey, Rahul Kesarwani and Alika Khare	Efficacy of Raman mapping over ellipsometric spectroscopy and XRD for characterization of structurally heterogeneous PLD nc-Si thin films	Optical Materials	2018	84	-	221	226
Gyan Prakash Bharti, Partha Pratim Dey and Alika Khare	Pulsed laser deposited Zn <sub>1-x</sub> Ti <sub>x</sub> O (0.000≤x≤0.050) thin films for tunable refractive index and nonlinear optical applications	Mat Chem and Physics	2018	216	-	206	212
Rahul Kesarwani and Alika Khare	Surface plasmon resonance and nonlinear optical behavior of pulsed laser deposited semitransparent Nano structured Copper thin films	Applied Phys B	2018	124	6	116	-
Rasmi Ranjan Behera, Mamilla Ravi Sankar, Prahlad Kumar Baruah, Ashwini Kumar Sharma and Alika Khare	Experimental investigations of nanosecond-pulsed Nd:YAG laser beam micromachining on 304 stainless steel	Journal of Micromanufacturing	2018	1	1	62	75
Gyan Prakash Bharti and Alika Khare	Single and multiphoton induced photoluminescence in pulsed laser deposited Zn <sub>1-x</sub> Al <sub>x</sub> O (0≤x≤0.10) thin films	J. of luminescence	2018	197	-	135	141
S.J.M. Rao, YK Srivastava, G. Kumar and D.R. Chowdhury	Modulating Fundamental Resonance in Capacitive Coupled Asymmetric Terahertz Metamaterials	Scientific Reports	2018	8	1	16773-1	16773-8
S.J.M. Rao, G. Kumar, A.K. Azad and D.R. Chowdhury	Ultrafast Relaxation of Charge Carriers Induced Switching in Terahertz Metamaterials	Journal of Infrared, Millimeter and Terahertz Waves	2018	39	12	1211	1220
S.J.M. Rao, R. Sarkar, G. Kumar and D.R. Chowdhury	Gradual Cross polarization conversion of transmitted waves in near field coupled planar terahertz metamaterials	OSA Continuum	2019	2	3	603	614
J. W Chen, S.H. Dai, D. Maity, S. Sun and Y. L. Zhang	Towards Searching for Entangled Photons in the CMB Sky	Phys. Rev. D	2019	99	-	023507-1	023507-7

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D. Maity and P. Saha	Minimal plateau inflationary cosmologies and constraints from reheating	Class. Quant. Grav	2019	36	-	045010	-
D. Maity and P. Saha	Connecting CMB anisotropy and cold dark matter phenomenology via reheating	Phys. Rev. D	2018	98	10	103525-1	103525-18
D. Maity and P. Saha	Studying G-axion Inflation model in light of PLANCK	JCAP	2018	1807	-	065	-
M. Maitra, D. Maity and B. R. Majhi	Symmetries near a generic charged null surface and associated algebra: an off-shell analysis	Phys. Rev. D	2018	97	-	124065-1	124065-11
Chandramouli Chowdhury, Ashmita Das and Bibhas Ranjan Majhi	Unruh-DeWitt detector in the presence of multiple scalar fields: A toy model	Euro. Phys. J. Plus	2019	134	2	65	-
Krishnakanta Bhattacharya and Bibhas Ranjan Majhi	Noncommutative Heisenberg algebra in the neighbourhood of a generic null surface	Nucl. Phys. B	2018	934	-	557	-
Krishnakanta Bhattacharya, Ashmita Das and Bibhas Ranjan Majhi	Noether and Abbott-Deser-Tekin conserved quantities in scalar-tensor theory of gravity both in Jordan and Einstein frames	Phys. Rev. D	2018	97	12	124013	-
Krishnakanta Bhattacharya and Bibhas Ranjan Majhi	Abbott-Deser-Tekin like conserved quantities in Lanczos-Lovelock gravity: beyond Killing diffeomorphisms	Class. Quant. Grav.	2019	36	-	065009	-
Shounak De and Bibhas Ranjan Majhi	Fluid description of gravity on a timelike cut-off surface: beyond Navier-Stokes equation	JHEP	2019	1901	-	044	-
Amin Dehyadegari, Bibhas Ranjan Majhi, Ahmad Sheykhi and Afshin Montakhab	Universality class of alternative phase space and Van der Waals criticality	Phys. Lett. B	2019	791	-	30	-
Chandramouli Chowdhury, Susmita Das, Surojit Dalui and Bibhas Ranjan Majhi	How robust is the indistinguishability between quantum fluctuation seen from non inertial frame and real thermal bath	Phys. Rev. D	2019	99	-	045021	-
Arnab K. De, V. Eswaran and Pankaj K. Mishra	Dynamics of plume in Turbulent Rayleigh-Benard Convection	European Journal of Mechanics-B/Fluids	2018	72	-	164	178
S. Dalui, Bibhas Ranjan Majhi and Pankaj Mishra	Presence of horizon makes particle motion chaotic	Phys. Lett. B	2019	788	-	486	493
Manpreet Singh, Sebastian Greschner and Tapan Mishra	Anomalous pairing of bosons: Effect of multibody interactions in optical lattice	Phys. Rev. B	2018	98	-	023615	-

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Rashi Sachdeva, Friederike Metz, Manpreet Singh, Tapan Mishra and Thomas Busch	Two-leg-ladder Bose-Hubbard model with staggered fluxes	Phys. Rev. A	2018	98	-	063612	-
Z. Calcuttawala, A. Kundu, S. Nandi and S. Patra	New physics with the lepton flavor violating decay $\tau \rightarrow 3\mu$	Physical Review D	2018	97	9	095009-1	095009-15
S. Bhattacharya, S. Nandi and S. Patra	b - $\tau$ decays: a catalogue to compare, constrain, and correlate new physics effects	Eur.Phys.J. C	2019	79	268	268-1	268-30
Susmita Rabha and D. Pamu	Structural, electrical and dielectric studies on (1-x) MgTiO <sub>3</sub> - x Ba <sub>0.5</sub> Sr <sub>0.5</sub> TiO <sub>3</sub> composite ceramics for type-II capacitor applications	Journal of Materials Science: Materials in Electronics	2018	30	6	5327	5341
Srinivas Pattipaka, A.R. James and D. Pamu	Enhanced dielectric and piezoelectric properties of BNT-KNN piezoelectric ceramics	Journal of Alloys and Compounds	2018	765	-	1195	1208
Srinivas Pattipaka, A.R. James and D. Pamu	Dielectric, Piezoelectric and Variable Range Hopping Conductivity Studies of Bi <sub>0.5</sub> (Na, K) <sub>0.5</sub> TiO <sub>3</sub> Ceramics	Journal of Electronic Materials	2018	47	7	3876	3890
Rashmi Ranjan Behera, Apurba Das D. Pamu, Lalit M Pandey and M R Sankar	Mechano-tribological properties and in vitro bioactivity of biphasic calcium phosphate coating on Ti-6Al-4V	Journal of the Mechanical Behavior of Biomedical Materials	2018	86	-	143	157
Apurba Das and D. Pamu	A comprehensive review on the electrical properties of hydroxyapatite based ceramic composites	Material Science and Engineering C	2019	Accepted	-	-	-
Pallabi Gogoi, Laishram Robindro and Dobbidi Pamu	Low temperature synthesis and characterization of nano-crystalline Mg(Zr <sub>0.5</sub> Ti <sub>0.95</sub> O <sub>3</sub> )Ceramics	Journal of American Ceramic society	2018	101	12	5389	5399
D Shylla, EO Nyakang'o and K. Pandey	Highly sensitive atomic based MW interferometry	Scientific Reports	2018	8	1	8692	-
P. Ravikumar, Dolly Taparua and Perumal Alagarsamy	Thickness dependent thermal oxidation of Ni into NiO thin films	Journal of Superconductivity and Novel Magnetism	2018	31	-	3761	3775
Anabil Gayen, Gobinda Kr. Prasad, Kosuri Umadevi, J. Arout Chelvane and Perumal Alagarsamy	Interlayer coupling in symmetric and asymmetric CoFeB based trilayer films with different domain structures: Role of spacer layer and temperature	Journal of Magnetism and Magnetic Materials	2018	462	-	29	40
Camelia Das, Jumal Das, T. Vijayabaskaran, S. Bedanta, A. Talapatra, J. R. Mohanty and Perumal Alagarsamy	Thickness dependent surface topography, magnetic properties and magnetic domain structure of amorphous FeTaC thin films	Journal of Material Sciences & Engineering	2018	7	3	455	-

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	Anabil Gayen, Kosuri Umadevi, J. Arouth Chelvane and Perumal Alagarsamy	Tuning magnetic properties of thick CoFeB film by interlayer coupling in trilayer structured thin films	Journal of Material Sciences & Engineering	2018	7	2	437	-
	B. Das, S. Moretti, S. Munir and P. Poullose	Quantum Interference among heavy NMSSM Higgs bosons	Phys. Rev. D	2018	98	05	5020	-
	M. Frank, O. Ozdal and P. Poullose	Relaxing LHC constraints on WR mass	Phys. Rev. D	2019	99	03	5001	-
	Udit Raha, Yuki Kamiya, Shung-Ichi Ando and Tetsuo Hyodo	Universal physics of the few-body system of two neutrons and one flavored meson	Physics Review C	2018	98	3	034002	-
	Pulak Talukdar, Fred Myhrer, Ghanashyam Meher and Udit Raha	Low-Energy Lepton-Proton Bremsstrahlung via Effective Field Theory	European Physics Journal A	2018	54	11	195	-
	Fred Myhrer, Pulak Talukdar and Udit Raha	Lepton Bremsstrahlung at Low Energies	Few Body Systems	2018	59	4	62	-
	Pratap Behera and S. Ravi	Impedance spectroscopy and magnetic properties of Mg doped Y-type barium hexaferrite	Journal of Materials Science: Materials in Electronics	2018	29	23	20206	20215
	Pratap Behera and S. Ravi	Effect of Ni doping on structural, magnetic and dielectric properties of M-type barium hexaferrite	Solid State Sciences	2019	89	-	139	149
	Pratap Behera and S. Ravi	Magnetic and dielectric spectroscopic studies in Zn substituted Y-type barium hexaferrite	Journal of Alloys and Compounds	2018	797	-	712	723
	Bibhuti B Dash and S. Ravi	Structural, magnetic and electrical properties of Fe substituted GdCrO <sub>3</sub>	Solid State Sciences	2018	83	-	189	200
	Bibhuti B Dash and S. Ravi	Magnetization reversal and exchange bias study in bulk Gd <sub>1-x</sub> Y <sub>x</sub> CrO <sub>3</sub> (x = 0.0–1.0)	Journal of Magnetism and Magnetic Materials	2018	461	-	91	99
	Aakansha and S. Ravi	Structural, magnetic and dielectric properties of Cr substituted yttrium iron garnets	Journal of American ceramic society	2018	101	111	5046	5060
	S. K. Srivastav, B.Samantaray, T. Bora and S. Ravi	Magnetic and electrical properties of Mn-substituted (La <sub>0.85</sub> Ag <sub>0.15</sub> )CoO <sub>3</sub> compounds	Journal of Magnetism and Magnetic Materials	2019	474	-	605	612
	Aakansha and S. Ravi	Study of impedance, dielectric and magnetic properties in Y <sub>3</sub> Fe <sub>5-x</sub> Mn <sub>x</sub> O <sub>12</sub> (x = 0–0.2)	Journal of Materials Science: Materials in Electronics	2019	DOI:10.1007/s1085401901100x	-	-	-

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A.H.M. Abdelaziz, Parvendra Kumar and Amarendra K. Sarma	Effective focusing of a diverging atomic beam by a sequence of alternatively chirped few-cycle pulsed laser fields	Physical Review A	2019	99	-	023408	-
A. Govindarajan, Amarendra K. Sarma and M. Lakshmanan	Tailoring PT-symmetric soliton switch	Optics Letters	2019	44	3	663	666
Bijita Sarma and Amarendra K. Sarma	Tunable phonon blockade in weakly nonlinear coupled mechanical resonators via Coulomb interaction	Scientific Reports [Nature publishing group]	2018	8	-	14583	-
Bijita Sarma and Amarendra K. Sarma	Unconventional Photon blockade in three-mode optomechanics	Physical Review A	2018	98	-	013826	-
Kojiam Monika Devi, Dibakar R. Chowdhury, Gagan Kumar and Amarendra K. Sarma	Dual-band electromagnetically induced transparency effect in a concentrically coupled terahertz metamaterial	Journal of Applied Physics	2018	124	-	063106-1	063106-7
G. Pradhan and A. K. Sharma	Anomalous Raman and photoluminescence blue shift in mono- and a few layered pulsed laser deposited MoS <sub>2</sub> thin films	Materials Research Bulletin	2018	102	-	406	411
J. P. Das and G.S. Setlur	The quantum steeplechase	International Journal of Modern Physics A	2018	33	29	1850174	-
J. P. Das and G.S. Setlur	Ponderous impurities in a Luttinger liquid	Europhysics Letters	2018	123	2	27002	-
J. P. Das and G.S. Setlur	Transport properties of a Luttinger liquid with a cluster of impurities	Physica E	2019	94	-	216	230
J. P. Das, C. Chowdhury and G.S. Setlur	Non chiral bosonization of strongly inhomogeneous Luttinger liquid	Theoretical & Mathematical Physics	2019	199	-	-	-
U. Kumar, V. Kumar, Enamullah and G.S. Setlur	Signatures of bulk topology in the non linear optical spectra of Dirac-Weyl materials	The European Physics Journal B	2018	91	5	86	-
Subhaditya Bhattacharya, Abhijit Kumar Saha, Arunansu Sil and Jose Wudka	Dark matter as a remnant of SQCD inflation	JHEP	2018	1810	-	124	-
Subhaditya Bhattacharya, Ivo de Medeiros Varzielas, Biswajit Karmakar, Stephen F. King and Arunansu Sil	Dark side of the seesaw	JHEP	2018	1812	-	007	-
Amit Dutta Banik, Abhijit Kumar Saha, and Arunansu Sil	Scalar assisted singlet doublet fermion dark matter model and electroweak vacuum stability	Phys. Rev. D	2018	98	-	075013-01	075013-23

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Rajkumar Modak and Ananthakrishnan Srinivasan	Enhanced room temperature magneto-caloric effect in Ni-Mn-In thin films with Fe/Co substitution	Journal of Applied Physics	2019	125	-	85302-1	85302-6
Rajkumar Modak, M. Manivel Raja and Ananthakrishnan Srinivasan	Enhanced magneto-caloric effect upon fourth element (Cu, Fe, Co) substitution in Ni-Mn-Sn thin films	Applied Physics A	2019	57	-	57-1	57-6
Sreedevi Vallabhapurapu, Ashwini Rohom, N B Chaur, C. Du, S. Du and Ananthakrishnan Srinivasan	Hopping conductivity mediated O-shaped memory behaviour in gelatin-graphene oxide composite films	Applied Physics A	2018	124	-	639-1	639-5
S. Vallabhapurapu, L.D.V. Sangani, M.G. Krishna, J. Das and A. Srinivasan	Resistive switching behaviour in PMMA/Al:ZnO composite films	Acta Physica Polonica A	2018	134	1	68	70
A. Srinivasan, R. Modak, C. Swapna and V. V. Srinivasu	New aspects of microwave absorption in ferromagnetic Ni-Mn-Sn thin films	Acta Physica Polonica A	2018	134		178	181
Rajkumar Modak and Ananthakrishnan Srinivasan	Enhanced magneto-static and magneto-dynamic properties in Fe/Co substituted Ni-Mn-In alloy films	IEEE Transactions on Magnetics	2018	54	11	6100 405-1	6100 405-5
Lavita Sarma, N. Aomoa, Trinayan Sarmah, S. Sarma, Ananthakrishnan Srinivasan, G. Sharma, Ajay Gupta, V. Reddy, B. Satpati, Divesh Srivastava, Sunayan Deka, L. Pandey and Mayur Kakati	Synthesis of finest super-paramagnetic carbon encapsulated magnetic nanoparticles by a plasma expansion method for biomedical applications	Journal of Alloys and Compounds	2018	749	-	768	775
Rajkumar Modak, V. V. Srinivasu and A. Srinivasan	Effect of Cu/Fe/Co substitution on static and dynamic magnetic properties of Ni-Mn-Sn alloy thin films	Journal of Magnetism and Magnetic Materials	2018	464	-	50	55
Rajkumar Modak, M. Manivel Raja, V.V. Srinivasu and A. Srinivasan	Structural, magneto-static and magneto-dynamic properties of Fe substituted Ni-Mn-In films	Thin Solid Films	2018	653	-	384	389
P. Pramanik, D. C. Joshi, N. Tiwari, T. Sarkar, S. Pittala, O.O. Salman, M.M. Manga and S. Thota	Cationic distribution, exchange interactions, and relaxation dynamics in Zn-diluted MnCo <sub>2</sub> O <sub>4</sub> nanostructures	Journal of Applied Physics (AIP)	2019	125	-	124302-1	124302-11
S. Ghosh, R. G. Tanguturi, P. Pramanik, D. C. Joshi, P. K. Mishra, S. Das, and S. Thota	Low-temperature anomalous spin correlations and Kondo effect in ferromagnetic SrRuO <sub>3</sub> /LaNiO <sub>3</sub> /La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> trilayers	Physical Review B (APS)	2019	99	-	115135-1	115135-11



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R. T. George, T. A. Dar, D. C. Joshi, V. Sathe, A. K. Rathore and S. Thota	Thermal hysteresis and vibrational excitations in NiO containing NaNbO <sub>3</sub>	Journal of Physics D: Applied Physics (IOP)	2019	52	-	115301-1	115301-10
D. C. Joshi, P. Pramanik, M. K. Warshi, S. Ghosh, A. Meher, K. Dasari and S. Thota	Role of phase transition in the dielectric and magnetic properties of Na containing NiO	Journal of Physics and Chemistry of Solids (Elsevier)	2019	130	-	154	164
S. Ghosh, S. Singh, D. C. Joshi, P. Pramanik, S. Ghosh, P. K. Mishra and S. Thota	Role of dilution on the electronic structure and magnetic ordering of spinel cobaltites	Physical Review B (APS)	2018	98	-	235119-1	235119-14
S. Thota, K. Roychowdhury, V. Thakare, S. C. Ganguli, Z. H. Chen, E. J. Guo and S. Das	Structural and magnetic properties of La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> /LaCoO <sub>3</sub> heterostructures	Applied Physics Letters (AIP)	2018	113	-	122405-1	122405-5
S. Das, S. Ghosh, P. Pramanik, D. C. Joshi and S. Thota	Interfacial magnetism in LaSrMnO <sub>3</sub> /LaNiO <sub>3</sub> ultrathin superlattices	Journal of Physics D: Applied Physics (IOP)	2018	51	-	325001-1	325001-6
P. Pramanik, S. Singh, D. C. Joshi, A. Mallick, K. Pisane, A. H. Romero, S. Thota and M. S. Seehra	Cubic phase stability, optical and magnetic properties of Cu-stabilized zirconia nanocrystals	Journal of Physics D: Applied Physics (IOP)	2018	51	-	225304-1	225304-12
D. C. Joshi, P. Pramanik, R. T. George, T. Sarkar and S. Thota	Nature of magnetic ordering in nanocomposites of Zn <sub>1-p</sub> Ni <sub>p</sub> O and NiO	Physica E: Low-dimensional Systems and Nanostructures (Elsevier)	2018	103	-	46	52
Lavita Sarma, Trinayan Sarmah, N. Aomoa 1, S. Sarma, Heman Bhuyan, Sunita Ojha 4, U. Bora, and M. Kakati	Size-controlled synthesis of superparamagnetic iron-oxide and iron-oxide/iron/carbon nanotube nanocomposites by supersonic plasma expansion technique	Journal of Physics D	2018	51	-	195003	-
Trinayan Sarmah, Ngangom Aomoa, Sidananda Sarma, U Deshpande, B. Satpati, Divesh Narayan Srivastava, Sanjib Kumar, M. Kakati and G. De Temmerman	Studies on synthesis of plasma fusion relevant tungsten dust particles and measurement of their hydrogen absorption properties	Fusion Engineering and Design	2018	127	-	120	126

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Sudipta Bijoy Sarmah, Pankaj Kalita, Akhil Garg, Xiaodong Niu, Xing-Wei Zhang, Xiongbin Peng, and Dipanwita Bhattacharjee	A review of state of health (SoH) estimation of energy storage systems: challenges and possible solutions for futuristic applications of Li-ion battery packs in electric vehicles doi: 10.1115/1.4042987	Journal of Electrochemical Energy Conservation and Storage (ASME)	2019	16	-	408011	4080112
Dudul Das, Pankaj Kalita and Omkar Roy	Flat plate hybrid photovoltaic- thermal (PV/T) system: A review on design and development.	Renewable and Sustainable Energy Reviews	2018	84	-	111	130
Yuhao Huang, Liang Gao, Zhang Yi, Kang Tai, P. Kalita, Paweena Prapainainar, and Akhil Garg	An Application of Evolutionary System Identification Algorithm in modelling of Energy Production System.	Measurement	2018	114	-	122	131
P.Kalita, Tanmoy Jyoti Deka, Samar Das, Dudul Das, and Rupam Katakai	Design, development and performance evaluation of a fluidized bed paddy dryer	Journal of Energy and Environmental Sustainability	2018	6	-	18	23
Yuhao Huang, Li Shui, Saeed Asghari, Paweena Prapainainar, Akhil Garg, and Pankaj Kalita	A novel comprehensive procedure for determination of optimum operating conditions for cleaner energy production system	Energy Research	2018	42	-	3339	3350
Vikas Kumar, Kangan Jyoti Baishya, and Pankaj Kalita,	Design and experimental investigation of a natural draft improved biomass cookstove,	i-manager's Journal on Mechanical Engineering,	2018	8	3	17	30
M. Sharma, P. Kalita, A. Garg A, and K.K. Senapati,	Magnetic nanoparticles as an effective adsorbent for removal of fluoride—a review.	MOJ Ecology & Environmental Sciences	2018	3	3	207	210
Asha Yadav, Pratima Agarwal, and Rana Biswas	Quantum Size Effect and tunable visible photoluminescence in a-Si <sub>3</sub> H <sub>4</sub> /nc-Si:H superlattices	Journal of Materials Science: Materials in Electronics	2019	30	5	4696	4704
Mrinal Kumar Sarma, Mohd Golam Abdul Quadir, Rupam Bhaduri, Sharbani Kaushik, and Pranab Goswami	Composite polymer coated magnetic nanoparticles based anode enhances dye degradation and power production in microbial fuel cells.	Biosensors and Bioelectronics	2018	119	-	94	102
Sharbani Kaushik and Pranab Goswami	Bacterial membrane depolarization-linked fuel cell potential burst as signal for selective detection of alcohol	ACS Applied materials and interfaces	2018	10	22	18630	18640
Deep Bora, Lepakshi Barbora and Pinakeswar Mahanta	An Assessment of Natural Base Solution Prepared from different parts of Musa sp. as a Scrubbing Agent of CO <sub>2</sub> from Biogas	Journal of Basic and Applied Engineering Research (JBAER)	2019	6	1	1	4

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Sumitha Banu Jamalidheen, Kedar Sharma, Vijay S. Moholkar and Arun Goyal	Comparative analysis of pretreatment methods on Sorghum (Sorghum durra) stalk agrowaste for holocellulose content	Preparative Biochemistry and Biotechnology	2018	48	6	457	464
Ritesh S Malani, Sachin B Umriwad, Karan Kumar, Arun Goyal, Vijayanand Moholkar.	Ultrasound-assisted enzymatic biodiesel production using blended feedstock of non-edible oils: Kinetic analysis	Energy Conversion and Management	2019	188	-	142	150
Sarma, Shyamali, David Ortega, Nigel P. Minton, Vikash Kumar Dubey, and Vijayanand S. Moholkar	Homologous overexpression of Hydrogenase and Glycerol dehydrogenase in Clostridium pasteurianum to enhance hydrogen production from crude glycerol	Bioresource Technology	2019	-	-	-	-
Arup Jyoti Borah, Mayank Agarwal, Arun Goyal, and Vijayanand S. Moholkar.	Physical insights of ultrasound-assisted ethanol production from composite feedstock of invasive weeds	Ultrasonics Sonochemistry	2019	51	-	378	385
Mriganka Saha, Philip Bernstein Saynik, Arupjyoti Borah, Ritesh Malani,	Dioxane-based extraction process for production of high quality lignin	Bioresource Technology Reports	2019	5	-	206	211
Arup Jyoti Borah, Kuldeep Roy, Arun Goyal, Vijayanand S Moholkar	Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds	Bioresource Technology	2019	272	-	389	397
Ritesh S Malani, Vivek Shinde, Sumedh Ayachit, Arun Goyal, Vijayanand S Moholkar	Ultrasound-assisted biodiesel production using heterogeneous base catalyst and mixed non-edible oils	Ultrasonics Sonochemistry	2018	doi.org/ 10.1016/j.ultsonch. 2018.11 .021	-	-	-
Amit H. Batghare, Sai prasad Pati, Kuldeep Roy, Vijayanand S. Moholkar	Mechanistic investigations in ultrasound-assisted extraction of astaxanthin from Phaffia rhodozyma MTCC 7536	Bioresource Technology Reports	2018	4	-	166	173
Ritesh S Malani, Harshad Sardar, Yash Malviya, Arun Goyal, Vijayanand S Moholkar	Ultrasound-Intensified Biodiesel Production from Mixed Nonedible Oil Feedstock Using Heterogeneous Acid Catalyst Supported on Rubber De-oiled Cake	Industrial & Engineering Chemistry Research	2018	57	-	14926	14938
Sushobhan Pradhan, Pritam Kumar Dikshit, Vijayanand S Moholkar	Production, ultrasonic extraction, and characterization of poly (3-hydroxybutyrate) (PHB) using Bacillus megaterium and Cupriavidus necator	Polymers for Advanced Technologies	2018	29	8	2392	2400

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Debarshi Mallick, Maneesh Kumar Poddar, Pinakeswar Mahanta, Vijayanand S Moholkar	Discernment of synergism in pyrolysis of biomass blends using thermogravimetric analysis	Bioresource Technology	2018	261	-	294	305
Kiran Naik B, Mirinal Bhowmik, Muthukumar P	Experimental Investigation and Numerical Modelling on the Performance Assessments of Evacuated U - Tube Solar Collector Systems	Renewable Energy	2019	134	-	1344	1361
Sodhi GS, Jaiswala AK, Vigneshwaran K, Muthukumar P.	Investigation of charging and discharging characteristics of a horizontal conical shell and tube latent thermal energy storage device	Energy Conversion and Management	2019	188	-	381	397
Alok Kumar, Nithin N. Raju, Muthukumar P, Vivek Selvan	Experimental Studies on Industrial Scale Metal Hydride based Hydrogen Storage System with Embedded Cooling Tubes	Accepted for Publication in International Journal of Hydrogen Energy	2019	-	-	-	-
Man Mohana, Vinod Kumar Sharma, Anil Kumar E. Sathesh A, Muthukumar P.	Performance analysis of metal hydride based simultaneous cooling and heat transformation system	International Journal of Hydrogen Energy	2019	-	-	-	-
Muthukumar P, Alok Kumar, Nithin N. Raju, Malleswararao K, Muhammad M. Rahman	A Critical Review on Design Aspects and Developmental Status of Metal Hydride Based Thermal Machines	International Journal of Hydrogen Energy	2018	43	-	17753	17779
Nithin Narmada Raju, Alok Kumar, Malleswararao K, Muthukumar P	Parametric Studies on LaNi <sub>4.7</sub> Al <sub>0.3</sub> based Hydrogen Storage Reactor with Embedded Cooling Tubes	Energy Procedia	2019	158	-	2384	2390
Gurpreet Singh Sodhi, Vigneshwaran K, Abhishek Kumar Jaiswal, Muthukumar P	Assessment of Heat Transfer Characteristics of a Latent Heat Thermal Energy Storage System: Multi Tube Design	Energy Procedia	2019	158	-	4677	4683
Vigneshwaran K, Gurpreet Singh Sodhi, Muthukumar P, Arvind VK, Balamurugan G, Sriiram S, Senthilmurugan S	Experimental investigation of a Cast-Steel based Thermal Energy Storage System	Energy Procedia	2019	158	-	4664	4670
Sunku Prasad J, Muthukumar P, Anandalakshmi R, Hakeem Niyas	Comparative Study of Phase Change Phenomenon in High Temperature Cascade Latent Heat Energy Storage System using Conduction and Conduction-Convection Models	Solar Energy	2018	176	-	627	637

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## Journal Papers

Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
Smruti Ranjan Dash, Subhendu Sekhar Bag and Animes Kumar Golder	Synergized AgNPs formation using microwave in a bio-mediated route: Studies on particle aggregation and electrocatalytic sensing of ascorbic acid from biological entities	Journal of Electroanalytical Chemistry	2018	-	-	-	-
Papu Kumar Naik, Sandip Paul and Tamal Banerjee	Insights from Experiments and Molecular Dynamics Simulations of Ammonium and Phosphonium based Deep Eutectic Solvents	Journal of Solution Chemistry	2019	-	-	-	-
Chandani Rani Das, Tanmay Dutta and Manabendra Ray	Effect of ligand and bridge substitution on chiral recognition of 1-phenylethylammonium cation by an anionic binuclear Ni(II) complex	Inorganica Chimica Acta	2019	486	10-01-2018	367	376
Jyoti Kainthola, Mohd. Shariq, Ajay S. kalamdhad, V.V.Goud	Enhanced methane potential of rice straw with microwave assisted pretreatment and its kinetic analysis	Journal of Environmental Management	2019	-	-	-	-
Jyoti Kainthola, Ajay S. kalamdhad, V.V.Goud	Optimization of methane production during anaerobic co-digestion of rice straw and hydrilla verticillata using response surface methodology	Fuel	2019	-	-	-	-
Jyoti Kainthola, Ajay S. kalamdhad, V.V.Goud	Enhanced methane production from anaerobic co-digestion of rice straw and hydrilla verticillata and its kinetic analysis	Biomass and bioenergy	2019	-	-	-	-
Poulami Datta, Pankaj Tiwari, Lalit M. Pandey	Isolation and characterization of biosurfactant producing and oil degrading <i>Bacillus subtilis</i> MG495086 from formation water of Assam oil reservoir and its suitability for enhanced oil recovery	Bioresource Technology	2018	-	-	-	-
Swati Sharma, Poulami Datta, Birendra Kumar, Pankaj Tiwari, Lalit M. Pandey	Production of novel rhamnolipids via biodegradation of waste cooking oil using <i>Pseudomonas aeruginosa</i> MTCC7815	Biodegradation	2019	-	-	-	-
Lalit Goswami, N. Arul Manikandan, Ben Dolman, Kannan Pakshirajan, G. Pugazhenthii	Biological treatment of wastewater containing a mixture of polycyclic aromatic hydrocarbons using the oleaginous bacterium <i>Rhodococcus opacus</i>	Journal of Cleaner Production	2018	-	-	-	-
Lalit Goswami, R. Vinoth Kumar, Siddhartha Narayan Borah, N. Arul Manikandan, Kannan Pakshirajan, G. Pugazhenthii	Membrane bioreactor and integrated membrane bioreactor systems for micropollutant removal from wastewater: A review	Journal of Water Process Engineering	2018	-	-	-	-

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Lalit Goswami, R. Vinoth Kumar, Kannan Pakshirajan, G. Pugazhenthhi	A novel integrated biodegradation-microfiltration system for sustainable wastewater treatment and energy recovery	Journal of Hazardous Materials	2019	-	-	-	-
Banerjee, K.; Padmavathi, G.; Bhattacharjee, D.; Saha, S.; Kunnammakkara, A. B.; Bhabak, K. P.	Potent Anti-proliferative Activities of Organothalocogenocyanates towards Breast Cancer	Organic and Biomolecular Chemistry	2018	16	-	8769	8782
Himali Horo, Soumi Das, Bishnupada Mandal, Lal Mohan Kundu	Development of a photoresponsive chitosan conjugated prodrug nano-carrier for controlled delivery of antitumor drug 5-fluorouracil	International Journal of Biological Macromolecules	2019	-	-	-	-
Soumi Das, Himali Horo, Lal Mohan Kundu	"Biopolymers and Peptide Based materials for Targeted Antitumor Drug Delivery: An Overview"	Novel Approaches in Drug designing and development	2019	-	-	-	-
Jayakrishnan U, Deepmoni Deka, Gopal Das	"Enhancing the volatile fatty acid production from agro-industrial waste streams through sludge pretreatment"	Environment Science: Water Research and Technology	2019	-	-	-	-
Praisy Terangpi, Saswati Chakraborty and Manabendra Ray	Improved removal of hexavalent chromium from 10 mg/L solution by new micron sized polymer clusters of aniline formaldehyde condensate	Chemical Engineering Journal	2018	350	-	599	607
Tanushree Paul, Divya Baskaran, Kannan Pakshirajan, G. Pugazhenthhi	Continuous bioreactor with cell recycle using tubular ceramic membrane for simultaneous wastewater treatment and bio-oil production by oleaginous <i>Rhodococcus opacus</i>	Chemical Engineering Journal	2019	367	-	76	85
Jyoti Kainthola, Ajay S. Kalamdhad, V.V.Goud, R. Goel	Fungal pretreatment and associated kinetics of rice straw hydrolysis to accelerate methane yield from anaerobic digestion	Bioresource Technology	2019	-	-	-	-
Jyoti Kainthola, Mohd. Shariq, Ajay S. Kalamdhad, V.V.Goud	Enhanced methane potential of rice straw with microwave assisted pretreatment and its kinetic analysis	Renewable energy	2019	-	-	-	-
Isha Vishan, Biswanath Saha, Senthilkumar Sivaprakasam, Ajay S. Kalamdhad	Evaluation of Cd(II) biosorption in aqueous solution by using lyophilized biomass of novel bacterial strain <i>Bacillus badius</i> AK: Biosorption kinetics, thermodynamics and mechanism	Environmental Technology & Innovation	2019	-	-	-	-

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Visva Bharati Barua, Vidhi Rathore, Ajay S. Kalamdhad	Anaerobic co-digestion of water hyacinth and banana peels with and without thermal pretreatment	Renewable energy	2019	-	-	-	-
Visva Bharati Barua, Ajay S. Kalamdhad	Anaerobic biodegradability test of water hyacinth after microbial pretreatment to optimise the ideal F/M ratio	Fuel	2018	-	-	-	-
Visva Bharati Barua, V.V. Goud, Ajay S. Kalamdhad	Microbial pretreatment of water hyacinth for enhanced hydrolysis followed by biogas production	Renewable energy	2018	-	-	-	-
Visva Bharati Barua, Vidhi Rathore, Ajay S. Kalamdhad	Comparative evaluation of anaerobic co-digestion of water hyacinth and cooked food waste with and without pretreatment	Bioresource Technology reports	2019	-	-	-	-
Biswanath Saha, Arun Sathyan, Payal Mazumder, Shinjini Paul Choudhury, Ajay S. Kalamdhad, Meena Khwairakpam, Umesh Mishra	Biochemical methane potential (BMP) test for Ageratum conyzoides to optimize ideal food to microorganism (F/M) ratio	Journal of Environmental chemical engineering	2018	-	-	-	-
Narendra Naik Deshavath, Mahanta S, Goud V V., Dasu VV, P. SR.	Chemical composition analysis of various genetically modified sorghum traits: Pretreatment process optimization and bioethanol production from hemicellulosic hydrolyzates without detoxification.	Journal of Environmental and Chemical Engineering	2018	4	6	5625	5634
Ashish A. Prabhu, Ravi Gadela, Biju Bharali, Narendra Naik Deshavath, V. Venkata Dasu	Development of high biomass and lipid yielding medium for newly isolated <i>Rhodotorula mucilaginosa</i>	Fuel	2019	239	-	874	885
Mohan M, Narendra Naik Deshavath, Banerjee T, Goud V V., Dasu VV.	Ionic liquid and sulphuric acid based pretreatment of bamboo: Biomass delignification and enzymatic hydrolysis for the production of reducing sugars	Industrial and Engineering Chemistry Research	2018	57	-	10105	10117

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Srestha Basu and Arun Chattopadhyay	Room Temperature Delayed Fluorescence of Gold Nanoclusters in Zinc Mediated Two-Dimensional Crystalline Assembly	Langmuir	2019	Accepted DOI: 10.1021/acs.langmuir.9b00149	Accepted (22 Mar) DOI: 10.1021/acs.langmuir.9b00149	-	-
Ayan Pal, Kafeel Ahmad, Deepanjalee Dutta and Arun Chattopadhyay	Boron Doped Carbon Dots with Unusually High Photoluminescence Quantum Yield for Ratiometric Intracellular pH Sensing	Chem. Phys. Chem.	2019	Accepted DOI: 10.1002/cphc.201900140	Accepted (20th March) DOI: 10.1002/cphc.201900140	-	-
Shilaj Roy, Satyapriya Bhandari, Mihir Manna, Suranjan De and Arun Chattopadhyay	The Nature of Binding of Quinolone Complex on the Surface of ZnS Quantum Dot	Phys. Chem. Chem. Phys.	2019	21	-	589	596
Nilanjan Mandal, Mitradip Bhattacharjee, Arun Chattopadhyay, and Dipankar Bandyopadhyay	Point-of-Care-Testing of $\alpha$ -Amylase Activity in Human Blood Serum	Biosensors and Bioelectronics	2019	124	-	75	81
Madhurmita Das, Upashi Goswami, Siddhartha Sankar Ghosh, and Arun Chattopadhyay	Bimetallic Fe-Cu-Nanocomposites on Sand-Particles for Inactivation of Clinical Isolates and Point of Use Water Filtration	ACS Appl. Bio Mater.	2018	1	-	2153	2166
Uday Narayan Pan, Pallab Sanpui, Anumita Paul, and Arun Chattopadhyay	Synergistic Anticancer Potential of Artemisinin When Loaded with 8-Hydroxyquinoline-Surface Complexed-Zinc Ferrite Magnetofluorescent Nanoparticles and Albumin Composite	ACS Appl. Bio Mater.	2018	1	-	1229	1235
Upashi Goswami, Raghuram Kandimalla, Sanjeeb Kalita, Arun Chattopadhyay, and Siddhartha Sankar Ghosh	Polyethylene Glycol-Encapsulated Histone Deacetylase Inhibitor Drug-Composite Nanoparticles for Combination Therapy with Artesunate	ACS Omega.	2018	3	-	11504	11516
Upashi Goswami, Amaresh Kumar Sahoo, Arun Chattopadhyay and Siddhartha Sankar Ghosh	In Situ Synthesis of Luminescent Au NCs on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria	ACS Omega.	2018	3	-	6113	6119
Uday Narayan Pan, Pallab Sanpui, Anumita Paul and Arun Chattopadhyay	Surface Complexed-Zinc Ferrite Magnetofluorescent Nanoparticles for Killing Cancer Cells and Single Particle Level Cellular Imaging	ACS Appl. Nano Mater.	2018	1	-	2496	2502



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Srestha Basu, Satyapriya Bhandari, Uday Narayan Pan, Anumita Paul and Arun Chattopadhyay	Crystalline nanoscale assembly of gold clusters for reversible storage and sensing of CO <sub>2</sub> via modulation of photoluminescence intermittency	J. Mater. Chem. C	2018	6	-	8205	8211
Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh and Arun Chattopadhyay	Single Platform for Gene and Protein Expression Analyses Using Luminescent Gold Nanoclusters	ACS Omega	2018	3	-	2119	2129
Kafeel Ahmad, Ayan Pal, Uday Narayan Pan, Arun Chattopadhyay and Anumita Paul	Synthesis of Single-particle Level White-Light-Emitting Carbon Dots via a One-Step Microwave method	J. Mater. Chem. C.	2018	6	-	6691	6697
Anushree Dutta, Upashi Goswami, and Arun Chattopadhyay	Probing Cancer Cells through Intracellular Aggregation-Induced Emission Kinetic Rate of Copper Nanoclusters	ACS Appl. Mater. Interfaces	2018	10	-	19459	19472
Shilaj Roy, Mihir Manna, and Arun Chattopadhyay	Complex Transfer Reaction from ZnO to ZnS Quantum Dots Driven by Surface Anions	J. Phys. Chem. C.	2018	122	-	9939	9946
Sabyasachi Pramanik, Satyapriya Bhandari, Uday Narayan Pan, Shilaj Roy and Arun Chattopadhyay	A White Light-Emitting Quantum Dot Complex for Single Particle Level Interaction with Dopamine Leading to Changes in Color and Blinking Profile	Small	2018	14	-	1800323	-
Shyam Trivedi and Harshal B. Nemade	Coupled resonance in SH-SAW resonator with S1813 micro-ridges for high mass sensitivity biosensing applications	Sensors and Actuators, B: Chemical	2018	273	-	288	297
Shatrudhan Palsaniya, Harshal B. Nemade, and A.K.Dasmahapatra	Synthesis of polyaniline/graphene/MoS <sub>2</sub> nanocomposite for high performance supercapacitor electrode	Polymer	2018	150	-	150	158
Shyam Trivedi and Harshal B. Nemade	Finite element simulation of a highly sensitive SH-SAW delay line sensor with SiO <sub>2</sub> micro-ridges	Microsystem Technologies	2018	24	8	3537	3547
Shyam Trivedi and Harshal B. Nemade	Simulation of a Love wave device with ZnO nanorods for high mass sensitivity	Ultrasonics	2018	84	9	150	161
Jitendra Kumar, Harshal B. Nemade, and P. K. Giri	Adsorption of small molecules on niobium doped graphene: A study based on density functional theory	IEEE Electron Device Letter	2018	39	2	296	299

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"Beomguk Park, Pengpeng Qiu, Binota Thokchom, Younggyu Son, Jeehyeong Khim"	Mechanistic investigations in sonochemical degradation of trihalomethanes in presence of non-porous and mesoporous silica nanospheres	Journal of Water Process Engineering	2018	24	-	26	34
Larionette P. L. Mawlong, Kamal Kumar Paul and P. K. Giri	Direct CVD Growth of Monolayer MoS <sub>2</sub> on TiO <sub>2</sub> Nanorods and Evidence for Doping induced Strong Photoluminescence Enhancement	Journal of Physical Chemistry C	2018	122	-	15017	15025
Kamal K. Paul, Larionette P.L. Mawlong, P. K. Giri,	Trion Inhibited Strong Excitonic Emission and Broadband Giant Photoresponsivity from Chemical Vapor Deposited Monolayer MoS <sub>2</sub> Grown In-situ on TiO <sub>2</sub> Nanostructure	ACS Applied Materials and Interface	2018	10	49	42812	42825
S Dutta, A Ghosh, PSG Pattader, D Bandyopadhyay	Electric field mediated von Kármán vortices in stratified microflows: transition from linear instabilities to coherent mixing	Journal of Fluid Mechanics	2019	865	-	169	211
Ekaterina A Shevchenko, Shirsendu Mitra, Sergei A Ermakov, Anatolii G Titov, Anatolii A Ermakov, Partho Sarathi Gooch Pattader	Joint mass transfer of two components associated with the spontaneous interfacial convection in the liquid-liquid extraction system	Chemical Engineering Science	2019	195	-	301	311
Bidkar A, Sanpui P, Siddhartha Shankar Ghosh	Combination Therapy with MAPK-Pathway Specific Inhibitor and Folic Acid Receptor Targeted Selenium Nanoparticles Induces Synergistic Anti-proliferative Response in BRAF-mutant Cancer Cells.	ACS Biomaterials Science & Engineering DOI:10.1021/acsbiomaterials.9b0011	2019	2	-	-	-
Simon AT, Dutta S, Chattopadhyay A, Siddhartha Shankar Ghosh	Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Applications	ACS Omega	2019		3	4697	4706
Ghosh S, Pal S, Suresh Rajamanickam S, Shome R, Mohanta PR, Siddhartha Shankar Ghosh and Patel BK	Access to Multifunctional AEEgens via Ru(II)-Catalyzed Quinoxaline-Directed Oxidative Annulation	ACS Omega	2019	4	3	5565	5577
Nath B, Raza A, Sethi V, Dalal A, Siddhartha Shankar Ghosh, Biswas G	Understanding flow dynamics, viability and metastatic potency of cervical cancer (HeLa) cells through constricted microchannel	Scientific Reports DOI: 10.1038/s41598-018-35646-	2018	3	-	-	-

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Raza A, Siddhartha Shankar Ghosh	Connexin-43 Enhances the Redesigning Cytosine Deaminase Activity for Suicide Gene Therapy in Human Breast Cancer Cells	Biochemistry Insights DOI:10.177/1178626418818182	2018		-	-	-
Goswami U, Sahoo A, Chattopadhyay A, Siddhartha Shankar Ghosh	In Situ Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria.	ACS Omega	2018	3	6	6113	6119
Gogoi D, Arora N, Kalita B, Sarma R, Islam T, Siddhartha Shankar Ghosh, Devi R, Mukherjee, A. K.	Anticoagulant mechanism, pharmacological activity, and assessment of preclinical safety of a novel fibrin(ogen)olytic serine protease from leaves of <i>Leucas indica</i>	Scientific Reports	2018	8	1	6210	-
N. Zehra, D. Dutta, A. H. Malik, Siddhartha Shankar Ghosh and P. K. Iyer	Fluorescence resonance energy transfer-based wash-free bacterial imaging and antibacterial application using a cationic conjugated polyelectrolyte	ACS Applied Materials & Interfaces	2018	10	33	27603	27611
Sunny Kumar, Abir Ghosh, Joydip Chaudhuri, Seim Timung, Ashok Kumar Dasmahapatra, and Dipankar Bandyopadhyay,	Self-organized Superspreading of Droplets to Form Toroids	Physical Review	2019	Accepted	-	-	-
Joydip Chaudhuri, Tapas Kumar Mandal and Dipankar Bandyopadhyay	Electric Field Mediated Squeezing to Bending Transitions of Interfacial Instabilities for Digitization and Mixing of Two-Phase Microflows,	Physics of Fluids	2019	Accepted	-	-	-
Mitradip Bhattacharjee and Dipankar Bandyopadhyay	Mechanisms of Humidity Sensing using CdS Nanoparticles	Sensors and Actuators A	2018	Accepted	-	-	-
Mitradip Bhattacharjee, Siddharth Thakur, Ashok Kumar Dasmahapatra and Dipankar Bandyopadhyay	Acoustic Wave Catalyzed Urea Detection Utilizing a Pulsatile Microdroplet Sensor	ACS Sustainable Chemistry and Engineering	2019	Accepted	-	-	-
Mitradip Bhattacharjee, Sagnik Mirdya, and Dipankar Bandyopadhyay	Point-of-Care Stress Detection of Muscles Using a Flexible Surface Potential Measurement Prototype	Medical Devices and Sensors,	2019	Accepted	-	-	-
Shirsendu Mitra, Shreya Mukherjee, Abir Ghosh, and Dipankar Bandyopadhyay	Effects of Fluid-Structure-Interaction and Surface Heterogeneity on the Electrophoresis of Finite Sized Microparticles.,	Ind. Eng. Chem. Res	2019	Accepted	-	-	-

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Mitradip Bhattacharjee and Dipankar Bandyopadhyay	Flexible Paper Touchpad for Parkinson's Hand Tremor Detection	Sensors and Actuators A	2019	Accepted	-	-	-
Bolleddu Ravi, Mitradip Bhattacharjee, Abir Ghosh, and Dipankar Bandyopadhyay	Fabrication of Pixelated Liquid Crystal Nanolenses Employing the Contact Line Instabilities of Evaporating Films	Nanoscale	2019	11	-	1680	1689
Kartick Mondal, Abir Ghosh, Joydip Chaudhuri, and Dipankar Bandyopadhyay	Electric Field Mediated Instability Modes and Fréedericksz Transition of Ultrathin Nematic Films	Journal of Fluid Mechanics	2018	834	-	464	-
Manash Pratim Borthakur, Dipankar Bandyopadhyay, and Gautam Biswas	Electric field mediated separation of water-ethanol mixture in carbon-nanotubes integrated to nanoporous graphene membrane	Faraday Discussions	2018	209	-	259	-
Sagnik Mridha, Mitradip Bhattacharjee, and Dipankar Bandyopadhyay	A Multipurpose and Reusable Nano-BG-FET for Point-of-Care Estimation of Ammonia in Air and Urea in Human Urine	Nanotechnology	2019	Accepted	-	-	-
Mitradip Bhattacharjee, Seim Timung, Tapas Kumar Mandal and Dipankar Bandyopadhyay	Microfluidic Schottky-Junction Photovoltaics with Superior Efficiency Stimulated by Plasmonic Nanoparticles and Streaming Potential	Nanoscale Advances	2018	Accepted	-	-	-
Satarupa Dutta, Abir Ghosh, Partho Sarathi Gooch Pattader and Dipankar Bandyopadhyay	Electric Field Mediated von Kármán Vortices in Stratified Microflows: Transition from Linear to Chaotic Instabilities	Journal of Fluid Mechanics	2018	Accepted	-	-	-
Anvesh Dixit, Sagnik Mridha, Shirsendu Mitra, Surjendu Maity, Mitradip Bhattacharjee, Dipankar Bandyopadhyay	Unexplored Pathways to Charge Storage in Supercapacitors	The Journal of Physical Chemistry C	2018	Accepted	-	-	-
Manash Pratim Borthakur, Gautam Biswas, and Dipankar Bandyopadhyay	Dynamics of drop formation from submerged orifices under the influence of electric field	Physics of Fluids	2018	30	12	122104	-
Borthakur, Dipankar Bandyopadhyay, Gautam Biswas, Kirti Sahu	Dynamics of an arched liquid jet under the influence of gravity, Manash Pratim, European	Journal of Mechanics / B Fluids	2018	74	-	1	9
Abir Ghosh, Dipankar Bandyopadhyay, and Ashutosh Sharma	Influence of Curvature on the Contact Instabilities of Thin Viscoelastic Coatings on the Fiber Surfaces	Physics of Fluids	2018	30	-	114101	-

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Nilanjan Mandal, Mitradip Bhattacharjee, Arun Chattopadhyay, and Dipankar Bandyopadhyay	Point-of-Care-Testing of Amylase Activity in Human Blood Serum	Biosensors and Bioelectronics	2018	124	-	75	81
Sagnik Mirdya, Mitradip Bhattacharjee, Nilanjan Mandal and Dipankar Bandyopadhyay	RGO-Paper Sensor for Point-of-Care Detection of Lipase in Blood Serum	IEEE Sensors Letters	2018	2	-	2000404	-
Surjendu Maity, Joydip Chaudhuri, Shirsendu Mitra, Saptak Rarotra and Dipankar Bandyopadhyay	Electric Field Assisted Multicomponent Reaction in a Microfluidic Reactor for Superior Conversion and Yield	Electrophoresis	2018	Accepted	-	-	-
Amit Kumar Singh, Saptak Rarotra, Viswanath Pasumarthi, Tapas Kumar Mandal, and Dipankar Bandyopadhyay	Self-Propelling Ferrobots to Synthesize Pure Hydrogen and Oxygen under Ambient Condition for PEM Fuel Cells	The Journal of Materials Chemistry A	2018	6	-	9209	-
Siddharth Thakur, Saptak Rarotra, Mitradip Bhattacharjee, Gayatri Natu, Tapas Kumar Mandal, Ashok Kumar Dasmahapatra, and Dipankar Bandyopadhyay	Self-Organized Large-Scale-Integration of Mesoscale Ordered Heterojunctions for Process-Intensified Photovoltaics	Physical Review Applied	2018	Accepted	-	-	-
Abir Ghosh, Dipankar Bandyopadhyay, and Ashutosh Sharma	Electric Field Mediated Elastic Contact Lithography of Thin Viscoelastic Films for Miniaturized and Multiscale Patterns	Soft Matter	2018	14	-	3963	-
Joydip Chaudhuri, Tapas Kumar Mandal, Dipankar Bandyopadhyay	Steady and Oscillatory Lorentz Force Induced Transport and Digitization of Two-Phase Microflows	Physical Review Applied	2018	10	-	34057	-
Tamanna Bhuyan, Mitradip Bhattacharjee, Amit Kumar Singh, Siddhartha Sankar Ghosh, and Dipankar Bandyopadhyay	Boolean-Chemotaxis of Logibots Deciphering the Motions of Self-Propelling Microorganisms	Soft Matter	2018	14	-	3182	-

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Manash Pratim Borthakur, Gautam Biswas, and Dipankar Bandyopadhyay	Dynamics of deformation and pinch-off of a migrating compound droplet in a tube	Physical Review E	2018	97	-	43112	-
Kanu Das, Moumita Dutta, Babul Das, Hemant Kumar Srivastava, Akshai Kumar	Efficient Pincer Ruthenium Catalysts for Kharasch Addition of Carbon Tetrachloride to Styrene	Advanced Synthesis and Catalysis	2019	ASAP article	-	-	-

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Maheshwari, S., Jethoo, A.S., Vishvakarma, V.K., Khwairakpam M, Kriplani, P.	Biodegradation of Sludge Produced from Common Effluent Treatment Plant (CETP) Using Drum Composting Technique	Nature Environment and Pollution Technology	2019	18	1	231	236
Hazarika J, Ghosh U, Kalamdhad AS, Khwairakpam M, Singh J	Fractionation and reduction in bioavailability of toxic heavy metals during rotary drum composting of paper mill sludge.	Nature Environment and Pollution Technology	2018	17	3	999	1004
Saha B, Sathyan A, Mazumder P, Choudhury S P, Kalamdhad A S, Khwairakpam M, Mishra U.	Biochemical methane potential (BMP) test for Ageratum conyzoides to optimize ideal food to microorganism (F/M) ratio.	Journal of Environmental Chemical Engineering	2018	6	-	5135	5140
Das, R., Shelke, R.G., Rangan, L., & Mitra, S.	Estimation of nuclear genome size and characterization of Ty1-copia like LTR retrotransposon in Mesua ferrea L	Journal of Plant Biochemistry and Biotechnology	2018	27	4	1	10
Borah, P., Singh, P., Rangan, L., Karak, T. and Mitra, S	Mobility, bioavailability and ecological risk assessment of cadmium and chromium in soils contaminated by paper mill wastes	Groundwater for Sustainable Development	2018	6	-	189	199

## Conference Papers

## Biosciences and Bioengineering

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Pratik Nag, Souptick Chanda	Proximal Femoral Locking Plate: The effect of interface conditions on Implant induced stress shielding.	IEEE EMBS International Student Conference	2018
Rajdeep Ghosh, Souptick Chanda, Debabrata Chakraborty	Mechanobiological based microscale study of influence of Surface Texture Design on Peri-Acetabular Bone Ingrowth.	31st Annual Congress by International Society for Technology in Arthroplasty (ISTA 2018)	2018
Pratik Nag, Souptick Chanda	A comparison of Proximal Femoral Locking Plate(PFLP) and Dynamic Hip Screw(DHS) based on the effect of stress shielding in subtrochanteric femoral fracture.	Research Conclave, IIT Guwahati	2019
Srirupa Bhattacharya, Rajib Shome, Muktaashree Saha, Hirakjyoti Roy	New trends in multi modal molecular imaging applications for animal studies in drug discovery	NIPER Guwahati	2018
Aditi Banerjee, Upashi Goswami, Deepanjalee Dutta, Neha Arora, Anita T Simon, Anil Bidkar, Srirupa Bhattacharya, Rajib Shome, Muktaashree Saha, Debashree Debasmita, Plaboni Sen, Hirakjyoti Roy	Translational research and biomarker discovery	Department of Biosciences and Bioengineering, IIT Guwahati	2018
Srirupa Bhattacharyya, Neha Arora, Siddhartha Sankar Ghosh	Emergence of Protein Therapeutics in Cancer Medicine-	Research conclave 2018, IIT Guwahati	2018
Rajib Shome, Asif Raza, Siddhartha Sankar Ghosh	Advanced Gene Therapy: Future of Cancer Therapeutics	Research conclave 2018, IIT Guwahati	2018
Phurpa Dema Thungon, Torsha Kundu and Pranab Goswami	Analytical studies on the two types of fluorescent nanoclusters stabilized by catalase	Frontiers in Chemical Science 2018	2018
Naveen Kumar Singh, Dr. Pedro Estrela and Pranab Goswami	Development of simple, pragmatic and low cost aptasensor for Malaria diagnosis	International Conference on Advancement In Science and Technology (ICAST)	2018
Phurpa Dema Thungon, Torsha Kundu and Naveen Kumar Singh	Study of enzyme stability in silk films to develop biosensors	International Conference on Advancement In Science and Technology (ICAST)	2018
Pooja Rani Kuri, Naveen Kumar Singh and Pranab Goswami	C Dot Aptamer conjugate based detection of Plasmodium falciparum glutamate dehydrogenase for Malaria diagnosis	International Conference on Advancement In Science and Technology (ICAST)	2018
Naveen Kumar Singh, Lightson Ngashangva, Pranab Goswami	A Pragmatic Plasmodium falciparum glutamate dehydrogenase based sensor for malaria diagnosis	International Conference on engaging India and Canada: Challenges of sustainable development goal	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Vikky Rajulapati, Arun Dhillon and Arun Goyal	Green process of degumming of jute fiber and bioscouring of cotton fabric by alkaline pectinases from <i>Clostridium thermocellum</i>	National Conference on Recent Trends and Advancements in Chemical Sciences, Delhi University	2019
Dishant Goyal, Krishan Kumar, Abhijeet Thakur and Arun Goyal	Expression, purification and biochemical characterization of family 5 glycoside hydrolase (RfGH5_7) from <i>Ruminococcus flavefaciens</i> FD-1 v3	Research Conclave, IIT Guwahati	2019
Mohanapriya, N, Shweta Singh, Sumitha Banu, Priyanka Nath and Arun Goyal	Saccharification of <i>Sorghum durra</i> by Chimera ( $\beta$ -glucosidase + endo $\beta$ -1,4 glucanase; CtGH1-L1-CtGH5-F194A) and Cellobiohydrolase (CtCBH5A) for bio-ethanol production.	Research Conclave, IIT Guwahati	2019
Vikky Rajulapati, Arun Dhillon and Arun Goyal	Biocompatibility and anti-cancer activity analysis of pectic oligosaccharides produced from waste of Pineapple ( <i>Ananas comosus</i> )	Research Conclave, IIT Guwahati	2019
Abhijeet Thakur and Arun Goyal	Efficient saccharification of finger millet stalk by a new thermostable $\alpha$ -L-arabinofuranosidase (PsGH43A) from <i>Pseudopedobacter</i> saltans	Research Conclave, IIT Guwahati	2019
Sumitha Banu J., Abhijeet Thakur, Vijay S. Moholkar and Arun Goyal	Optimization of enzymatic hydrolysis of alkali-treated finger millet straw by recombinant $\beta$ -1,4-endoxylanase	Research Conclave, IIT Guwahati	2019
Shweta Singh, Priyanka Nath, Krishan Kumar and Arun Goyal	Mutation of aspartate 256 to glycine enhanced the catalytic efficiency of CMCase from <i>Bacillus amyloliquefaciens</i> SS35 UV2 mutant strain	Research Conclave, IIT Guwahati	2019
Himadree Das, Karthika B., Kedar Sharma and Arun Goyal	In silico structural characterization of a new member heparinase II/III of family 12 polysaccharide lyase from <i>Pseudopedobacter</i> saltans	Research Conclave, IIT Guwahati	2019
Kedar Sharma1, Carlos M.G.A. Fontes2, Shabir Najmudin2 and Arun Goyal1	Molecular organization and protein stability of the <i>Clostridium thermocellum</i> glucuronoxylan endo- $\beta$ -1,4-xylanase of family 30 glycoside hydrolase in solution	Research Conclave, IIT Guwahati	2019
Krishan Kumar, Vikky Rajulapati and Arun Goyal	In vitro prebiotics and biocompatibility evaluation of Laminari-oligosaccharides	CARBO-XXXIII, Sweet '18: Glycochemistry, Biology and Technology (SGBT), IISER Kolkata	2018
Kaustubh Khaire, Kakali Borah, *Arun Goyal and V. S. Moholkar	Pretreatment optimization of sugarcane leaf tops for recovery of holocellulose	3rd International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC), IIT Roorkee, India	2018
Priyanka Nath, Arun Dhillon, Kedar Sharma and *Arun Goyal	Protein engineering of carbohydrate hydrolysing enzymes for enhancing activity for improved biomass saccharification	3rd International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC), IIT Roorkee, India	2018



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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Dishant Goyal, Krishan Kumar and Arun Goyal	Expression and functional characterization of recombinant mannanase of family 5 glycoside hydrolase (RfGH5_7) from <i>Ruminococcus flavefaciens</i> .	Bioprocessing India 2018, IIT Delhi, India	2018
Krishan Kumar and Arun Goyal	Exploring the role of CBM3c in the catalysis of theme B1 family 9 glycoside hydrolase (Cel9W) from <i>Hungateiclostridium thermocellum</i> ATCC 27405.	Bioprocessing India 2018, IIT Delhi, India	2018
Kedar Sharma, Abhijeet Thakur, Rajeev Kumar and Arun Goyal	Structure and biochemical characterization of glucose tolerant $\beta$ -1,4-glucosidase (HtBgI) of family 1 glycoside hydrolase from <i>Hungateiclostridium thermocellum</i>	Bioprocessing India 2018, IIT Delhi, India	2018
Abhijeet Thakur and Arun Goyal	First $\alpha$ -L-arabinofuranosidase (PsGH43) from <i>Pedobacter</i> saltans and efficient saccharification of finger millet stalk through synergism	Bioprocessing India 2018, IIT Delhi, India	2018
Kedar Sharma and Arun Goyal	Structure characterization of endo- $\beta$ -1,4 xylanase from <i>Pseudopedobacter</i> saltans by SAXS and Molecular Dynamics simulation	59th Annual Conference of AMI, University of Hyderabad, India	2018
Sumitha Banu J., Abhijeet Thakur, Vijay S. Moholkar and Arun Goyal	Saccharification of hemicellulose from pretreated finger millet straw by $\beta$ -1,4-endoxylanase for bioethanol production	59th Annual Conference of AMI, University of Hyderabad, India	2018
Kedar Sharma, Abhijeet Thakur, Kaustubh Khaire and Arun Goyal	Molecular characterization of halo and organic solvent stable xylanase from <i>Pseudopedobacter</i> saltans and its application in xylooligosaccharides production from <i>Kans grass</i> biomass	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention, CSIR-IICT Hyderabad, India	2018
Shweta Singh, Arun Dhillon and Arun Goyal	Ultraviolet irradiation of <i>Bacillus amyloliquefaciens</i> SS35 for producing hyperactive mutant strain for improved cellulase activity	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention, CSIR-IICT Hyderabad, India	2018
Priyanka Nath, Arun Dhillon, Kedar Sharma Arun Goyal	Construction and characterization of chimeric enzyme developed by fusing $\beta$ -glucosidase (CtGH1) and endoglucanase (CtGH5-F194A) both from <i>Clostridium thermocellum</i> for enhanced catalytic efficiency and thermostability	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention, CSIR-IICT Hyderabad, India	2018
Vikky Rajulapati, Arun Dhillon and Arun Goyal	Characterization of pectic oligosaccharides produced from agro-waste of pineapple ( <i>Ananas comosus</i> ) and their anti-cancer activity	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention, CSIR-IICT Hyderabad, India	2018
Aruna Rani, Riwivo Baruah and Arun Goyal	Anti-tumor effects of chondroitin AC lyase (PsPL8A) from <i>Pseudopedobacter</i> saltans and its applications in production of prebiotics.	12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), Aizawl, Mizoram, India	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Vikky Rajulapati, Arun Dillon and Arun Goyal	Extraction, characterization and anti-cancer activity of pectic oligosaccharides produced from agro-waste of Orange (Citrus reticulata)	29th International Carbohydrate Symposium in 2018 (ICS 2018), Universidade de Lisboa (FCUL), Lisboa, Portugal	2018
Shweta Singh, Arun Dhillon and Arun Goyal	Strain improvement of <i>Bacillus amyloliquefaciens</i> SS35 by ultraviolet radiation for producing hyperactive mutant strain for improved endoglucanase activity	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	2018
Rajeev Kumar, Kedar Sharma, Abhijeet Thakur and Arun Goyal	Molecular cloning and biochemical characterization of $\beta$ -1,4 glucosidase (RtBgl) family 1 glycoside hydrolase (GH1) from <i>Ruminiclostridium thermocellum</i>	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	2018
Priyanka Nath, Arun Dhillon, Kedar Sharma Arun Goyal	Molecular cloning, expression, purification and biochemical characterization of chimera (CtGH1-L1-CtGH5-F194A) using endoglucanase (CtGH5) mutant F194A and $\beta$ -1,4-glucosidase (CtGH1) from <i>Clostridium thermocellum</i>	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	2018
Sumitha Banu J., Abhijeet Thakur, Aruna Rani, Vijay S. Moholkar and Arun Goyal	Pretreatment and clostridial enzymes hydrolysis of finger millet stalk for biofuel production.	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	2018
Bipra Chatterjee, Arup Kumar Pal and Cota Navin Gupta	A Comparative Study Between Random Forest and BLDA on P300 Paradigm Based BCI	The fifth Annual Conference of Cognitive Science, Indian Institute of Technology Guwahati	2018
Shwetank Panwar and Cota Navin Gupta	Performance Optimized Approach for Automatic Fiducial Localization in Medical Imaging to Assist Robot-guided Neurosurgery	IEEE EMBS International Student Conference 2018, Bangalore	2018
Atul Kumar, Jina Bhattacharyya, Bithiah Grace Jaganathan	Stromal cells induce chemoresistance in CML through BMP pathway	3rd scientific workshop on the hematological tumor microenvironment and its therapeutic targeting	2019
Trishna Anand, Jina Bhattacharyya, Bithiah Grace Jaganathan	Study on leukemia bone marrow stroma interaction	20th Indo-US flow cytometry workshop	2019
Sreeja Dattachoudhury, Bithiah Grace Jaganathan	Understanding the role of ERK signaling pathway in breast cancer chemoresistance	20th Indo-US flow cytometry workshop	2019
Trishna Anand, Jina Bhattacharyya, Bithiah Grace Jaganathan	Study on leukemia bone marrow stroma interaction	Research Conclave, IIT Guwahati	2019
Sreeja Dattachoudhury, Bithiah Grace Jaganathan	Understanding the role of ERK signaling pathway in breast cancer chemoresistance	Research Conclave, IIT Guwahati	2019
Renu Sharma, Bithiah Grace Jaganathan	Role of RHO GTPase and BMP in breast cancer metastasis	Research Conclave, IIT Guwahati	2019

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Vishnu K	Study on huma mesenchymal stem cells differentiation	Research Conclave, IIT Guwahati	2019
Suraj Kumar Mandal and Shankar Prasad Kanaujia	Functional annotation of metal sequestering ABC transporters in <i>Thermus thermophilus</i> HB8	Emerging Trends in Disease Model Systems. NCCS Pune, India.	2019
Prerana Gogoi and Shankar Prasad Kanaujia	Structure-based functional characterization of archaeal translation initiation factors.	National Seminar on Crystallography (NSC-46), NIMHANS Bangalore, India.	2018
Monika Chandravanshi and Shankar Prasad Kanaujia.	Structural and functional characterization of Trehalose/maltose binding protein from <i>Thermus thermophilus</i> HB8.	National Seminar on Crystallography (NSC-46), NIMHANS Bangalore, India.	2018
Suraj Kumar Mandal and Shankar Prasad Kanaujia.	Structural and functional characterization of a putative metal-specific substrate binding protein from <i>Thermus thermophilus</i> HB8.	National Seminar on Crystallography (NSC-46), NIMHANS Bangalore, India.	2018
Aman Prakash, Karukriti Kaushik Ghosh, and Manish Kumar	Characterization of <i>Leptospira</i> putative lipoprotein LIC11966 and its serological diagnostic application in diverse hosts including humans	National Conference VIBCON-2018 in Nagaland on "Innovative Biotechnological Approaches for Improving Animal Health and Productivity"	2018
Aman Prakash and Manish Kumar	Identification and characterization of essential elements involved in CRISPR expression and maturation in pathogenic <i>Leptospira</i> interrogans	International Conference on Recent Research in Biomedical Engineering, Cancer Biology, Stem Cells, Bioinformatics and Applied Biotechnology (BECBAB-2018) in JNU, New Delhi	2018
Harshini SP, Pankaj Kumar and Manish Kumar	Cloning and expression of sporozoite and macroschizont (spm2) protein from genomic DNA of <i>Theileria annulata</i> isolated from the cattle blood sample	National Conference VIBCON-2018 in Nagaland on "Innovative Biotechnological Approaches for Improving Animal Health and Productivity"	2018
Anusua Dhara and Manish Kumar	Two isoforms of Caseolytic proteases (ClpPs) of <i>Leptospira</i> interrogans are essential for functional activity	World Congress on Infectious Diseases & Antibiotics – 2018, Bangalore	2018
Md. Saddam Hussain and Manish Kumar	Biochemical characterization of CRISPR-Cas Cascade complex subunit protein-Cas7 in <i>Leptospira</i> interrogans Copenhageni Strain Fioacruz L1-130	Research conclave'19 at IITG	2019
Sujasha Ghosh, Anil Mukund Limaye	DNA methylation dependent regulation of gPER 1 in colon cancer cell lines: the role of upstream CpG island	Research Conclave 2019	2019
Tanushree Paul, Kannan Pakshirajan and G. Pugazhenth	Refinery wastewater treatment using the oleaginous <i>Rhodococcus opacus</i> and bio-oil production from the lipid rich bacterial biomass by hydrothermal liquefaction	Research Conclave 2019, Guwahati, India	2019
B.B. Negi and K. Pakshirajan	Selenium removal from wastewater using fungal pellets	Research Conclave 2019, Guwahati, India	2019
M M Tejas Namboodiri and Kannan Pakshirajan	Fungal chitosan production by solid state fermentation of rice straw using <i>Penicillium citrinum</i> biomass	RABEB, March 15-16, 2019, IIT BHU, Varanasi, U.P., India	2019
Surjith Ramasamy and Kannan Pakshirajan	Lutein production in split column airlift photobioreactor from halophilic microalgae using waste anaerobic digestate as a cheap substrate	International Conference on Recent Advancements in Chemical, Environmental and Energy Engineering – 2019, SSN college of Engineering, Chennai, India	2019

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A. Sinharoy and K. Pakshirajan	Biological selenite reduction to selenium in a carbon monoxide fed gas lift bioreactor	6th Bioprocessing India Conference, IIT Delhi, New Delhi, India	2018
D.K. Kumar and K. Pakshirajan	Biodegradation of endocrine disrupting chemicals (EDCs) using <i>Arthrobacter</i> sp: kinetics of batch microbial growth and biodegradation	6th Bioprocessing India Conference, IIT Delhi, New Delhi, India	2018
M. Kumar and K. Pakshirajan	Biological removal and recovery of heavy metals from acid mine drainage	6th Bioprocessing India Conference, IIT Delhi, New Delhi, India	2018
T. Paul, D. Baskaran, K. Pakshirajan and G. Pugazhenth	Bioreactor strategies for refinery wastewater treatment using <i>Rhodococcus opacus</i> and bio-oil production by hydrothermal liquefaction	International Conference on Bioprocess for Sustainable Environment and Energy (ICBSEE-2018), Rourkela, India	2018
S.N. Borah, S. Sen, K. Pakshirajan, S. Deka	Production and structural characterization of a rhamnolipid biosurfactant produced utilising Distillers Dried Grains with Solubles (DDGS) as a cost effective substrate	International Conference on Bio-Innovation for Environmental and Health Sustainable Developments (BEHSD), CSIR-Indian Institute of Toxicology Research, Lucknow, India	2018,
S. Arun and K. Pakshirajan	Shortcut biological nitrogen removal using a consortium of algae, ammonia oxidizing bacteria and methanol utilizing bacteria in a photo sequencing batch reactor	International Conference in Challenges in Environmental Science & Engineering (CESE-2018), Bangkok, Thailand	2018
A. Sinharoy and K. Pakshirajan	Biohydrogen production using carboxydrotrophic hydrogenogenic biomass in a carbon monoxide fed anaerobic moving bed biofilm reactor	International Conference in Challenges in Environmental Science & Engineering (CESE-2018), Bangkok, Thailand	2018
S. Arun and K. Pakshirajan	Novel shortcut biological nitrogen removal using a photo sequencing batch reactor for ammonia rich wastewater treatment,	International Conference on Sustainable Water Resources - Innovation and Impacts (TECHNOSCAPE-2018), Vellore Institute of Technology, Vellore, Tamil Nadu.	2018
Ravi, Lalit M Pandey	Enhancement of adsorption capacity of designed bentonite/alginate beads for effective removal of methylene blue dye	Sustainable energy and environmental challenges (3rd SEEC), IIT Roorkee, India (Oral presentation)	2018
Ravi, Saurabh kumar chandrakar, Lalit M Pandey	Preparation of nano-bentonite by using sonochemical and co-precipitation method and their applications in dye removal	Research Conclave'19, IIT Guwahati, India (Poster presentation)	2019
Laipubam Gayatri Sharma, Lalit M Pandey	Fibrillation of A $\beta$ (1-40) under variable shear fields in parallel plate geometry	International Conference on Frontiers in Chemical Sciences (FICS - 2018), IIT Guwahati, India (Poster presentation)	2018
Aman Bhardwaj, Lalit M Pandey	Plant secondary metabolite mediated silver nanoparticles synthesis and its perspective use for biomedical applications	International Conference on Frontiers in Chemical Sciences (FICS - 2018), IIT Guwahati, India (Poster presentation)	2018
Varun Saxena, Lalit M Pandey	Synthesis, characterization and antibacterial activity of Zinc and Iron co-doped hydroxyapatite nanoparticles	Biomaterials Symposium, University of Lancaster	2019
Varun Saxena, Lalit M Pandey	Synthesis, characterization and antibacterial activity of Zinc and Iron co-doped hydroxyapatite nanoparticles	Bioinspired Nanomaterials 2019, University of Strathclyde	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Lalit M. Pandey	Self-assembled monolayers in Biomaterials	Bioinspired Nanomaterials 2019, University of Strathclyde	2019
Ghadir Nofal, Mohd Faheem Khan, Renu Sarath Babu Vegesna and Sanjukta Patra	Fungal Enzymes as Candidates for Holistic Treatment of Textile Industry Effluent (Awarded 3rd Prize)	Research Conclave '19, Students' Academic Board, Indian Institute of Technology, Guwahati, Assam, India	2019
Gaurang Dilip Gurjar, Mohd Faheem Khan and Sanjukta Patra	Exploiting the Reactive Oxygen Species Producing Enzymes for bioremediation of Industrial Wastewater	Research Conclave '19, Students' Academic Board, Indian Institute of Technology, Guwahati, Assam, India	2019
Mayur Mahindra Kedare, Mohd Faheem Khan and Sanjukta Patra	Challenges in metagenomic DNA extraction and purification: Amplification of manure compost metagenome	59th Annual Conference of Association of Microbiologists of India (AMI- 2018) & International Symposium on Host Pathogen Interactions, Sub-theme: Genomics and Metagenomics	2018
Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	Optimizing the effect of various process parameters for enhanced biomass and lipid production in <i>Chlorella pyrenoidosa</i> NCIM 2738 using response surface methodology	Workshop on Advances in Environmental Protection and Sustainability (AEPS-2018), Centre for the Environment, IIT Guwahati	2018
Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	n-hexadecane degrading strains isolated from a petroleum refinery waste contaminated site for potential application in refinery wastewater bioremediation	59th Annual conference of "Association of Microbiologists of India (AMI-2018), School of Life Sciences, University of Hyderabad in association with Department of Microbiology, Osmania University	2018
Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	The scope of n-hexadecane degrading microbial strains isolated from petroleum waste contaminated site for bioremediation of refinery waste	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups, IIT Guwahati	2019
Bhaskar Kalita, Bhaskar Das and Sanjukta Patra	Sustainable agricultural waste utilization promising rural entrepreneurship in North East India	Workshop on Advances in Environmental Protection and Sustainability (AEPS-2018), Centre for the Environment, IIT Guwahati	2018
Bhaskar Kalita and Sanjukta Patra	Edible Fungal biodiversity for sustainable development prospects in rural areas of North East India	59th Annual conference of "Association of Microbiologists of India (AMI-2018), School of Life Sciences, University of Hyderabad in association with Department of Microbiology, Osmania University	2018
Bhaskar Kalita and Sanjukta Patra	Macro-fungi Biodiversity for sustainable livelihood subsistence and food security in rural areas of North East India	Biodiversity, Biotechnology and Bio-informatics: Innovative and Emerging Trends-2019 [NCBBBIET 2019], Department of Botany, Berhampur University, Odisha	2019
Bhaskar Kalita and Sanjukta Patra	Macro-Fungal biodiversity for sustainable development prospects in rural areas of North East India	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups, IIT Guwahati	2019
Gaurav Pandey, and Vibin Ramakrishnan	Modulation of Aggregation with Electric Field; Electric field assisted inhibition of aggregation in amyloidogenic proteins	Proceedings of the 35th European Peptide Symposium, Dublin City University, Dublin, Ireland.	2018

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Jahnu Saikia and Vibin Ramakrishnan	Electric Field Disrupts Amyloid Aggregation; Potential Non-invasive Therapy for Alzheimer's Disease	63rd Biophysical Society Annual Meeting'2019, Baltimore, Maryland, USA. Biophysical Journal	2019
S. Sasidharan and V.Ramakrishnan	Novel hybrid magnetic material for reduction and removal of heavy metals	6th International Conference on Multifunctional, Hybrid and Nanomaterials, Meliá Sitges, Sitges, Spain	2019
R Das, L Rangan	Stress evaluation in non-edible oil crops – anatomical, physiological and phytochemical approach	Indian Plant Science Congress	2019
RG Shelke, L Rangan	Identification and characterization of genetic repeat elements from <i>Pongamia pinnata</i> for genetic diversity analysis	Indian Plant Science Congress	2019
S Shreekant, I Chakraborty, L Rangan	Anti-bacterial susceptibility assessment of microemulsion formulation of labdane from <i>Alpinia nigra</i>	Indian Plant Science Congress	2019
MK Gupta, L Rangan	3,5-dihydroxy-4'-7-dimethoxyflavone: structural characterization, enzyme kinetics, and in-silico approach against melanogenic activity	Indian Plant Science Congress	2019
I Chakraborty, NK Kalita, V Katiyar, L Rangan	Physico-rheological characterization of organically derived seed samples from <i>Alpinia nigra</i>	Indian Plant Science Congress	2019
A Singh, MZ Ansari, L Rangan, R Swaminathan	UV-visible absorption and fluorescence spectra of Karanjin in different solvents and solvent mixture	Indian Plant Science Congress	2019
S SenthilKumar, L Rangan, R Swaminathan	Effect of extraction solvent system on the native structure of the plant metabolites: A study on para-coumaric acid from <i>Mesua ferrea</i>	Indian Plant Science Congress	2019
Subbi Rami Reddy Tadi, Ganesh Nehru, Senthilkumar Sivaprakasam	Production of 3-aminopropionic acid using metabolically engineered <i>Bacillus megaterium</i> whole-cell biocatalysis	Recent Advancements in Biochemical Engineering and Biotechnology (RABEB -2019), IIT (BHU) Varanasi, India	2019
Ganesh Nehru, Subbi Rami Reddy Tadi, Senthilkumar Sivaprakasam	Development of a dual promoter expression system for production of heparosan in recombinant <i>Bacillus</i> sp.	Bioprocessing INDIA 2018: Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, IIT Delhi, India	2018
Subbi Rami Reddy Tadi, Ganesh Nehru, Senthilkumar Sivaprakasam	Metabolic engineering of <i>Bacillus</i> spp. for the production of $\beta$ -alanine . a vitamin B5 precursor	59th International Annual Conference of The Association of Microbiologists of India (AMI- 2018), University of Hyderabad, India	2018
Subbi Rami Reddy Tadi, Ganesh N, Senthilkumar Sivaprakasam	Over expression of L-aspartate $\alpha$ -decarboxylase enhances the 3-aminopropionic acid production in <i>Bacillus</i> spp.	Bioprocessing INDIA 2018: Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, IIT Delhi, India	2018

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Som Dutt Ravindran, Subbi Rami Reddy Tadi, Senthilkumar Sivaprakasam	Metabolic engineering of Bacillus spp for the enhanced production PHB	Bioprocessing INDIA 2018: Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, IIT Delhi, India	2018
Srikanth Katla, Naresh Mohan, K. Yoganand, B. Anand, Senthilkumar Sivaprakasam	Recombinant Human Interferon Alpha-2b: Cloning, Expression and PAT-Process Analytical Technology Enabled Production in Glycoengineered Pichia pastoris	European Congress on Biotechnology (ECB-2018), Geneva, Switzerland	2018
Glory Basumata	Introduction to RNA-Seq & Functional Interpretation	Wellcome Genome Campus, EMBL-EBI, UK	2019
Bhagyashree Deka, Kusum Kumari Singh	Elucidating the microRNA and RBP-Mediated Modulation of RNPS1 Gene Expression	Research Conclave, IIT Guwahati	2019
Sweta Kumari, Bhagyashree Deka, Kusum Kumari Singh	Investigating Molecular Mechanism of SAP18 in Splicing by Comparative Transcriptome Analysis	Research Conclave, IIT Guwahati	2019
Glory Basumata, Kusum Kumari Singh	Knock-down Effects of MAGOHB on Alternative Splicing via RNA-Seq Analysis	Research Conclave, IIT Guwahati	2019
Glory Basumata, Kusum Kumari Singh	Knock-down Effects of MAGOHB on Alternative Splicing via RNA-Seq Analysis	International Conference on Molecular Basis of Diseases & Therapeutics, Central University of Rajasthan	2019
Baruah D and Tamuli R	Understanding the interactions of phospholipase C-1, secretory phospholipase A2, and Ca2+ /H+ exchanger in circadian regulated conditions, development, and cell survival in Neurospora crassa.	Research Conclave, IIT Guwahati, India, (Best Poster Presentation Award), (Poster presentation)	2019
Marak K CN, Baruah D and Tamuli R	A look into evolution and life through calcium.	Research Conclave, IIT Guwahati, India (Model Presentation)	2019
Shokeen S and Tamuli R	Isolation and characterization of Pilobolus like species from cow dung samples.	Research Conclave, IIT Guwahati, India, (Poster presentation)	2019
Bania NM, Tamuli R and Bora U	A fungal based system for the synthesis of vitamin D and studying its relationship with zinc homeostasis.	Research Conclave, IIT Guwahati, (Poster presentation)	2019
Vijay Kumar Mishra and Rakhi Chaturvedi	Production of androgenic haploid plants through in vitro anther culture of Camellia assamica ssp. assamica (Masters)	International Conference on "Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)"	2019
Radhika Rajendran and Rakhi Chaturvedi	Dedifferentiated in vitro cell lines: a bioresource utilization method for enhanced spilanthal production by optimizing media constituents using response surface methodology from Spilanthes paniculata	International Conference on "Next Generation Plant Production and Bioresources Utilization Technologies(NGPPBUT 2019)"	2019

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Ruchira Bajpai and Rakhi Chaturvedi	Plant regeneration via repetitive secondary embryogenesis from androgenic embryos in suspension cultures of <i>Camellia assamica</i> ssp. <i>assamica</i> and clonal fidelity assessment using RAPD marker	International Conference on "Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)"	2019
Rajendra Adak and Rakhi Chaturvedi	In vitro optimization studies for the production and scale-up of artemisinin—an important antimalarial drug	International Conference on "Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)"	2019
Radhika Rajendran, Balaji S Narashimman, Vishal Trivedi and Rakhi Chaturvedi	Isolation, purification and quantification of N-alkylamides from flower head in vitro cell cultures of <i>Spilanthes paniculata</i> and its biological activity on <i>Plasmodium falciparum</i>	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019
Ruchira Bajpai and Rakhi Chaturvedi	Double haploid production in <i>Camellia assamica</i> spp. <i>Lasiocalyx</i> and assessment of homozygosity using microsatellite marker	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019
Tapas Das and Rakhi Chaturvedi	Induction of androgenic callus in <i>Vigna radiata</i>	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019
Imnanaro and Rakhi Chaturvedi	Exploring totipotency in <i>Musa balbisiana</i> (Bhimkol) as a method for development of clonally propagated viable plants	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019
Krishna Kant Pachauri and Rakhi Chaturvedi	Commercial-scale production of horticulture and medicinal plants by using bioreactor systems	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019
Ravikant Godara and Rakhi Chaturvedi	Establishment of in vitro adventitious root cultures for enhanced metabolite production in <i>Spilanthes</i> spp.	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019
Imnanaro and Rakhi Chaturvedi	Large scale In vitro clonal propagation of <i>Musa paradisiaca</i> using shoot-tip culture	National Conference on Stakeholders on Conservation, Cultivation, Resource Development and Sustainable Utilization of Medicinal Plants of North Eastern India by Nagaland University and Society for Conservation & Resource Development of Medicinal Plants, New Delhi	2019
Ruchira Bajpai and Rakhi Chaturvedi	Plant regeneration via repetitive secondary embryogenesis from androgenic embryos in suspension cultures of <i>Camellia assamica</i> ssp. <i>assamica</i> and clonal fidelity assessment using RAPD marker	Research Conclave - IIT Guwahati	2019
Vartika Srivastava and Rakhi Chaturvedi	Exploring the anti-bacterial potential of palmatine, an alkaloid, identified from in-vitro culture of <i>Tinospora cordifolia</i> (wild) Mires ex Hook and Thoms	Research Conclave - IIT Guwahati	2019



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**Conference Papers**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Tapas Das and Rakhi Chaturvedi	Determination of Androgenic callus responsive stage of microspores in anther culture of <i>Vigna radiata</i> species.	Research Conclave - IIT Guwahati	2019
Krishna Kant Pachauri and Rakhi Chaturvedi	Commercial-scale production of medicinal and horticulture plants by using bioreactor systems	Research Conclave - IIT Guwahati	2019
Imnanaro and Rakhi Chaturvedi	In vitro micropropagation and clonal fidelity assessment of plantlets in <i>Musa spp.</i>	Research Conclave - IIT Guwahati	2019
Amrita Devi Khwairakpam, Javadi Monisha, Nandkishore Roy, Padmavathi G, Devivasha Bordoloi, Ajaikumar B Kunnumakkara,	An investigation on the anti-cancer potential of Cambodian mint against human Oral Squamous Cell Carcinoma,	3rd International Conference on Nutraceuticals and Chronic Diseases	2018
Amrita Devi Khwairakpam, Javadi Monisha, Nandkishore Roy, Padmavathi G, Devivasha Bordoloi, Ajaikumar B Kunnumakkara,	Examining the anti-cancer potential of Cambodian mint against human Oral Squamous Cell Carcinoma at National conference on ethno-medicine and traditional health practices in Northeast region of India	National conference on ethno-medicine and traditional health practices in Northeast region of India	2018
Amrita Devi Khwairakpam, Ajaikumar B Kunnumakkara,	The Role of Lipogenic enzymes in the Initiation and Progression of Oral cancer	Research Conclave 2019	2019
Bethsebie Laldusaki Sailo, Ajaikumar B. Kunnumakkara,	NGALR as a Potential Biomarker and Molecular Target for Lung Cancer	6th AIST Imaging Workshop & DAILAB PIKNIKH series XXXII	2019
Bethsebie Laldusaki Sailo, Ajaikumar B. Kunnumakkara,	Role of Lipocalin Receptor in the Development of Lung Cancer	Research Conclave-2019	2019
Bethsebie Laldusaki Sailo, Sajin Francis K and Mangalam S. Nair, Ajaikumar B. Kunnumakkara,	Therapeutic potential of a diterpene derived from <i>Hedychium coronarium</i> against colorectal cancer	3rd International Conference on Nutraceuticals and Chronic Diseases	2018
Bethsebie Laldusaki Sailo, Sajin Francis K, Mangalam S. Nair, Ajaikumar B. Kunnumakkara,	Evaluating the Efficacy of Coronarin D: A Diterpene against Colorectal Cancer,	National Conference on Ethno-medicine and Traditional Health Practices in North-East Region of India	2018
Bordoloi D, Monisha J, Roy NK, Padmavathi G, Kunnumakkara AB	Exploration of the anti-neoplastic potential of a flavonoid from Varnish tree against human head and neck Cancer	National conference on ethno-medicine and traditional health practices in Northeast region of India	2018
Bordoloi D, Monisha J, Roy NK, Padmavathi G, Kunnumakkara AB	Evaluation of a chalcone derivative as natural alternative for oral cancer therapy	3rd International Conference on Nutraceuticals and Chronic Diseases	2019

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## Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Bordoloi D, Kunnumakkara AB	An investigation on the role of TIPE family of proteins in the development and progression of lung cancer'	Research Conclave 2019	2019
Harsha C, Kunnumakkara AB	Implication of Neutrophil gelatinase associated lipocalin receptor (NGALR) in the development of oral squamous cell carcinoma	Research Conclave 2019	2019
Kishore Banik, Ajaikumar B. Kunnumakkara	Development of TNFAIP8 Family of Proteins as Novel Biomarker in Bone Cancer	Research Conclave 2019	2019
Kishore Banik, Ajaikumar B. Kunnumakkara	Differential Expression of TNFAIP8 Family of Proteins in Bone Cancer Tissues	Introduction to basic and advanced biomedical approaches for enhancing QOL in ageing societies	2018
Kishore Banik, Harsha Choudhary, Devivasha Bordoloi, Ajaikumar B. Kunnumakkara	Anticancer activity of Hondapara leaf extract against oral squamous cell carcinoma	3rd International Conference on Nutraceuticals and Chronic Diseases	2018
Kishore Banik, Harsha Choudhary, Devivasha Bordoloi, Ajaikumar B. Kunnumakkara	Anticancer activity of Elephant Apple leaf extract against Oral Cancer	Ethno-medicine and Traditional Health Practices in North-East Region of India	2018
Krishan K. Thakur, Sajin K. Francis, Manglam S. Nai and Ajaikumar B. Kunnumakkara.	Anticancer Effects of Coronarin-D on Lung Cancer Cells"	Introduction to basic and advanced biomedical approaches for enhancing QOL in ageing societies	2018
Krishan K. Thakur, Ajaikumar B. Kunnumakkara.	Overexpression of NGALR in breast cancer and associated with clinical prognosis"	Research Conclave-2019	2019
Manteghi N, Harsha C, Francis KS, Nair MS, Kunnumakkara AB.	Therapeutic potential of a labdane diterpene isolated from rhizomes of Hedychium coronarium against triple negative breast cancer: involvement of the Akt-mTOR signaling pathway	3rd International Conference on Nutraceuticals and Chronic Diseases	2018
Sosmitha Girisa, Ajaikumar B. Kunnumakkara	Role of Mortalin in Oral Squamous Cell Carcinoma (OSCC)	6th AIST International Imaging Workshop & DAILAB PIKNIKH series XXXII	2019
Sosmitha Girisa, Harsha Choudhary, Devivasha Bordoloi, Kishore Banik, Krishan Kumar Thakur, Amrita Devi Khwairakpam and Ajaikumar B Kunnumakkara	Withaferin A as a Potential Anticancer Agent Against Oral Squamous Cell Carcinoma	Research Conclave-2019	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Bano Shabnam, Harsha Choudhury, Devivasha Bordoloi, Kishore Banik, Amrita Devi Kh, Ajaikumar Bkunnnumakkara	Prognostic implication of Sorcin in oral cancer development	6 th AIST International Imaging workshop & DAILAB PIKNIKH series XXXII	2019
Bano shabnam, Harsha Choudhury, Ajaikumar B Kunnnumakkara	Role of Sorcin in the Development of Oral Squamous Cell Carcinoma	Research Conclave-2019	2019
Vikurthi Rajesh, Poonam, Sajin Francis K, Mangalam S Nair, Ajaikumar B.Kunnnumakkara	Synthesis and characterization of Coronarin D liposomes and evaluation of its anti-cancer potential against head and neck squamous cell carcinoma	3rd International Conference on Nutraceuticals and Chronic Diseases	2018
Vikurthi Rajesh, Sajin Francis K, Mangalam S Nair, Ajaikumar B.Kunnnumakkara	Synthesis and characterization of nanoliposomal formulations of natural terpenoid drugs and evaluation of thesis anti-cancer potential against oral squamous cell carcinoma	Research Conclave-2019	2019
Th. Babita Devi , Ajaikumar B. Kunnnumakkara, M. Ahmaruzzaman	A green approach for the fabrication of hybrid nanoparticles and their antimicrobial properties	3rd International Conference on Nutraceuticals and Chronic Diseases	2018
Th. Babita Devi , Ajaikumar B. Kunnnumakkara, M. Ahmaruzzaman	Bio-mediated green synthesis of bimetallic nanoparticles and their antimicrobial efficiency against bacterial strain	National Conference on Ethno-medicine and Traditional Health Practices in North-East Region of India	2018
Shokeen S and Bania NM	Symposium on Biomolecular Interaction Techniques	National Centre for Biological Sciences, Bangalore, February 18-19, 2019.	2019
PK Baruah, MA Raman, I Chakrabartty, L Rangan, AK Sharma, A Khare	Antibacterial effect of silk treated with silver and copper nanoparticles synthesized by pulsed laser ablation in distilled water	AIP Conference Proceedings	2018
Surajbhan Sevda, Ram D. Mehta	Use of Flow Cytometry For Microbiological Quality Of Drinking Water	20th INDO-US flow cytometry symposium cum workshop on "Applications of Flow Cytometry in Biotechnology, IIT Guwahati	2019
Surajbhan Sevda, Pranab Goswami	Performance Of Microbial Desalination Cell In High Organic Load. Three-day Indo-German bilateral workshop on membranes for water and energy	Organized by CSIR-Central Salt and Marine Chemical Research Institute, Bhavnagar, Gujarat.	2019
Chetan Joshi, Surajbhan Sevda, Dharmendra Pathak, Munish Madaan	Role of Industrial Enzymes in Environmental Technology Process: Status and Future Prospective	Bioprocessing India 2018, IIT Delhi	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Surajbhan Sevda, Swati Sharma, Vijay Kumar.	Microfluidics in bioelectrochemical system: Technological considerations and future prospects	Research conclave 2019, IIT Guwahati	2019
Surajbhan Sevda, Vijay Kumar.	Use of microbial fuel cell (MFC) as biosensor for detection of biochemical oxygen demand (BOD) in wastewater	Red Start, Research Conclave 2019, IIT Guwahati	2019
Sourish Bhattacharya, Sandhya Mishra, Surajbhan Sevda	Bioprospecting of marine resources for biopolymer production for biomedical applications	Research Conclave 2019, IIT Guwahati	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Philip Sainik, Vijayanand S. Moholkar	A comparative study of the pyrolytic products of pre-treated samples of Arundo donax and Prosopis juliflora	3rd International Conference on Sustainable Energy and Environmental Challenges	2018
Debarshi Mallick, Debarshi Baruah, Pinakeswar Mahanta, Vijayanand S. Moholkar	A Comprehensive Kinetic Analysis of Bamboo Waste Using Thermogravimetric Analysis	2nd International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE)	2018
Debarshi Baruah, Debarshi Mallick, Pankaj Kalita, Vijayanand S. Moholkar	A detailed study of pyrolysis kinetics of elephant grass using thermogravimetric analysis	2nd International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE)	2018
Surendra Singh Gaur, Prodyut Dhar, Amrita Sonowal, Akanksha Sharma, Amit Kumar, Vimal Katiyar	Application of Cellulose Nanocrystals as Ionic Conductor for Fabrication of Solid Electrolyte Membrane for Direct methanol Fuel Cells	SPSI-MACRO-2018, December 19th-22nd, 2018.	2018
Naba Kumar Kalita, Ajay Kalamdhad, Vimal Katiyar	Biodegradation and morphological study of PLA based biocomposites under composting condition	(SPSI-Macro 2018), IISER Pune, 19th to 22nd Dec, 2018.	2018
Pankaj Boruah, Shinichi Sakurai, Raghvendra Gupta, Vimal Katiyar	Blending poly(butylene succinate) with poly(lactic acid) and the effect of modified chitosan as Studied by Synchrotron X-Ray Scattering and DSC	15th International Conference on Polymer Science and Technology, SPSI MACRO-2018, December 19th -22nd, 2018, Pune, India.	2018
Tabli Ghosh, Akhilesh Kumar Pal, Siddharth M. Bhasney, Vimal Katiyar	Blown films of Poly lactic acid: Characterization and property	SPSI-Macro-2018, Dec 19- 22, 2018.	2018
Naman Kumar Saini, Ashok Dasmahapatra, Vimal Katiyar	Comparison of various reactor designs for Lactic Acid oligomerization	SPSI MACRO 2018, December 19th-22nd, 2018.	2018
Debashis Kundu and Tamal Banerjee	Development of Carboxymethyl Cellulose-xylan Based Hydrogels. , International Conference on Complex and Functional Materials	ICCFM, 2018 N. Bose Centre for Basic Sciences, Kolkata (Poster Presentation)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Debashis Kundu and Tamal Banerjee	Development of Cyclodextrin-cellulose/hemicellulose Based Hydrogels for the Removal of Cd(II) and Ni(II).	International Conference on Advancement in Science & Technology, Visva-Bharati University, Santiniketan	2018
Debashis Kundu and Tamal Banerjee.	Development of Microcrystalline Cellulose Based Hydrogels. , International Conference on Synthetic Potent Molecule and Its Application	(ICSPMIA) 2018 (Oral Presentation), Sikkim Manipal Institute of Technology, Majhitar, Sikkim, India.	2018
Sushma Chakraborty, Chandan Das, Ramagopal Uppaluri	Effect of bio-pore forming agent particle size on the morphological characteristics of low cost ceramic membranes	International Conference on Advanced Materials, Energy and Environmental Sustainability (ICAMEES 18)	2018
K. M. Wani, S. Narendren, S. M. Bhasney, R. Uppaluri, V. Katiyar	Effect of Coconut oil on Contact Angle of Biodegradable PLA Films	International Conference on Polymer Science and Technology, SPSP-MACRO 2018.	2018
Mahesh Nagargoje, R Gupta	Effect of Sinus shape and position on pulsatile blood flow in Carotid Artery Bifurcation	International Conference on Fluid Mechanics and Fluid Power (FMFP)	2018
S.Mitra, E.Shevchenko, P.S.G. Pattadar	Efficient micro extraction process exploiting Spontaneous Interfacial Convection driven by Marangoni and electric field Instability: A Computational Fluid Dynamics Study	Complfu-2018: International Conference on Complex Fluids and Soft Matter	2018
Satarupa Dutta, Partho Sarathi Gooch Pattader, Dipankar Bandyopadhyay	Electric Field Induced Active Transport of Droplets across Microfluidic Interfaces	12th International Conference on Complex Fluids and Soft Matter (COMFLU 2018), Roorkee, India, 6-9 Dec 2018	2018
Pankaj Boruah, Chethana Mudenu, Akhilesh Kumar Pal, Raghvendra Gupta, Vimal Katiyar	Enhanced Degradation of Oil droplets using Biopolymer as Dispersant for Oil Spill Treatment	4th International Conference Kathmandu Symposia on Advanced Materials-2018, KaSAM-2018, October 26th -29th , 2018, Kathmandu, Nepal.	2018
Kona Mondal, Siddharth Mohan Bhasney, Amit Kumar, Vimal Katiyar	Fabrication and Characterization of Novel Biocomposite of High Density Polyethylene/ Poly(Lactic acid) Blends with Microcrystalline Cellulose as Reinforcement Material in Food Packaging Applications	SPSP-MACRO-2018, December 19th -22nd , 2018.	2018
Amit Kumar Singh, Saptak Rarotra, Viswanath Pasumarthi, Tapas Kumar Mandal, Dipankar Bandyopadhyay	Formic Acid-Powered Renewable Micromotors for Fuel-Cell Technology	Frontiers in Chemical Sciences (FICS-2018), IIT Guwahati	2018
Neha Singh, Arun Goyal, Vijayanand S. Moholkar	Intensification of $\beta$ -carotene production from isolated microalgae Tetrademus obliquus SGM19 under optimized parameters	International Conference on $\beta$ -Biotechnological Research and Innovation for Sustainable Development XV BRSI Convention	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Upasana Mahanta, R. Prasanna Venkatesh, Tamal Banerjee and S. A. Illangovan	Investigation of Ionic Conductance of Electrical Double Layer Capacitor using Molecular Dynamics Simulation., International Symposium on Solubility Phenomena and Related Equilibrium Processes	ISSP, 2018 (Oral Presentation) Tours, France.	2018
Upasana Mahanta, R. Prasanna Venkatesh, Tamal Banerjee and S. A. Illangovan.	Ionic Liquids as Electrolytes for electrical double layer capacitor: Insights from molecular dynamics simulation and electrochemical characterization., International Symposium on Solubility Phenomena and Related Equilibrium Processes	ISSP, 2018 (Poster Presentation) Tours, France.	2018
Siddharth Thakur, Ashok Kumar Dasmahapatra, Dipankar Bandyopadhyay	Large Scale Self-Organized Conducting Polymer Heterostructures for Photovoltaic Applications	COMPFLU 2018, 12th International Conference on Complex Fluids and Soft Matter, IIT Roorkee, 6-9 Dec 2018.	2018
Shirsensu Mitra, Nirmal Roy, Surjendu Maity, Tapas K. Mandal, Dipankar Bandyopadhyay	Magnesium Coated Thiol-Functionalized Carbon-Nanotubes as Microswimmers for efficient Arsenic Capture and Sensing	Carbon MEMS (CMEMS - 2018), IIT Hyderabad, India	2018
Siddharth Mohan Bhasney, Amit Kumar, Vimal Katiyar	Mechanical, Thermal, and Morphological Properties of Bio-Based Poly (lactic acid) [PLA] / Polypropylene [PP] Blends and their Microcrystalline Cellulose [MCC] Reinforced Biocomposites	Kathmandu Symposia on Advanced Materials 2018 (KaSAM 2018), October 26-29, 2018 Kathmandu, Nepal.	2018
Amit H. Batghare, Vijayanand S. Moholkar	Mechanistic Investigations in Ultrasound Induced Enhancement of Riboflavin Production by <i>Debaryomyces hansenii</i> var. <i>hansenii</i> MTCC 3574	Biotechnological Research and Innovation for Sustainable Development (BioSD)	2018
Pankaj Boruah, S. Sakurai, Raghendra Gupta, Vimal Katiyar	Morphology and Crystallinity of Biodegradable Poly (lactic acid)/Poly (butylene succinate) Blends and Effect of Modified Chitosan studied via Synchrotron X-Ray Scattering and DSC	International Conference on Advances in Polymer Science & Technology, APA- 2018, November 1st -3rd , 2018, Kathmandu, Nepal.	2018
S. M. Bhasney, A. Kumar, V. Katiyar	Morphology and Properties of Bio-Based Poly (Lactic acid) / Linear Low Density Polyethylene Blends and their Microcrystalline Cellulose Reinforced Composites	SPSI-Macro-2018, Dec 19,22, 2018.	2018
Nirmal Roy, Shirsensu Mitra, Tapas K. Mandal	Multiwall carbon nanotube based chemi-resistive sensor for urea detection,	12th International Conference on Complex Fluids and Soft Matter (COMPFLU - 2018), IIT Roorkee, India	2018
Niharika Kashyap, Vijayanand S. Moholkar	Optimization and pathway identification of polycyclic aromatic hydrocarbons (PAHs) degradation by <i>Candida tropicalis</i> and its intensification by sonication	International Conference on Biotechnological Research and Innovation for Sustainable Development XV BRSI Convention	2018
Amit Kumar Singh, Tapas Kumar Mandal, Dipankar Bandyopadhyay	Paper-based self-propelling microcleaners for efficient water purification	4th National workshop on MEMS/NEMS and Theranostic Devices (NWNTD-2018)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Gourhari Chakraborty, Gopal Pugazhenthii, Vimal Katiyar	Poly (lactic acid)/Graphene based thin film Sensors for Ethanol Detection	Kathmandu Symposia on Advanced Materials-2018 (KaSAM-2018), October 26-29, 2018.	2018
Bhaskariyoti Sarma, S Pokhrel, Sunny Kumar, Dipankar Bandyopadhyay, Amaresh Dalal, Dipankar Narayan Basu	Prediction of Sauter mean diameter of spray during electric discharge mediated bursting of a droplet	International Conference on Recent Innovations and Developments in Mechanical Engineering, NIT Meghalaya, India, 8-10 November, 2018.	2018
Siddharth Mohan Bhasney, Amit Kumar, Vimal Katiyar	Preparation and Characterization of Microcrystalline Cellulose fiber [MCC] Reinforced Poly lactic acid [PLA] and Linear Low Density Polyethylene [LLDPE] Polyblend composites	APA International Conference on Advances in Polymer science & Technology, November 1-3, 2018, Kathmandu, Nepal.	2018
Kajal Ingtipi, Vijayanand S. Moholkar	Sonochemically synthesized lignin nanoparticles and its application in the development of nanocomposite hydrogel	ICAMEES-2018	2018
Neha Mulchandani, Kazunari Masutani, Shinichi Sakurai, Yoshiharu Kimura, Vimal Katiyar	Stereocomplex Blends of Poly( $\mu$ -caprolactone)-b-Poly(L-lactic acid) and Poly( $\mu$ -caprolactone)-b-Poly(D-lactic acid): Effect of Block Length on the Structural, Thermal and Mechanical Properties	Kathmandu Symposia on Advanced Materials - 2018 (KaSAM - 2018), October 26-29, 2018.	2018
Nirmal Roy, Shirsensu Mitra, Tapas K. Mandal,	Surface modification of Multiwall carbon nanotubes (MWCNT) and its applications on alcohol detection	Advanced Nanomaterials and their Applications, MNNIT Allahabad, India	2018
Manash Pratim Borthakur, Gautam Biswas, Dipankar Bandyopadhyay	Tuning electroosmotic flow of aqueous electrolytes in nanochannels with implanted wall electrodes	Bulletin of the American Physical Society, Atlanta, USA, 18-20 Nov 2018.	2018
Rupam Sinha, Ravula Rajasekhar, Tapas K. Mandal	Utilization of photoluminescent carbon dots for detecting Cr6+ ions	12th International Conference on Complex Fluids and Soft Matter (COMPFLU - 2018), IIT Roorkee, India.	2018
R. Borgohain, B. Mandal	Synthesis and Characterization of polymer blends for CO2 Separation from flue gas	International Conference on Emerging Trends in Chemical Sciences, Dibrugarh university, India	2018
R. Borgohain, B. Prasad, B. Mandal	Amine functionalized zinc oxide based mixed matrix membrane for CO2 separation	Conference on carbon capture, storage and re-use in India, IITB, India	2018
R. Borgohain, B. Mandal	Enhanced CO2 Separation by Carboxymethyl Chitosan Mixed Matrix Membrane	Conference on Carbon Capture and Its Utilization, NCL Pune, India	2018
P. Das, S. Gumma, B. Mandal	Graphene Oxide Modified Cellulose Acetate Membrane for Direct Methanol Fuel Cell	Research conclave, IITG, India	2018
M. Barooah, B. Mandal	Synthesis, Characterization and gas permeation study of PVA mixed matrix membrane incorporated with silica and MOF filler	Research conclave, IITG, India	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
R. Borgohain, B. Mandal	Carboxymethyl chitosan mixed matrix membrane for CO <sub>2</sub> separation	Research conclave, IITG, India	2018
Smruti Ranjan Dash, Subhendu Sekhar Bag, Animes Kumar Golder	AgNPs and PtNPs formed in a bio-mediated route for electrocatalytic Cd(II) determination	12th International Symposium on Advances in Electrochemical Science and Technology	2019
N.M. Mulchandani, K. Masutani, S. Sakurai, Y. Kimura, V. Katiyar	Biodegradable triblock copolymers: Tailoring the block length to control the physical properties	257th ACS National Meeting & Exposition	2019
N.M. Mulchandani, K. Masutani, S. Kumar, S. Sakurai, Y. Kimura, V. Katiyar	Bioresorbable and biocompatible block copolymers: In vitro studies for targeted biomedical applications	257th ACS National Meeting & Exposition	2019
S.S. Gaur, P. Dhar, A. Kumar, V. Katiyar	Cellulose nanocrystals as proton conductive filler and its composite membrane for DMFC	257th ACS National Meeting & Exposition	2019
Ashray Koradiya, Upasana Mahanta, R Prasanna Venkatesh and Tamal Banerjee	Characterization of ionic liquid based electrical double layer supercapacitor (EDLC)	Research Conclave, IIT Guwahati 2019 (Poster Presentation)	2019
Srinu nagireddi, Animes K. Golder, Ramagopal Uppaluri	Combinatorial optimality of functional groups, process parameters and Pd(II) adsorption-desorption characteristics for commercial anion exchange resins-synthetic electroless plating system	The Challenges in Environmental Science and Engineering	2019
R. Patwa, V. Katiyar, A. Kumar	Crystalline silk nanodisc-based polylactide bionanocomposite.	257th ACS National Meeting & Exposition	2019
P. Boruah, S. Sakurai, R. Gupta, V. Katiyar	Crystallinity and morphology studies in blends of biodegradable poly (lactic acid)/poly (butylene succinate) and effect of modified nanoamphiphilic chitosan as studied by DSC and synchrotron x-ray scattering.	257th ACS National Meeting & Exposition	2019
Pratik Gami, Debashis Kundu and Tamal Banerjee	Development of Xylan-β-cyclodextrin Based Hydrogels for the in vitro Release Study of Curcumin Drug.	Research Conclave, IIT Guwahati 2019 (Poster Presentation)	2019
G. Chakraborty, G. Pugazhenthii, V. Katiyar	Effect of dispersion of graphene on thermal stability and dynamic mechanical properties of melt processed PLA.	257th ACS National Meeting & Exposition	2019
Shirsendu Mitra, Abir Ghosh, Dipankar Bandyopadhyay	Effects of Fluid-Structure-Interaction and Surface Heterogeneity on the Electrophoresis of Finite Sized Microparticles	CompFlu 2018, Roorkee, India, 6-9 Dec 2018.	2019
Anusuya Talukdar, Prince Kumar Baranwal and R. Prasanna Venkatesh	Electrochemical Impedance Spectroscopy Analysis of Acetic Acid on Carbon Steel Corrosion in CO <sub>2</sub> -H <sub>2</sub> S Medium	International symposium on Advances in Electrochemical Science and Technology (ISAEST)	2019



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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Paulomi Bose, Animes Kumar Golder, Chandan Mukherjee	Electrochemical reduction of CO <sub>2</sub> on Cu and Cu <sub>2</sub> O catalysts towards fuels generation	12th International Symposium on Advances in Electrochemical Science and Technology	2019
A. Prasad, R. Sankar, V. Katiyar	Fabrication and characterization of poly (lactic acid)/ hydroxyapatite biofilms for bone graft harvest site fixations.	257th ACS National Meeting & Exposition	2019
Doli Hazarika, Amit Kumar, Vimal Katiyar	Fabrication of Stereo complex Poly (Lactic acid) (PLA) fibers reinforced with Amphiphilic Chitosan using Melt Spinning	SPSI-MACRO-2018, December 19th-22nd, 2018.	2019
P. Dhar, A. Kumar, V. Katiyar	Functionalization of cellulose nanocrystals for development of polymeric bionanocomposites and applications in sustainable chemical processes.	257th ACS National Meeting & Exposition	2019
Pankaj Boruah, Shinichi Sakurai, Raghvendra Gupta, Vimal Katiyar	Influence of Functionalized Chitosan on Crystallization Behaviour of PLA/PBS blends as studied by using SAXS and DSC techniques	10th International Conference on Advancements in Polymeric Materials (APM-2019) on 22nd & 23rd, January 2019.	2019
N.M. Mulchandani, K. Masutani, S. Sakurai, Y. Kimura, V. Katiyar	Multicomponent block copolymers consisting of soft and hard segments: Effect of copolymer architecture on the thermal, mechanical, and crystallization properties. ,	257th ACS National Meeting & Exposition	2019
Neha Mulchandani, Kazunari Masutani, Shinichi Sakurai, Yoshiharu Kimura, Vimal Katiyar	Poly( $\mu$ -caprolactone)-co-Poly(lactic acid): Influence of Comonomer Backbone Architecture on the Crystallization Behavior, Mechanical and Thermal properties,	Advancements in Polymeric Materials (APM-2019), January 22-24, 2019.	2019
V. Katiyar, M. Mili, A. Gupta	Poly(L-lactide)-N-heterocyclic functionalised drug conjugates as drug carrier-systems: Synthesis, mechanistic, and kinetics study	257th ACS National Meeting & Exposition	2019
P. Dhar, S.S. Gaur, A. Kumar, V. Katiyar	Sustainable approach towards the fabrication of tunable graphene nanoscrolls and its application for energy storage	257th ACS National Meeting & Exposition	2019
P. Dhar, A. Kumar, V. Katiyar	Sustainable route for reactive cross-linking of poly(lactic acid)/ cellulose nanocrystal films: investigations of processability and structure-property relationship.	257th ACS National Meeting & Exposition	2019
Pradeep Sahu, Prabu V	Thermogravimetric analysis on Co-gasification of Municipal Solid Waste with Indian Coals and Pet coke	National Conference on Advances in Chemical Engineering and Science (ACES 2019), IISER Bhopal	2019

## Conference Papers

## Chemistry

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
S. Roy, S. Pradhan, and T. Punniyamurthy	Copper-Mediated Regioselective Etherification of Naphthylamides with Arylboronic Acids using Water as an Oxygen Source via Directed C( $\gamma$ )-H Activation	XIV-JNOST, CSIR-ICT, Hyderabad.	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
P. B. De, S. Pradhan, S. Banerjee and T. Punniyamurthy	Expedient Co(II)-Catalyzed Regioselective C7-Arylation of Indolines with Boronic Acids	FICS, IIT Guwahati, Guwahati,	2018
S. Roy, S. Pradhan, and T. Punniyamurthy	Copper-Mediated Directed C( $\gamma$ )-H Activation and Regioselective Etherification of Naphthylamides with Arylboronic Acids	FICS, IIT Guwahati, Guwahati,	2018
V. Sathesh, S. V. Kumar, and T. Punniyamurthy	Cobalt-Catalyzed Sequential Ring expansion and C-O bond formation of Styrene Oxides with N-methylanilines	FICS, IIT Guwahati, Guwahati,	2018
B. K. Das, S. Pradhan, S. Banerjee and T. Punniyamurthy	Stereospecific Synthesis of Functionalized Piperazines and Tetrahydropyrazines via Ring Opening and Cycloisomerization of Aziridines with Propargylamines	FICS, IIT Guwahati, Guwahati,	2018
T. Sarkar, S. Pradhan and T. Punniyamurthy	Ruthenium(II)-Catalyzed Regioselective C-H Oxygenation of Aniline Derivatives using Removable Pyrimidine Auxiliary	FICS, IIT Guwahati, Guwahati,	2018
S. Banerjee, P. B. De, S. Pradhan, T. A. Shah and T. Punniyamurthy	Ru(II)-Catalyzed Site-selective C-N Bond Formation of Indolines and Carbazole with Acyl Azides	ORGANIX, Tezpur University, Tezpur,	2018
P. B. De, S. Pradhan, S. Banerjee and T. Punniyamurthy	Expedient Cobalt(II)-Catalyzed Site-Selective C7-Arylation of Indolines with Boronic Acids	ORGANIX, Tezpur University, Tezpur,	2018
S. Roy, S. Pradhan, and T. Punniyamurthy	Regioselective Etherification of Naphthylamides with Arylboronic Acids Via Picolinamide Directed C( $\gamma$ )-H Activation	ORGANIX, Tezpur University, Tezpur,	2018
P. B. De, S. Pradhan, S. Banerjee and T. Punniyamurthy	Robust Cobalt(II)-Catalyzed Site-Selective C7-Arylation of Indolines with Boronic Acids	24th CRSI National Symposium in Chemistry, CSIR-CLRI Chennai	
B. Mandal	Anti-amyloid peptide design using supramolecular chemistry and beyond	National conference on Synthetic and biological peptides: Structures and strategies for the development of drugs, biologics and materials	2019
B. Mandal	New Strategies to Tackle Alzheimer's and Type II Diabetes	National Seminar on Frontiers in Chemical Sciences (NSFCS-2018)	2018
Sourav Kalita, Sujan Kalita, A. Paul and B. Mandal	Inhibition of Amylin Aggregation by Single Point Mutation of hIAPP at Different Positions	7th Indian Peptide Symposium (IPS) 2019	2019
Sujan Kalita, Sourav Kalita and B. Mandal	Tail-to-Side Chain Cyclic Peptides synthesized via Incorporation of Dicarboxylic Acids at the N-Terminus Exhibits Inhibitory Efficacy of Alzheimer's Amyloid- $\beta$ (A $\beta$ 1-40) Fibrils	7th Indian Peptide Symposium (IPS) 2019	2019
T. Mondal and B. Mandal	Development of Functional Mimic of $\alpha$ -secretase towards the Drug Design against Alzheimer's Disease	Frontier in Chemical Sciences (FICS 2018)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
T. Mondal and B. Mandal	Development of Novel Scorpion Peptides towards the Drug Design against Alzheimer's Disease	23rd CRSI National Symposium in Chemistry (CRSI NSC-23)	2018
T. Kalita and B. Mandal	Ethyl 2-Cyano-2-(2-nitrobenzenesulfonyloxymino) acetate (o-NosylOXY) mediated Curtius rearrangement : One pot racemization free synthesis of ureas and carbamates	23rd CRSI National Symposium in Chemistry (CRSI NSC-23)	2018
S. Kalita, A. Paul, S. Kalita and B. Mandal	Mechanistic Investigation of Arresting Amyloid Fibrils by a Synthetic Paratope -A Therapeutic Approach Against Alzheimer's Disease	23RD CRSI National Symposium in Chemistry (CRSI NSC-23)	2018
Sujan Kalita, Sourav Kalita and B. Mandal	Development of Cyclic Peptides as Inhibitors Against Amyloid Fibrillogenesis -A Therapeutic Approach Against Alzheimer's Disease	Frontiers in Chemical Sciences (FICS) 2018	2018
R. S. Giri and B. Mandal	Self-assembly of Boc-Gly-Phe-Phe-OMe and Boc-Gly-Phe-Phe-OMe Exhibits Supramolecular Helical Architecture	Frontiers in Chemical Sciences [FICS -2018]	2018
R. S. Giri and B. Mandal	Supramolecular Self-association of Two Different Tripeptides: Crystallographic Insights	Regional Seminar on SCIENCE FOR SUSTAINABLE DEVELOPMENT (SSD-2019)	2019
R. Bhaskaran and M. Sarma	Investigation of Dissociative Electron Attachment Cross - Section to Some Biomolecules Fragments	Gordon Research Conference on Computational Chemistry 2018, United States of America	2018
M. Sarma	Implementation of Local Complex Potential based Time Dependent Wave Approach in Electron Induced Chemistry	Theoretical Chemistry Symposium (TCS) 2019, Pilani, Rajasthan	2019
H. K. Singh and M. Sarma	Investigation of the Interaction of the Different Groups Modulated Galantamine Drug with Acetyl Cholinesterase by Molecular Docking and Oniom Model	Theoretical Chemistry Symposium (TCS) 2019, Pilani, Rajasthan, India	2019
S. Das, L. M. Kundu	Poster presentation titled "Fatty Acid Based Drug Conjugate: A Potent Drug Delivery System"	Frontiers In Chemical Sciences (FICS) 2018, IITG	2018
H. Horo, L. M. Kundu	Poster presentation titled "Development of Photoresponsive Biopolymeric Nanoparticles Based Drug Delivery System for Antitumor Drug (ICON2018P0036)"	2nd International Conference on Nano Science & Engineering Application - 2018, JNTU Hyderabad.	2018
H. Horo, L. M. Kundu	Poster presentation titled "Development of Chitosan Conjugated Prodrug Nano-Carrier for Photo-mediated Delivery of Antitumor Drug 5-Fluorouracil"	Research Conclave, IIT Guwahati	2019
G. Bhattacharjee, A. Kamra, L. M. Kundu	Poster presentation titled "Green Synthesis of a Gold Nano-carrier for Antibiofilm Drug Delivery"	Research Conclave, IIT Guwahati.	2019
C. Mukherjee	Transition Metal Complexes in biomimetic and catalytic applications	9th Asian Biological Inorganic Chemistry (AsBIC) Conference	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
C. Mukherjee	Molecular Structure Analyses in Understanding Physical and Chemical Properties of Transition Metal Complexes	International Conference on Structural and Inorganic Chemistry (ICSIC)-II	2019
D. Bhattacharyya, A. Das	Triazine containing Ru(II/III)-NNN pincer complex as catalyst for acceptorless dehydrogenation reaction	Frontiers In Chemical Sciences (FICS) 2018, IITG	2018
B. Sarmah, A. Das	Bi(III)-catalyzed formal insertion of carbene and nitrene moiety into C(sp <sup>2</sup> )-H and C(sp <sup>3</sup> )-H bonds	Frontiers in Chemical Sciences (FICS) 2018, IITG	2018
K. Das, M. Dutta, B. Das, H. K. Srivastava, A. Kumar	Oral presentation titled "Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions"	Research Conclave, IIT Guwahati	2019
M. Dutta, K. Das, H. K. Srivastava, Kumar, A	Poster presentation titled "Cyanomethylation of Aldehydes Catalyzed by Pincer-Based Nickel Complexes: An Experimental and Computational Study"	Research Conclave, IIT Guwahati	2019
K. Das, M. Dutta, B. Das, H. K. Srivastava, A. Kumar	Oral presentation titled "Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions"	Frontiers in Chemical Sciences (FICS) 2018, IITG	2018
M. Dutta, K. Das, H. K. Srivastava, Kumar, A	Poster presentation titled "Cyanomethylation of Aldehydes Catalyzed by Pincer-Based Nickel Complexes: An Experimental and Computational Study"	Frontiers in Chemical Sciences (FICS) 2018, IITG	2018

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## Civil Engineering

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Choudhury, T., and Kaushik, H.B.	Purview of Nonlinear Static and Dynamic Analysis Procedures on Seismic Fragility Estimation of RC Buildings with Masonry Infills	National Conference on Advances in Structural Technologies (CoAST-2019), National Institute of Technology (NIT) Silchar	2019
Borah, B., Singhal, V., and Kaushik, H.B.	Assessment of Important Parameters for Seismic Analysis and Design of Confined Masonry Buildings	National Conference on Advances in Structural Technologies (CoAST-2019), National Institute of Technology (NIT) Silchar	2019
Choudhury, T., and Kaushik, H.B.	Assessment of In-plane Capacity of Unreinforced Masonry Walls	16th Symposium on Earthquake Engineering, IIT Roorkee	2018
Borah, B., Singhal, V., and Kaushik, H.B.	A Simplified Approach to Analytical Modeling of Confined Masonry Buildings	16th Symposium on Earthquake Engineering, IIT Roorkee	2018
Choudhury, T., and Kaushik, H.B.	Sensitivity of Seismic Response of Vertically Irregular Masonry Infilled RC Frames to Critical Uncertain Parameters	16th Symposium on Earthquake Engineering, IIT Roorkee	2018
Chand, B., Kaushik, H.B., and Das, S.	Influence of Openings on Seismic Behavior of Traditional Assam-type Wooden House	16th Symposium on Earthquake Engineering, IIT Roorkee	2018

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**Civil Engineering**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Choudhury, T., and Kaushik, H.B.	Seismic fragility flow plots for risk assessment of reinforced concrete buildings with open ground storey	2nd International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges (CESDOC 2018), Assam Engineering College, Guwahati	2018
Chand, B., Kaushik, H.B., and Das, S.	Study of Seismic Performance of Traditional Assam-type Wooden House	2nd International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges (CESDOC 2018), Assam Engineering College, Guwahati	2018
Choudhury, T., and Kaushik, H.B.	Steel Bands: A sustainable strengthening technique to strengthen unreinforced masonry buildings	2nd International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges (CESDOC 2018), Assam Engineering College, Guwahati	2018
Borah, B., Singhal, V., and Kaushik, H.B.	Sustainable housing using confined masonry buildings	2nd International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges (CESDOC 2018), Assam Engineering College, Guwahati	2018
Verma, D. K. and Singh, B.	Effects of geogrid and floating piles on performance of highway embankment constructed over clayey soil	Indian Geotechnical Conference, IGC-2018, Bengaluru	2018
Patel, S. K. and Singh, B.	Effect of glass fibres on the strength and deformation performance of a cohesive soil	Indian Geotechnical Conference, IGC-2018, Bengaluru	2018
Deb, T. K. and Singh, B.	Numerical investigation and design of monopod bucket foundation embedded in sand	Indian Geotechnical Conference, IGC-2018, Bengaluru	2018
Deb, T. K. and Singh, B.	Numerical investigation of the vertical response of bucket foundations supporting offshore wind turbines in sand	IACMAG Symposium 2019, Gandhinagar	2019
Patel, S. K. and Singh, B.	Comparative shear strength behaviour of glass fibre reinforced clayey and sandy soils under varying moulded states	IACMAG Symposium 2019, Gandhinagar	2019
Patel, S. K. and Singh, B.	Strength and deformation aspects of glass fibre -reinforced clayey soil	71YGEC 2019, Silchar	2019
Partha Das, Tadikonda Venkata Bharat	Effect of Inorganic salt solutions on the hydraulic conductivity and diffusion characteristics of compacted clay	Indian Geotechnical Conference	2018
Dhanesh Sing Das, Tadikonda Venkata Bharat	Theoretical study on equilibrium volume of clay sediments in salt solutions	Indian Geotechnical Conference	2018
Tadikonda Venkata Bharat, Partha Das, Ankti Srivastava	Insights into Contaminant Transport Modeling Through Compacted Bentonites	Indian Geotechnical Conference	2018
Lekshmi K., Akhila Kumar Mishra, Rishikesh Bharti and Chandan Mahanta	Seasonal Variability Analysis of Sea Water pCO <sub>2</sub> Over North Western Indian Ocean	2018 AGU Fall Meeting, Washington, D.C.	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Shovan Kumar Sahu, Venkatesh Chejarla Reddy, Vidhya Ganesh Rangarajan, Rishikesh Bharti, Rajya Garaga, Hongliang Zhang, Jianlin Hu, Qi Ying, Sri Harsha Kota	Predicting countrywide PM2.5 concentration and associated mortality in India based on GAM model using aerosol optical depth and meteorological parameters.	2018 AGU Fall Meeting, Washington, D.C.	2018
Pooja Patel, Arjun B.M, Shanbor Kurbah, Vidhya Ganesh Rangarajan, Rishikesh Bharti	Effect of possible diversion of Yarlung Tsangpo water at Zangmu: A semi-distributed model approach.	HYDRO 2018 International, NIT Patna	2018
Vidhya Ganesh Rangarajan, Rishikesh Bharti and S. Dutta	An Investigation of Hydrated Minerals in Jezero Crater.	European Planetary Science Congress 2018, TU Berlin	2018
Vidhya Ganesh R., Rishikesh Bharti, S. Dutta	An investigation of the fluvial geomorphology and associated minerals in the Syrtis Major, Mars.	IEEE International Geoscience and Remote Sensing Symposium (IGARSS)	2018
Abhishek Dixit, Lekshmi K., Rishikesh Bharti, Chandan Mahanta	Basin scale pCO <sub>2</sub> distribution in case 1 waters: An investigation from Bay of Bengal, India.	IEEE International Geoscience and Remote Sensing Symposium (IGARSS)	2018
Abhishek Dixit, Lekshmi K., Rishikesh Bharti and Chandan Mahanta	A technique for estimation of partial pressure of carbon dioxide in the Bay of Bengal.	2018 Ocean Sciences Meeting in Portland, Oregon	2018
P. S. Bokare, Akhilesh Kumar Maurya and Sharad Gokhale	Effect of Speeding Behaviour of Passenger Cars on Tailpipe Emissions	15th World Conference on Transport Research	2019
Gourab Sil, Suresh Nama, Avijit Maji and Akhilesh Kumar Maurya	Evaluation of Speed and Lateral Position for Inter-Vehicle Interaction	15th World Conference on Transport Research	2019
Kuldeep Kalita and Akhilesh Kumar Maurya	Probabilistic Geometric Design of Highways: A Review	15th World Conference on Transport Research	2019
Alice Boruah and Akhilesh Kumar Maurya	Vehicles lateral placement on horizontal curves: A literature review	15th World Conference on Transport Research	2019
Arunabha Banerjee and Akhilesh Kumar Maurya	A comparative study of pedestrian movement behavior over foot over bridges under similar land use type	15th World Conference on Transport Research	2019
Sanhita Das and Akhilesh Kumar Maurya	Modelling maneuverability of motorized two-wheelers during filtering in urban roads	15th World Conference on Transport Research	2019
Sanhita Das and Akhilesh Kumar Maurya	Pore acceptance predictions of motorized two-wheelers at urban mid-block sections	98th Annual Meeting of Transportation Research Board (TRB)	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Gourab Sil, Suresh Nama, Avijit Maji and Akhilesh Kumar Maurya	Modelling the perception of sharpness for horizontal curves	98th Annual Meeting of Transportation Research Board (TRB)	2019
Arunabha Banerjee and Akhilesh Kumar Maurya	Effectiveness of Providing Lift and Better Staircase in a Footover Bridge: A Case Study of Guwahati, Assam	Transportation Infrastructure Projects: Conception to Execution	2019
Sanhita Das, Ashesh Choudhury, Porishmita Saikia, Akkiraju Lakshmi Ksheeraja, Nishant Deka, Jahangir Alom, Akhilesh Kumar Maurya	Filtering behaviour of motorized two-wheelers and cars in urban roads	1st International Conference on Infrastructure Development (ICID 2018)	2018
Sanhita Das and Akhilesh Kumar Maurya	Dynamic data collection of staggered-following behavior in non-lane based traffic stream	2nd International Conference on Civil Engineering for Sustainable Development Opportunities and Challenges (CESDOC 2018)	2018
Kumar, A., Choudhary, R., and Kumar, A.	Preliminary Investigation on the Use of Sulphur with Waste EPDM Rubber for Asphalt Binder Modification	International Conference: Transportation Infrastructure Projects: Conception to Execution (TIPCE-2019), IIT Roorkee	2019
Julaganti, A., Choudhary, R., and Kumar, A.	Performance Characterisation of Warm Mix Asphalt Mixes for Sustainable Road Construction	International Conference: Transportation Infrastructure Projects: Conception to Execution (TIPCE-2019), IIT Roorkee	2019
Pattanaik, M.L., Choudhary, R., Kumar, B., and Kumar, A.	Utilization of Electric Arc Furnace Steel Slag in Open Graded Friction Courses: A Performance Evaluation	Transportation Research Board (TRB) 98th Annual Meeting, Washington, D.C., USA.	2019
Pattanaik, M.L., Choudhary, R., Kumar, B., and Kumar, A.	Frictional Characteristics of Open Graded Friction Course Asphalt Mixtures with EAF Steel Slag	World Conference on Waste Management, Colombo, Sri Lanka	2019
Pathak, S., Choudhary, R., and Kumar, A.	Effect of Basic Oxygen Furnace Steel Slag on Moisture Sensitivity Characteristics of Open Graded Asphalt Friction Course	18th Annual International Conference on Pavement Engineering, Asphalt Technology and Infrastructure, Liverpool, UK.	2019
Kumar, A., and Choudhary, R.	Use of Waste Tyre Pyrolytic Products for Asphalt Binder Modification	18th Annual International Conference on Pavement Engineering, Asphalt Technology and Infrastructure, Liverpool, UK.	2019
Nazir, P., Choudhary, R., and Kumar, A.	Nano-modified Asphalt Binder: A Sustainable Construction Material	2nd International Conference on "Civil Engineering for Sustainable Development – Opportunities and Challenges (CESDOC 2018)"; Assam Engineering College, Guwahati	2018
Dutta, P., Devi, D., Sarma, A. K.	Comparing Global High Resolution Precipitation Data with Rain Gauge Data in Assam, India	HYDRO-2018 INTERNATIONAL	2018
Talukdar, G., Sarma, A. K.	Assuring Water Intake Sustainability under Changing Climate	HYDRO-2018 INTERNATIONAL	2018
Sarma, A. K., Sarma, D.	A Comparative Study of Remote Sensing based Bank Line Delineation Techniques for An Erosion-prone Braided River	Conference on NEXT FRONTIERS IN CIVIL ENGINEERING Sustainable and Resilient Infrastructure	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sarma, A. K., Baruah, A. J.	A robust numerical scheme for transcritical flow simulation in a braided river	iCRAFT 2018	2018
Devi, D., Chaudhury, K. M., Sarma, A. K.	Application of BRAHMA hydrodynamic model for flood forecasting	iCRAFT 2018	2018
Dutta, P., Sarma, A. K.	Hydrological Assessment of the Transboundary Brahmaputra River Basin using SWAT	International Conference on Infrastructure Development (ICID 2018)	2018
Patowary, S., Sarma, A. K.	Effect of Urban Settlement on Watershed Hydrology of Fatasil Hill of Guwahati City	International Conference on Infrastructure Development (ICID 2018)	2018
Das, T., Sultana, T., Sarma, A. K.	Development of Vulnerability Index for River Bank Erosion	International Conference on Infrastructure Development (ICID 2018)	2018
Marak, J. D. K., Sarma, A. K., Bhattacharjya, R. K.	Calibration Validation and Uncertainty Analysis of SWAT model for predicting reservoir inflow in Umiam Watershed, Meghalaya	International Conference on Water Management and Climate Change towards Asia Water Energy Food Nexus and SDGs	2018

**Conference Papers****Computer Science and Engineering**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Panthadeep Bhattacharjee, Pinaki Mitra	Incremental Mining Algorithms: Adapting to Dynamic Data	24th International Conference on Advanced Computing and Communications(ADCOM)	2018
Neelakshi Sarma, Sanasam Ranbir Singh, Diganta Goswami	Word Level Language Identification in Assamese-Bengali-Hindi-English Code-Mixed Social Media Text	International Conference on Asian Language Processing	2018
Lenin Laitonjam, Loitongbam Gyanendro Singh and Sanasam Ranbir Singh	Transliteration of English Loanwords and Named-entities to Manipuri: Phoneme vs Grapheme representation	International Conference on Asian Language Processing	2018
Akash Anil, Shubham Singhal, Piyush Jain, Sanasam Ranbir Singh, Ajay Ladhar, Sandeep Singh and Uppinder Chugh	Network Sampling Using k-hop Random Walks for Heterogeneous Network Embedding	The ACM India Joint International Conference on Data Science & Management of Data	2019
Sweta Agrawal, Amit Awekar	Deep Learning for Detecting Cyberbullying Across Multiple Social Media Platforms	European Conference on Information Retrieval	2018
Pawan K. Mishra, Sangram K. Jena, Gautam K. Das, S.V. Rao	Capacitated Discrete Unit Disk Cover	13th International Conference and Workshops on Algorithms and Computation(WALCOM 2019)	2019
M S Vasudevan, A Sahu, Santosh Biswas	RSBST: A Rapid Software-based Self-test Methodology for Processor Testing	32nd Conf on VLSI Design	2019



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Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Chinmaya Kumar Swain, Aryabarta Sahu	Interference Aware Scheduling of Real Time Tasks in Cloud Environment.	High Performance Computing and Communication	2018
Deepanjan Kesh	Space Complexity of Two Adaptive Bitprobe Schemes Storing Three Elements	38th FSTTCS	2018
Mirza Galib Anwarul Husain Baig, Deepanjan Kesh, Chirag Sodani	A Two Query Adaptive Bitprobe Scheme Storing Five Elements	13th WALCOM	2019
Deepanjan Kesh, Vidya Sagar Sharma	On the Bitprobe Complexity of Two Probe Adaptive Schemes Storing Two Elements	5th CALDAM	2019
Subrat Tikadar, Samit Bhattacharya, and T. Venkatesh,	A Blended Learning Platform to Improve Teaching-Learning Experience	18th IEEE International Conference on Advanced Learning Technologies (ICALT)	2018
Moustafa Najm and T. Venkatesh	Cost-efficient Deployment of Big Data Applications in Federated Cloud Systems	11th International Conference on Communication Systems and Networks (COMSNETS)	2019
Hema K. Yarnagula, R. Anandi, and T. Venkatesh	Objective QoE Assessment of DASH Adaptation Algorithms over Multipath TCP	11th International Conference on Communication Systems and Networks (COMSNETS)	2019
Hema K. Yarnagula and T. Venkatesh	The HTTP/2 Server Push and its Implications on Mobile Web Quality of Experience	25th National Conference on Communications (NCC)	2019
Ramanuj Chouksey, Chandan Karfa and Purandar Bhaduri	Improving Performance of Path Based Equivalence Checker using Counter-example	32nd International Conference on VLSI Design and 18th International Conference on Embedded Systems	2019
Kunal Banerjee, Ramanuj Chouksey, Chandan Karfa and Pankaj Kumar Kalita	Automatic Detection of Inverse Operations while Avoiding Loop Unrolling	40th International Conference on Software Engineering (ICSE 18)	2018
Ramanuj Chouksey, Chandan Karfa and Purandar Bhaduri	Formal Verification of Optimizing Transformations During High-level Synthesis	Proceedings of the 12th Innovations on Software Engineering Conference	2019
Sandeep Vidyapu, V Vijaya Saradhi, and Samit Bhattacharya.	FixationIndices based Correlation between Text and Image Visual Features of Webpages.	ACM Symposium on Eye Tracking Research & Applications (ETRA 2018)	2018
Subrat Tikadar, Samit Bhattacharya	Predicting Students' Involvement in Blended Learning Environment.	19th IEEE International Conference on Advanced Learning Technologies - ICALT 2019. IEEE	2019
Ranjan Maity and Samit Bhattacharya	Relating Aesthetics of the GUI Text Elements with Readability using Font Family.	Companion Proceedings of the 2018 ACM International Conference on Interactive Surfaces and Spaces (ISS '18)	2018
Sptarshi Pyne, Alok Ranjan Kumar and Ashish Anand	Towards Genome-scale Disease Progression Models	International Conference on Bioinformatics	2018
Pranav Kumar Singh, Sunit Kumar Nandi and Sukumar Nandi	Evaluating DASH Player QoE with MPTCP in Presence of Packet Loss	33rd International Conference on Advanced Information Networking and Applications (AINA-2019)	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Saurabh Sabharwal, Satya Prakash, Pranav Kumar Singh, Sunit Kumar Nandi and Sukumar Nandi	Is QUIC Quicker Than TCP? A Performance Evaluation	Workshops of the International Conference on Advanced Information Networking and Applications	2019
Pranav Kumar Singh, Rahul Raj Gupta, Sunit Kumar Nandi and Sukumar Nandi	Machine Learning Based Approach to Detect Wormhole Attack in VANETs	Workshops of the International Conference on Advanced Information Networking and Applications	2019
Pranav Kumar Singh, Shivam Gupta, Ritveeka Vashistha, Sunit Kumar Nandi and Sukumar Nandi	Machine Learning Based Approach to Detect Position Falsification Attack in VANETs	ISEA International Conference on Security & Privacy 2018	2019
Sukanta Dey, Abhishek Kumar, Mehul Sawarkar, Pranav Kumar Singh and Sukumar Nandi	EvadePDF: Towards Evading Machine Learning based PDF Malware Classifiers	ISEA International Conference on Security & Privacy 2018	2019
Pranav Kumar Singh, Prateek Vij, Arpan Vyas, Sunit Kumar Nandi and Sukumar Nandi	Elliptic Curve Cryptography Based Mechanism for Secure Wi-Fi Connectivity	15th International Conference on Distributed Computing and Internet Technology	2019
Pranav Kumar Singh, Anish V Monsy, Rajan Garg, Sukanta Dey and Sukumar Nandi	JSpongeGen: A Pseudo Random Generator for Low Resource Devices	15th International Conference on Distributed Computing and Internet Technology	2019
Jinita Patel, Manik Lal Das and Sukumar Nandi	On the Security of Remote Key Less Entry for Vehicle	IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)	2018
Srikanta Pradhan, Somanath Tripathy and Sukumar Nandi	Blockchain based Security Framework for P2P Filesharing system	IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)	2018
Pradeepkumar Bhale, Santosh Biswas and Sukumar Nandi	An Adaptive and Lightweight Solution to Detect Mixed Rate IP Spoofed DDoS Attack in IoT Ecosystem	IEEE INDICON	2018
Pranav Kumar Singh, Manish Kumar Dash, Paritosh Mittal, Sunit Kumar Nandi and Sukumar Nandi	Misbehavior Detection in C-ITS Using Deep Learning Approach	18th International Conference on Intelligent Systems Design and Applications (ISDA)	2018
Pranav Kumar Singh, Suraj Kumar Jha, Sunit Kumar Nandi, and Sukuma Nandi	ML-Based Approach to Detect DDoS Attack in V2I Communication Under SDN Architecture	IEEE TENCON	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Pranav Kumar Singh, Geetesh Saikamal Tabjul, Mohd Imran, Sunit Kumar Nandi, and Sukumar Nandi	Impact of Security Attacks on Cooperative Driving Use Case: CACC Platooning	IEEE TENCON	2018
Pranav Kumar Singh, Sahil Sharma, Sunit Kumar Nandi, Roshan Singh and Sukumar Nandi	Leader Election in Cooperative Adaptive Cruise Control Based Platooning	1st International Workshop on Communication and Computing in Connected Vehicles and Platooning (C3VP) in conjunction with MobiCOM 2018	2018
Subhrendu Chattopadhyay, Samar Shailendra, Sukumar Nandi and Sandip Chakraborty	Improving MPTCP Performance by Enabling Sub-Flow Selection over a SDN Supported Network	14th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)	2018
Puneet Bakshi, Neelakantan Subramanian and Sukumar Nandi	Using Digital Tokens to Improve Amortized Performance of eSign	3rd IEEE Cyber Science and Technology Congress (CyberSciTech2018)	2018
Bhriguraj Borah, Dhruvajyoti Pathak, Priyankoo Sarmah, Bidisha Som and Sukumar Nandi	Survey of Textbased Chatbot in Perspective of Recent Technologies	Computational intelligence, Communications and Business Analytics (CICBA)	2018
Pinaki Sarkar, Mayank Baranwal and Sukumar Nandi	CRT-KPS And Variants : Resilient Key Predistribution Schemes For (Low Cost) Networks Using CRT	23rd Australasian Conference on Information Security and Privacy (ACISP 2018)	2018
Sukanta Dey, Satyabrata Dash, Sukumar Nandi and Gaurav Trivedi	PGIREM: Reliability-Constrained IR Drop Minimization and Electromigration Assessment of VLSI Power Grid Networks using Cooperative Coevolution	IEEE Computer Society Annual Symposium on VLSI (ISVLSI)	2018
Abhijit Das, Sarath Babu, John Jose, Sangeetha Jose, Maurizio Palesi	Critical Packet Prioritisation by Slack-Aware Re-routing in On-Chip Networks	12th IEEE/ACM International Symposium on Networks-on-Chip (NOCS)	2018
Simi Zerine Sleeba, John Jose, Maurizio Palesi, Rekha K. James, Mini Nair	Traffic Aware Deflection Rerouting Mechanism for Mesh Network on Chip	26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-Soc)	2018
Giuseppe Ascia, Vincenzo Catania, Salvatore Monteleone, Maurizio Palesi, Davide Patti, John Jose	Approximate Wireless Networks-on-Chip	33rd International Conference on Design of Circuits and Integrated Systems (DCIS)	2018
Giuseppe Ascia, Vincenzo Catania, Salvatore Monteleone, Maurizio Palesi, Davide Patti, John Jose	Improving Energy Consumption of NoC based Architectures through Approximate Communication	7th Mediterranean Conference on Embedded Computing (MECO)	2018

## Computer Science and Engineering

## Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Akshay B P, Ganesh K M, Thippeswamy D R, Vishnu S Bhat, Anitha Vijayakumar, Ananda Y R, John Jose	Implementation of a Novel Fault Tolerant Routing Technique for Mesh Network on Chip	22nd International Symposium on VLSI Design and Test (VDAT)	2018
Midhula K.S, Sarath Babu, John Jose, Sangeetha Jose	Performance Enhancement of NoCs using Single Cycle Defection Routers and Adaptive Priority Schemes	22nd International Symposium on VLSI Design and Test (VDAT)	2018
Sujay B Shaunak, Shashank S Rao, Ajay S, Satya Sai Krishna Mohan G, Krutthika H K, Ananda Y R, John Jose	Source Hotspot Management in a Mesh Network on Chip	22nd International Symposium on VLSI Design and Test (VDAT)	2018
Rose George Kunthara, Rekha K James, Simi Zerine Sreeba, John Jose	ReDC: Reduced Deflection CHIPPER Router for Bufferless NoCs	8th International Symposium on Embedded Computing and System Design (ISED)	2018
Dipika Deb, John Jose and Maurizio Palesi	Performance Enhancement of Caches in TCMPs using Near Vicinity Prefetcher	32nd IEEE International Conference on VLSI Design (VLSID)	2019
Nayantara Kotoky, Vijaya Saradhi	Analysis of Right to Information Query-length	3rd Indian Workshop on Machine Learning	2018
S. Agarwal and H. K. Kapoor	Enhancing the Lifetime of Non-volatile Caches by Exploiting Module-Wise Write Restriction	The 29th ACM Great Lakes Symposium on VLSI (GLSVLSI)	2019
S. S. Manohar, S. Agarwal and H. K. Kapoor	Towards Optimizing Refresh Energy in embedded-DRAM Caches using Private Blocks	The 29th ACM Great Lakes Symposium on VLSI (GLSVLSI)	2019
S. Yadav, V. Laxmi, M. S. Gaur and H. K. Kapoor	Late Breaking Results: Improving Static Power Efficiency via Placement of Network Demultiplexer over Control Plane of Router in Multi-NoCs	The 56th Design Automation Conference (DAC)	2019
S. S. Manohar and H. K. Kapoor	Refresh Optimised embedded-DRAM Caches based on Zero Data Detection	34th ACM Symposium On Applied Computing (ACM-SAC)	2019
K. Rani and H. K. Kapoor	Write Variation Aware Non-Volatile Buffers for On-Chip Interconnects	32nd International Conference on VLSI Design (VLSID)	2019
A. Nath and H. K. Kapoor	Write Variation aware Cache Partitioning for Improved Lifetime in Non-Volatile Caches	32nd International Conference on VLSI Design (VLSID)	2019
SJ Dutta, S Biswas	Remote Triggered Digital System Laboratory	International Conference for Convergence in Technology (I2CT)	2018
R. Devaraj, A. Sarkar, S. Biswas	Exact Task Completion Time Aware Real-Time Scheduling Based on Supervisory Control Theory of Timed DES	European Control Conference (ECC)	2018
Piyooosh Purushothaman Nair, Rajesh Devaraj and Arnab Sarkar	FEST: Fault-Tolerant Energy-Aware Scheduling on Two-Core Heterogeneous Platform	International Symposium on Embedded Computing and System Design (ISED)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
S. Moulik, R. Devaraj, A. Sarkar	HETERO-SCHED: A Low-overhead Heterogeneous Multi-core Scheduler for Real-time Periodic Tasks	20th IEEE International Conference on High Performance Computing and Communications (HPCC)	2018
S. Moulik, R. Devaraj and A. Sarkar	COST: A Cluster-Oriented Scheduling Technique for Heterogeneous Multi-cores	IEEE International Conference on Systems, Man, and Cybernetics (SMC)	2018
Sanjit Kumar Roy, Sayani Sinha, Kankana Maji, Rajesh Devaraj and Arnab Sarkar	Optimal Scheduling of Precedence-constrained Task Graphs on Heterogeneous Distributed Systems with Shared Buses	22nd IEEE INTERNATIONAL SYMPOSIUM ON REAL-TIME COMPUTING	2019
Sanjit Kumar Roy, Rajesh Devaraj and Arnab Sarkar	Optimal Scheduling of PTGs with Multiple Service Levels on Heterogeneous Distributed Systems	American Control Conference	2019
S Moulik, R Devaraj, A Sarkar	HEART: A Heterogeneous Energy-Aware Real-Time scheduler	32nd International Conference on VLSI Design	2019
Satish Kumar, P. Vishnoi, Arnab Sarkar, Arijit Sur.	QoE Aware Resource Allocation for Multi-View Video Flows in LTE	20th IEEE International Conference on High Performance Computing and Communications (HPCC), 2018.	2018
B.Deepakraj, S.Kumar, S.Padhi, A.Sarkar, A. Mondal, K. Ramamritham	Brownout Based Blackout Avoidance Strategies in Smart Grids	ACM e-Energy	2018
P. Das and H. K. Kapoor	Towards Near Data Processing of Compare Operations in 3D-stacked memory	The 28th ACM Great Lakes Symposium on VLSI (GLSVLSI)	2018
A. Kulkarni, S. Chakraborty, S. P. Mahajan and H. K. Kapoor	Utility aware snoozy caches for energy efficient chip multi-processors	The 28th ACM Great Lakes Symposium on VLSI (GLSVLSI)	2018
Khushboo Rani, Sukarn Agarwal, and Hemangee K. Kapoor	Non-blocking Gated Buffers for Energy Efficient on-chip Interconnects in the era of Dark Silicon	8th International Symposium on Embedded computing and system Design (ISED)	2018
Ashwini Kulkarni, Chirag Joshi, Khushboo Rani, Sukarn Agarwal, S. P. Mahajan, and Hemangee K. Kapoor	Towards Analysing the Effect of Snoozy Caches on the Temperature of Tiled Chip Multi-Processors	8th International Symposium on Embedded computing and system Design (ISED)	2018
A. Kulkarni, K. Rani, S. Agarwal, S. P. Mahajan and H. K. Kapoor	Towards Analysing the Effect of Hybrid Caches on the Temperature of Tiled Chip Multi-Processors	4th IEEE International Symposium on Smart Electronic Systems (IEEE-iSES, formerly IEEE-INIS)	2018
Sathisha Basavaraju, Paritosh Mittal, Arijit Sur	Image Memorability: The role of Depth and Motion	25th, IEEE International Conference on Image Processing (ICIP) 2018	2018
Tarun Trivedi, Vinod Parihar, Manas Khatua, B. M. Mehtre	Threat Intelligence Analysis of Onion Websites Using Sublinks and Keywords	1st International Conference on Emerging Technologies in Data Mining and Information Security	2018
Sathisha Basavaraju, Paritosh Mittal, Arijit Sur	Image Memorability: The role of Depth and Motion	25th, IEEE International Conference on Image Processing (ICIP) 2018	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Pallabi Saikia, Rashmi Dutta Baruah	An empirical study on unsupervised pre-training approaches in regression problems.	2018 SYMPOSIUM SERIES ON COMPUTATIONAL INTELLIGENCE (SSCI)	2018
Tushar Semwal, Gaurav Mathur, Promod Yenigalla and Shivashankar B. Nair	A Practitioners Guide to Transfer Learning for Text Classification using Convolutional Neural Networks	SIAM International Conference on Data Mining (SDM 2018)	2018
Dipanwita Thakur ,Manas Khatua	Cellular Learning Automata-based Virtual Network Embedding in Software-Defined Networks	2nd International Conference on Communication, Computing and Networking (ICCCN)	2018
Pallabi Saikia, Prateek Viji, Rashmi Dutta Baruah	Unsupervised pre-training on improving the performance of neural network in regression	2018 International Joint Conference on Neural Networks (IJCNN)	2018
Tushar Semwal, Divya D Kulkarni, Shivashankar B Nair	On an Immuno-inspired Distributed, Embodied Action-Evolution cum Selection Algorithm	Genetic and Evolutionary Computation Conference (GECCO '18), Kyoto, Japan	2018
Rahul Mishra, Tushar Semwal and Shivashankar B. Nair	A Distributed Epigenetic Shape Formation and Regeneration Algorithm for a Swarm of Robots	Genetic and Evolutionary Computation Conference (GECCO '18), Kyoto, Japan	2018
Alakesh Kalita, Manas Khatua	Faster Joining in 6TiSCH Network using Dynamic Beacon Interval	11th International Conference on Communication Systems & NETWORKS	2018
Sonia, Prateek Viji, Rashmi Dutta Baruah	An Experience of Multi-Sensors Robot for Adaptive Human Sensing	2018 SYMPOSIUM SERIES ON COMPUTATIONAL INTELLIGENCE (SSCI)	2018
Sweta Agrawal and Amit Awekar	Deep Learning for Detecting Cyberbullying Across Multiple Social Media Platforms	In Proceedings of the European Conference on Information Retrieval (Grenoble, France)	2018
Ishita, Divya Kulkarni, Tushar Semwal and Shivashankar B. Nair	On Securing Mobile Agents using Blockchain Technology	Second International Conference on Advanced Computational and Communication Paradigms, Sikkim, India	2019

### Conference Papers

### Design

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Jadhav, S. S., Kalita, P. C., & Das, A. K.	Design Management Intervention in Product-Service System of Water Supply	International Conference on Research in to Design ( ICoRD 2019)	2019
Mahato, K. K., Kalita, P. C., & Das, A. K.	Design and Development of Affordable Tool for Metal Handicraft	International Conference on Research in to Design ( ICoRD 2019) Research into Design for a Connected World, Springer, Singapore.	2019
Patel, A., Kalita, P. C., & Asthana, S.	Design for Future: Strategic Management and Design Innovation Framework for Digital Organizations	DS 91: Proceedings of Nord Design 2018, Linköping, Sweden, 14th-17th August 2018.	2018

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**Design**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Mahato, Kiran., Kalita, P. C., Das, A. K.	Design Intervention For Productivity Improvement In Glass Bangles Manufacturing Unit	Tools and Methods of Competitive Engineering (TMCE) 2018. 7-11 May, 2018, Las Palmas de Gran Canaria, Spain.	2018
Urmir R. Salve and Amitabha De	Importance of Theoretical and Statistical Models in Ergonomics and Design: A Review	106th Science Congress	2019
C. Vigneshkumar; Urmir Ravindra Salve and K. Saravana Muthu	Differences of Occupational Health and Safety Management System (OHSMS) Consciousness among Indian Construction Industry	ASCE- Urbanization Challenges in Emerging Economies	2018
Vigneshkumar C and Urmir R. Salve	A design-based framework for preventing accidents to workers in Indian construction workplace	International Conference for Sustainable Design of the Built Environment – SDBE London 2018	2018
C.Vigneshkumar and Urmir R. Salve	Chances of fall from height: Identification of root cause in building construction projects	Proceedings of National Conference on Advances in Structural Technologies (CoAST-2019)	2019
Vigneshkumar. C and Urmir R. Salve	Why Indian construction workers fail to wear safety helmet during work at workplace?	4th International Conference on Reliability, Safety and Hazard (ICRESH-2019) Indian Institute of Technology Madras	2019
Urmir R. Salve, Ganesh S. Jadhav	Analysis of Posture Adopted by Female Kolhapuri Chappal (Footwear) Manufacturing Workers India	Congress of the International Ergonomics Association	2018
Vahid Jamadar, Ganesh Jadhav, Gurunath Shinde, Anant Awasare	Productivity Improvement in a Manufacturing Industry using Value Stream Mapping Technique	International Conference on Reliability, Risk maintenance and Engineering Management	2019
Alam, M.S., Arunachalam, M., and Salve, U.R.	A pilot study on thermal comfort in Indian Railway pantry car	2nd International Conference on New Frontiers in Engineering, Science & Technology (NFEST 2019), Department of Mechanical Engineering, National Institute of Technology Kurukshetra, India	2019
KCP Paraasaram, Namrita, Sharma, Urmir R Salve	Multi-utility Fantasy Bed : Concept Design	ICoRD 19	2019
Pradeep Yammiyavar	Trends in HCI Research	India HCI International Conference Shristi School of Design, Bangalore	2019
Shanu Shukla, Shrikant Salve, Pradeep Yammiyavar	Does Emotion Modulation Influence Speed–Accuracy Trade-off in Numerical Data Entry Task?	Research into Design, ICoRD19	2019
Akriti Kaur, Ashutosh Agarwal, Pradeep Yammiyavar	Exploring Spatial Interactions for Number-entry and Menu Selection in Virtual Reality Environment	Research into Design, ICoRD19	2019
Ravi Lingannavar, Pradeep Yammiyavar	Product Innovation Index Using Linkograph	Research into Design, ICoRD19	2019
Pradeep Yammiyavar, Ravi Lingannavar	Analysis Using Linkograph to Identify Product Features for Innovation: A Human Centered Usability Engineering Approach	International Conference on Applied Human Factors and Ergonomics (AHFE 2018)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Deepshikha, Pradeep Yammiyavar	Crafting Textiles of Digital Era	ACM International Conference on Interactive Surfaces and Spaces 2018 (ISS 2018)	2018
Deepshikha, Pradeep Yammiyavar	Traditionally Crafted Digital Interfaces	ACM International Conference on Interactive Surfaces and Spaces 2018 (ISS 2018)	2018
Deepshikha, Pradeep Yammiyavar	Empowering textile crafts through the Internet of Things technology	Third International Conference on Information and Communication Technology for Sustainable Development (ICT4SD 2018)	2018
Deepshikha, Pradeep Yammiyavar	Interactive Textiles: Significance and Social Acceptance	In Proceedings of Human-Work Interaction Design 2018, HWID 2018, Finland	2018
Sharmistha Banerjee, Pankaj Upadhyay, Ravi Mokashi Punekar	Teaching Design for Sustainability for Socioeconomic Ecosystems—Three Case Studies	ICoRD 2019, In Research into Design for a Connected World, Springer, Singapore.	2019
Prarthana Majumdar, Sharmistha Banerjee, J.C. Diehl, J.M.L. Van Engelen	Connected Us! How Social Motives Determine DIY Behaviorism in Rural Base of the Pyramid Communities	ICoRD 2019, In Research into Design for a Connected World, Springer, Singapore.	2019
Prarthana Majumdar, Sharmistha Banerjee, J.C. Diehl, J.M.L. Van Engelen	Motivation for Do-It-Yourself in Rural Base of the Pyramid Communities and the Changing Landscape	ICoRD 2019, In Research into Design for a Connected World, Springer, Singapore.	2019

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## Electronics and Electrical Engineering

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sumi Phukan and Chitralekha Mahanta	Position Synchronization Control of Multiple Robotic Manipulator Systems Using Low Pass Filter based Integral Sliding Mode	15th International Workshop on Variable Structure Systems and Sliding Mode Control, Graz, Austria	2018
Kaushik Debbarma and Ratnajit Bhattacharjee	2-D Circular Microstrip Patch Array Fed Offset Reflector Antenna for VSAT Application	IEEE-INAE Workshop on Electromagnetics IIWE 2018	2018
Kaushik Debbarma and Ratnajit Bhattacharjee	Microstrip Antenna Feeds for Offset Reflector Antenna for Cross-polarization Reduction at both Diagonal and Asymmetric Planes	2018 IEEE Indian Conference on Antennas and Propagation (InCAP)	2018
M. K. Joshi, S. K. Vyas, T. Tiwari, and R. Bhattacharjee,	Study of High Power X-band RF Window	National symposium on Vacuum Electronic Devices and Applications (VEDA), 2018	2018
P. Anoop and R. Bhattacharjee	Expression for Quality Factor of TM01 Delta Mode in Equilateral Triangular DRA	IEEE-INAE Workshop on Electromagnetics IIWE 2018	2018



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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Mrimoy Bharadwaj, Jitendra Prajapati, Ratnajit Bhattacharjee	Investigation on the Effect of Electrode Shape on the performance Terahertz Photomixing Antenna employing Graphene electrodes	IEEE-INAE Workshop on Electromagnetics IIWE 2018	2018
Shikha Baghel, S. R. Mahadeva Prasanna and Prithwijit Guha	Excitation Source Feature for Discriminating Shouted and Normal Speech	International Conference on Signal Processing and Communications (SPCOM 2018)	2018
Pranay Kate, Mathew Francis and Prithwijit Guha	Visual Tracking with Breeding Fireflies using Brightness from Background-Foreground Information.	24th International Conference on Pattern Recognition (ICPR 2018)	2018
P. Kumar and K. Dhaka	Performance Analysis of Wireless Powered Decode-and-Forward Relay System	Twenty fifth National Conference On Communications (NCC) 2019	2019
Rishikesh Kulkarni, Pramod Rastogi	Measurement of displacement and its derivatives from a phase fringe pattern	International Conference on Theoretical, Applied and Experimental Mechanics	2018
Rishikesh Kulkarni, Earu Banoth, Parama Pal	Automatic Surface Defect Detection Using Autoregressive Modeling-based Fringe Analysis	Frontiers in Optics	2018
Rishikesh Kulkarni1, Pramod Rastogi, Ashutosh Mishra	Robust Least-Squares Phase Unwrapping Algorithm Using Stochastic Autoregressive Model Based Phase Gradient Estimates	International Conference on Fiber Optics and Photonics	2018
Shubh Lakshmi and S. Ganguly	Steady-State Model for Open Unified Power Quality Conditioner for Power Quality and Energy Efficiency Improvement of Radial Distribution Networks	2nd IEEE International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE)	2018
Yongcheng Li, Kai Xu, Xiaodong Fu, Sanjay K. Bose and Gangxiang Shen, " 2018, pp1-5,	Upgrading Links with Ultra-Low Loss Fibers in a Survivable Elastic Optical Network	20th International Conference on Transparent Optical Networks (ICTON)	2018
Li, Y., Fu, X., Bose, S.K., Shen, G.	Scheduling Strategies for Network Link Upgradation with Ultra Low Loss Fibers	Asia Communications and Photonics Conference	2018
Li, L., Shen, G., Fu, X., Jie, S., Bose, S.K.	Which Features Most Impact: Prediction of ANN-Based Lightpath Quality of Transmission	Asia Communications and Photonics Conference	2018
Guo, C., Shen, G., Yan, Y., Chen, W., Bose, S.K., " , ACP 2018-October,8595979	Consolidating Virtual Data Centers with Negative Load Correlations to Alleviate Performance Degradation Due to Load Burstiness (Invited)	Asia Communications and Photonics Conference	2018
R. S. Sangam and R. S. Kshetrimayum	Linear Tapers: Analysis, Design and Applications	IEEE MTT-S International Microwave and RF Conference	2018
R. S. Sangam and R. S. Kshetrimayum	An Improved T-Junction Power Divider Using Linearly Tapered Microstrip Lines	URSI Asia-Pacific Radio Science Conference	2019
S. Chaudhuri, R. S. Kshetrimayum and R. K. Sonkar	High inter-port isolation modified Franklin dual circularly polarized microstrip antenna	European Conference on Antennas and Propagation	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Aniruddha Mazumdar, S Krishnaswamy and Somanath Majhi	Linear Quadratic Optimal Control of Jump System over Multiple Erasure Channel	23rd International Symposium on Mathematical Theory of Networks and Systems	2018
Kamakshi Manjari and Somanath Majhi	Model Predictive Control of Single-Inductor Dual-Output Buck Converter,	IEEE Conference on Power Electronics, Drives and Energy Systems (PEDES)	2018
Prasenjit Ghorai, Somanath Majhi and Saurabh Pandey	Closed Loop Relay Experiment for Modeling of Underdamped Plant Dynamics	5th Indian Control Conference	2019
Ribhu Chopra	Uplink training for massive MIMO systems under channel aging	International Conference on Signal Processing and Communications (SPCOM 2018)	2018
Dwijashish Das, Hrishikesan V M, Chandan Kumar,	Smart Transformer-based Hybrid LVAC and LVDC Interconnected Microgrid	4th IEEE Southern Power Electronics Conference (SPEC),	2018
Hrishikesan V M, Dwijashish Das, Chandan Kumar,	A Flexible and Coordinated Voltage Control Strategy for Smart Transformer	8th IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES),	2018
1. Hrishikesan V M, Chandan Kumar, Marco Liserre	Flexible Power Transfer in Smart Transformer Interconnected Microgrids	44th Annual Conference of the IEEE, Industrial Electronics Society (IECON2018), Washington DC, USA,	2018
Chandan Kumar, Xiang Gao, Marco Liserre	Smart Transformer Based Loop Power Controller in Radial Power Distribution Grid	8th IEEE PES Innovative Smart Grid Technologies Conference Europe, Sarajevo, Bosnia and Herzegovina,	2018
H.J. Gogoi, A. Solanki, and A.T. Mallajosyula	Effect of Antisolvent Method on the Performance of HOIP based Memristive Devices	4th IEEE ICEE, IISc Bangalore	2018
R. Kumar, R.K. Meena, R.K. Gupta, P.K. Iyer, A.T. Mallajosyula, and S. Nath	Battery Charging of Smart Phones using Organic Solar Cells	2nd IEEE ICPEICES, DTU, New Delhi	2018
Abhishek Sharma, Suresh Sundaram:	Histogram-Based Matching of GMM Encoded Features for Online Signature Verification	12th International Conference on Frontiers in Handwriting Recognition	2018
Subhasis Mandal, Himakshi Choudhury, S. R. Mahadeva Prasanna, Suresh Sundaram	DNN-HMM Based Large Vocabulary Online Handwritten Assamese Word Recognition System.	12th International Conference on Frontiers in Handwriting Recognition	2018
Vivek Venugopal, Surbhi Pillai, Suresh Sundaram	A Hierarchical Codebook Descriptor Approach for Online Writer Identification	12th International Conference on Frontiers in Handwriting Recognition	2018
Subhasis Mandal, Syed Shahnawazuddin, Rohit Sinha, S. R. Mahadeva Prasanna, Suresh Sundaram	Exploring Sparse Representation for Improved Online Handwriting Recognition	12th International Conference on Frontiers in Handwriting Recognition	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Subhasis Mandal, Himakshi Choudhury, S. R. Mahadeva Prasanna, Suresh Sundaram	Exploring Discriminative HMM States for Improved Recognition of Online Handwriting.	International Conference on Pattern Recognition	2018
D. Sikdar, A. A. Kornyshev	Electro-tunable nanoplasmonic Fabry–Perot cavity for smart nano-optical devices	Photonics 2018 - The International Conference on Fiber Optics and Photonics , Indian Institute of Technology Delhi, New Delhi, India (2018)	2018
Resmi N C, Sonali Chouhan	Energy Efficient Communication with Interdependent Source-Channel Coding: An Enhanced Methodology	IEEE Sensors	2018
Shreya Roy, Sonali Chouhan	REDEAR: Relative Density Aware Routing Algorithm for Energy Efficiency in MANETs	IEEE International Conference on Advanced Networks and Telecommunications Systems	2018
Shreya Roy, Sonali Chouhan	Novel Density Aware Energy Efficient (DAEE) Routing Algorithm for Mobile Ad-Hoc Networks	International Conference on Computing, Power and Communication Technologies (GUCON)	2018
K. Karthik, P. Malik	Quality Assessment of PFA affected Images based on Chromatic Eigenvalue Ratio	International Conference on Computer Vision and Image Processing (CVIP 2018), Jabalpur, India	2018
S. Chakraborty, K. Karthik, S. Banik	Investigation on the Muzzle of a Pig as a Biometric for Breed Identification	International Conference on Computer Vision and Image Processing (CVIP 2018), Jabalpur, India	2018
K. Balaji, K. Karthik	Face Anti-spoofing based on Specular Feature Projections	International Conference on Computer Vision and Image Processing (CVIP 2018), Jabalpur, India	2018
Shubh Lakshmi and S. Ganguly	Steady-State Model for Open Unified Power Quality Conditioner for Power Quality and Energy Efficiency Improvement of Radial Distribution Networks	2nd IEEE International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE)	2018
Rama Gupta, Salil Kashyap, and E. Venkata Pothan	Interference Violation Probability Constrained Underlay Cognitive Massive MIMO Network Under Imperfect Channel Knowledge	Proc. of National Conference on Communications (NCC)	2019
Darpan Mishra, Manoranjan Minz, Ramesh Kumar Sonkar	Mode and Loss Analysis of an Ultra-Small Graded-Index Strip Waveguide for Multimode Datacenter Application	Proc. of the 7th IEEE International Conference on Photonics2018,	2018
Manoranjan Minz, Darpan Mishra, Ramesh Kumar Sonkar	Design of a Grating Assisted Mode-Division Multiplexer	Proc. of the 7th IEEE International Conference on Photonics 2018	2018
Arijit Roy, Sharmistha Sen, Harshal B. Nemade, and Ratnajit Bhattacharjee	Multuser communication using chirp signals of equal chirp rate	National Conference on Communications 2018 (NCC 2018)	2018
S Affjulla, P Tripathy	A Special Protection Scheme for Transmission Lines based on Wide Area Monitoring System	2018 IEEE 59th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Hiroyasu Usami, Yuji Iwahori, M.K. Bhuyan, Aili Wang, Naotaka Ogasawara, and Kunio Kasugai	Polyp Shape Recovery using Vascular Border from Single Colonoscopy Image	In Proceedings of the 12th International Joint Conference on Biomedical Engineering Systems and Technologies	2019
Avish Kabra , Yuji Iwahori , Hiroyasu Usami , M. K Bhuyan , Naotaka Ogasawara and Kunio Kasugai	Polyp Classification and Clustering from Endoscopic Images using Competitive and Convolutional Neural Networks	Proceedings of the 8th International Conference on Pattern Recognition Applications and Methods (ICPRAM 2019)	2019
Pranabiyoti Haloi, Prathik Gadde, and M.K. Bhuyan	News Video Indexing and Story Unit Segmentation using Text Cue	IEEE international Conference on Wireless Communications, Signal Processing and Networking (WiSPNET 2019)	2019
Pranabiyoti Haloi, Arnab Kisor Bordoloi, and M. K. Bhuyan	Unsupervised Broadcast News Video Shot Segmentation and Classification	2nd international conference on innovations in electronics, signal processing and communication (IESC)	2019
Anjan Kumar Talukdar and M. K. Bhuyan	Movement Epenthesis Detection in Continuous Fingerspelling from a Coarsely Sampled Motion Vector Field in H.264/AVC Video	IEEE Recent Advances in Intelligent Computational Systems (RAICS)	2018
Barnajit Ghosh, M. K. Bhuyan, Pradipta Sasmal, Yuji Iwahori, and Prathik Gadde	Defect Classification of Printed Circuit Boards based on Transfer Learning	IEEE ASPCON 2018	2018
Pradipta Sasmal, Yuji Iwahori, M. K. Bhuyan, and Kunio Kasugai	Classification of Polyps in Capsule Endoscopic Images using CNN	IEEE ASPCON 2018	2018
Debajit Sarma and M.K. Bhuyan	Hand Gesture Recognition Using Deep Network Through Trajectory-to-Contour Based Images	INDICON 2018 - 15th Edition of the IEEE India Council International Conference	2018
Tilendra Choudhary, L.N. Sharma, and M.K. Bhuyan	Spectracentrogram: A Time-Frequency Distribution for Signal Processing Applications	International Conference on Intelligent Informatics and Biomedical Sciences (ICIIBMS)	2018
Tilendra Choudhary, L.N. Sharma, M.K. Bhuyan	Suppression of Artifacts from Seismocardiogram Signal Using Two-Stage Kalman Filtering Model	IEEE Intr. Conf. SPCOM 2018	2018
Pradipta Sasmal, Yuji Iwahori, M.K. Bhuyan, and Kunio Kasugai	Active Contour Segmentation of Polyps in Capsule Endoscopic Images	Proceedings of IEEE International Conference on Signals and Systems (ICSigSys 2018)	2018
Vignesh Kothapalli , Biswajit Dev Sarma , Abhishek Dey , Parismita Gogoi , Wendy Lalhminghlui , Priyankoo Sarmah , S R Mahadeva Prasanna , S. R. Nirmala and Rohit Sinha	Robust Recognition of Tone Specified Mizo Digits Using CNN-LSTM and Nonlinear Spectral Resolution	INDICON 2018 - 15th Edition of the IEEE India Council International Conference	2018
Sukanya Biswas and Rohit Sinha	Lateralization of Brain During EEG Based Covert Speech Classification	Proceedings of INDICON	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sarfraz Jelil, Sishir Kalita, S R Mahadeva Prasanna and Rohit Sinha	Exploration of Compressed ILPR Features for Replay Attack Detection	Proceedings of INTERSPEECH	2018
Ganji Sreeram and Rohit Sinha	A Novel Approach for Effective Recognition of the Code-Switched Data on Monolingual Language Model	Proceedings of INTERSPEECH	2018
Ganji Sreeram and Rohit Sinha	Exploiting Parts-of-Speech for Improved Textual Modeling of Code-Switching Data	Proceedings of NCC	2018
Nagendra Kumar and Rohit Sinha	"Improved Structured Dictionary Learning with Adaptive Block-size Using K-means Clustering "	Proceedings of INDICON	2018
Amit Sravan Bora, Rohit Reddy, Srinath Satpathy, Balachander H .Vijendra V, Gaurav Trivedi, and Rohit Sinha	Power Efficient Speaker Verification Using Linear Predictive Coding on FPGA	Proceedings of International CET Conference on Control, Communication, and Computing (IC4)	2018
Abhishek Dey, Biswajit Dev Sarma, Wendy Lalhminglui, Lainunsiami Ngente, Parismita Gogoi, Priyankoo Sarmah, S R Mahadeva Prasanna, Rohit Sinha and Nirmala S.R.	Robust Mizo Continuous Speech Recognition	Proceedings of INTERSPEECH	2018
Abhishek Dey, Abhash Deka, Siddika Imani, Barsha Deka, Rohit Sinha, S R Mahadeva Prasanna, Priyankoo Sarmah, K Samudravijaya and Nirmala S.R.	AGROASSAM: A Web Based Assamese Speech Recognition Application for Retrieving Agricultural Commodity Price and Weather Information	Proceedings of INTERSPEECH	2018
Sandeep Pandey, Sarfaraz Jelil, S.R.M.Prasanna and H.S.Shekhawat	Speaker Identification using Tensor Decomposition of Acoustic Models	Proceedings of IEEE TENCON	2018
Sandeep Pandey, H.S.Shekhawat and S.R.M. Prasanna	Deep Learning Techniques for Speech Emotion Recognition : A Review	Proceedings of MAREW 2019	2019
Vikram C M, Aysuh Tripathi, Sishir Kalita and S R M Prasanna	Estimation of hypernasality scores from cleft lip and palate speech	Proceedings of INTERSPEECH	2018
Vikram C M, Ajish K. Abraham, Pushpavathi M, and Girish K. S	Detection of Glottal Activity Errors in Production of Stop Consonants in Children with Cleft Lip and Palate	Proceedings of INTERSPEECH	2018
Ravi Shankar, Vikram C M, and S R M Prasanna	Spoken Keyword Detection using joint DTW-CNN	Proceedings of INTERSPEECH	2018

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**Conference Papers**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sishir Kalita, S. R. M. Prasanna, S. Dandapat	Self-similarity matrix based intelligibility assessment of cleft lip and palate speech	Proceedings of INTERSPEECH	2018
Sishir Kalita, Pushpavathi M, Ajish K Abraham, Girish K S, S. R. M. Prasanna, S Dandapat	Relative contribution of hypernasality, consonant production errors, and voice disorders on the intelligibility of cleft lip and palate speech	Workshop on Speech Processing for Voice, Speech and Hearing Disorders(WSPD)	2018
Protima Nomo Sudro, Sishir Kalita, S. R. M. Prasanna	Processing Transition Regions of Glottal Stop substituted /s/ for Intelligibility Enhancement of Cleft Palate Speech	Proceedings of INTERSPEECH	2018
Pamir Gogoi, Sishir Kalita, Parismita Gogoi, Ratree Wayland, Priyankoo Sarmah, S. R. M. Prasanna	Analysis of Breathiness in Contextual Vowel of Voiceless Nasals in Mizo	Proceedings of INTERSPEECH	2018
Moakala Tzudir, Priyankoo Sarmah, S. R. M. Prasanna	Dialect Identification Using Tonal and Spectral Features in Two Dialects of Ao	International Workshop on Spoken Language Technologies for Under-resourced Languages(SLTU'18)	2018
Vikram C M and S R M Prasanna	Epoch extraction from pathological children speech using single pole filtering approach	Proceedings of INTERSPEECH	2018
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Pitch-Adaptive Front-end Feature for Hypernasality Detection	Proceedings of INTERSPEECH	2018
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Hypernasality detection using Zero time windowing	IEEE Intr. Conf. SPCOM 2018	2018
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Automatic detection of hypernasality using modified group delay feature	Workshop on Speech Processing for Voice, Speech and Hearing Disorders(WSPD)	2018
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Sinusoidal model based features for analysis of hypernasality severity	Workshop on Speech Processing for Voice, Speech and Hearing Disorders (WSPD)	2018
Sanjib Das, P. K. Bora	Object-based Compression of 3D Animation Geometr	IEEE Intr. Conf. SPCOM 2018	2018
Vineeta Das, Samarendra Dandapat and Prabin Kumar Bora	Diagnostic Information based Super-Resolution of Retinal Optical Coherence Tomography Images	IEEE Intr. Conf. SPCOM 2018	2018
Shivanshu Shrivastava, Sunju John, A. Rajesh and P. K. Bora	Preventing Collusion Attacks in Cooperative Spectrum Sensing	IEEE Intr. Conf. SPCOM 2018	2018
Satyabrata Dash, Sukanta Dey, Anish Augustine, Rudra Sankar Dhar, Jan Pidanic, Zdenek Nemeč, Gaurav Trivedi	RiverOpt: A Multiobjective Optimization Framework based on Modified River Formation Dynamics Heuristic	VLSI Design 2019	2019

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**Conference Papers**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Bikram Paul, Sushree Sila P. Goswami, Apratim Khobragade, Sunil Dutt, Javvaji Sai Soumith, and Gaurav Trivedi	Design and Implementation of Low-power High-throughput PRNGs for Security Applications	VLSI Design 2019	2019
Koushik Bharadwaj, Ashok Ray, Sushanta Bordoloi and Prof. Gaurav Trivedi	Current Collapse reduction technique using N-doped buffer layer into the bulk region of a Gate Injection Transistor	VLSI Design 2019	2019
Krishna Mohan Dwivedi, Gaurav Trivedi, and Sunil K Khijwania	A Sensitive Enhanced Acousto-ultrasonic Sensor using $\pi$ -Fiber Bragg Grating and Interferometric Interrogation	Photonics, December, 2018	2018
Krishna Mohan Dwivedi, Gaurav Trivedi, and Sunil K Khijwania	Theoretical Analysis of Fiber Bragg Grating Employing Novel Apodization Profile	Photonics, December, 2018	2018
Krishna Mohan Dwivedi, Gaurav Trivedi, and Sunil K Khijwania	Theoretical Analysis of Fiber Bragg Grating Employing Novel Apodization Profile	Photonics, December, 2018	2018
Krishna Mohan Dwivedi, Gaurav Trivedi, and Sunil K Khijwania	Study of Slow-Light in $\pi$ -phase shifted Fiber Bragg Grating	Photonics, December, 2018	2018
Sukanta Dey, Satyabrata Dash, Sukumar Nandi and Gaurav Trivedi	PGIREM: Reliability-Constrained IR Drop Minimization and Electromigration Assessment of VLSI Power Grid Networks using Cooperative Coevolution	ISVLSI 2018, Hong Kong	2018
Amit Jonak Bora, Gaurav Trivedi et al.	Power Efficient Speaker Verification Using Linear Predictive Coding on FPGA	IEEE International Conference on Control, Communication and Computing 2018	2018
Nalikulzhy, Jiss J., Samarendra Dandapat, and Md Khayrul Bashar	Spatially Enhanced ECG using Patient-Specific Dictionary Learning	IEEE-EMBS Conference on Biomedical Engineering and Sciences	2018
Prabhakararao, Eedara, and Samarendra Dandapat	Automatic Quality Estimation of 12-lead ECG for Remote Healthcare Monitoring Systems	IEEE-EMBS Conference on Biomedical Engineering and Sciences	2018
Bashar, Md Khayrul, Samarendra Dandapat, and Itsuo Kumazawa	Heart Abnormality Classification Using Phonocardiogram (PCG) Signals	IEEE-EMBS Conference on Biomedical Engineering and Sciences	2018
D Jyotishi, S Deb, A Abhishek, S Dandapat	Experimental Analysis on Effect of Nasal Tract on Nasalised Vowels	Machine Intelligence and Signal Analysis	2019
A Abhishek, S Deb, S Dandapat	Analysis of Breathy, Emergency and Pathological Stress Classes	Machine Intelligence and Signal Analysis	2019
A. P. Kamson, L.N. Sharma, and S. Dandapat	Detection of Heart Sound Using Logistic Function Amplitude Moderator and Teager-Kaiser Energy Operator	SPCOM	2018
Vineeta Das, S. Dandapat and Prabin Kumar Bora	Diagnostic Information based Super-Resolution of Retinal Optical Coherence Tomography Images	SPCOM	2018

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Conference Papers	Electronics and Electrical Engineering		
Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Hypernasality detection using Zero time windowing	SPCOM	2018
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Automatic detection of hypernasality using modified group delay feature	in Proc. Workshop on Speech Processing for Voice, Speech and Hearing Disorders (WSPD), Mysuru, India	2018
A. K. Dubey, S. R. M. Prasanna, and S. Dandapat	Sinusoidal model based features for analysis of hypernasality severity	in Proc. Workshop on Speech Processing for Voice, Speech and Hearing Disorders (WSPD), Mysuru, India	2018
Sishir Kalita, S. R. M. Prasanna and S. Dandapat	Self-similarity matrix based intelligibility assessment of cleft lip and palate speech	in Proc. Interspeech 2018, Hyderabad, India	2018
Sishir Kalita, Pushpavathi M, Ajish K Abraham, Girish K. S., S. R. M. Prasanna, S. Dandapat	Relative contribution of hypernasality, consonant production errors, and voice disorders on the intelligibility of cleft lip and palate speech	in Proc. Workshop on Speech Processing for Voice, Speech and Hearing Disorders (WSPD), Mysuru, India	2018
Binita Nanda , Praveen Kumar	Analytical Model of Surface Mounted Permanent Magnet Motor for Sensitivity Analysis under Manufacturing Tolerances	2018 IEEE Power & Energy Society General Meeting (PESGM)	2018
Rajendra Kumar, Praveen Kumar	Modelling of Stray-Load Loss for Medium Power Induction Motors	IECON 2018- 44th Annual Conference of the IEEE Industrial Electronics Society	2018
Gayatri Nayak and Shabari Nath	Comparing Performances of SIDO Buck Converters	IEEE Power Electronics, Drives and Energy Systems (PEDES)	2018
Gayatri Nayak and Shabari Nath	Voltage Mode Control of Magnetically Coupled SIDO Buck Converter	IEEE Power Electronics, Drives and Energy Systems (PEDES)	2018
Nupur and Shabari Nath	Effect of Mutual Coupling on CCM/DCM Boundary in Single Input Dual Output Boost Converter	8th IEEE Power India International Conference (PIICON)	2018
Rahul K., Rakesh K. Meena, Ritesh K. Gupta, Arun Tej M., Parameswar K Iyer and Shabari Nath	Battery Charging of Smart Phones using Organic Solar Cells	IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES)	2018

**Humanities and Social Sciences**

Conference Papers	Humanities and Social Sciences		
Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Anasua Basu Ray Chaudhury, Nilanjan Ghosh, Pahi Saikia, Pratinshree Basu, Sohini Nayak, Sujeev Shakya	BBIN:OPPORTUNITIES & CHALLENGES	"Observer Research Foundation Kolkata"	2018



Humanities and Social Sciences

Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
S. Borbora	Tourist Potentiality Index: A Case Study at Dibru-Saikhowa National Park in Assam, India	SIBR-Thammasat Conference on Interdisciplinary Business and Economic Research	2018
Chakraborty, K., Devi, S. S., Devnath, S., Prasanna, S. M., & Sarmah, P.	Glottal Vibrato Graph: A Device and Method for Recording, Analysis and Visualization of Glottal Activity.	Interspeech 2018	2018
Moakala Tzudir, Priyankoo Sarmah, S R Mahadeva Prasanna	Dialect Identification Using Tonal and Spectral Features in Two Dialects of Ao	Proc. The 6th Intl. Workshop on Spoken Language Technologies for Under-Resourced Languages	2018
Kishalay Chakraborty, Luke Horo, Priyankoo Sarmah	Building an Automatic Speech Recognition System in Sora Language Using Data Collected for Acoustic Phonetic Studies	Proc. The 6th Intl. Workshop on Spoken Language Technologies for Under-Resourced Languages	2018
Gogoi, P., Kalita, S., Gogoi, P., Wayland, R., Sarmah, P., Prasanna, S.R.M	Analysis of Breathiness in Contextual Vowel of Voiceless Nasals in Mizo	Proc. Interspeech 2018	2018
Abhishek Dey, Biswajit Dev Sarma, Wendy Lalhminghlui, Lalnunsiami Ngente, Parismita Gogoi, Priyankoo Sarmah, S R Mahadeva Prasanna, Rohit Sinha, Nirmala S.R.	Robust Mizo Continuous Speech Recognition	Proc. Interspeech 2018	2018
Abhishek Dey, Abhash Deka, Siddika Imani, Barsha Deka, Rohit Sinha, S R Mahadeva Prasanna, Priyankoo Sarmah, K Samudravijaya, Nirmala S.R.	AGROASSAM: A Web Based Assamese Speech Recognition Application for Retrieving Agricultural Commodity Price and Weather Information	Proc. Interspeech 2018	2018
Biswajit Dev Sarma, Abhishek Dey, Wendy Lalhminghlui, Parismita Gogoi, Priyankoo Sarmah, S R Mahadeva Prasanna	Robust Mizo digit recognition using data augmentation and tonal information	Proc. 9th International Conference on Speech Prosody 2018	2018
Wendy Lalhminghlui, Priyankoo Sarmah	Production and Perception of Rising Tone Sandhi in Mizo	Proc. TAL2018, Sixth International Symposium on Tonal Aspects of Languages	2018
Abhash Deka, Priyankoo Sarmah, Samudravijaya KSRM Prasanna	Development of Assamese Text-to-speech System using Deep Neural Network	NATIONAL CONFERENCE ON COMMUNICATIONS (NCC) 2019. IEEE	2019

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## Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Vignesh Kothapalli , Biswajit Dev Sarma, Abhishek Dey, Parismita Gogoi, Wendy Lalhminghlui, Priyankoo Sarmah, S. R. Mahadeva Prasanna, S. R. Nirmala and Rohit Sinha	Robust Recognition of Tone Specified Mizo Digits Using CNN-LSTM and Nonlinear Spectral Resolution	IEEE Indicon. IEEE	2018
Viyazonuo Terhija, Priyankoo Sarmah, and K Samudrajaya	Acoustic Analysis of Vowels in Two Southern Angami Dialects	Proc. Oriental COCOSDA 2018. NAIST, Japan	2018
Barsha Deka, Joyshree Chakraborty, Abhishek Dey, Shikhamoni Nath , Priyankoo Sarmah, S.R. Nirmala, and Samudra Vijaya	Speech Corpora of Under-resourced Languages of North-East India. Proc. Oriental COCOSDA	Proc. Oriental COCOSDA 2018. NAIST, Japan	2018

## Conference Papers

## Mathematics

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Devanand, Jiten C Kalita	HOC Simulation of Barkley Model in Excitable Media	Proceedings of International Conference on Frontiers in Industrial and Applied Mathematics (FIAM-2018) AIP Conf. Proc. 1975	2018
Shubh Narayan Singh, K. V. Krishna	On Syntactic Complexity of Circular Semi-flower Automata doi: 10.1007/978-3-319-94812-6_26	In Implementation and Application of Automata. CIAA 2018, volume 10977 of Lecture Notes in Computer Science, Springer	2018
Ramesh K. Jallu, Sangram K. Jena, Gautam K. Das	Liar's Dominating Set in Unit Disk Graphs	The 24th International Conference on Computing and Combinatorics	2018
Sangram K. Jena, Ramesh K. Jallu, Gautam K. Das, Subhas C. Nandy	The Maximum Distance-d Independent Set Problem on Unit Disk Graphs	The 12th International Workshop on Frontiers in Algorithmics	2018
Nitesh Tripathi, Manjish Pal, Minati De, Gautam K. Das, Subhas C. Nandy	Guarding Polyhedral Terrain by k-Watchtowers	The 12th International Workshop on Frontiers in Algorithmics	2018
R. Bürger, K. Sudarshan Kumar, R. Ruiz-Baier, H. Torres	Discontinuous approximation of flow in porous media with adsorption	PAMM Proc. Appl. Math. Mech.	2018
Pawan K. Mishra, Sangram K. Jena, Gautam K. Das, S. V. Rao	Capacitated Discrete Unit Disk Cover	The 13th International Conference on Algorithms and Computation	2019

**Conference Papers**

**Mathematics**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sangita Roy, Hardik Chawla, Ashok Singh Sairam	IP traceback in dynamic networks	2nd ISEA International Conference on Security & Privacy, 2018	2019

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**Mechanical Engineering**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Deka, H., Biswas, G., and Dalal, A.,	Oscillation Dynamics of Falling Drops"	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, 2018, Indian Institute of Technology Bombay, Mumbai, India	2018
Sarma, B., Basu, D. N., and Dalal, A.,	Universal Scaling Laws in Drop-on-demand Generation from A Yarn"	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, 2018, Indian Institute of Technology Bombay, Mumbai, India.	2018
Shahapure, V., Sarma, B., Basu, D. N., and Dalal, A.,	High Speed Imaging and Analysis of Drop Formation"	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, 2018, Indian Institute of Technology Bombay, Mumbai, India.	2018
Deka, H., Biswas, G., and Dalal, A.,	A Coupled Level Set and Volume-of-fluid Method for Modelling Two-phase Flows",	International Conference on Recent Innovations and Developments in Mechanical Engineering, National Institute of Technology Meghalaya, Shillong, India, November 8 – 10, 2018.	2018
Kotoky, S., Dalal, A., and Natarajan, G., 2018	The Role of Particle Diameter on the Fluidization Behavior in a Bubbling Gas-Solid Fluidized Bed"	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, 2018, Indian Institute of Technology Bombay, Mumbai, India.	2018
Nath, B., Borthakur, M.P, Biswas, G., and Dalal, A.,	Influence of Electric Field in the Lateral Migration of a Drop Inside a Microchannel"	International Conference on Recent Innovations and Developments in Mechanical Engineering, National Institute of Technology Meghalaya, Shillong, India, November 8 – 10, 2018.	2018
Sarma, B., Pokhrel, S., Kumar, S., Dalal, A., Bandyopadhyay, D., and Basu, D. N.	Prediction of Sauter Mean Diameter of Spray During Electric Discharge Mediated Bursting of a Droplet"	International Conference on Recent Innovations and Developments in Mechanical Engineering, National Institute of Technology Meghalaya, Shillong, India, November 8 – 10, 2018.	2018
Parmananda, P., Dalal, A., and Natarajan, G.	Three-dimensional Analysis of Non-Boussinesq Natural Convection with Radiative Heat Transfer in a Vertical Seven Rod Bundle	16th International Heat Transfer Conference, Beijing, China.	2018

## Conference Papers

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Dalal, A., Gupta, A., Gupta A., Mukherjee, P.P.	"Modeling of Thermal Management in Automotive Battery Modules"	4th International Conference on Computational Methods for Thermal Problems, Indian Institute of Science, Bangalore, India.	2018
Chayanika Nath and S. M. Hazarika	A Hybrid Visual Information Representation and Reasoning Paradigm Towards Video Analysis.	Lecture Notes in Computer Science. (To Appear). Springer, June 18-22, 2018, Edinburgh, UK.	2018
D.V.N. Lakshmi, Muthukumar P	Design and development of mixed mode forced convection solar dryer for drying of curcuma zeodaria	12th International Conference on Thermal Engineering: Theory and Applications, February 23-26, 2019, Gandhinagar, India	2019
Kiran Naik B and Muthukumar P	Energy Exergy and Entransy Analyses of an Air Cooled Condenser Employed in a Vapour Compression Chiller	12th International Conference on Thermal Engineering: Theory and Applications, February 23-26, 2019, Gandhinagar, India	2019
Sunku Prasad J, Saurabh Dongare, Anandalakshmi R, Muthukumar P	Numerical Investigation of PCM based Heat Sinks under Constant and Variable Heat Load Conditions	12th International Conference on Thermal Engineering: Theory and Applications, February 23-26, 2019, Gandhinagar, India	2019
Lakshmi DVN, Apurba Layek, Muthukumar, P	Evaluation of Convective Heat Transfer Coefficient of Herbs Dried in a Mixed Mode Solar Dryer	ICUE 2018 on: Green Energy for Sustainable Development, Phuket, Thailand, 24-26 Oct 2018	2018
Kaushik L K, Muthukumar P	Experimental Analysis of a Porous Radiant Pressurized Cook Stove by Using a Blend of Waste Cooking Oil (WCO) and Kerosene	ICUE 2018 on: Green Energy for Sustainable Development, Phuket, Thailand, 24-26 Oct 2018	2018
Lav Kumar Kaushik, Muthukumar P	Performance Assessment of a Porous Radiant Cook Stove Fueled with Blend of Waste Vegetable Oil (WVO) and Kerosene	10th International Conference on Applied Energy (ICAE2018), 22-25 August 2018, Hong Kong	2018
Sangjukta Devi, Niranjan Sahoo, Muthukumar P	Combustion of biogas in Porous Radiant Burner: Low emission combustion	10th International Conference on Applied Energy (ICAE2018), 22-25 August 2018, Hong Kong	2018
Gurpreet Singh Sodhi, Vigneshwaran K, Abhishek Kumar Jaiswal, Muthukumar P	Assessment of Heat Transfer Characteristics of a Latent Heat Thermal Energy Storage System: Multi Tube Design	10th International Conference on Applied Energy (ICAE2018), 22-25 August 2018, Hong Kong	2018
Nithin N. Raju, Muthukumar P, K. Malleswararao	Determination of Absorption Conditions for LaNi <sub>4.7</sub> Al <sub>0.3</sub> Based Hydrogen Storage Device: A Numerical Investigation	5th International Conference on Computational Methods for Thermal Problems (Thermacomp 2018), Bangalore, India, July 9-11, 2018	2018
Gurpreet Singh Sodhi, Muthukumar P	Effect of eccentricity on the charging of a multi tube Latent Heat Storage System	5th International Conference on Computational Methods for Thermal Problems (THERMACOMP – 2018), Indian Institute of Science, Bangalore, July 9-11, 2018	2018
Mrinal Bhowmik, Muthukumar P, R Anandalakshmi	"Numerical Study on Dehumidification Performance of a Cross-Flow Liquid Desiccant Adiabatic Dehumidifier with Various Halide Salt desiccants"	5th International Conference on Computational Methods for Thermal Problems (THERMACOMP – 2018). IISc Bangalore - 9-11 July, 2018	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
M. Ravi Sankar	"Nano-finishing of Bio-Implants using Polymer Rheological Abrasive Complex Suspensions"	4th International Symposium on Advances in Sustainable Polymers (ASP-2018), 8-11 January, 2018, IIT Guwahati, India.	2018
R.R. Behera, A.H., L.Pandey, M. Ravi Sankar,	Laser Surface Bio-Coating of Functionally Graded TiO <sub>2</sub> -HAp on Textured Ti Alloy for Enhancing Bioactivity and Cell Proliferation 2018		2018
Sahu A., Thakur, R, Agrawal V., and Gautam S. S.	A comparative study of explicit time integration algorithms for non-linear systems	1st International Conference on Future Learning Aspects of Mechanical Engineering (FLAME - 2018), Amity University, Noida, October 3rd – 5th , 2018.	2018
Saipraneeth G. and Gautam S. S.	Nonlinear finite element analysis of a gecko spatula adhesion on a rigid substrate	1st International Conference on Future Learning Aspects of Mechanical Engineering (FLAME - 2018), Amity University, Noida, October 3rd – 5th , 2018	2018
Bora D., Kumar M. and Gautam S. S.	Simulation of ductile fracture at high velocity impact of cylindrical tubes	1st International Conference on Future Learning Aspects of Mechanical Engineering (FLAME - 2018), Amity University, Noida, October 3rd – 5th , 2018.	2018
Agrawal V.,and Gautam S. S.	An isogeometric based study of mortar contact algorithm for frictionless sliding	1st International Conference on Future Learning Aspects of Mechanical Engineering (FLAME - 2018), Amity University, Noida, October 3rd – 5th , 2018.	2018
Agrawal. V. and Gautam S. S.	A Comparative Study of Contact Problem Solution Based on Different Isogeometric Contact Formulations	13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics (WCCM 2018), July 23rd – 27th , 2018..	2018
Deepak Sharma, Syed Zaheer Basha and Sandula Ajay Kumar, EMO 2019.	Diversity Over Dominance Approach for Many-Objective Optimization On Reference-Points-based Framework"/In: Deb K. et.al. (eds) Evolutionary Multi-Criterion Optimization	Lecture Notes in Computer Science, 11411, pp 278 – 290. Springer, Cham	2019
Deepak Sharma, Sukhomay Pal, Aayush Sahay, Puneet Kumar, Gaurav Agarwal, and Katravath Vignesh	"Local Search Heuristics based Genetic Algorithm for Capacitated Vehicle Routing Problem"	2nd International Conference on Computational Methods in Manufacturing (ICCCMM), 8 – 9 March 2019, IIT Guwahati, India.	2019
Riddhiman Saikia and Deepak Sharma	Hybridizing Evolutionary Multi-Objective Algorithm Using Random Mutations and Local Searches	2nd International Conference on Computational Methods in Manufacturing (ICCCMM), 8 – 9 March 2019, IIT Guwahati, India.	2019
Utpal Kiran, Subhajit Sanfui, Shashi Kant Ratnakar, Sachin Singh Gautam, and Deepak Sharma	Comparative Analysis of GPU-based Solver Libraries for A Sparse Linear System of Equations	2nd International Conference on Computational Methods in Manufacturing (ICCCMM), 8 – 9 March 2019, IIT Guwahati, India	2019

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## Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
P. Paul, K.S.R.K. Murthy and D. Chakraborty	Influence of the notch length on the optimal radial location of strain gage in a single edged notched plate	1st International Conference of Emerging Trends in Mechanical Engineering (ICETIME 2018), 20-22 December, SRIT, Anantapur, Andhra Pradesh.	2018
P. Paul, K.S.R.Krishna Murthy, and Debabrata Chakraborty	Effect of material properties on optimal radial strain gage locations in sharp V-notched configurations	3rd International Conference on Design, Analysis, Manufacturing & Simulation (ICDAMS-2018), 6-7 April, Saveetha School of Engineering, Chennai.	2018
S. Sajith, K.S.R.K. Murthy, P.S. Robi	Accurate Estimation of Mixed Mode Stress Intensity Factors using Crack Flank Displacements	International Conference on Advances in Material and Manufacturing Engineering (ICAMME-2019), 15-17 March, Kalinga Institute of Industrial Technology, Bhubaneswar	2019
S. Sajith, K.S.R.K. Murthy, P.S. Robi	Fatigue life prediction under mixed mode loading using equivalent stress intensity factor models	3rd International Conference of Design, Analysis, Manufacturing & Simulation (ICDAMS 2018). April 6-7, Saveetha University, Chennai, India	2018
S Sajith, KSRK Murthy, PS Robi	Estimation of stress intensity factors from crack flank displacements	3rd International Conference on Advances in Materials and Manufacturing Applications (IConAMMA 2018) August 16-18, Amrita School of Engineering, Bengaluru, India	2018
K Gopala Krishna, K Yaswanth, B V K Patnaik, D Chakraborty, K S R K Murthy	Finite element FCG simulations of turbine disk	2nd National Aero Propulsion Conference NAPC-2018 Dec 17-19, 2018, IIT Kharagpur, West Bengal	2018
M.K. Hussain and K.S.R.K. Murthy	Numerical examination of sharp V-notches using notch-flank displacement collocation method	International Conference on Advances in Material and Manufacturing Engineering (ICAMME-2019), 15-17 March, Kalinga Institute of Industrial Technology, Bhubaneswar	2019
M.K. Hussain and K.S.R.K. Murthy	Numerical estimation of notch stress intensity factors of sharp V-notches	3rd International Conference on Design, Analysis, Manufacturing & Simulation (ICDAMS-2018), 6-7 April, Saveetha School of Engineering, Chennai.	2018
M. K. Hussain and K. S. R. K. Murthy	Comparison of some least-squares methods for evaluation of the notch stress intensities of sharp V-notched configurations	3rd International Conference on Advances in Materials and Manufacturing Applications (IConAMMA-2018), 16-18 August, Amrita School of Engineering, Bengaluru, India	2018
M.K. Hussain and K.S.R.K. Murthy	Evaluation of notch stress intensities at sharp V-notches using a point substitution method	Second International Conference On Structural Integrity (ICONS-2018), 14-17 December, Indian Institute of Technology Madras, Chennai.	2018
Debabrata Gayen, D. Chakraborty and R. Tiwari	Parametric study on free vibration and instability of a functionally graded cracked shaft in a rotor-disc-bearing system: finite element approach	3rd International Conference on Design, Analysis, Manufacturing & Simulation (ICDAMS 2018), April 6-7, 2018, Saveetha University, Chennai, India. Paper No. 161	2018

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**Conference Papers**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Kishor Kumar Gajrani, Y. Bishal Singha, Mamilla Ravi Sankar and Uday Shanker Dixit	Tribological Performance of Graphite, CaF <sub>2</sub> and MoS <sub>2</sub> Coated Mechanical Micro-Textured Self-Lubricating Cutting Tool Material	CPIE-2018, 27th June 2018, Bangkok.	2018
Kishor Kumar Gajrani, Y. Bishal Singha, Mamilla Ravi Sankar and Uday Shanker Dixit	Tribological Performance of Graphite, CaF <sub>2</sub> and MoS <sub>2</sub> Coated Mechanical Micro-Textured Self-Lubricating Cutting Tool Material	CPIE-2018, 27th June 2018, Bangkok.	2018
M. Ravi Sankar, Vijay Kumar Jain, K.P. Rajukar	Rheological and Nano-finishing Studies of Elastically Dominant Multiple Polymers Blend Abrasive Flow Finishing Medium	19th CIRP Conference on Electro Physical and Chemical Machining, 23-27 April 2018, Bilbao, Spain.	2018
Monami Bhuyan, Arnab Sarmah, Kishor Kumar Gajrani, Ashutosh Pandey, Tushar G. Thulkar, M. Ravi Sankar	State of Art on Minimum Quantity Lubrication in Grinding Process	8th International Conference of Materials Processing and Characterization (ICMPC), 16-18 March, 2018, GRIET, Hyderabad, India.	2018
Swarup Banik, Navneet Kalita, Kishor Kumar Gajrani, Ramchandra Kumar, M. Ravi Sankar	Recent Trends in Laser Assisted Machining of Ceramic Materials	8th International Conference of Materials Processing and Characterization (ICMPC), 16-18 March, 2018, GRIET, Hyderabad, India	2018
Kishor Kumar Gajrani, M. Ravi Sankar,	Cutting Fluids Emissions in Mechanical Machining and its Adverse Effects on Biodiversity	21stADNAT Convention and International Symposium on Biodiversity and Biobanking (BIODIVERSE-2018), 27-29 January, IIT Guwahati, India, 2018	2018
Sarita Bharti, S Senthilvelan,	Surface Durability Of Polyamide 66 Spur Gear Under Dry And Oil Lubricant Condition	FISITA 2018 Word Auotomotive Congress, 2-5 October 2018, Chennai,India	2018
Aditya Kumar, Karthick Pandia, S Senthilvelan	Bending Fatigue Performance Of Injection-Molded Carbon Nanotube Reinforced Polypropylene Spur Gears	FISITA 2018 Word Auotomotive Congress, 2-5 October 2018, Chennai,India	2018
Anwesa Barman, Manas Das	Analysis of forces during spot finishing of titanium alloy using novel tool in magnetic field assisted finishing process,	13th Manufacturing Science and Engineering Conference MSEC2018, June 18-22, 2018, Texas A&M University, College Station, TX, USA, paper ID MSEC2018-6352.	2018
S. Shyam, B. Mehta and P. K. Mondal	"Thermohydrodynamics of ferrofluidic flow with periodic pulsation under the effect of static and alternating magnetic field:- a numerical study"	16th International Heat Transfer Conference, IHTC-16 August 10-15, 2018.	2018
P.V.S.Sridhar, Shailesh kumar, Kaushik Pal, Bhaskar Kumar Chakraborty, Rituraj Bhattacharjee, Subhashis Majumder, Pankaj Biswas, Pinakeshwar Mahanta	Experimental Investigation and Mechanical Characterization of Double Sided Submerged Arc Welding of AISI 304 Austenitic Stainless Steel"	AIMTDR-2018, December 13-15, College of Engineering, Anna University,Chennai	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Pardeep Pankaj and Pankaj Biswas	Study of thermally induced residual stress and deformation in the CO2 laser welding of AISI 304 stainless steel thin plates	AIMTDR-2018, December 13-15, College of Engineering, Anna University, Chennai	2018
Pardeep Pankaj and Pankaj Biswas	Dissimilar FSW of DH36 shipbuilding steel and mild steel	AIMTDR-2018, December 13-15, College of Engineering, Anna University, Chennai	2018
Nandan Kanan Das, Arun Kadian, Avinish Tiwari, Pardeep Pankaj and Pankaj Biswas	Transient Thermal Analysis of Friction stir welding of AA6061	CPIE-2018, Thailand, Bangkok.	2018
Avinish Tiwari, Pardeep Pankaj, Nandan Kanan Das and Pankaj Biswas,	Joint Quality Evaluation of Shipbuilding Grade DH36 Steel Using WC-10% Co Alloy Based FSW Tool	AIMTDR 2018, Anna University, Chennai	2018
Kumar Abhishek and Biswas Pankaj	Effect of Process Parameters of Plasma Arc Preheating on Low Carbon Steel	International Conference on Computational Methods in Manufacturing March 8-9, IIT Guwahati	2018
Avinish Tiwari, Pardeep Pankaj, Piyush Singh, Pankaj Biswas and Sachin D. Kore	FSW of DH36 shipbuilding grade steel	5th International Conference on Production and Industrial Engineering (CPIE-2018), 26-29 June Bangkok, Thailand	2018
Sridhar P V S, Vishnu Nair, Pankaj Biswas, and Pinakeswar Mahanta	Thermomechanical analyses of Single Sided Single pass Submerged arc welding of AISI 304 Austenitic Stainless Steel	ICMM 2019, Mar 8-9, IIT Guwahati.	2019
Saurav Suman, Avinish Tiwari, Pardeep Pankaj, Pankaj Biswas	Numerical study of welding distortion in saw welded creep strength enhanced ferrite steel joint	International Conference on Recent Innovations and Developments in Mechanical Engineering, Nov-18, NIT Meghalaya.	2018
Saurav Suman, Avinish Tiwari, Pardeep Pankaj, Pankaj Biswas, Basil Kuriachen, Abhijit Sinha	Modelling of welding sequences for minimization of weld induced distortions and residual stresses	AIMTDR, Dec-18, Anna University	2018
Saurav Suman, Pardeep Pankaj, Avinish Tiwari, Pankaj Biswas, Basil Kuriachen, Abhijit Sinha	Effect of pre and post welding processes on the distortion pattern in a SAW welded butt joint of P91 steel plate	AIMTDR, Dec-18 Anna University	2018
Bordoloi D.J. and R. Tiwari	Monitoring of Induction Motor Mechanical and Electrical Faults by Optimum Multiclass-Support Vector Machine Algorithms Using Genetic Algorithm, Proceedings of IFToMM	10th International Conference on Rotordynamics, September 23-27, 2018, Rio de Janeiro, Brazil.	2018
P. Gangsar and R. Tiwari	Performance Analysis of Support Vector Machine and Wavelet Packet Transform based Fault Diagnostics of Induction Motor at Various Operating Conditions	Proceedings of IFToMM 9th International Conference on Rotordynamics, September 23-27, 2018, Rio de Janeiro, Brazil	2018
J. S. Rapur and R. Tiwari, Multi Fault,	Diagnosis of Centrifugal Pumps with Time, Frequency and Wavelet based Features using Support Vector Machines	Proceedings of IFToMM 9th International Conference on Rotordynamics, September 23-27, 2018, Rio de Janeiro, Brazil.	2018



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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
N. Sarmah and R. Tiwari	Identification of Crack and Internal Damping Parameters using Full Spectrum Responses from a Jeffcott Rotor Integrated with an Active Magnetic Bearing	Proceedings of IFToMM 9th International Conference on Rotordynamics, September 23-27, 2018, Rio de Janeiro, Brazil	2018
Siva Srinivas R. and R. Tiwari	Identification of Coupling Parameters in Flexibly Coupled Jeffcott Rotor Systems with Angular Misalignment and Integrated Through Active Magnetic Bearing.	Proceedings of IFToMM 9th International Conference on Rotordynamics, September 23-27, 2018, Rio de Janeiro, Brazil.	2018
P. Dinesh, M.R. Behera, P.G. Ranjith, N. Muthu	Multiscale modelling of fracture in wet porous media	1st International Symposium on In-situ Modification of Deposit Properties for Improving Mining 2018 (IMDPIIM2018), Taiyuan, China, 2018.	2018
Saurav Suman, Avinish Tiwari, Pardeep Pankaj, Pankaj Biswas	Numerical study of welding distortion in saw welded creep strength enhanced ferrite steel joint	International Conference on Recent Innovations and Developments in Mechanical Engineering, Nov-18, NIT Meghalaya.	2018
Saurav Suman, Avinish Tiwari, Pardeep Pankaj, Pankaj Biswas, Basil Kuriachen, Abhijit Sinha	Modelling of welding sequences for minimization of weld induced distortions and residual stresses	AIMTDR, Dec-18, Anna University.	2018
Saurav Suman, Pardeep Pankaj, Avinish Tiwari, Pankaj Biswas, Basil Kuriachen, Abhijit Sinha	Effect of pre and post welding processes on the distortion pattern in a SAW welded butt joint of P91 steel plate,	AIMTDR, Dec-18 Anna University	2018
A Mahapatro, P. Mahanta	Effect of Distributor Plate Design on The Hydrodynamics of A Pressurized Circulating Fluidized Bed	International Conference on Sustainable Energy and Environment Sensing, SEES-2018, 18-19 June, 2018 at Fitzwilliam College, University of Cambridge, in Cambridge city, United Kingdom	2018
Bhaben Kalita and S. K. Dwivedy	Dynamic Analysis of a Parametrically Excited Golden Muga Silk Embedded Pneumatic Artificial	The 14th International Conference on Vibration Engineering and Technology of Machinery (VETOMAC XIV), Lisbon, Portugal, September 10-13, 2018	2018
Bhaben Kalita and S. K. Dwivedy	Forced Vibration Analysis of a Silk Fibre Embedded Pneumatic Artificial Muscle	The 6th International Conference on Robot Intelligence Technology and Applications (RITA 2018), Putrajaya, Malaysia, December 16-18, 2018	2018
S. Mohanty, S. Sikder and S. K Dwivedy	Nonlinear analysis of rotational inertial double tuned mass damper by Harmonic balance method.	First International Conference on Recent Innovations & Developments in Mechanical Engineering (IC-RIDME 2018), NIT Meghalaya, India, November 2018	2018
S. Mohanty and S. K Dwivedy,	Nonlinear analysis of a hybrid vibration absorber for super-harmonic resonance condition Western Pacific Commission for Acoustics (WESPAC 2018), CSIR-National Physical Laboratory	New Delhi, India, November 2018	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
A. Garg and S. K. Dwivedy	Theoretical and Experimental Investigation of Parametrically Excited Piezoelectric Energy Harvester	14th International Conference on Vibration Engineering and Technology of Machinery, VETOMAC XIV 2018, Lisbon, Portugal. DOI: 10.1051/mateconf/201821102009	2018
Y Gawade, Sudip Shyam, Balkrishna Mehta	Pressure Characteristics of Single Isolated Ferrofluidic Slug under the Influence of External Magnetic Field	7th International and 45th national conference on Fluid Mechanics and Fluid power, Dec 10-12, 2018, IIT Bombay	2018
Sudip Shyam, Balkrishna Mehta and Pranab Mondal	Thermo-hydrodynamics of ferrofluidic flow with periodic pulsation under the effect of static and alternating magnetic field	Conference, IHTC 18, Beijing China, August 2018	2018
Debabrata Chakraborty, Debaleena Chakraborty, and K. S R. K. Murthy	A finite element based procedure for accurate determination of mode I SIF of orthotropic materials based on two parameter strain series	9th ICCM 2018, August 6-10, 2018, University of Sapienza, Rome, Italy	2018
Debabrata Gayen, D Chakraborty and Rajiv Tiwari	Parametric study on free vibration and instability of a functionally graded cracked shaft in a rotor-disc-bearing system: finite element approach	3rd International Conference on Design, Analysis, Manufacturing & Simulation (ICDAMS 2018), April 6-7, 2018, Saveetha University, Chennai, India. Paper No. 161	2018
D. Shankar, M. Pandey, D.N. Basu	Coupled-Neutronic-Thermohydraulic Stability Appraisal of Supercritical Forced Flow Channels Following Lumped Parameter Approach	16 International Heat Transfer Conference (IHTC-16), Beijing, China, August 10-15, 2018, Paper ID IHTC16-23961.	2018
D. Shankar, M. Pandey, D.N. Basu	Coupled-Neutronic-Thermohydraulic Stability Appraisal of Supercritical Forced Flow Channels Following Lumped Parameter Approach	16 International Heat Transfer Conference (IHTC-16), Beijing, China, August 10-15, 2018, Paper ID IHTC16-23961	2018
D. Hirakha, Mahanta. P	Effect Of Superficial Velocity On The Hydrodynamic Behaviour Of A Conical Fluidized Bed: Experimental And Numerical Studies	7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 10-12, 2018, IIT Bombay, Mumbai, India, PAPER NO. 826	2018
Haque N, Singh A, and Saha UK	Particle image velocimetry investigation of fluid flow in fractured porous media	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, IIT Bombay, Mumbai, India.	2018
Talukdar PK, Rathod UH, Kulkarni V, and Saha UK	Performance evaluation of vented Savonius wind turbines through wind tunnel testing	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, IIT Bombay, Mumbai, India.	2018
Dabi M and Saha UK	Performance and emission characteristics of a compression ignition engine run on vegetable oil-diesel blends and diethyl ether,	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, December 10-12, IIT Bombay, Mumbai, India.	2018
Haque N, Singh A, and Saha UK	A noble method for rapid prototyping of porous micromodels applicable to enhanced oil recovery,	International Conference on Recent Advances in Fluid and Thermal Sciences, December 5 – 7, Dubai, UAE	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Talukdar PK, Kulkarni V, and Saha UK	Performance characteristics of vertical-axis off-shore Savonius wind and Savonius hydro-kinetic turbines	37th International Conference on Ocean, Offshore and Arctic Engineering, June 17 – 22, Madrid, Spain	2018
Alom N, Borah B, and Saha UK	An insight into the drag and lift characteristics of modified Bach and Benesh profiles of Savonius wind rotor	4th International Symposium on Hydrogen Energy, Renewable Energy and Materials (HEREM), June 13 – 14, Bangkok, Thailand	2018
Hotta, S. K., Sahoo, N., Mohanty K., Mahanta, P	Effect of compression ratio on the performance of a constant speed spark ignition engine operating on raw biogas	2nd International Conference on Sustainable Energy and Environmental Challenges, Jan 01-03, 2018, Indian Institute of Science, Bangalore, India	2018
Hotta, S. K., Sahoo, N., Mohanty K., Mahanta, P	Effect of compression ratio on the performance of a constant speed spark ignition engine operating on raw biogas	2nd International Conference on Sustainable Energy and Environmental Challenges, Jan 01-03, 2018, Indian Institute of Science, Bangalore, India	2018
Hotta, S. K., Rout, A. K., Sahoo, N., Mohanty K	Effect of compression ratio on the cyclic variability and thermal efficiency of a biogas fueled spark ignition engine	7th International and 45th National Conference on Fluid Mechanics and Fluid Power, Dec 10-12, 2018, Indian Institute of Technology, Bombay, India	2018
Gunjo, D.G., Mahanta, P and Robi, P.S.	Designing and Utilizing of the Solar Water Heater for Digestion of Lignocellulosic Biomass. In Advances in Waste Management	Springer, Singapore	2019
N. Bhardwaj, R. Ganesh Narayanan and U.S. Dixit	Refilling of pinhole in friction stir spot welding using waste chips,	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
G.C. Verma, P.M. Pandey and U.S. Dixit,	Experimental investigations to evaluate machining accuracy of ultrasonic assisted milling on thin-walled structures	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
F. Chen, J. Zhang, M. Wu, X. Chu and U.S. Dixit	Design of open battery pack interface for electric vehicle personalization	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
A. Raj, A. Ch Borsalkia and U.S. Dixit	Manufacturing of autoclaved aerated concrete (AAC): present status and future trends	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
A. Bisht, A. Roy, U. S. Dixit, S. Suwas and V.V. Silberschmidt	Small-scale machining simulations	2nd International Conference on Computational Methods in Manufacturing March 8-9, 2019, IIT Guwahati.	2019
Shranish Kar, Poonam Kumari	Three Dimensional Bending Solution Of Cylindrical Shell Panel Having Arbitrary Edge Support Conditions Using Extended Kantorovich Method	10th International Conference on Material for Advanced Technologies, Singapore from 23 to 28 June, 2019	2019

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Agyapal SINGH, Poonam KUMARI, Ehtesham HUSSAIN	Analytical Free Vibration Solution Of Functionally Graded Beam Having Longitudinal Stiffness Variation	10th International Conference on Material for Advanced Technologies, Singapore from 23 to 28 June, 2019	2019
Susant Behera, Poonam Kumari	Free Vibration Analysis of Levy-type Hybrid Plates using Three-dimensional Extended Kantorovich Method	Second International Conference On Structural Integrity, ICONS2018, IIT Madras, 14-18 December, 2018	2018
Ahmed F. and Kalita K	Controllability of Radial Displacement in Bearingless Switched Reluctance Motor with Bridge Configured Winding	August 2018, International symposium on Magnetic Bearings 16 (ISMB16), Beijing, China.	2018
Arnab Kr. De	,A diffuse interface immersed boundary method for complex moving boundary problems	Journal of computational Physics , Vol. 366, 226-251, 2018.	2018
A. K. De, V. Eswaran and P. K. Mishra	Dynamics of plumes in turbulent Rayleigh-Bénard convection	European Journal of Mechanics - B/Fluids , vol. 72, 164-178, 2018	2018
G. Bolar and S. N. Joshi	An Experimental Investigation on Productivity and Product Quality during Thin-Wall Machining of Aluminum alloy 2024-T351	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
U. Sarma and S. N. Joshi	Effect of Laser Parameters on Laser Induced Plasma Assisted Ablation (LIPAA) of Glass	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
S. Das and S N Joshi	Thermal modelling and simulation of crater generation on wire electrode during wire EDM operation	7th International and 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, December 13-15, 2018, Anna University, Chennai.	2018
V. Singh and S N Joshi	Computation of End-Cutting-Edge Wear of Single Point Cutting Tool using Image processing	International Conference on Computational Methods in Manufacturing, March 8-9, 2019, IIT Guwahati	2019
B Barkachary and S N Joshi	Numerical Simulation and Experimental Validation of Nanoindentation of Silicon using Finite Element Method	International Conference on Computational Methods in Manufacturing, March 8-9, 2019, IIT Guwahati	2019
B. Barkachary and S N Joshi	Numerical modeling and simulation of plunge cutting of silicon using finite element method	International Conference on Recent Innovations & Developments in Mechanical Engineering (IC-RIDME 2018) during November 8-10, 2018, NIT Meghalaya	2018
J. Kumar, S. Das and S N Joshi	Three-dimensional numerical modelling of temperature profiles on the wire electrode during wire electric discharge machining process	International Conference on Recent Innovations & Developments in Mechanical Engineering (IC-RIDME 2018) during November 8-10, 2018, NIT Meghalaya	2018
U. Sarma and S N Joshi	Two-dimensional numerical investigation on the effect of laser parameters during laser indirect machining of glass	International Conference on Recent Innovations & Developments in Mechanical Engineering (IC-RIDME 2018) during November 8-10, 2018, NIT Meghalaya	2018
A. Iqbal, S. K. Sarma and M. Pandey	Non-adiabatic Flow Characteristics of Dielectric Fluids in Trapezoidal Microchannel	7th International and 45th National Conference on Fluid Mechanics and Fluid Power December 10-12, 2018, IIT Bombay, Mumbai, India	2018

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A. Kumar, R. Gupta, A. Iqbal, S. K. Sarma and M. Pandey	$\mu$ -PIV Measurement in a Microtube.	7th International and 45th National Conference on Fluid Mechanics and Fluid Power December 10-12, 2018, IIT Bombay, Mumbai, India	2018
K. Saikia, D.N. Basu, M. Pandey	Effect of Subcooling on the Instabilities of a Two-Phase Natural Circulation System	7th International and 45th National Conference on Fluid Mechanics and Fluid Power December 10-12, 2018, IIT Bombay, Mumbai, India	2018
R. Kumar, M. Pandey	Three Dimensional Simulation of a Condensing Taylor Bubble in a Microchannel	7th International and 45th National Conference on Fluid Mechanics and Fluid Power December 10-12, 2018, IIT Bombay, Mumbai, India	2018
S. Ahmed, M. Pandey	Study of Transport Phenomena in the Evaporator of Two-phase Capillary Devices using Thin Film Evaporation Model,	Joint 19th International Heat Pipe Conference and 13th International Heat Pipe Symposium, Pisa, Italy, June 10-14, 2018	2018
R. Kalule, S.K. Sarma, A. Iqbal, M. Pandey	A Study on the Onset of Annular Two-Phase Flow in a Microchannel,	12th International Conference on Thermal Engineering: Theory and Applications February 23-26, 2019, Gandhinagar, India	2019
M. Pandey	Coupled-Neutronic-Thermohydraulic Stability Appraisal of Supercritical Forced Flow Channels Following Lumped Parameter Approach	16th International Heat Transfer Conference, IHTC-16, August 10-15, 2018, Beijing, China	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Ramakrishna Madaka, Juhi Kumari, Venkanna Kanneboina and Pratima Agarwal	Hydrogenated amorphous silicon solar cells fabricated at low substrate temperature 110°C on flexible PET substrate	AIP Conference Proceedings	2018
Mukesh Singh, Himanshu S. Jha and Pratima Agarwal	Synthesis of vertically aligned carbon nanoflakes by hot wire chemical vapour deposition: influence of process pressure and substrate temperature	10th international conference on "Hot Wire (Cat) & Initiated Chemical Vapour Deposition". Sept. 03-06, 2018 Kitakyushu International Conference Centre, Japan.	2018
R. Madaka, J. Kumari, V. Kanneboina, H.S. Jha and P. Agarwal	Role of chamber pressure on crystallinity and composition of silicon films using silane and methane as precursors in HWCVD technique	10th international conference on "Hot Wire (Cat) & Initiated Chemical Vapour Deposition". Sept. 03-06, 2018 Kitakyushu International Conference Centre, Japan.	2018
H.S. Jha and P. Agarwal	Growth of highly nanocrystalline cubic silicon carbide (3C-SiC) thin films prepared by hot wire chemical vapour deposition technique	10th international conference on "Hot Wire (Cat) & Initiated Chemical Vapour Deposition". Sept. 03-06, 2018 Kitakyushu International Conference Centre, Japan.	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Shubhangi Bhardwaj, Piliik Basumatary, Venkanna Kanneboina and Pratima Agarwal	Influence of Process Pressure on Structural and Optical Properties of TiO <sub>2</sub> Thin Films Deposited by RF Sputtering	Materials & Technologies for Energy Conversion and Storage, Sept. 26-29, 2018 DAE Convention Centre, Mumbai	2018
Venkanna Kanneboina, Piliik Basumatary and Pratima Agarwal	Influence of Deposition Temperature on Indium Tin Oxide Thin Films for Solar Cell Applications	International Conference on Renewable and Alternate Energy (ICARE-2018), Dec. 04-06, 2018 Assam Science and Technology University.	2018
Manvendra Singh Gangwar and Pratima Agarwal	Growth study of metallic nanoparticles on different substrates for light trapping in thin film solar cells	2nd National Conference on , Hard and Soft Condensed Matter Physics, Department of Physics, Tezpur University, Assam, Mar. 04-06, 2019	2019
Manvendra Singh Gangwar and Pratima Agarwal	Synthesis of metallic nanoparticles on different substrates to study their effects in thin film solar cells for light trapping applications	Research Conclave 2019, Indian Institute of Technology, Guwahati, India, Mar.14-17, 2019	2019
Kalita, Ranjan and Boruah, Bosanta R.	Effect of aberration on the electric field orientation around the focus of a polarized light beam	Proceedings of SPIE	2018
Konwar, Santanu and Boruah, Bosanta R.	Improvement in modal wavefront sensing in terms of cross-talk reduction and linearity	Proceedings of SPIE	2018
Konwar, Santanu and Boruah, Bosanta R.	An analytical study on the presence of inter-modal cross-talk in a modal wavefront sensor	Proceedings of SPIE	2018
Ruma Das and P. K. Giri	Fluorescence based comparative study of interaction of perylene with nitrogen doped graphene quantum dots and graphene oxide sheets	AIP Conference Proceedings, Vol. 2082	2019
Larionette P. L. Mawlong, Kamal Kumar Paul and P. K. Giri	Simultaneous photoluminescence enhancement in CVD grown single layer MoS <sub>2</sub> and TiO <sub>2</sub> NRs in the MoS <sub>2</sub> @TiO <sub>2</sub> heterojunction	AIP Conference Proceedings, Vol. 2082	2019
Joydip Ghosh and P. K. Giri	Effect of plasmonic metal nanoparticles on the performance of air processed inverted perovskite solar cells	AIP Conference Proceedings, Vol. 2082	2019
Sumaiya Parveen, Kamal Kumar Paul and P. K. Giri	High photoluminescence yield from organometal halide perovskite quantum dots confined in a mesoporous TiO <sub>2</sub> template grown by rapid thermal annealing	AIP Conference Proceedings, Vol. 2082	2019
Kamal Kumar Paul and P. K. Giri	Enhanced visible light photocatalysis by fluorine doped faceted TiO <sub>2</sub> nanoflowers hierarchically designed with vacancy-rich TiO <sub>2</sub> nanocrystals grown by vacuum annealing	AIP Conference Proceedings, Vol. 2082	2019
Partha P Dey and Ailika Khare	Tailorable band-tail emissions in PLD a-SiC films	AIP Conference proceedings, Vol. 2082	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sasmita Behera and Alika Khare	Linear and nonlinear optical properties of BaTiO <sub>3</sub> and Ba <sub>0.5</sub> Sr <sub>0.5</sub> TiO <sub>3</sub> thin films fabricated by pulsed laser deposition technique	AIP Conference proceedings, Vol. 2082	2019
P. K. Baruah, M. A. Raman, I. Chakrabarty, LathaRangan, A. K. Sharma and Alika Khare	Antibacterial Effect of Silk Treated with Silver and Copper Nanoparticles Synthesized by Pulsed Laser Ablation in Distilled Water	AIP Conference Proceeding, Vol. 1953	2018
Rahul Kesarwani and Alika Khare	Compositional study of pulsed laser deposited semitransparent Cu thin film using BEMA	AIP Conference Proceedings, Vol. 1942	2018
Prahlad K. Baruah, Ashwini K. Sharma and Alika Khare	Effect of laser energy on the SPR and size of silver nanoparticles synthesized by pulsed laser ablation in distilled water	AIP Conference Proceedings, Vol. 1942	2018
Prahlad K. Baruah, Ashwini K. Sharma and Alika Khare	Elucidation of Surface Plasmon Resonance, Size and Structure of Cu@Cu <sub>2</sub> O and Ag@Ag <sub>2</sub> O Nanoparticles Synthesized by Pulsed Laser Ablation in Liquid, Dynamics of the Process and Applications	Research conclave, IIT Guwahati	2019
Rahul Kesarwani and Alika Khare	Photoluminescence in semi-transparent nanostructured Cu thin film fabricated via PLD	Research conclave, IIT Guwahati	2019
Eshita Mal and Alika Khare	Compositional Analyses of Copper alloys using Single Line Transition via Calibration Free Laser Induced Breakdown Spectroscopy (CF-LIBS) in air	Research conclave, IIT Guwahati	2019
Sasmita Behera and Alika Khare	Structural and optical properties of Pervoskite thin films fabricated by Pulsed Laser Deposition technique	Research conclave, IIT Guwahati	2019
Sasmita Behera and Alika Khare	Effect of Cu nanolayer on linear and nonlinear optical properties of BaTiO <sub>3</sub> thin films	International Conference on Nanoscience and Nanotechnology (ICONN 2019), SRM institute of Science and Technology, Chennai	2019
Nagendra Kumar, Bosanta R. Boruah and Alika Khare	Improvement in phase estimation accuracy at the peripheral grid points of a zonal wavefront sensor	International Conference on Fiber Optics and Photonics, Indian Institute of Technology Delhi, New Delhi	2018
Eshita Mal, Rajendhar Junjuri, Manoj Kumar Gundawar and Alika. Khare	Quantitative analysis of Brass using Calibration-Free Laser Induced Breakdown Spectroscopy (CF-LIBS) Technique in Air	DAE- BRNS National Laser Symposium NLS-26, RRCAT Indore	2018
A. Kushwaha, I. Kumar and Alika Khare	Laser Induced Breakdown study of Polypropylene (PP) using second harmonic of Nd:YAG Pulsed Laser	OSI - International Symposium on Optics (OSI-ISO 2018), Sept. 2018, IIT Kanpur	2018
Nagendra Kumar, Bosanta R. Boruah and Alika Khare	Grating array based zonal wavefront sensor for surface profile measurements	The Siegman International School on Lasers, Technical University of Denmark, Island of Hven, Backfallsbyn, Sweden	2018

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P. K. Baruah, Aika Khare, P. Sharma and A. Nath	Implications of Focusing Effect on Cavitation Bubble Dynamics and Nanoparticles formed via Laser Ablation in Liquids	5th International Conference on Advanced Nanoparticle Generation & Excitation by Lasers in Liquids, Lyon, France, June 2018.	2018
Arnab K. De and Pankaj K. Mishra	Dynamics of large scale flow and its effect on heat transfer in turbulent convection	Proceedings of the 16th International Heat Transfer Conference	2018
Pankaj K. Mishra and Arnab K. De	Statistics of thermal dissipation rate in the turbulent Rayleigh-Benard Convection	Proceedings of the 7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP) Dec. 10-12, 2018, IIT Bombay, Mumbai, India	2018
Vishnu T. Venugopal, Arnab K. De and Pankaj K. Mishra	The effect of rotation on the heat transport and flow structures in the Turbulent Rotating Rayleigh Benard Convection	Proceedings of the 7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP) Dec. 10-12, 2018, IIT Bombay, Mumbai, India	2018
Srinivas Pattipaka and D. Pamu	Raman spectroscopy and low temperature dielectric properties of (Bi <sub>0.5</sub> Na <sub>0.5</sub> )TiO <sub>3</sub> ceramics	IOP Conference Series: Material science and engineering	2018
Susmita Rabha and Pamu Dobbidi	Dielectric and magnetic behavior of Mg <sub>1-x</sub> Fe <sub>x</sub> TiO <sub>3</sub> Ceramics for microwave applications	National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA-2018)	2018
Prajna Paramita Mohapatra, Srinivas Pattipaka, Pamu Dobbidi and T. Tiwari	Development of LiFe <sub>5</sub> O <sub>8</sub> ceramics for microwave applications	National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA-2018)	2018
Apurba Das, Spandana Kornepati, Jonmani Rabha and D. Pamu	Growth and Microstructural characterization of bone like apatite deposited by a biomimetic process	63rd DAE Solid State Physics Symposium	2019
Radhika Ethireddy, Srinivas Pattipaka, Tiwari. T and Pamu Dobbidi	Microwave Dielectric Studies on AlN Ceramics for RF Window Applications	National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA-2018)	2018
P. Poulouse, S. Sahoo and K. Sridhar	Searching the inert scalars through the dijet plus missing transverse energy final states at high luminosity	Springer Proc. Phys., Vol. 203	2018
S. Goswami and A. K. Sharma	Structural and morphological properties of pulsed laser deposited In <sub>2</sub> O <sub>3</sub> thin films at various oxygen pressures	AIP Conference Proceeding	2019
S. Goswami and A. K. Sharma	Effect of substrate temperature on the structural, morphological and optical properties of pulsed laser deposited indium oxide films	5th International Conference Nanoscience and Nanotechnology (ICONN), SRM Institute of Science and Technology, Chennai	2019
S. Goswami and A. K. Sharma	Structural and morphological properties of pulsed laser deposited In <sub>2</sub> O <sub>3</sub> thin films at various oxygen pressures	International Conference on Optoelectronic and Nano Materials for Advanced Technology (iCONMAT), CUSAT, Kochi, Kerala	2019



Physics

Conference Papers

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
S. Goswami and A. K. Sharma	Effect of ambient conditions on the structural and optical properties of pulsed laser deposited indium tin oxide thin films	International Conference on Fiber Optics and Photonics (PHOTONICS 2018), IIT Delhi	2019
Abhijit Kumar Saha and Arunansu Sil	Stabilizing Electroweak Vacuum Through Modified Chaotic Inflation	XXII DAE High Energy Physics Symposium [Part of the Springer Proceedings in Physics book(SPPHY, volume 203)]	2018
Rajkumar Modak, B. Samantaray, P. Mandal, V.V. Srinivasu and A. Srinivasan	Comparison of field swept ferromagnetic resonance methods – A case study using Ni-Mn-Sn films	AIP Conference Proceedings, Vol: 1953	2018
Arnab Kumar Das, Rajkumar Modak and Ananthakrishnan Srinivasan	Structural and optical properties of electrospun MoO3 nanowires	AIP Conference Proceedings, Vol: 1953	2018
Sreedevi Vallabhapurapu, Ashwini Rohom, N B Chaur, Shengzhi Du and Ananthakrishnan Srinivasan	Bistable resistive memory behavior in gelatin-CdTe quantum dot composite film	AIP Conference Proceedings, Vol: 1953	2018
Zolile Wiseman Dlamini, A. Srinivasan, Yanwei Ma and V.V. Srinivasu	Electron spin resonance in the superconducting state of Ba0.6K0.4Fe2As2	AIP Conference Proceedings, Vol: 1953	2018
Sreedevi Vallabhapurapu, Ashwini Roham, C. Du, N.B. Chaur, S. Tu, T.S. Mahule, V.V. Srinivasu and A. Srinivasan	Resistive switching memory effect and conduction mechanism in nano-silver incorporated Type-A gelatin films	IEEE Explore	2018
S. K. Jena, S. Singh, S. Ghosh, A. Keelu, P. Pramanik and S. Thota	Crystal Structural and Micro Raman Studies of Mg1-xNi xO Solid Solutions	UGC-SAP (DRS II) Sponsored Second National Conference on Hard and Soft Condensed Matter Physics	2019
S. Singh, P. Pramanik, D. C. Joshi and S. Thota	Altered Antiferromagnetic State and Exchange Bias of Bulk Co3O4 Granular Matrix Dispersed in Nonmagnetic CeO2	Research conclave, IIT Guwahati	2019
B. Yadav, S. Ghosh, M. Sehrawat, S. Singh, P. Pramanik, S.K. Jena, D.C. Joshi and S. Thota	Evidence for Field Induced Phase Transitions and Enhanced Long-range Ordering in Fe doped MnCo2O4	Research conclave, IIT Guwahati	2019
M. Sehrawat, B. Yadav, S. Ghosh, S. Singh, P. Pramanik, S. K. Jena, D. C. Joshi and S. Thota	Crystal structure and Magnetic Properties of Germanium doped MnCo2O4	Research conclave, IIT Guwahati	2019
S. Mohapatra, S. K. Jena, A. Keelu, S. Singh, P. Pramanik, D. C. Joshi and S. Thota	Vibrational Raman Excitations and Broadband Dielectric Spectroscopy of Mg doped NiO	Research conclave, IIT Guwahati	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
S. K. Jena, S. Mohapatra, S. Singh, P. Pramanik, D.C. Joshi and S. Thota	Synthesis, Structural and Magnetic Properties of Ni <sup>1-x</sup> Mg <sup>x</sup> O Nanostructures	Research conclave, IIT Guwahati	2019
S. Ghosh, S. K. Jena, D. C. Joshi, P. Pramanik, P. K. Mishra and S. Thota	Density Functional Theory Studies of Mg doped NiO	University of Delhi, India	2018
S. Singh, P. Pramanik, S. K. Jena, B. Yadav, M. Sehrawat and S. Thota	Compositional dependence of Vibrational Excitations in Fe substituted MnCo <sub>2</sub> O <sub>4</sub> Ferrimagnetic Spinels	UGC-SAP (DRS II) Sponsored Second National Conference on Hard and Soft Condensed Matter Physics	2019

## Conference Papers

## Centre for Energy

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Vivek Ghritlahre, Juhi Kumari, and Pratima Agarwal	Synthesis and study of molybdenum diselenide (MoSe <sub>2</sub> ) by Solvo-thermal method	AIP Conference Proceedings	2018
Shubhangi Bhardwaj, Piliik Basumatary, and Pratima Agarwal	Influence of argon flow rate on structural and optical properties of TiO <sub>2</sub> thin films deposited by RF sputtering	AIP Conference Proceedings	2018
Ramakrishna Madaka, Juhi Kumari, Venkanna Kanneboina, and Pratima Agarwal	Hydrogenated amorphous silicon solar cells fabricated at low substrate temperature 110°C on flexible PET substrate	AIP Conference Proceedings	2018
Asha Yadav, Juhi Kumari and Pratima Agarwal	Role of Interface States on Electron Transport in a-Si:H/nc-Si:H Multilayer Structures	AIP Conference Proceedings	2018
R. Madaka, J. Kumari, V. Kanneboina, H.S. Jha, and P. Agarwal	Role of chamber pressure on crystallinity and composition of silicon films using silane and methane as precursors in HWCVD technique	10th international conference on "Hot Wire (Cat) & Initiated Chemical Vapour Deposition". 3-6 September, 2018, Kitakyushu International Conference Centre, Japan	2018
Piliik Basumatary and Pratima Agarwal	Two Step Fabrication of MAPbI <sub>3</sub> Perovskite Thin Films with Improved Stability	Materials & Technologies for Energy Conversion and Storage", 26-29 September, 2018, DAE Convention Centre, Mumbai	2018
Shubhangi Bhardwaj, Piliik Basumatary, Venkanna Kanneboina, and Pratima Agarwal	Influence of Process Pressure on Structural and Optical Properties of TiO <sub>2</sub> Thin Films Deposited by RF Sputtering	Materials & Technologies for Energy Conversion and Storage", 26-29 September, 2018, DAE Convention Centre, Mumbai	2018
Niharika Gogoi, Jai Shree Bhardwaj, and Pratima Agarwal	Study of Laser Induced Micro Structural Changes in Reduced Graphene Oxide	International Conference on Renewable and Alternate Energy (ICARE-2018), 04-06 December, 2018 Assam Science and Technology University	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Juhi Kumari, Vivek Ghritlahre, and Pratima Agarwal	Fabrication of MoSe <sub>2</sub> and ZnO: Al based Hetrojunction Structure", International Conference on Renewable and Alternate Energy (ICARE-2018), December 04-06, 2018 Assam Science and Technology University	International Conference on Renewable and Alternate Energy (ICARE-2018), 04-06 December, 2018 Assam Science and Technology University	2018
Venkanna Kanneboina, Piliik Basumatary, and Pratima Agarwal	Influence of Deposition Temperature on Indium Tin Oxide Thin Films for Solar Cell Applications	International Conference on Renewable and Alternate Energy (ICARE-2018), 04-06 December, 2018 Assam Science and Technology University	2018
Niharika Gogoi and Pratima Agarwal	Study of Reduced Graphene Oxide Annealed at Different Temperatures	4th International Conference on Emerging Electronics, 17-19 December, 2018, Bangalore	2019
Niharika Gogoi and Pratima Agarwal	Study of Electrical Behaviour of GO-Silicon Heterojunction	2nd National Conference on Hard and Soft Condensed Matter Physics, Department of Physics, 4-6 March, 2019, Tezpur University, Assam	2019
E. Yu. Konovalova, D. I. Stom, G. O. Zhdanova, D. A. Yuriev, Youming Li, Lepakshi Barbora, and Pranab Goswami	The microorganisms used for working in microbial fuel cells	AIP Conference Proceedings doi: 10.1063/1.5031979	2018
Aparupa Thakuria and Lepakshi Barbora	Assessment of the Potential of Duckweed for Phytoremediation of Arsenic in Water and Allied Value Added Technologies (Oral)	Waste to Energy Conversion 28-29 December, 2018, Aizawl	2018
Lepakshi Barbora, Priyanki Das, Aparupa Thakuria, Arup Dutta, Pranab Goswami, and Anil Verma	Performance Enhancement of Direct Methanol Fuel Cell by Incorporation of Hybridized Pt/Laccase Electrode at Cathode (Oral)	All India Seminar on Biofuels, Bio-energy & Bio-economy, 29-30 October, 2019, Guwahati	2018
Mohd Golam Abdul Quadir, Mirinal Kumar Sarma, and Pranab Goswami	Transducing light to current: Cyanobacteria as anodic biocatalyst in biofuel cell setup (Oral)	4th Asia Pacific - International Society of Microbial Electrochemistry and Technology (AP-ISMET), 13-16 November, 2018, Birla Institute of Technology & Science - Pilani, K K Birla Goa campus, Goa	2018
Ankit Singh, Kaushik Ghosh, Sushil kumar, Ashwini Agrawal, Manjeet Jassal, Pranab Goswami, and Harsh Chaturvedi	Flexible Fibre Supercapacitor using synthesized biomass based few layer graphene and activated carbon for wearable electronic devices (Poster)	International meeting on Energy Storage Devices 2018 (IIT Roorkee), 10-12 December, 2018 IIT Roorkee	2018
Ankit Singh, Kaushik Ghosh, Sushil kumar, Ashwini Agrawal, Manjeet Jassal, Pranab Goswami, and Harsh Chaturvedi	Interdigitated flexible supercapacitor using synthesized biomass based activated carbon for wearable energy storage (Oral)	International Conference on Advanced Materials, Energy and Environment sustainability, 14-15 Dec 2018, University of Petroleum and Energy Studies, Dehradun	2018
Sharbani Kaushik and Pranab Goswami	Paper based photosynthetic microbial fuel cell for sensing alcohol (Poster)	ICAR-NISTADS Northeast India Energy Conclave, 6-7 June, 2018, Cotton University, Guwahati	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Sharbani Kaushik and Pranab Goswami	Photosynthetic Microbial Fuel Cell on Paper as the support matrix as a chip-size power source	International Conference on Renewable and alternate energy, 4-6 December, 2018, Assam Science and Technology University, Guwahati	2018
Debarshi Baruah, Debarshi Mallick, Pankaj Kalita, V.S. Moholkar	A detailed study of pyrolysis kinetics of elephant grass using thermogravimetric analysis	2nd International Conference on Energy, Power and Environment (ICEPE-2018), NIT Meghalaya	2018
Debarshi Mallick, Debarshi Baruah, Pinakeswar Mahanta, V.S. Moholkar	A comprehensive kinetic analysis of bamboo waste using thermogravimetric analysis	2nd International Conference on Energy, Power and Environment (ICEPE-2018), NIT Meghalaya	2018
Sumitha Banu J., Abhijeet Thakur, Vijay S. Moholkar and Arun Goyal	Optimization of enzymatic hydrolysis of alkali-treated finger millet straw by recombinant $\beta$ -1,4-endoxylanase	Research Conclave, IIT Guwahati, Assam	2019
Kaustubh Khaire, Kakali Borah, Arun Goyal and V. S. Moholkar	Pretreatment optimization of sugarcane leaf tops for recovery of holocellulose	3rd International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC), IIT Roorkee, India.	2018
Sumitha Banu J., Abhijeet Thakur, Vijay S. Moholkar and Arun Goyal	Saccharification of hemicellulose from pretreated finger millet straw by $\beta$ -1,4-endoxylanase for bioethanol production	59th Annual Conference of AMI, University of Hyderabad, India.	2018
Sumitha Banu J., Abhijeet Thakur, Aruna Rani, Vijay S. Moholkar and Arun Goyal	Pretreatment and clostridial enzymes hydrolysis of finger millet stalk for biofuel production	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	2018
Neha Singh, Arun Goyal, V.S. Moholkar	Intensification of $\beta$ -carotene production from isolated microalgae <i>Tetrademus obliquus</i> SGM19 under optimized parameters	International Conference on 'Biotechnological Research and Innovation for Sustainable Development' XV BRSI Convention	2018
Niharika Kashyap, V.S. Moholkar	Optimization and pathway identification of polycyclic aromatic hydrocarbons (PAHs) degradation by <i>Candida tropicalis</i> and its intensification by sonication	International Conference on 'Biotechnological Research and Innovation for Sustainable Development' XV BRSI Convention	2018
Amit H. Batghare, Vijayanand S. Moholkar	Mechanistic Investigations in Ultrasound-Induced Enhancement of Riboflavin Production by <i>Debaryomyces hansenii</i> var. <i>hansenii</i> MTCC 3574	Biotechnological Research and Innovation for Sustainable Development (BioSD)	2018
Kajal Ingtipi, V.S. Moholkar	Sonochemically synthesized lignin nanoparticles and its application in the development of nanocomposite hydrogel	ICAMEES-2018	2018
D.V.N. Lakshmi, Muthukumar P	Design and development of mixed mode forced convection solar dryer for drying of curcuma zeodaria	12th International Conference on Thermal Engineering: Theory and Applications (ICTEA-Feb 23-26) Gandhinagar	2019
Sunku Prasad J, Saurabh Dongare, Anandalakshmi R, Muthukumar P	Numerical Investigation of PCM based Heat Sinks under Constant and Variable Heat Load Conditions	12th International Conference on Thermal Engineering: Theory and Applications (ICTEA- Feb 23-26 Gandhinagar)	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Mrinal Bhowmi K, Kiran Naik B, Anandalakshmi R, Muthukumar P	Experimental Investigations of the Dehumidifier Performance Evaluation using Aqueous LiBr-HCOOK Blends	International Conference on Polygeneration (ICP- May 15-17, Kyushu University Japan)	2019
Vigneshwaran K, Gurpreet Singh Sodhi, Muthukumar, P, Senthilmurugan S	Concrete based Sensible Heat Storage System: Experimental Investigations	International Conference on Polygeneration (ICP- May 15-17, Kyushu University, Japan)	2019
Desai F J Atayo A, Muthukumar P, Rahman MM	Experimental Studies on Endothermic Reversible Reaction of Salts for Cooling	Accepted for presentation at International Conference on Polygeneration (ICP-2019), May 15-17, Kyushu University, Japan.	2019
Nithin Narmada Raju, Alok Kumar, Malleswararao K, Muthukumar P	Parametric Studies on LaNi <sub>4.7</sub> Al <sub>0.3</sub> based Hydrogen Storage Reactor with Embedded Cooling Tubes	The 10th International Conference on Applied Energy (ICAE2018), 22-25 August 2018, Hong Kong	2018
Gurpreet Singh Sodhi, Vigneshwaran K, Abhishek Kumar Jaiswal, Muthukumar P	Assessment of Heat Transfer Characteristics of a Latent Heat Thermal Energy Storage System: Multi Tube Design	The 10th International Conference on Applied Energy (ICAE2018), 22-25 August 2018, Hong Kong	2018
Vigneshwaran K, Gurpreet Singh Sodhi, Muthukumar P, Arvind VK, Balamurugan G, Sritram S, Senthilmurugan	Experimental investigation of a Cast-Steel based Thermal Energy Storage System	The 10th International Conference on Applied Energy (ICAE2018), 22-25 August 2018, Hong Kong	2018
Mrinal Bhowmik, Muthukumar P, R Anandalakshmi	Numerical Study on Dehumidification Performance of a Cross-Flow Liquid Desiccant Adiabatic Dehumidifier with Various Halide Salt desiccants	International Conference on Computational Methods for Thermal Problems (THERMACOMP – 2018). IISc Bangalore - 9-11 July, 2018	2018
Deepika Bishnoi, Om Prakash and Harsh Chaturvedi	Utilizing Flared Gas for Distributed Generation: An	AIP Conference Proceedings (Volume 2091) doi: 10.1063/1.5096498	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	Optimizing the effect of various process parameters for enhanced biomass and lipid production in <i>Chlorella pyrenoidosa</i> NCIM 2738 using response surface methodology	Advances in Environmental Protection and Sustainability (AEPS-2018)	2018
Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	n-hexadecane degrading strains isolated from a petroleum refinery waste contaminated site for potential application in refinery wastewater bioremediation	Association of Microbiologists of India (AMI-2018)	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Prithvi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	The scope of n-hexadecane degrading microbial strains isolated from petroleum waste contaminated site for bioremediation of refinery waste	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups	2019
Arnab Ghosh and Gopal Das	Green synthesis of tin metal organic framework using waste PET bottles as source of organic linker for efficient fluoride removal	2nd International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE-2019), NIT Warangal	2019
Arnab Ghosh and Gopal Das	Preferential biosorption of cationic dyes on <i>Salvinia minima</i> biosorbent: An economical alternative for azo dyes removal	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups	2019
Tanushree Paul, Divya Baskaran, Kannan Pakshirajan and G. Pugazhenthhi	Bioreactor strategies for refinery wastewater treatment using <i>Rhodococcus opacus</i> and bio-oil production by hydrothermal liquefaction	International Conference on Bioprocess for Sustainable Environment and Energy (ICBSEE-2018)	2018
Tanushree Paul, Kannan Pakshirajan and G. Pugazhenthhi	Refinery wastewater treatment using the oleaginous <i>Rhodococcus opacus</i> and bio-oil production from the lipid rich bacterial biomass by hydrothermal liquefaction	Research Conclave 2019	2019
Smruti Ranjan Dash, Subhendu Sekhar Bag and Animes Kumar Golder	AgNPs and PtNPs Formed in a Bio-mediated Route for Electroalytic Cd(II) Determination	Twelfth International Symposium on Advances in Electrochemical Science and Technology	2019
Anupama Bora, Animes Kumar Golder, Subhendu Sekhar Bag	Preparation of Polystyrene Nanocomposites from Waste Thermocol encapsulated with green synthesized Silver Nanoparticles	Research Conclave 2019, IIT Guwahati	2019
Payal Mazumder, Akhil PM, Ajay S Kalamdhad	Variation in physico-chemical parameters of soil subsequent to application of water hyacinth compost	Twentieth National Symposium on Environment (NSE – 20)	2018
Payal Mazumder, Akhil PM, Ajay S Kalamdhad	Meliorating soil quality by the application of water hyacinth compost	National environmental conference: IIT Bombay (nec - 2019)	2019
Payal Mazumder, Akhil PM, Ajay S Kalamdhad	Soil quality improvement post compost application	Research Conclave 2019	2019
Papu Kumar Naik, Sandip Paul and Tamal Banerjee	Synthesis, Molecular Dynamic Simulations and Liquid Liquid Equilibria Measurements of Deep Eutectic Solvents	Int. Symposium on Solubility Phenomena and Related Thermodynamic Properties (ISSP-18), Tours, France	2018
Papu Kumar Naik, Sandip Paul and Tamal Banerjee	Synthesis and Molecular Dynamics Simulations of Novel Deep Eutectic Solvents (DES)	International Conference on Synthetic Potent Molecule and Its Application (ICSPMIA-2018), SMIT Sikkim	2018
Papu Kumar Naik, Sandip Paul and Tamal Banerjee	Hydrogenation of Quinoline at High Temperature: ReaxFF Simulation	Frontier in Chemical science (FICS-2018), IIT Guwahati	2018
Paulomi Bose, Animes K Golder and Chandan Mukherjee	Electrochemical reduction of CO <sub>2</sub> on Cu and Cu <sub>2</sub> O catalysts towards fuel generation CO <sub>2</sub> sequestration using CuO nanoparticles	Twelfth International Symposium on Advances in Electrochemical Science and Technology	2019

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Rajneesh Kumar, Gurvinder Kaur Saini, Mohammad Jawed	Impact of Cu(II) Ion on Performance and Morphology of Aerobic Biomass in Sequencing Batch Reactor	2nd International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE-2019), NIT WARANGAL	2019
Rajneesh Kumar, Gurvinder Kaur Saini, Mohammad Jawed	Effect of Cu(II) on Activated Sludge Biomass	2nd International Conference On Chemistry, Industry And Environment, AMU Aligarh	2019
Rajneesh Kumar, Gurvinder Kaur Saini, Mohammad Jawed	Effect of antibiotics on performance of sequencing batch reactor	Recent Advancements in Biochemical Engineering and Biotechnology [RABEB-2019], IIT (BHU) Varanasi	2019
Sayanti Ghosh, Saswati Chakraborty	Aerobic Granulation in Oily Wastewater Treatment: Granule Characterization, Pollutant Removal and Phyto-toxicity Study	International Conference on Advanced Technologies for Industrial Pollution Control (ATIPC-2018), IEST Shibpur	2018
Jinat Aktar, Manabendra Ray, Saswati Chakraborty	Formation of Iron based metal complex and its application in fluoride removal	Frontier in Chemical science (FICS-2018), IIT Guwahati	2018
Jinat Aktar, Manabendra Ray, Saswati Chakraborty	Synthesis of Iron based metal complex and its application in different pollutant removal.	Research Conclave 2019	2019
Debojit Bhattacharjee and Krishna P. Bhabak	Garlic-derived Organosulfur Compounds and Analogues: Synthesis and Anti-cancer Activities	Research Conclave 2019, IIT GUWAHATI	2019
Debojit Bhattacharjee and Krishna P. Bhabak	Garlic-derived Organosulfur Compounds and Analogues: An Efficient Synthetic Methodology and Anti-proliferative Activities	Frontier in Chemical science (FICS-2018), IIT Guwahati	2018
Himali Horo and Lal Mohan Kundu	Development of photoresponsive biopolymeric-nanoparticles based drug delivery system for antitumor drug	Second Int. Conference on Nano Science and Engineering Applications ICONSEA-2018, Hyderabad	2018
Himali Horo, Bishnupada Mandal Lal Mohan Kundu	Development of Chitosan conjugated prodrug nano-carrier for photo-mediated delivery of antitumor drug 5-Fluorouracil	Research Conclave 2019, IIT GUWAHATI	2019
Jayakrishnan U, Deepmoni Deka, Gopal Das	A comparative analysis of sludge pretreatment on improving the acidogenic bioconversion of rice mill and brewery effluent	Int. conference on biotechnological research and innovation for sustainable development (BioSD-2018, XV annual convention of BRSI), IICT Hyderabad	2018
Partha Protim Bakal, Gopal Das	Eco-Friendly Bio-Adsorbent Derived from Colocasia Esculenta Stem: Efficient Removal of Cationic Dye	Advances in Environmental Protection and Sustainability (AEPS-2018) 2018	

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**Conference Papers**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Shatrudhan Palsaniya, Harshal B. Nemade, and A. K. Dasmahapatra	Size dependent triboelectric nanogenerator and effect of temperature	3rd International Conference on Microwave and Photonics, ICMAP 2018, Dhanbad	2018

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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Larionette P. L. Mawlong, Kamal Kumar Paul, and P. K. Giri	Simultaneous photoluminescence enhancement in CVD grown single layer MoS <sub>2</sub> and TiO <sub>2</sub> NRs in the MoS <sub>2</sub> @TiO <sub>2</sub> heterojunction	AIP Conference Proceedings vol. 2082	2019
S.Mitra, E.Shevchenko, P.S.G. Pattadar	Efficient micro extraction process exploiting Spontaneous Interfacial Convection driven by Marangoni and electric field Instability: A Computational Fluid Dynamics Study	COMFLU-2018: INTERNATIONAL CONFERENCE ON COMPLEX FLUIDS AND SOFT MATTER	2018
Srirupa Bhattacharya, Rajib Shome, Muktashee Saha, Hirakjyoti Roy	-	New trends in multi modal molecular imaging applications for animal studies in drug discovery, NIPER Guwahati	2018
Aditi Banerjee, Upashi Goswami, Deepanjalee Dutta, Neha Arora, Anita T Simon, Anil Bidkar, Srirupa Bhattacharya, Rajib Shome, Muktashee Saha, Debashree Debasmita, Plaboni Sen, Hirakjyoti Roy	-	Translational research and biomarker discovery, Department of Bioscience and Bioengineering, IIT Guwahati	2018
Neha Arora, Anil Bidkar, Srirupa Bhattacharya, Rajib Shome	-	Research conclave 2018, IIT Guwahati	2018
Das, K.; Dutta, M.; Das, B.; Srivastava, H. K.; Kumar, A.	Oral presentation titled "Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions"	Research Conclave, IIT Guwahati	2019
Dutta, M.; Das, K.; Srivastava, H. K.; Kumar, A.	Poster presentation titled "Cyanomethylation of Aldehydes Catalyzed by Pincer-Based Nickel Complexes: An Experimental and Computational Study"	Research Conclave, IIT Guwahati	2019
Das, K.; Dutta, M.; Das, B.; Srivastava, H. K.; Kumar, A.	Oral presentation titled "Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions"	Frontiers In Chemical Sciences (FICS) 2018, IITG	2018
Dutta, M.; Das, K.; Srivastava, H. K.; Kumar, A.	Poster presentation titled "Cyanomethylation of Aldehydes Catalyzed by Pincer-Based Nickel Complexes: An Experimental and Computational Study"	Frontiers In Chemical Sciences (FICS) 2018, IITG	2018
Radhika Ethireddy, Srinivas Pattipaka, Tiwari. T and Pamu Dobbidi	Microwave Dielectric Studies on AlN Ceramics for RF Window Applications	National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA-2018)	2018
Kauser, H., Pal, S., Khwairakpam, M., Kalamdhad, A.S.	Aerobic In-vessel composting of an invasive weed, Mikania micrantha kunth	Research Conclave-19	2019
Saha, B., Khwairakpam, M., Kalamdhad A.S.	Enhance the methane production from Lantana camara with various thermal pretreatment.	Research Conclave-2019	2019



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Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Saha, B., Khwairakpam, M., Kalamdhad A.S.	Electrohydrolysis pretreatment on Lantana camara to enhance the biogas production.	Research Conclave-2019	2019
Mazumder, P., Akhil, P.M., Kalamdhad, A.S., Khwairakpam, M.	Soil quality improvement post compost application	Research Conclave-2019	2019
Yunus, P.M., Khwairakpam, M., Kalamdhad, A.S.	Anaerobic co-digestion of terrestrial weeds (Parthenium hysterophorus and Lantana camara)	Research Conclave-2019	2019
Mazumder, P., Akhil, P.M., Kalamdhad, A.S., Khwairakpam, M.	Meliorating soil quality by the application of water hyacinth compost	National Environmental Conference 2019-IITB	2019
Kauser, H., Pal, S., Khwairakpam, M., Kalamdhad, A.S.	Rotary Drum Composting of Mikania micrantha kunth, an invasive terrestrial weed	National Environmental Conference 2019-IITB	2019
Gujre, N., & Mitra, S.	Assessing environmental impact of brick kiln activities on surrounding soil quality at Napaam, Tezpur, Assam.	XIV Agricultural Science Congress (ASC), NASC and ICAR-IARI, New Delhi.	2019
Pooja Singh and Sudip Mitra	Amendment and land use regulate nutrient and enzyme mobilization in earthworm casts produced in soils	6th India Biodiversity Meet, ISI, Kolkata	2019
Pallabi Borah, Tanmoy Karak, Latha Rangan, Sudip Mitra	Phytoremediation of Heavy Metal Contaminated Soil using Pongamia pinnata, a Biofuel Plant	International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)	2019
Pallabi Borah, Nihal Gujre, Tanmoy Karak, Eldon R. Rene, Sudip Mitra	Spatial distribution and source apportionment of copper, manganese and zinc in landfill soils near Deepor Beel, a Ramsar wetland site in Guwahati, India	The 11th International Conference on the Challenges in Environmental Science and Engineering, Bangkok, Thailand	2018
Ankita Paul, Jurishmita Deka, Pallabi Borah, Sudip Mitra	Vulnerability analysis of communities from different economicsectors in Guwahati (India) under changing climatic conditions	The 11th International Conference on the Challenges in Environmental Science and Engineering, Bangkok, Thailand	2018
Shashikumar C, Dr. Siddharth Singha, Dr. Sudip Mitra	Physico-chemical Changes of Indigenous Rice Varieties of North East India	Research Conclave-2019	2019
Kohli, V., Singha, S.	Naturally Fermented Milk Products of North-East Region (NER), India : A Review	Research Conclave-2019	2019
Kartikey Chaturvedi*1, Kalyan Das2, Siddhartha Singha	Predictive Modelling of Dairy Pathogens: Challenges and Approach	CFPPT national conference, Sholini University	2018
Bhaskar Kalita, Bhaskar Das and Sanjukta Patra	Sustainable agricultural waste utilization promising rural entrepreneurship in North East India	Workshop on Advances in Environmental Protection and Sustainability (AEPS-2018), Centre for the Environment, IIT Guwahati	2018

**Conference Papers****Centre for Nanotechnology**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Bhaskar Kalita and Sanjukta Patra	Edible Fungal biodiversity for sustainable development prospects in rural areas of North East India	59th Annual conference of "Association of Microbiologists of India (AMI-2018), School of Life Sciences, University of Hyderabad in association with Department of Microbiology, Osmania University	2018
Bhaskar Kalita and Sanjukta Patra	Macro-fungi Biodiversity for sustainable livelihood subsistence and food security in rural areas of North East India	Biodiversity, Biotechnology and Bio-informatics: Innovative and Emerging Trends-2019 [NCBBBIET 2019], Department of Botany, Berhampur University, Odisha	2019
Bhaskar Kalita and Sanjukta Patra	Macro-Fungal biodiversity for sustainable development prospects in rural areas of North East India	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups, IIT Guwahati	2019

**Conference Papers****Centre for Linguistic Science and Technology**

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Joyshree Chakraborty, Shikhamoni Nath, Nirmala S R, Samudravijaya K	Language Identification of Assamese, Bengali and English Speech	The 6th Intl. Workshop on Spoken Language Technologies for Under-Resourced Languages	2018
Supriya Paulose, Shikhamoni Nath, Samudravijaya K	Marathi Speech Recognition	The 6th Intl. Workshop on Spoken Language Technologies for Under-Resourced Languages	2018
Barsha Deka, Nirmala S.R., Samudravijaya K	Development of Assamese Continuous Speech Recognition System	The 6th Intl. Workshop on Spoken Language Technologies for Under-Resourced Languages	2018
Pamir Gogoi, Sishir Kalita, Parismita Gogoi*, Priyankoo Sarmah, S. R. Mahadeva Prasanna and Ratree Wayland	Analysis of Breathiness in Contextual Vowel of Voiceless Nasals in Mizo	INTERSPEECH 2018, Hyderabad	2018
Abhishek Dey, Biswajit Dev Sarma, Wendy Lalhminghlui, Lalhunsiami Ngente, Parismita Gogoi*, Priyankoo Sarmah, S. R. Mahadeva Prasanna, Rohit Sinha and Nirmala S.R	Robust Mizo Continuous Speech Recognition	INTERSPEECH 2018, Hyderabad	2018
Abhishek Dey, Abhash Deka, Siddika Imani, Barsha Deka, Rohit Sinha S. R. Mahadeva Prasanna, Priyankoo Sarmah, K Samudravijaya and Nirmala S.R	AGROASSAM: A Web Based Assamese Speech Recognition Application for Retrieving Agricultural Commodity Price and Weather Information	INTERSPEECH 2018, Hyderabad	2018

Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year
Biswajit Dev Sarma, Abhishek Dey, Wendy Lalhminghlui, Parismita Gogoi*, Priyankoo Sarmah, S. R. Mahadeva Prasanna	Robust Mizo digit recognition using data augmentation and tonal information	9th biennial international conference on Speech Prosody, 13-16 June 2018 in Poland	2018
Shikhamoni Nath, Joyshree Chakraborty, Priyankoo Sarmah and Samudravijaya K	Machine Identification of Spoken Indian Languages	13th Western Pacific Conference on Acoustics	2018
Vignesh Kothapalli, Biswajit Dev Sarma, Abhishek Dey, Parismita Gogoi, Wendy Lalhminghlui, Priyankoo Sarmah, S. R. Mahadeva Prasanna, S. R. Nirmala and Rohit Sinha	Robust Recognition of Tone Specified Mizo Digits Using CNN-LSTM and Nonlinear Spectral Resolution	INDICON 2018, IIT Madras	2018
Barsha Deka, Joyshree Chakraborty, Abhishek Dey, Shikhamoni Nath, Priyankoo Sarmah, S.R. Nirmala, and Samudra Vijaya	Speech Corpora of Under Resourced Languages of North-East India	Oriental COCOSDA	2018
Viyazonuo Terhija, Priyankoo Sarmah and Samudra Vijaya	Acoustic Analysis of Vowels in Two Southern Angami Dialects	Oriental COCOSDA	2018
Abhash Deka, Priyankoo Sarmah, Samudravijaya K, S R M Prasanna	Development of Assamese Text-to-speech System using Deep Neural Network	National Conference on Communications	2019

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Name of Author	Name of Book	Publisher	Vol.	Page	ISBN	Year
<b>Biosciences and Bioengineering</b>						
Pradeep Kumar, Jayanta K. Patra, Pranjal Chandra	Advances in microbial biotechnology: current trends and future prospects	CRC Press, Taylor & Francis Group, USA	-	590	9781771886673	2018
Ajaikumar B Kunnumakkara, Amrita Devi, Shabanam Bano	Metformin and Cancer	Springer	-	400	9780367224318	In Press
Steeraj Gopi, Sabu Thomas, Ajaikumar B. Kunnumakkara, Bharat B. Aggarwal and Augustine Amalraj	The Chemistry and Bioactive Components of Turmeric	Royal Society of Chemistry	-	500	9781788015554	In Press
Ajaikumar B Kunnumakkara, Anindita Deka and Rajesh Vikruthi	Dasamoola: The Ten Roots of Ayurveda	Springer	-	200	9780367228989	In Press
<b>Chemical Engineering</b>						
Pallab Ghosh	Numerical, Symbolic and Statistical Computing for Chemical Engineers using MATLAB	PHI Learning Private Limited	-	405	9789387472518	2018
Chandan Das, Kibrom Albele Gebru	Polymeric Membrane Synthesis, Modification and Applications: Electro-spun and Phase-inverted Membranes	CRC Press (Taylor & Francis), USA	-	390	9781138585799	2018
M. K. Purkait, M. K. Sinha, P Mondal, R. Singh	Stimuli Responsive Polymeric Membranes	Elsevier, Academic press	-	312	9780128139615	2018
M. K. Purkait, R. Singh	Membrane Technology in Separation Science	Taylor & Francis	-	340	1138626260	2018
Subrata Kumar Majumder	Hydrodynamics and Mass Transfer in Downflow Slurry Bubble Columns	Apple Academic Press Inc.	-	268	9781771886734	2018
<b>Civil Engineering</b>						
Sarma A.K., Singh V.P., Kartha S.A, Bhattacharjya R.K	Urban Ecology, Water Quality and Climate Change	Springer	-	440	97833319744940	2018
<b>Design</b>						
Verma, I., Nath, S. and Karmakar, S.	Ergonomics in Caring for People Editors: Ray G., Iqbal R., Ganguli A., Khanzode V.	Springer, Singapore	-	353-361	97899811049804	2018
Chowdhury, A., Chakrabarti, D. and Karmakar, S	Ergonomics in Caring for People Editors: Ray G., Iqbal R., Ganguli A., Khanzode V.	Springer, Singapore	-	243-249	97899811049804	2018
Mondal, C. and Karmakar, S.	Ergonomics in Caring for People Editors: Ray G., Iqbal R., Ganguli A., Khanzode V.	Springer, Singapore	-	821-831	97899811049804	2018
Nayak, B.K. and Karmakar, S.	In International Conference on Applied Human Factors and Ergonomics	Springer, Cham.	-	370-381	97833319947051	2018

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<b>Humanities and Social Sciences</b>						
Sukanya Sharma	Megalithic Traditions of North East India	Concept Publishing Company	-	18	139789386682	2019
Angela Ixkic Bastian Duarte, Vasundhara Jairath	Conflictos y Resistencias: Energía y conflictividad socio-ambiental en México	Juan Pablo Editores & UAEM	NA			2019
Anamika Barua, Vishal Narain and Sumit Vij	CRC press	Taylor and Francis group	NA	NA		2018
<b>Mathematics</b>						
Gautam K. Das, Partha Sarathi Mandal, Krishnendu Mukhopadhyaya, and Shin-ichi Nakano	WALCOM: Algorithms and Computation – 13th International Conference	Springer	11355	420	9783030105631	2019
<b>Mechanical Engineering</b>						
S.S. Pande and U.S. Dixit (Editors)	Precision Product-Process Design and Optimization: Select Papers from AIMTDR 2016	Springer, Singapore	-	434	9789811087677	2018
U.S. Dixit and R. Kant (Editors)	Simulations for Design and Manufacturing: Select Papers from AIMTDR 2016	Springer, Singapore	-	292	9789811085178	2018
U.S. Dixit, S.N. Joshi and J. Paulo Davim (Editors)	Application of Lasers in Manufacturing: Select Papers from AIMTDR 2016	Springer, Singapore	-	253	9789811305566	2018
U.S. Dixit and R. Ganesh Narayanan	Strengthening and Joining by Plastic Deformation: Select Papers from AIMTDR 2016	Springer, Singapore	-	246	9789811303784	2019
U Biswas, A Banerjee, S Pal, A Biswas, D Sarkar, S Haldar (Editors)	Advances in Computer, Communication and Control - Proceedings of ETES 2018	Springer Singapore	-	563	9789811331220	2019
P Muthukumar (Editor)	International Conference on Advanced Functional Materials 2017 (ICAFM'17),	Materials today (Elsevier), Volume 5, Issue 6, Part 2	5	14215 - 14638	-	2018

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<b>Biosciences and Bioengineering</b>							
Anupriya Baranwal, Ananya Srivastava, Pranjal Chandra	A Systematic Study on Phyto-synthesized Silver Nanoparticles and Their Antimicrobial Mode of Action	Advances in Microbial Biotechnology Current Trends and Future Prospects	CRC Press, USA	-	537-556	9781351248907	2018
Ritesh S. Malani, Sohan Singh, Arun Goyal and Vijayan and S. Moholkar	Ultrasound-assisted biodiesel production using KI-impregnated zinc oxide (ZnO) as heterogeneous catalyst: a mechanistic approach	In Conference Proceedings of the Second International Conference on Recent Advances in Bioenergy Research	Springer	-	67-81	-	2018
Deepmoni Deka, Saprativ P. Das, Rajeev Ravindran, Mohammad Jawed and Arun Goyal	Water hyacinth as a potential source of biofuel for sustainable development	In Urban Ecology, Water quality and climate change.	Springer Book	-	351-363	-	2018
Kedar Sharma, Abhijeet Thakur and Arun Goyal	Xylanases for food applications	Green Bio-Processes	Springer	-	99-118	-	2019
Abhijeet Thakur, Kedar Sharma and Arun Goyal	$\alpha$ -L-arabinofuranosidase: A potential enzyme for the food industry	Green Bio-Processes	Springer	-	229-244	-	2019
CN Gupta, JA Turner, VD Calhoun	Source-Based Morphometry: Data-Driven Multivariate Analysis of Structural Brain Imaging Data	Brain Morphometry	Humana Press, New York, NY	-	105-120	-	2018
P. Bhattacharjee, P Gupta, MJ Christakiran, SK Nandi, Biman B Mandal.	Silk-based matrices for bone tissue engineering applications	Nanostructures for the engineering of cells, tissues, and organs	William Andrew Applied Science Publishers	-	439-472	9780128136652	2018
Nandana Bhardwaj, Dimple Chouhan, Biman B Mandal.	3D functional scaffolds for skin tissue engineering.	Functional 3D tissue engineering scaffolds	Elsevier	-	345-365	9780081009796	2018
Joseph Christakiran M, Ankit Gangrade and Biman B. Mandal.	Carbon Nanotubes and their Polymer Nanocomposites	Nanomaterials and Polymer Nanocomposites	Elsevier	-	145-175	9780128146156	2018
Deori N M, Deb R, Banerjee R, Nagotu S	Yeast: A multifaceted eukaryotic microbe and its biotechnological applications	Advance in microbial biotechnology: current trends and future prospects	Apple academic press	-	175-208	9781771886673	2018
Srijeeb Karmakar, Varun Saxena, Pranjal Chandra and L. M. Pandey	Novel Therapeutics and Diagnostics Strategies Based on Engineered Nanobiomaterials	Nanotechnology in Modern Animal Biotechnology.	Springer Nature Singapore Pte Ltd.	-	Jan-27	9789811360039	2018

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Varun Saxena, Ishani Shukla, Lalit M. Pandey	Hydroxyapatite: an inorganic ceramic for biomedical applications	Materials for Biomedical Engineering	Nanobiomaterials in Tissue Engineering, Elsevier	-	205-249	9780128169094	2019
Bhaskar Das, Manashjit Gogoi, Satakshi Hazra and Sanjukta Patra	Nanocarrier-Assisted Drug Delivery for Neglected Tropical Diseases	Nanoconjugate Nanocarriers for Drug Delivery	CRC Press, 2018	-	-	135117102X, 9781351171021	2018
Ruchika Goyal and Vibin Ramakrishnan	Peptide-based Drug Delivery Systems	Characterization and Biology of Nanomaterials for Drug Delivery	Elsevier	-	25-46	9780128140314	2018
Borgohain MP, Narayan G, Krishna Kumar H, Dey C, Thummer RP	Maximizing Expression and Yield of Human Recombinant Proteins from Bacterial Cell Factories for Biomedical Applications	Advances in Microbial Biotechnology Current Trends and Future Prospects	Apple Academic Press	1	431-470	9781771886673	2018
Ruchira Bajpai and Rakhi Chaturvedi	Haploid embryogenesis in Tea	Step Wise Protocols for Somatic Embryogenesis of Important Woody Plants	Springer	Volume II Second Edition	349-368	9783319790862	2018
Vartika Srivastava and Rakhi Chaturvedi	Somatic embryogenesis in Neem	Step Wise Protocols for Somatic Embryogenesis of Important Woody Plants	Springer	Volume II Second Edition	369-386	9783319790862	2018
Amrita Devi Kh. Bethsebie Lalduhsaki Sailo, Bano Shabnam, Kishore Banik and Ajaikumar B Kunnumakkara	Prostate cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Amrita Devi Kh. Devivasha Bordoloi, Bano Shabnam, Kishore Banik and Ajaikumar B Kunnumakkara	Leukemia and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Amrita Devi Kh. Devivasha Bordoloi, Choudhary Harsha, Bano Shabnam and Ajaikumar B Kunnumakkara	Endometrial cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Amrita Devi Kh. Bethsebie Lalduhsaki Sailo, Choudhary Harsha and Ajaikumar B Kunnumakkara	Head and neck cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press

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Amrita Devi Kh, Devivasha Bordoloi, Choudhary Harsha, Bano Shabnam, and Ajaikumar B Kunnumakkara	Esophageal cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Amrita Devi Kh, Bano Shabnam, and Ajaikumar B Kunnumakkara	Renal cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Amrita Devi Kh., Bano Shabnam, Devivasha Bordoloi, Choudhary Harsha, and Ajaikumar B Kunnumakkara	Cholangiosarcoma and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Amrita Devi Kh., Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Thyroid cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, and Ajaikumar B Kunnumakkara	Colorectal cancer and metformin	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, Bordoloi, Choudhary Harsha, and Ajaikumar B Kunnumakkara	Metformin and Cervical cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Metformin and melanoma	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, and Ajaikumar B Kunnumakkara	Metformin and bladder cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, Devivasha Bordoloi and Ajaikumar B Kunnumakkara	Metformin and brain cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Metformin and lung cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, Devivasha Bordoloi and Ajaikumar B Kunnumakkara	Metformin and ovarian cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, and Ajaikumar B Kunnumakkara	Metformin and osteosarcoma	Metformin and Cancer	Springer	-	-	9780367224318	In Press



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Bano Shabnam, Bethsebie Lalduhsaki Sailo and Ajaikumar B Kunnumakkara	Metformin and Pancreatic cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Bano Shabnam, Amrita Devi Kh. and Ajaikumar B. Kunnumakkara	Metformin and Breast cancer	Metformin and Cancer	Springer	-	-	9780367224318	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Ayurveda- A brief introduction	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Dasamoola- A holistic formulation	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Ecology of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Traditional uses of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Chemical constituents of the dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-cancerous properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-inflammatory properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-diabetic properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-oxidant activities of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-microbial activities of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press

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Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Cardioprotective, hepatoprotective and neuroprotective properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-ulcer properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-parasitic and anti-analgesic properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Other significant properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer	-	-	9780367228989	In Press
Garg A, Gadi VK, Hossain S, Abhinav, Karangat R, Sekharan S, Sahoo L	Role of plant health parameters in understanding spatial heterogeneity of hydraulic conductivity of vegetated soil: A case study of urban green infrastructure monitoring: Towards a Sustainable Geoenvironment.	Environmental Science and Engineering (Proceedings of the 8th International Congress on Environmental Geotechnics)	Springer Nature, Singapore	3	377-384	9789811322266	2019
Gadi VK, Hossain S, Deka G, Garg A, Karangat R, Sekharan S, Sahoo L	Spatial heterogeneity of hydraulic conductivity in green infrastructure due to presence of wilted and live grass: A field study: Towards a sustainable geoenvironment	Environmental Science and Engineering (Proceedings of the 8th International Congress on Environmental Geotechnics)	Springer Nature, Singapore	3	393-400	-	2018
Kumar S, Dey A, Yau Y-Y, Sahoo L	RNA interference: for improving bioenergy trait for energy plants	Greenhouse gas mitigation and global warming-next generation biofuels and role of biotechnology	Springer	-	-	9788132237631	2018
Hasnahana Chetia, Debajyoti Kabiraj, Biju Bharali, Sunita Ojha, Manash Pratim Barkataki, Dharitri Saikia, Tinka Singh, Ponnala Vimal Mosahari, Pragya Sharma, Utpal Bora	Exploring the Benefits of Endophytic Fungi via Omics	Advances in Endophytic Fungal Research	Springer, Cham, 2019	N/A	Chapter: 4, pp.51-81 Total pages: 30	9783030035891	2019

Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Ponnala Vimal Mosahari, Deepika Singh, Jon Jyoti Kalita, Pragma Sharma, Hasnahana Chetia, Debajyoti Kabiraj, Chandan Mahanta, Utpal Bora	Nanotoxicity: Impact on Health and Environment	Environmental Toxicity of Nanomaterials	CRC Press, 2018	N/A	Chapter: 2, Total pages: 26	9781351252959	2018
Ojha, S., Singh, D., Sett, A., Chetia, H., Kabiraj, D. & Bora	Nanotechnology in Crop Protection	Nanomaterials in Plants, Algae and Micro-organism: Concepts and Controversies	Academic Press	Vol 1	345-390	0128116463, 9780128116463	2018
PK Baruah, A Nath, I Chakrabartty, A Singh, A Das, L Rangan, AK Sharma, A Khare	Surface enhance Raman scattering and antibacterial capacity of pulsed laser ablated metal/ metal-oxide nanoparticle	In: Advances in Science and Technology	'i -manager publication	-	141-144	-	2019
<b>Chemical Engineering</b>							
Shuchi Singh, Arun Goyal, Vijayanand S. Moholkar	Waste Biorefinery	Synthesis of Bioethanol From Invasive Weeds: Process Design, Optimization, and Intensification With Ultrasound	Elsevier	-	445-485	9780444639929	2018
Neha Mulchandani, Arvind Gupta, Vimal Katiyar	Cellulose-Based Superabsorbent Hydrogels	Poly(lactic Acid Based Hydrogels and Its Renewable Characters: Tissue Engineering Applications	Springer International Publishing AG	-	Jan-24	-	2018
Kulbhushan Samal, Kaushtubha Mohanty, Chandan Das	Membrane Technology: Sustainable Solutions in Water, Health, Energy and Environmental Sectors	Adsorption-membrane filtration hybrid process in wastewater treatment	CRC Press (Taylor & Francis), USA		441-458	9781138095427	2018
Chandan Das	Beverages: Additionally Added Ingredients and Enrichment of Beverages	Phenolic Compounds as Functional Ingredients in Beverages	Elsevier	14	-	9780128166871	2018
Prodyut Dhar, Vimal Katiyar, Chethana Mudenu	Encyclopedia of Polymer applications	Food Packaging: Cellulose Nanocrystals	Taylor and Francis Group	3	1273-1303	9781351019415	2018
Varun Punnathanam, Prakash Kotecha	Optimization of Multi-objective Dynamic Optimization Problems with Front-Based Yin-Yang-Pair Optimization	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10. 1007/978 98110 8968832		-	2019
Varun Punnathanam, Prakash Kotecha	Front-Based Yin-Yang-Pair Optimization and Its Performance on CEC2009 Benchmark Problems	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10. 1007/978 98110 8968833		-	2019

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Remya Kommadath, Prakash Kotecha	Evaluation of Teaching Learning Based Optimization with Focused Learning on Expensive Optimization Problems	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10.1007/978981108968837	1007/978981108968837	-	2019
Remya Kommadath, Prakash Kotecha	Optimization of Stirling Engine Systems using Single Phase Multi-group Teaching Learning Based Optimization and Genetic Algorithm	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10.1007/978981108968838	1007/978981108968838	-	2019
Debasis Maharana, Prakash Kotecha	Optimization of Job Shop Scheduling Problem with Grey Wolf Optimizer and JAYA Algorithm	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10.1007/97898110896885	1007/97898110896885	-	2019
Debasis Maharana, Sidhant Maheshka, Prakash Kotecha	Multi-objective League Championship Algorithms and its Applications to Optimal Control Problems	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10.1007/97898110896884	1007/97898110896884	-	2019
Sandeep Singh Chauhan, Prakash Kotecha	Performance Evaluation of Grey Wolf Optimizer and Symbiotic Organisms Search for Multi-level Production Planning with Adaptive Penalty	Smart Innovations in Communication and Computational Sciences	Springer	DOI: 10.1007/978981108968839	1007/978981108968839	-	2019
T. Ghosh, Vimal Katiyar	Cellulose-Based Superabsorbent Hydrogels	Cellulose-based hydrogel films for food packaging	Springer Nature	1	1061-1084	9783319778297	2019
<b>Chemistry</b>							
A. S. Amrutha, A. S. Achal-kumar and Quan Li	Light driven phase transitions in liquid crystals and their applications	Photoactive Functional Soft Materials	Wiley VCH Publications	-	227-287	9783527344826	2018
Kanu Das, Akshai Kumar		Advances in Organometallic Chemistry	Science Direct	In-Press	-	-	2019
<b>Civil Engineering</b>							
Choudhury, T. and Kaushik, H.B.	Seismic Fragility of Reinforced Concrete Frames with Vertical Irregularities	Recent Advances in Structural Engineering, Lecture Notes in Civil Engineering. Rama Mohan Rao, A., and Ramanjaneyulu, K. (eds.)	Springer Nature	2 (12)	571-583	9789811303647	2018

Book Chapter

Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
T. K. Deb and B. Singh	Behaviour of Bucket Foundations in Sandy Bed Subjected to Eccentric Lateral Loading	Geotechnical Applications, Lecture Notes in Civil Engineering 13	Springer Nature Singapore Pte Ltd.	-	313-321	9789811303678	2019
S. K. Patel and B. Singh	Investigation of Glass Fiber Reinforcement Effect on the CBR Strength of Cohesive Soil	Ground Improvement Techniques and Geosynthetics, Lecture Notes in Civil Engineering 14	Springer Nature Singapore Pte Ltd.	DOI: 10.1007/97898113055978	67-75	9789811305580	2019
S. K. Patel and B. Singh	Experimental Study on Shear Strength Behavior of Glass Fiber-Reinforced Sand	Enhancements in Applied Geomechanics, Mining, and Excavation Simulation and Analysis, Sustainable Civil Infrastructures	Springer International Publishing AG, part of Springer Nature	DOI: 10.1007/978331995645914	153-161	-	2019
Partha Das, S. R. Man Parvesh and T. V. Bharat	Experimental Analysis of Salt Diffusion in Compacted Clays by Through-Diffusion and Half Cell Technique	Geotechnical Characterisation and Geoenvironmental Engineering, Lecture Notes in Civil Engineering 16	Springer Nature Singapore Pvt Ltd	16	179-186	9789811308994 (Online) and 9789811308987 (Print)	2019 (14 July 2018)
Tadikonda Venkata Bharat, Partha Das, Ankti Srivastava	Insights into Contaminant Transport Modeling Through Compacted Bentonites	Frontiers in Geotechnical Engineering - Developments in Geotechnical Engineering	Springer, Singapore Pvt Ltd	-	101-120	9789811358708 (Print), 9789811358715 (Print)	2019 (12 Feb 2019)
Manish Kumar Goyal, Shivam, Arup K. Sarma and Dhruv Sen Singh	Subansiri: Largest Tributary of Brahmaputra River, Northeast India in the Book The Indian Rivers	The Indian Rivers	Springer	B96:1104 A96:1104 A94 A84:1 104	523-535	9789811029837	2018
<b>Design</b>							
Supradip Das, Rijas M.P and A.K. Das	DOT: Design of a Space-Saving Furniture with Prototype-Driven Innovation Approach	Research into Design for a Connected World	Springer	Volume 1	745-755	9789811359743	2019
Bhavna Nagpal, Lalana Bathina and Supradip Das	Redesign of Indian Games: A Case Study of Traditional Indian Games Gilli Danda (Tip Cat) and Gatte ka Khel (Game of Five Stones)	Research into Design for a Connected World	Springer	Volume 1	689-701	9789811359743	2019

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
<b>Electronics and Electrical Engineering</b>							
Akash Soni, Preeti Jharia, Sonali Chouhan	Energy Contribution of Control Packets of AODV in Various Mobility Models in MANET	Advances in Communication, Devices and Networking, Bera R., Sarkar S., Chakraborty S. (eds), Lecture Notes in Electrical Engineering	Springer, Singapore	462	661-668	Print: 9789811079009 Online: 9789811079016	2018
Suraj Kumar Kashyap, Dinesh Jat, M.K. Bhuyan, Amit Vishwakarma and Prathik Gadde	Zernike Moment and Mutual Information based Methods for Multimodal Image Registration	Lecture Notes in Computer Science	-	-	-	-	2018
Amit Vishwakarma, M.K. Bhuyan, and Yuji Iwahori	An efficient algorithm for medical image fusion using nonsubsampled shearlet transform	Lecture Notes in Computer Science	Springer, Singapore	243	252	-	2018
Om Prakash Singh and Rohit Sinha	Sparse Coding of Bottleneck Features-based i-Vector Representation for Language Recognition	Advances in Communication, Devices and Networking, Bera, R., Sarkar, S.K., Singh, O.P., Saikia, H. (Eds.), Lecture Notes in Electrical Engineering	Springer, Singapore	537	337-347	Print: 9789811334498 Online: 9789811334504	2019
Satyabrata Dash, Deepak Joshi, Sukanta Dey, Meenali Janveja and Gaurav Trivedi	Storm Optimus: A single objective constrained optimizer based on brainstorming process for VLSI circuits	Brain Storm Optimization Algorithms: Concepts, Principles, and Applications	Springer, (To be appeared), Editors: Shi Cheng and Yuhui Shi (Accepted)	-	-	-	2018
Sushanta Bordoloi, Ashok Kumar Ray, Gaurav Trivedi	Simulation framework for GaN devices with special mention to reliability concerns	VLSI and Post-CMOS Devices, Circuits and Modelling	IET and edited by Rohit Dhiman and Rajeevan Chandel (Accepted)	-	-	-	2018
<b>Humanities and Social Sciences</b>							
Asim Twaha, Shakuntala Mahanta	Prosody of contrastive focus in two varieties of Assamese	Prosodic Variation (with) in Languages - Intonation, Phrasing and Segments - Marisa Cruz	London: Equinox Press	-	-	9781781794685	2018
Ghosh, V., & Tripathi, N	Cloud computing & e-HRM	In Thite, M. (Ed), e-HRM: Digital Approaches, Directions & Applications	Routledge	0	106 - 122	9781138043947	2018

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
N. Kipgen	Revisiting the military: Role of som institution in the Anglo-Kuki war	The Anglo-Kuki War, 1917-1919: A Frontier Uprising against Imperialism during the First World War	Routledge	0	211 - 233	-	2018
N. Kipgen, D. Pegu	Floods, Ecology and Cultural Adaptation in Lakhimpur District, Assam	Development and Disaster Management	Palgrave Macmillan	0	301 - 318	-	2018
N. Kipgen, A. Roy Chowdhury	Using Case Study Method Analysis to Explore the Indo-Myanmar Borderland Communities	SAGE Research Methods Cases	Sage	0	0	9781526477231	2019
Daksha Parmar and Sanjam Ahluwalia	Reproduction: Health:India: Mid-to Late-Twentieth Century	Encyclopedia of Women and Islamic Cultures, Ed. By Suad Joseph	BrillOnline Reference Works	-	-	-	2018
Deka, R. L., Saikia, L., Mahanta, C., Dutta, M. K.	Increasing Extreme Temperature Events in the Guwahati City During 1971â€“2010	Urban Ecology, Water Quality and Climate Change	Springer		169 - 179	9783319744933	2018
Dutta, M. K.	Development Experience of the North Eastern Region and the Way Forward	Development Issues and Concerns	Arya Vidyapeeth College, Guwahati	2	13 -25	9789385229800	2018
S. Mallick	Science, technology and development	Development: Issues and Concerns	MR Publications	-	26 - 33	9789385229800	2018
S. Mallick	Civil society in changing times: some reflections	Civil Society in Changing India: Emerging Roles, Relationship and Strategies	Department of Political Science, Digboi Mahila Mahavidyalaya	-	Sep-15	9780596805524	2019
Mithilesh Kumar Jha	Daya Krishna	Modern South Asian Thinkers	Sage Publications	-	-	-	2018
Mithilesh Kumar Jha	Bimal Krishna Matilal	Modern South Asian Thinkers	Sage Publications	-	-	-	2018
<b>Mathematics</b>							
Dipankar Mondal and N. Selvaraju	Asset Pricing Through Capital Market Curve	Logistics, Supply Chain and Financial Predictive Analytics: Theory and Practices	Springer	-	233-242	9789811308727	2019
<b>Mechanical Engineering</b>							

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Sathisha, H.M., Dalal, A.	An Unsteady Model to Study the Effects of Porosity and Temperature in All-Vanadium Redox Flow Battery with Mass Transfer and Ion Diffusion	Sustainable Energy Technology and Policies – A Transnational Journey	Springer	2	379-396	9789811083921	2018
Kishor Kumar Gajrani, Mamilla Ravi Sankar	Sustainable cutting fluids: Thermal, Rheological, Biodegradation, Anti-corrosion, Storage Stability Studies and its Machining Performance	Encyclopedia of Renewable and Sustainable Materials	Elsevier	-	-	DOI: 10.1016/B9780128131954.11152-X	2018
Kishor Kumar Gajrani, Mamilla Ravi Sankar	Sustainable Machining with Self-Lubricating Coated Mechanical Micro-Textured Cutting Tools	Encyclopedia of Renewable and Sustainable Materials	Elsevier	-	-	DOI: 10.1016/B9780128131954.11325-2	2018
Kishor Kumar Gajrani, Y Bishal Singha, Mamilla Ravi Sankar, Uday Shanker Dixit	Tribological and Machining Performance of Graphite, CaF <sub>2</sub> and MoS <sub>2</sub> Coated Mechanical Micro-textured Self-Lubricating Cutting Tool	Manufacturing Engineering	Springer Nature Singapore	-	151–165	9789811362873	2019
Chandan Kumar, Manas Das, C. P. Paul, B. Singh	Experimental study of fiber laser beam welding of 5 mm thick Ti-6Al-4V alloy,	Applications of Lasers in Manufacturing	Springer	-	-	97898113055663	2018
D. Sam Dayala Dev, Enni Krishna, Manas Das	Novel Finishing Process Development for Precision Complex-Shaped Hemispherical Shell by Bulk Plasma Processing	Precision Product-Processes Design and Optimization	Springer	-	-	978981108767712	2018
Manas Das, U. S. Dixit	Advanced Machining Processes	Introduction to Mechanical Engineering	Springer	-	45-67	97833197848859	2018
Jana, K., Mahanta, P. and De, S	Role of Biomass for Sustainable Energy Solution in India	Sustainable Energy and Transportation	Springer, Singapore.	-	-	-	2018
Mallick, D., Buragohain, B., Mahanta, P. and Moholkar, V.S.	Gasification of Mixed Biomass: Analysis Using Equilibrium, Semi-equilibrium, and Kinetic Models	Coal and Biomass Gasification	Springer, Singapore.	-	269-296	-	2018
Mallick, D., Mahanta, P. and Moholkar, V.S	Synergistic Effects in Gasification of Coal/Biomass Blends: Analysis and Review	Coal and Biomass Gasification	Springer, Singapore.	-	209-233	-	2018



Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
NK Mishra, Snehasish Panigrahy, P Muthukumar	A Review on Clean Combustion Within Porous Media	Air Pollution and Control	Springer Nature Singapore Pte Ltd.	-	223-241	-	2018
Muthukumar P, Hakeem Niyas	Materials, Design and Development of Latent Heat Storage Systems for Medium and Large-scale Applications: Issues and Challenges	Reference Module in Materials Science and Materials Engineering	Elsevier	-	473-497	-	2018
Avinish Tiwari, Piyush Singh, Pankaj Biswas, and Sachin D. Kore,	Friction stir welding of low carbon steel	Advances in Materials, Mechanical and Industrial Engineering	Springer	-	209-226	-	2018
Avinish Tiwari, Pardeep Pankaj, Abhishek Bhadraraj, Piyush Singh, Pankaj Biswas and Sachin D. Kore	Friction stir welding of shipbuilding grade DH36 steel	Manufacturing Engineering	Springer	-	17-34	-	2018
Pardeep Pankaj, Rakesh Bhadra, Avinish Tiwari, Pankaj Biswas and Sachin D. Kore	Transient Thermal Analysis of CO2 Laser Welding of AISI 304 Stainless Steel Thin Plates	Manufacturing Engineering	Springer	-	49-65	-	2019
Pardeep Pankaj, Rakesh Bhadra, Avinish Tiwari, Pankaj Biswas, and Sachin D. Kore	Dissimilar friction stir welding of DH36 shipbuilding steel and Mild steel	Advances in Additive Manufacturing and Joining	Springer	-		-	2019
Nandan Kanan Das, Arun Kadian, Avinish Tiwari, Pardeep Pankaj and Pankaj Biswas	Transient Thermal Analysis of Friction stir welding of AA606	Manufacturing Engineering	Springer	-	67-82	9789811362866	2018
K K Basumatary, S K Kakoty and K Kalita	Stability Analysis of a Rigid Rotor Supported on Gas Foil Bearings under Different Loading Conditions	Machines, Mechanism and Robotics	Springer, Singapore.	-	61-71	-	2018
S.M. Hazarika and U.S. Dixit	Robotics: history, trends and future directions	Introduction to Mechanical Engineering, Edited by J. Paulo Davim	Springer London	-	213-239	9783319784885	2018
A Bhowmick, SM Hazarika	E-mail spam filtering: a review of techniques and trends	Advances in Electronics, Communication and Computing	Springer	-	583-590	-	2018

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Devarshi Kashyap, Charan Mukundan and S.Kanagaraj	Manufacturing and characterization of shape memory polymers and composites	Primary and Secondary Manufacturing of Polymer Matrix Composites	CRC press		43-73		2018
Bolar G. and Joshi S. N	Numerical Modeling and Experimental Validation of Machining of Low-Rigidity Thin-Wall Parts	Precision Product-Process Design and Optimization	Springer		99-122		2018
Kant R. and Joshi S. N.	A Numerical Investigation into the Effect of Forced Convection Cooling on the Performance of Multi-scan Laser Bending Process	Application of Lasers in Manufacturing	Springer		21-43		2018
P. S. Robi, Sukhomay Pal, and Biswajit Parida	Recent Trends and Advances in Friction Stir Welding and Friction Stir Processing of Metals	Manufacturing Techniques for Materials	CRC Press		715-751		2018
Varun Sharma, Pulak M. Pandey, Uday S. Dixit, Anish Roy, Vadim V. Silberschmidt	Ultrasonic assisted turning: a comparative study of surface integrity	Precision Product-Process Design and Optimization: Select Papers from AIMTDR 2016,	Springer Singapore		337-360		2018
T.K. Gogoi and U.S. Dixit	Basics and applications of thermal engineering	Introduction to Mechanical Engineering, Edited by J. Paulo Davim	Springer London		137-178	9783319784885	2018
M. Das and U.S. Dixit	Advanced machining processes	Introduction to Mechanical Engineering, Edited by J. Paulo Davim,	Springer London		269-296	9783319784885	2018
Achinta Sarkar, Maryom Dabi and Ujjwal K. Saha	Supplementing the energy need of diesel engines in Indian transport and power sectors	Sustainable Energy and Transportation	Springer		61-86	9789811075087	2018
Deb, S., Kalita, K. and Mahanta, P	Distribution Network Planning in presence of Electric Vehicle Charging station loads	Smart Power Distribution Systems	Elsevier		529-553	9780128121542	2018
M. Hazarika, U.S. Dixit and J. Paulo Davim	History of production and industrial engineering through contributions of stalwarts	Manufacturing Engineering Education	Chandos Publishing		29	9780081012475	2019

Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Ashutosh Kumar, S.K. Kakoty	A Variable Viscosity Technique for the Analysis of Static and Dynamic Performance Parameters of Three-Lobe Fluid Film Bearing Operating with TiO <sub>2</sub> -Based Nanolubricant	Manufacturing Engineering	Springer Singapore	Manufacturing Engineering Selecting Proceedings of CPIE 2018	pp 1-16	9789811362873	2019
Hakeem N, Muthukumar P	Comparison of Thermal Characteristics of Sensible and Latent Heat Storage Materials Encapsulated in Different Capsule Configurations	Springer Proceedings in Energy	Springer	Springer Proceedings in Energy		DOI 10.1007/97898110457692	
Chilaka RCR, Hakeem N, Likhendra P and Muthukumar P	Performance Investigation of Lab-Scale Sensible Heat Storage System	Springer Proceedings in Energy	Springer	Springer Proceedings in Energy		DOI 10.1007/978981104576916	
Muthukumar P, Hakeem Niyas	Materials, Design and Development of Latent Heat Storage Systems for Medium and Large-scale Applications: Issues and Challenges	Reference Module in Materials Science and Materials Engineering	Elsevier				
Kishor Kumar Gajrani, Mamilia Ravi Sankar	Role of Eco-friendly Cutting Fluids and Cooling Techniques in Machining	Materials Forming, Machining and Post Processing	Springer Nature Switzerland AG		159-181	9783030188535	
<b>Physics</b>							
O. E. Alon, V. S. Bagnato, R. Beinke, S. Basu, L. S. Cederbaum, B. Chakrabarti, B. Chatterjee, R. Chitra, F. S. Diorico, S. Dutta, L. Exl, A. Gammal, S. K. Haldar, S. Klaiman, C. L'ev'equ, R. Lin, N. J. Mauser, P. Molligini, L. Papariello, R. Roy, K. Sakmann, A. I. Streltsov, G. D. Telles, M. C. Tsatsos, R. Wu and A. U. J. Lode	Exploring many-body physics with Bose-Einstein condensates	High Performance Computing in Science and Engineering'18 (HLRS)	Springer Nature	Yet to be published	-	-	2019

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Prahlad K. Baruah, Arpita Nath, Ishani Chakrabartty, Anuma Singh, Archana Das, Latha Rangan, Ashwini K. Sharma and Alikakhare	Surface Enhanced Raman Scattering and Antibacterial Capability of Pulsed Laser Ablated Metal/Metal Oxide Nanoparticles	Advances in Science and Technology	i-manager Publications	Vol I	140-144	9788190891097	2019
Partha P. Dey and Alika Khare	Third order nonlinear optical properties of PLD Si, SiOx and SiC thin films using Z-scan technique	Advances in Science and Technology	i-manager Publications	Vol I	145-149	9788190891097	2019
Pallabi Gogoi, D. Pamu and L. Robindra Singh	Recent Progress in Nanocrystalline oxide thin films	Nanomaterials- Based Composites for Energy Applications	Apple Academic Press and CRC Press Taylor and Francis Group	-	-	-	-
Sreedevi Vallabhapurapu, Shengzhi Du and Ananthakrishnan Srinivasan	Electronics: Nonvolatile Memory Technologies	Encyclopedia of Polymer Applications, 1st Ed.	Taylor & Francis	Vol II	913-931	9781351019415	2018
<b>Centre for Energy</b>							
Pankaj Kalita and Debarshi Baruah	Investigation of Biomass Gasifier Product Gas Composition and its characterization	Coal and Biomass Gasification	Springer, Singapore	-	115-149	9789811073359	2018
Manoj Sharma, Pankaj Kalita, Kula Kamal Senapati and Ankit Garg	Study on Magnetic Materials for Removal of Water Pollutants	Emerging Pollutants – Some Strategies for the Quality Preservation of Our Environment	Intech Open	-	61-78	10.5772/intechopen.75700	2018
Shuchi Singh, Arun Goyal, and Vijayan and S. Moholkar	Synthesis of Bioethanol From Invasive Weeds: Process Design, Optimization, and Intensification With Ultrasound	Waste Biorefinery	Elsevier		445-485	9780444639929	2018
Niraj Kumar Mishra, Snehasish Panigrahy, Muthukumar P	A Review on Clean Porous Medium Combustion	Air Pollution and Control	Springer Nature Singapore Pvt Ltds.		209-224	9789811071843	2018
Muthukumar P, Hakeem Niyas	Materials, Design and Development of Latent Heat Storage Systems for Medium and Large-scale Applications	Encyclopedia of Renewable and Sustainable Materials	Elsevier			Accepted for publication	2018

Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
<b>Centre for the Environment</b>							
Hasnahana Chetia, Debajyoti Kabiraj, Biju Bhargali, Sunita Ojha, Manash Pratim Barkataki, Dharitri Saikia, Tinka Singh, Ponnala Vimal Mosahari, Pragma Sharma, Utpal Bora	Exploring the Benefits of Endophytic Fungi via Omics	In book: Advances in Endophytic Fungal Research,	Springer, Cham, 2019	NA	Chtp: 4, pp.51-81 Total pages: 30	9783030035891	2019
Tanvi Hussain, Pankaj Gogoi, Kaustubh Rakshit, Jaideep Baruah and Arup Kumar Misra	Dynamics of decadal landuse landcover change and analysis of certain water quality parameters of Chandubi lake, Assam India	Harnessing Wetlands for Sustainable Livelihood	Notion Press 2019	NA	Chtp 10, pp. 137-152 Total pages: 12	9781684666560	2019
Ponnala Vimal Mosahari, Deepika Singh, Jon Jyoti Kalita, Pragma Sharma, Hasnahana Chetia, Debajyoti Kabiraj, Chandan Mahanta, Utpal Bora	Nanotoxicity: Impact on Health and Environment:	Book: Environmental Toxicity of Nanomaterials,	CRC Press	NA	Chtp 02, pp. 35-60, Total Pages 26	9781351252959	2019
R Singh, M K Purkait	Microfiltration Membranes	Book: Membrane Separation Principles and Applications	Elsevier		111-146	9780128128152	2018
B. K. Nandi, M. Rahaman, R. Singh, M. K. Purkait	Microfiltration membranes: fabrication and application	Membrane technology: an approach towards sustainable solutions in water, health, energy and the environment	CRC Press	Chtp 9 Pages	190-209	9781138095427	2018
Narendra Naik Deshavath, Bijayeeni Singh Deo, Jyothika Boddur, Komali vykuntam, Vaibhav. V Goud, V. Venkata Dasu	Dilute acid pretreatment efficiency on various solid loadings and effect of different neutralizing agents on xyloolig saccharide production	Advances in Plant & Microbial Biotechnology	Springer, Singapore			9789811363214	2019
Narendra Naik Deshavath, Veeranki Venkata Dasu, Vaibhav V. Goud	Lignocellulosic feedstocks for the production of bioethanol: Availability, structure and composition	Sustainable Bioenergy	Elsevier			9780128176542	2019
<b>Centre for Nanotechnology</b>							
Binota Thokchom, Neeta Thacker	Residual Analysis of Pesticides in Surface Water of Nagpur, India: An Approach to Water Pollution Control	Handbook of Research on the Adverse Effects of Pesticide Pollution in Aquatic Ecosystems	IGI Global		21		2019

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Name of Author/s	Name of Chapter/Paper	Name of Book	Publisher	Volume	Page	ISBN	Year
Mitradip Bhattacharjee and Dipankar Bandyopadhyay	Optical Nanosensors for Water Quality Monitoring	Environmental Chemistry for a Sustainable World	Nandita Das-gupta, Shivendu Ranjan, and Eric Lichtfouse	Volume X: Environmental Nanotechnology			2019
Mitradip Bhattacharjee and Dipankar Bandyopadhyay	Conductive Polymer Nanobiosensors	Environmental Chemistry for a Sustainable World	Nandita Das-gupta, Shivendu Ranjan, and Eric Lichtfouse	Volume X: Environmental Nanotechnology			2019
Kanu Das, Akshai Kumar		Advances in Organometallic Chemistry	Science Direct	In-Press			2019
<b>Centre for Rural Technology</b>							
Esha Bala, Siddhartha Singha, Sanjukta Patra	Polysaccharides from leafy vegetables: Chemical, nutritional and medicinal properties	Natural Polysaccharides in Drug Delivery and Biomedical Applications	Elsevier				In press

## DETAILS OF RESEARCH AND DEVELOPMENT PROJECTS

### NEW RESEARCH PROJECTS

New Research projects received during the year 2018-2019 are given below:

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
<b>Biosciences and Bioengineering</b>						
1.	Dr. Pranjal Chandra as N- PDF Mentor	Paper based point-of-care biomedical device prototype for pathogenic microorganism detection	DST	-	6	2018-2020
2.	Dr. Nitin Chaudhary	Mechanistic insights into IAPP self-assembly – targeting early intermediates for therapeutics	SERB	Dr. Sachin Kumar	47.85	2018-2021
3.	Prof. Debasish Das	Plant Tissue Culture	Himalaya Drug Company	-	3.4	2018-2019
4.	Prof. S.S. Ghosh	Modulation of Connexin-43 and Histone Deacetylase to Comprehend Cancer Therapy	DBT	Prof. Arun Chattopadhyay	57.02	2018-2021
5.	Prof. Arun Goyal	Efficient utilization of sugarcane top for production of cellulosic ethanol and other value added products	DBT	Prof. V. S. Moholkar	47.2 ACIRD, Yamuna Nagar 24.95 (IITG)	2018-2021
6.	Prof. Arun Goyal	Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products	DBT Twinning	Dr. S. Kumar and Dr. P. Satpati	120 IITB and AIIMS72 (IITG)	2018-2021
7.	Dr. Cota Navin Gupta	Data driven neuro-behavioural clusters in adults who were born very preterm using multivariate analysis	SPARC	Dr. Souptick Chanda	44.44	2019-2021
8.	Dr. Shankar Prasad Kanaujia	Structural and functional characterization of an ABC transporter involved in the maintenance of lipid asymmetry in Escherichia coli and Shigella flexneri: structure-based drug-designing	SERB	-	27.5	2019-2022

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
9.	Dr. Manish Kumar	Elucidating the role of Cas6, Cas7, and Cas8 in spirochetes CRISPR adaptive immunity against alien genetic elements	DBT	Dr. Shankar Prasad Kanaujia	68.75	2018-2021
10.	Dr. Sachin Kumar	Molecular platform for epidemiology, disease mapping and development of diagnostics for economically important disease of ducks	NER-BPMC	-	210.61	2018-2021
11.	Dr. Biman B. Mandal	NIRMAAN 3D" - Novel minimally invasive Implants for Reconstructive surgery using Materials providing mechanical instruction and prepared by 3D printing	DBT	Dr. R. P. Thummer	174.52	2018-2021
12.	Dr. Biman B. Mandal	Development of minimally invasive novel injectable hydrogel and nano-carrier hybrid system for localized targeted cancer therapy.	DHR	Dr. M. Kumar	120.97	2018-2021
13.	Dr. Biman B. Mandal	Bioengineered 3D constructs for cartilage repair; osteochondral regeneration and high throughput drug screening towards osteoarthritis management	DST	-	46.81	2018-2021
14.	Dr. Biman B. Mandal	Fabrication of Biocompatible scaffolds for delivery of stem cells in myocardial infarct model: In search of an ideal cardiac patch	DBT	Dr. R. P. Thummer	67.1	2018-2021
15.	Dr. Rajiv Bora (Inspire Faculty)	Development of hybrid electroactive materials for peripheral nerve regeneration	DST (INSPIRE)	Dr. Biman B. Mandal	110	2018-2023
16.	Dr. Biman B. Mandal	Production and development of silk gel and powder as a material for the development of haemostatic and other formulations	DRDO	N/A	9.87	2018-2019
17.	Dr. Shirisha Nagotu	Investigating the role of peroxisomes in Parkinson's disease	DBT	Dr. Ravi Manjithaya JNCASR & Dr. Rajkumar Thummer, IITG	74.40 (47.73 IITG + 26.67 JNCASR)	2018-2021
18.	Prof. Sanjukta Patra	Study of in-depth genetic heterogeneity with respect to resistome and compensatory adaptation of MDR Mtb clinical strains inside BM- Mesenchymal stem cells circulating in the North-East Region for therapeutic implications	DBT	Dr. Shankar Kanaujia	300	2019-2022
19.	Dr. Senthilkumar Sivaprasam	Continuous Fermentative Production of D (-) Lactic Acid Using Whey as a Feedstock in Automated Membrane Integrated Bioreactor	DBT	Dr. Vimal Katiyar	74	2018-2021



Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
20.	Prof. Ranjan Tamuli and Dr. Mandar V. Deshmukh (CCMB)	Understanding molecular mechanism of calcium signaling in Neurospora crassa	DBT, NE- Twinning	Dr. Manabendra Sarma (IITG)	84.53 (56.412 for IITG, 28.118 for CCMB)	2018-2021
21.	Prof. Vishal Trivedi	Re-purposing of FDA Approved Drugs for TB treatments	DBT	Dr. Vibin Ram-akrishnan	410.79	2018-2021
22.	Prof. Vishal Trivedi	Chemical Biology Approches to Exploit FIKK kinase (s) from Plasmodium Falciparum to develop potent Anti-Malarials	DST-SERB	Prof. T Punniyamurthy	51.2	2018-2021
23.	Prof. Rakhi Chaturvedi	To impact quality education to girls in realm of science and engineering to inculcate scientific temperament	DST, New Delhi, India	-	16.579	2018 -2019
24.	Dr. Ajaikumar B Kunnum-akkara	DAICENTER	DBT, Govt of India; AIST, Japan	--	98.46	2018-2021
25.	Dr. Ajaikumar B Kunnum-akkara	Placental oxidative stress in gestational diabetes mellitus	ICMR	--	20	2018-2021
26.	Dr. Ajaikumar B Kunnum-akkara	Deciphering the Role of Different Isoforms of AKT in the Development of Human Oral Squamous Cell Carcinoma	ICMR	Dr. H. Lalhrualtuanga, Mizoram University	99.72(59 for IITG)	2018-2021
27.	Dr. Souptick Chanda	Investigation on the Influence of Ferromagnetic Coating on Bone Ingrowth in Hip Stems Made of Composite Titanium-Tantalum (Ti-Ta) Foam	SPARC	Dr. Rajkumar Thummer, Prof. Debabrata Chakraborty	14.4	2019-2021
28.	Abiala Moses Akindele	Deciphering molecular mechanisms of halo-rhizobacteria influence on salt tolerance in cowpea	DBT-TWAS Post Doctorate fellowship	Prof. L. Sahoo (Mentor)	5.4968	2018-2019
<b>Chemical Engineering</b>						
29.	R. Prasanna venkatesh	Corrosion of carbon steels in CO <sub>2</sub> -H <sub>2</sub> S medium in the presence of volatile fatty acids	ONGC	V. Prabu	155	2018-2020
30.	Animes Kumar Golder, Lalit M Pandey	An advanced integrated process for the treatment of sewage plant effluent using bio-based antimicrobial metal biosorbents and photocatalytic nanocomposite materials	DST-UKIERI		17.14	2018-2020

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
31.	Tamal Banerjee	Hydrophobic Deep Eutectic Solvent for Remediation of Antifungal and Antibiotics in Waste water.	Scheme for Promotion of Academic and Research Collaboration (SPARC) MHRD, Govt. of India		52	2019-2021
32.	Prabu V	Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel utilization	SERB, DST		37.38	2019-2022
33.	Animes Kumar Golder, Kaustubha Mohanty	Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	SERB, DST		96.66	2019-2022
34.	Kaustubha Mohanty	Innovative Algae Platform for Industrial Wastewater Valorization (InWAP), Indo-Danish Research and Innovation Cooperation in the area of Water	DBT			2019-2022
35.	M K Purkait	Centre of excellent in water purification	DST-UKIERI		100	2019-2024
36.	Nanda Kishore	Experimental and numerical study on upgradation of bio-oil using catalytic hydrodeoxygenation	Board of Research in Nuclear Sciences (DAE)			
37.	Vimal Katiyar	Development of biodegradable polymer based controlled release fertilizers and pesticides for sustainable agro economy.	Department of Biotechnology, New Delhi	Raghendra Gupta	64	3 years
38.	Raghendra Gupta	Validating CFD Simulations of Gas-Liquid Stirred Tank Reactor for Different Impellers through Radiotracer Based Techniques	Board of Research in Nuclear Sciences	Rajesh Upadhyay	24.8	3 years
39.	Rajesh Upadhyay	Investigation of flow behaviour of pulsed sieve plate column through radiotracer-based techniques	Board of Research in Nuclear Sciences	Raghendra Gupta	33.7	3 years
<b>Chemistry</b>						
40.	T. Punniyamurthy	Study of Selective C-H Activation: Carbon-Carbon and Carbon-Heteroatom Bonds Formation	SERB	-	55	2019-22
41.	S. Paul	Understanding the Inhibiting Actions of Different Inhibitors on the Aggregation of Human Amylin Peptide	SERB	-	45.21	2018-2021
42.	C. V. Sastri	Perspective of Fluctuations in Electron Transfer Reactions in Non-Heme Chemistry	SPARC	-	71.18	2019-2021

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
43.	L. M. Kundu	Development and evaluation of peptide conjugated antitumor drugs in combination with nucleobase deaminases for controlled and targeted drug delivery	DBT, NER-BPMC	Prof. Ruchi Anand (IIT Bombay)	69.42	2019-2022
44.	R. Tamuli (BSBE)	Understanding Molecular Mechanism of Calcium Signalling in Neurospora Crassa	DBT	M. Sarma	84.53	3 Years
45.	A. S. Achalkumar	Molecular Engineering of Perylene for Energy Conversion	DST-SERB	-	41	2019-2021
46.	S. C. Pan	Organocatalytic Asymmetric Kinetic Resolution for the Synthesis of Aziridines and Tetrahydropyrans	DST SERB	-	43	3 years
47.	K. Raidongia	Aerobic Oxidations of Light Alkanes over Atomically Thin Clay Layers of Controlled Lateral Dimensions	DST Nanomission SERB	-	59.5	3 years
48.	U. Manna	Selective absorption based oil/water separation using durable superhydrophobic interfaces	MIRPL	-	68.58	1 year
49.	Akshai Kumar A. S	Greenhouse Gas to Fuel: Development of Powerful Catalytic Systems Based on Pincer-Metal Catalysts Heterogenized on Solid Supports for the Conversion of Carbon Dioxide to Methanol	SERB-DST	-	38.8	2019-2022
<b>Civil Engineering</b>						
50.	Dr. Rishikesh Bharti	Pragmatic Spectral Repository for Mapping and Exploration	IITG	-	1000000	02 years
51.	Dr. Anjan Kumar S	Assessment of Moisture Damage in Bituminous Mixes using Advanced Techniques	IITG	NA	1000000	2 years
52.	Dr. Ajay Dashora	Health mapping of living root bridges	IITG	NA	1000000	2 years
53.	Dr. Ravi K	Application of bio-char amended soil in geotechnical engineering	IITG	NA	1000000	2 years
54.	Subashisa Dutta	Integrated use of WRF-Hydro and space based inputs for flood forecasting	EPSA	NA	2764000	30 months
55.	Dr. Anjan Kumar S	Safer Roads for Safer Childhood (SRSC), Jorhat City	GRSP	Dr. C. Mallikarjuna	3040650	2 years
56.	Dr. A.K. Sarma	Statistical Downscaling for hydro-climatic projections with CMIP5 Simulations to assess Impact of Climate Change	MOWR	Dr. Rajib Kumar Bhattacharjya	5789493	18 months
57.	HOD, CIVIL ENGINEERING	FIST Grant	DST	NA	33400000	05 years

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
<b>Computer Science and Engineering</b>						
58.	Amit Awekar	Algorithms for Graph Similarity Self-Join	SERB	-	6	June 2018 to May 2021
59.	Sukumar Nandi	Archiving, modeling and visualization of the Ecocultural heritage of the Majuli river island of Assam.	Interdisciplinary Cyber-Physical Systems (ICPS) group, DST (Indian Heritage in Digital Space (IHDS) sub-group)	Dr Samit Bhattacharya, Prof Rajib Bhattacharya (Civil, IITG), Dr Parashmoni Datta (Tezpur University)	72	March 2019 to Feb 2022
60.	John Jose	Performance optimization in multicore processors by Network on Chip level prefetch support techniques	SUG, R&D, IIT Guwahati		10	June 2018 to June 2019
61.	John Jose	Approximate Computing Techniques for Resource Constrained Edge Devices	SPARC, MHRD, Govt. of India	T. Venkatesh	77.48	March 2019 to March 2021
62.	Chandan Karfa	Formal Verification of Optimizing Transformations of Programs and Optimizations for FPGAs.	SUG, R&D, IIT Guwahati		10	
63.	Santosh Biswas	Formal Methods for Modeling and verification of Intrusion Detection system in wireless Networks	DST	Chandan Karfa, Dr. Sukumar Nandi	28	June 2019 to May 2022
<b>Electronics and Electrical Engineering</b>						
64.	S. K. Nayak	Dynamic charging of drone using metamaterial including sensors used in IoT for control and communication	IMPRINT - II	D. Senthil Kumar, MTRDC Bangalore	68.45	2019-2021
65.	Chandan Kumar	Design, operation, and control of distributed generation (DG) integrated unified power quality conditioner (UPQC) in electric grid	CPRI	Dr. Ravindranath Adda	32.28	2019-21
66.	Chandan Kumar	Design, Operation and Control of Smart Transformer-based Microgrid System	Department of Science and Technology	---	52.82	2018-2021
67.	Chandan Kumar	Design, control and management of distributed generation in microgrid	ASEAN-India Science & Technology Development Fund (AISTDF)	Collaborator: Prof. Saad Mekhilef (University of Malaya, Malaysia) and Prof. HB Gooi (Nanyang Technological University, Singapore)	21.52	2018-2020

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
68.	Chandan Kumar	Operation and control of parallel power converters for stable, efficient and continuous operation of electric grid	IIT Guwahati	---	10	2018-2020
69.	Arun Tej Mallajosyula	Flexible Memristors Using 2D Layered Hybrid Organic-Inorganic Perovskites	SERB	---	49.93	2019-2022
70.	Parameswar K. Iyer	Hybrid Organic-Inorganic Perovskites for Solar Energy Conversion	SPARC	Arun Tej Mallajosyula and Aditya Mohite, Rice University, U.S.A.	26.39	2019-2022
71.	Ramesh Kumar Sonkar	Analytical and Numerical Design of Hybrid Multiplexer for Optical Interconnect using Silicon Photonics	SERB-DST	---	36.69	2019-2022
72.	Ramesh Kumar Sonkar	Visvesvaraya infrastructural grant for lab development	Ministry of Communications & Information Technology (Govt. of India)	---	20	2019-2022
73.	M. K. Bhuyan	Development of a prototype of disabled-friendly automatic-virtual text-entry keyboard interface system	SERB-DST	---	89.45	2019-2022
74.	Praveen Kumar	HUB and SPOKE consortium for 2W and 3W Electric Drives - Design, Development and Prototyping of advanced IM and Synchronous Reluctance Drives and vehicle integration for e2W and e3W vehicle Applications	DHI	---	70	2018-2020
75.	Mahima Arrawatia (As a Co-PI)	"Design of IoT Transceiver integrated with compact MIMO/Diversity antenna scheme	DST	With IIT Mandi	25.92	2019-2022
<b>Humanities and Social Sciences</b>						
76.	Anamika Barua	Climate Change Vulnerability mapping in the Indian Himalayan States	Swiss Development Cooperation (SDC)	Dr. Shayamasree Dasgupta, IIT Mandi	85	14
<b>Mathematics</b>						
77.	Bhabha K. Sarma	A study on highly acyclic matrices with special emphasis on the role of graph labelling in solving some inverse eigenvalue problems for such matrices	SERB-TARE	D. Sharma Gurucharan College, Silchar	5.00 Lakh	3 years
78.	Jiten C Kalita	Coupled $\psi$ -v and immersed interface method for incompressible viscous flows	SERB	NA	6.60 Lakh	3 years

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
79.	Sweta Tiwari	Study of nonlocal elliptic and parabolic problems with variable exponents	SERB	NA	6.60 Lakh	3 years
<b>Mechanical Engineering</b>						
80.	Amaresh Dalal	Analysis of flow transitions, thermo-physical properties, materials testing and heat transfer coefficient in Supercritical Steam based open loop	DST under Clean Energy Research Initiatives	Prof. Gautam Biswas, Dr. Dipankar N Basu	33.7	2023
81.	Amaresh Dalal	Development of Microbial Fuel Cells and theoretical modeling on the multiple effect of flow-materials in waste water bio-energy reactor	GITA-DST	Prof. Gautam Biswas, Dr. Vimal Katiyar, Dr. Chandan Mukherjee	42.96	2021
82.	S Kanagaraj and S K Dwivedy	North East Centre for Biological sciences and Healthcare Engineering (NECBH)	DBT	Prof. R. Swaminathan, Prof. S. Dandapat, Prof. Ashish Anand, HOD BSBE and HD Chemistry, Dean R&D, Associate Dean R&D	3735.28	3 years
83.	S Senthilvelan	Feasibility Evaluation of Powder/Metallurgy Connecting Rod for Automotive Applications	DST	Prof P S Robi	47.65	2 years
84.	Manas Das	Fabrication of Prosthetic Implants and further Nanofinishing Using Magnetic Field Assisted Finishing (MFAF) Process	SERB, DST		47.68	3 years
85.	S Kanagaraj	Indigenous development of a suture mediated vascular closure device for closure of arterial access site to achieve instant hemostasis following catheter angiography and interventions	DBT	Dr. Ganes Narayanan IITG, Dr. Akash Handique, Dr. Amit Malviya, Dr. Prajal Saikia NEIGRIHMS and Dr. Bhupen Sarma CVS	34.264	2 years
86.	S Kanagaraj	Development of new generation Acetabular Socket Linear and Femoral Head Prototypes with unique 3D microstructures and better fracture resistance for Osteoporosis and Osteoarthritis treatment	IMRPINT, MHRD	Prof. Bikramjit Basu, IISc, Prof. S. Senthilvelan, IITG, Prof. K. Balani, IITK, Prof. Alok Dhawan, IITR, Mr. R. Joseph Bensingh, CIPET	30.26	3 years

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
87.	S Kanagaraj	An affordable lower limb prosthesis with polycentric knee joint, dynamic ankle joint and suction-suspension socket system having advanced features	IMRPINT, MHRD	Prof. Nelson Muthu	73.37	3 years
88.	Dipankar N Basu	Experimental & computational analyses of flow-induced heat transfer deterioration in supercritical natural circulation loop	DERB, DST		47.26	3 years
89.	Ganesh Narayanan	NewGen IEDC	DST	S. K. Dwivedy		
90.	Prof P Muthukumar	Metal hydride materials and systems for the increase of efficiency in renewable and hydrogen energy	BRICS Multilateral Research and Development Projects, DST	Dr Pankaj Kalita	36	3 years
91.	Prof P Muthukumar	DST – IIT Bombay Energy Storage Platform on Hydrogen	SERB, DST		170	5 years
92.	Prof P Muthukumar	Reversible Alkali Metal Based Hydrides for High Temperature Thermal Energy Storage	MES, DST		76	3 years
93.	Nelson Muthu	Computational and Experimental study of damage and failure in carbon/glass fiber reinforced composite materials	SERB, DST		49.59	3 years
<b>Physics</b>						
94.	Bipul Bhuyan	Indian Institutions-Fermi Lab Collaboration in Neutrino Physics	DST-DAE (Under Mega Science)	-	160.54	2019-2024
95.	D. Borah	Particle dark matter beyond the WIMP paradigm: Model building and phenomenological studies	DST-SERB	-	21.37	2018-2021
96.	Tarak N Dey	Coherent control of wave front engineering	SERB	-	24	3 Years
97.	Uday Narayan Maiti	Studies on the development and devices using MXene/2D materials for energy storage applications (Part-2 Energy storage application)	BRNS	Subhradip Ghosh	29.93	2018-2021
98.	Uday Narayan Maiti	Ultrafast Joule heating induced defect healing and in-situ activation of spontaneously assembled graphene network for wearable energy storage	DRDO	Gagan Kumar	21.18	2018-2021
99.	Uday Narayan Maiti	Defect and doping synergist in perforated graphene aerogel/nanohybrid for the development of efficient hydrogen generation catalyst	CSIR	-	11.55	2019-2022

Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
100.	Pankaj K. Mishra	Numerical and theoretical investigation of different states of turbulence in counterflow superfluid turbulence in a channel	SERB DST	-	21.82	2018-2021
101.	Soumitra Nandi	Study of the heavy flavour observables for an indirect detection of physics beyond the Standard Model	SERB	-	23.21	3 Years
102.	Kanhaiya Pandey	Laser cooling and trapping of Rubidium atom, and superflash of light using the narrow 5S1/2 → 6P3/2 transition at 420 nm	Science and Engineering Research Board	-	34.06	Mar. 22, 2018-Mar.22, 2021
103.	Poulose Poulouse	Fingerprinting multi-Higgs models at the LHC	Shastri Indo-Canadian Institute	-	3.5	2018-19
104.	A. Srinivasan	Comparative study of low dimensional ferromagnetic Heusler alloys prepared by different rout	CSIR	S. Sarma	9	3 years
<b>Centre for Energy</b>						
105.	Dr. Pankaj Kalita	Fundamental Study on state of health (SoH) estimation of Lithium-ion Batteries based on Mechanical Parameters	IIT Guwahati	---	10 lakhs	Two years
106.	Prof. Arun Goyal	Efficient utilization of sugarcane top for production of cellulosic ethanol and other value added products	Department of Biotechnology, Ministry of Science and Technology, Government of India	Prof. V.S. Moholkar	47.22 Lakhs With ACIRD (24.95 L-IITG)	Three years
107.	Dr. Ankita Gaur	Bio- Inspired Adaptive Advance Solar Building Envelope	Science Engineering Research Board (SERB), Govt. of India, (early career)	---	35 lakhs	Five years
108.	Prof. P Muthukumar	Metal hydride materials and systems for the increase of efficiency in renewable and hydrogen energy	BRICS Multilateral Research and Development Projects DST	---	49.9 lakhs	2019-2022
<b>Centre for the Environment</b>						
109.	Dr. Jintu Dutta (NPDF), Mentor Prof. Utpal Bora	Reduction of Phosphorus fertilizer in soil for cultivation of vegetable crops in agro-climatic regions in Northeast India	SERB		19.2 Lakh	2018-20



Sl. No.	Principal Investigator	Project Title	Funding Agency	Co-investigators	Amount Sanctioned (in `)	Duration
110.	Dr. Lalit M Pandey, Dr. Animes Kr. Golder & Dr. K.H. Aaron Lau, University of Strathclyde, Glasgow, UK	An Advanced Integrated Process for the treatment of Sewage Plant effluent Using Bio-Based Antimicrobial Metal Biosorbent and Photocatalytic Nanocomposite materials	Indo Uk		11.86	2018-20
111.	Prof. Mihir Kumar Purkait	Characterization of water samples for drinking purpose.	Power Grid Corp. of India		0.2478	2018
<b>Centre for Nanotechnology</b>						
112.	Prof. S.S. Ghosh	Modulation of Connexin-43 and Histone Deacetylase to Comprehend Cancer Therapy	DBT	Prof. Arun Chattopadhyay	57.02 Lakhs	2018-2021
113.	Dr. Binota Thokchom	Nano-engineered magnetic mesoporous catalyst coupled with hybrid sonoelectro system as advanced water treatment technology	Department of science and Technology	NA	35 lakhs	2018-2023
114.	Dr. Vivek Borse	Lateral Flow Immunoassay based Point-of-Care Oral Cancer Diagnostic kit (OCDk)	DST, Govt. Of India	NA	35 Lakhs	2018-2023
<b>Centre for Rural Technology</b>						
115.	Dr. Siddhartha Singha	Development of a low cost multi-stage platform for microbial analysis of solid food samples	DST	Prof. S. K. Kakotey & Dr. S Basu	14.542	2 years
116.	Dr. Meena Khwairakpam	Composting/Vermicomposting of Mikania micrantha kunth and its effect on soil properties	SERB-DST	NIL	43.98434	2019-2021

## Major Consultancy Projects Received During 2018-2019

Title	Principal Investigator	Clients
Studies of the Effect of CurQfen on Global Expression in comparison with standard curcumin	Dr. Ajaikumar B Kunnumakkara	Akay Flavours & Aromatic Pvt Ltd, Kerela, India
In vitro Biomechanical Testing (Computational/experimental) of hip joint replacement components	Dr. Souptick Chandra	M/s Orthotech, Plot No.6, N.H. 8, Dist-Valsad, Gujrat-396001
Removal of Arsenic from aqueous solutions using poly-electrolytes in membrane based systems.	Dr. Selvaraju Narayansamy	Aqua Solution
Evaluation of water sample for construction purposes	Dr. P.K. Ghosh	NTPC Limited, Bongaigaon Thermal Power Project
Test on Physical & Mechanical Properties of Jindal TMT Bars (16mm dia)	Dr. Arun Ch. Borsaikia	M/s Amarjyoti Haloi
Physical and Chemical Test of Black Tiger OPC-43 and PPC cement	Dr. Arun Chandra Borsaikia	M/s Goldstone Cements Ltd., 5A, 5th Floor, Shine Towers, 57 Sati Jaymati Road, Arya Chowk, Ghy, Assam
Test on Physical & Mechanical properties of Shyam TMT Bars & Birla Gold Cement for the work "Development works at kamakhya temple Complex under Swachh Bharat Abhiyan	Dr. Arun Chandra Borsaikia	M/s Hi-Tech Construction, Guwahati, Assam
Test on physical & chemical properties of JSW Neo steel 25mm dia for LSTK-3 Package	Dr. Arun Chandra Borsaikia	M/s Iftakur Rahman, Dy. Resident Construction Manager, Fabtech Projects & Engineers Ltd
Study of structural behavior of RoadCem/Cement mixed aggregate/soil samples including evaluation of physical and classification of aggregate/soil samples collected from sub base of proposed road construction site	Dr. Arun Ch. Borsaikia	M/s Elmer Enterprise
Proof checking of Design & Drawings of RCC RBG Building (including Toilet Block) at Kalaigram, N. F. Railway	Dr. Arun Borsaikia	Amrit Kumar Buragohain
Evaluation of TMT bar samples to be used in the ?Construction of Bongaigaon Refinery, Indian Oil Corporation Limited, Dhaligaon, Chirang, Assam?, for chemical compositions	Dr. Arun Ch. Borsaikia	Fabtech Projects and Engineers
Proof checking of ?Load test on a constructed Composite bridge at chainage 1028+546 of NH-31?	Dr. Arun Ch. Borsaikia	KMC Construction Ltd.
Verification of Draft RFP for engagement of Contractor / Company for Construction of Multistoried Corporate Complex for AIDC at R. G. Baruah Road, Guwahati-781024 in Design Engineering, Procurement and Construction Mode	Dr. Arun Ch. Borsaikia	AIDC, R.G. Baruah Road, Guwahati-781024
Vetting of PEB Super Structure of terminal Building, Cargo Building & Warehouse at Shillong Meghalay	Dr. Arunasis Chakraborty	M/s. T.K. Engg. Consortium Pvt Ltd, ICP Dawki Meghalaya

Vetting of Structural Drawings of Space Frame Project at Bhubaneswar, Odisha	Dr. Arunasis Chakraborty	M/s Amiya Commerce & Construction Co. Pvt. Ltd., Amiya House, 5 A, Orient Row (facing Park Circus Maidan) kolkata-700017
Proof checking of bearings of a Rail cum Road Bridge over river Ganga at Ghazipur	Dr. Anjan Dutta	Bireswar Saha, Dy. General Manager, Mackintosh Burn Ltd., Kolkata-700064
Proof checking of erection scheme of a Rail cum Road Bridge over river Ganga at Ghazipur	Dr. Anjan Dutta	Mr. Harmandeep Singh, Sr. Manager, Projects
Proof checking of Design and drawings of sub-structure and foundation of a ROB in Bihar	Dr. Anjan Dutta	Mr. Pankaj Kumar, Dayal Hi-Tech Engineers Pvt Ltd
Proof checking of design and drawings of a bridge at Ch.28.4 Km on Saitual-Phullen Road	Dr. Anjan Dutta	M/s Sunshine Overseas Infrastructure Pvt Ltd
Proof checking of Gajoldoba Hub Bridge (Single span steel Bridge) over Teesta Main Left Canal, West Bengal	Dr. Anjan Dutta	Mr. S. Ghosh, Chief general Manager, Mackintosh Burn Ltd
Prrof checking of Design and Drawings of bridge over river ajay near shibpur at ch.17.84 km of muchipara-shibpur road	Dr. Anjan Dutta	Mr. Gautam Banerjee, General manager & Head-Business Development, Royal Infraconstru Ltd, Kolkata-700091
Evaluation the effect of piling/substructure work of building being constructed adjacent to Majerhat bridge (Road bridge) on stability of ROB	Dr. Anjan Dutta	Mr. Amit Tandon, Chief Project Manager/Kolkata II, Kolkata Project Implementation unit, RVNL, Kolkata-33
Review of the Conceptual Design of the proposed bridge over river Brahmaputra connecting Guwahati and North Guwahati including via duct, elevated corridor etc	Dr. A. dutta	Mr. K.K. Saikia, Chief Engineer (ARIASP & RIDE), PWRD, Fatasil Ambari, Guwahati-25
Proof Checking for the evaluation of safety of two well foundations related to the Constructions of HL Brigde over river Baitarni	Dr. Anjan Dutta	Royal Infraconstru Ltd.
Design proof checking of Launching Scheme of Rail Flyover Titled "ETMJ4"	Dr. A. dutta	TATA Projects Limited, Secunderbad, India
Proof Checking of bearings of a ROB of 26m span	Prof. Anjan Dutta	M/s STUP Consultants Pvt. Ltd. Kolkata
Proof checking of design and drawings of Caisson for bridge no. 1282/1.	DR. ANJAN DUTTA	Rail Vikas Nigam Ltd., Agra, UP-282001
Proof checking of design and drawing of a Foot overbridge	DR. ANJAN DUTTA	Spacechem Enterprises Pvt.. Ltd., Ghaziabad- 201009, U.P
Design proof checking of Launching Scheme Drgs for Bhaupur Rail Flyover of DFCCIL Project.	Prof. Anjan Dutta	M/s Tata Projects Limited, Secunderbad-500003, India
Vetting of scheme for lifting of span RP4'-RP6' of old Dunlop Bridge to facilitate dismantling of the span in safe manner	PROF. ANJAN DUTTA	M/s Simplex Infrastructures limited, Kolkata- 700076
Proof checking of design for abutment A2 of Kalpi Bridge at raised founding level	Prof. Anjan Dutta	M/s STUP Consultants Pvt. Ltd., kolkata- 700017
Proof checking of erection scheme of a Rail cum Road Bridge over River Ganga at Ghazipur	PROF. ANJAN DUTTA	M/s S.P. Singla Constructions Pvt. Ltd., Panchkula- 134113, Haryyana
Proof checking of design and drwaings of a bridge over river Barak at Itkhola Ghat, Silchar	Prof. Anjan Dutta	M/s D2S Infrastructures Pvt. Ltd., Guwahati
Proof checking of design and drawings of a ROB in Nalbari	DR. ANJAN DUTTA	D2S Infrastructure, Rehabari, Guwahati

Proof checking of load test scheme for 26 m composite girder of ROB approach in Burdwan.	DR. A. DUTTA	M/s Stup Consulting Pvt. Ltd.
Proof checking of four numbers of grade separator in Raipur, Chhattisgarh	PROF. ANJAN DUTTA	M/s Royal Infraconstru Ltd., Kolkata
Design check of erection scheme of steel composite girder for P27-P28 for Noapara-Dakshineswar Metro Project.	PROF. ANJAN DUTTA	M/s Simplex Infrastructure Ltd.
Raw water test of Margherita Thermal Power Project	Dr. Ajay Kalamdhad	M/s Assam Power Generation Corporation Limited, Bijulee Bhawan, 2nd Floor, Paltanbazar, Ghy-781001, Assam
Physical and bacteriological test of IIT Guwahati drinking water samples	Dr. Ajay Kalamdhad	M/s Sri Narayan Deka, Govt. Regd. Contractor Class I (A), Amingaon, Lothia Bagicha, Ghy-781031
Evaluation of Bituminous Sample of NH 2 in the state of Manipur	Dr. A.K. Maurya	Government of Manipur, Public Work Department
Evaluation of Bituminous Sample of NH 2 in the state of Manipur	Dr. A.K. Maurya	Government of Manipur, Public Work Department
Evaluation of Bituminous Sample of NH 2 in the state of Manipur	Dr. A.K. Maurya	Government of Manipur, Public Work Department
Evaluation of WBM/GSB samples of NH 150 in the state of Manipur	Dr. A.K. Maurya	Government of Manipur, Public Work Department
Evaluation of 4 no of Bituminous samples of NH 150 in the state of Manipur	DR. A. K. Maurya	Government of Manipur, Public Work Department
Study of River Training and Protection Works Undertaken in Beki River on SH-2 (Barpeta Jonia Road) in Barpeta District by PWRD, Assam	Dr. Arup Kumar Sarma	Mr. K. Saikia, Chief Engineer, PWD
Dam Break Analysis of Doyang Dam	Dr. A.K. Sarma	NEEPCO, Office of the Manager (C), Dam & Spillway Division, Dhep: Wokha, Nagaland
Jia Bharali River Bank Protection Work in Connection with construction of 4 lane Road	Dr. A.K.Sarma	TERRE ARMEE (India), New Delhi
Retainer consultancy services	Dr. Anjan Kumar S	L & T Infrastructure Development Projects Limited, 2nd Floor, 3, Sudeep Plaza, MLU, Pocket-4, Sector-11, Dwarka, New Delhi-110075
Guidance to decide on the incremental cost for Slope Stabilization Projects in the NER, using Geotechnical Textiles	Dr. Adapa Murali Krishna	M/s Ahmedabad Textile Industry Research Association (ATIRA), Ahmedabad
Vetting of additional drawing and designs of gabion reinforced walls for Sihyamnallah...	Dr. A. Murali krishna	Maccaferri Env. Solutions pvt. Ltd.
Characterization of Rock Samples for Borpani Middle-I Small Hydro Power Project	Dr. A. Murali Krishna	Assam Power Project Development Company Limited
Investigation of vertical, lateral and uplift capacity of large diameter pile.	Dr. Arindam Dey	Er. Suman Chaudhuri, Design Build Division, Shapoorji Pallonji and Company Private Limited, Kolkata-700091
Ground development work required at the project site for construction of substation at Amingaon under NERPSIP	Dr. Arindam Dey	Mr. Balbir Singh, DGM (Engg) PGCL
Vetting for cross-checking of RCC retaining Wall project at Agia-Medhipara-Phulbari-Tura (AMPT) Road at 130th km under PWD (Roads)	Dr. Arindam Dey	Mr. Phanindra Nath, Technical Head

Suitability of River Bed sand through Direct Sheer Testing	Dr. Arindam Dey	Mr. Ashwani Kapoor-DGM
Soil Stabalization at ITBP Yupia Site	Dr. Amit B Shelke	Government of India, Central Public Work Department, O/o Executive Engineer, Kimin Central Division, Papumpare, Kimin-791121, Arunachal Pradesh
Investigation of distress/oozing out of sub-surface water from the surface of the pavement and providing remedial measures at Dimapur Airport	Dr. Amit B Shelke	Airport Authority of India, Department of Structure, GME © NER, RHQ, AAI LGBI, Ghy-781015
Concrete Mix Design for M25 grade for the construction work of building at college of Veterinaey Science and Animal Husbandry.	Dr. Amit B Shelke	M/s Shrey Agarwal, Dy. Manager C, NPCC Ltd
Geotechnical investigation AND laboratory test of soil at LGBI airport	DR. A. SHELKE	AAI, GUWAHATI
Rehabilitation of Dorika Bridge	DR. A SHELKE	Gannon Dunkerley & Co. Ltd., Kolkata
Surge Calculation of DN 800 Pipeline for NTPC Talcher project	Dr. B. Kumar	NTPC
Proof checking of drawing and design calculation of foundation & substructure of Railway Portion P10 & P11 for ROB Srikona	Dr. B. Singh	Shree Gautam Construction Co. Ltd., Ghy
Proposed construction of buildings at IIT Patna Campus, Patna, Bihar and Vetting of Geotechnical Investigation Reports	Dr. Baleshwar Singh	Jt. General Manager, NCC Limited
Classification of Excavated Samples from Construction Site of Non-Residential Underground Complex at Laitkor Peak, Shillong, Meghalaya	DR. B. SINGH	M/s Bharat Electronics Ltd.
Evaluation of water sample for construction purposes	Dr. Chandan Mahanta	M/s Credible Engeering Construction Project Limited, Kokrajhar
Investigation of Physical properties of Granite sample	Dr. Chandan Mahanta	HSCC India Ltd., West Bangal-734012
Mix Design of concrete M25 and M30 for construction of 16 units...	Indu Siva Rajani Gandhi	IIT Guwahati
Test on Physical and Mechanical Prperties of Shyam Steel TMT bar for construction of 1000...	Indu Siva Rajani Gandhi	IIT Guwahati
Mix design of concrete M-25 and M-30 for the construction of Power Grid Vishram Sadan at Guwahati Medical College campus and investigation of cement	Dr. Indu Siva Ranjani Gandhi	HSCC India Limited
Structural Assessment of a Collapsed Bailey Bridge over Turini River on NH-150 in Aizawl, Mizoram	Dr. H.B. Kaushik	Dr. A. Muthamma, Deputy Commissioner, Aizwal, Mizoram
Structural Assessment of KV Building and Boundary Wall at Tura (Meghalaya)	Dr. Hemant B Kaushik	Sri. P.K. Koul, Deputy Commissioner, Kendriya Vidyalaya Sangathan
Structural Assessment of damaged buildings in JNV Gomati, Tripura	Dr. H. B. Kaushik	CPWD Agartala
Technical vetting of DPR for development of Ro-Ro route (Kamlabari and Neamati ) in NW-2	Dr. Hrishikesh Sharma	Shri S.R. Maurya
Proof Checking of Structural Design for Proposed R.C.C. Residential Apartment Buildings at Niribili Path, Borsajai,	Dr. Hrishikesh Sharma	M/s Protech Buildcon Private Limited

Proof Checking of Structural Design and Drawing for Proposed ?Basement+G+7?-R.C.C. Teaching Block with Mini Auditorium Building at TRIHMS? Campus, Naharlagun, Arunachal Pradesh	Dr. Hrishikesh Sharma	M/s Kenge Construction Co, E-Sector, PO.PS-Itanagar, Papum Pare, Arunachal Pradesh-791111
Proof Checking of Bridges in North-East Region	Dr. Hrishikesh Sharma	M/s Alliance Engineers and Consultants
Proof Checking of Structural Design for Proposed R.C.C. Residential Apartment Buildings (G+8) Block -1, at Birubari, Lokhara Road, Guwahati	Dr. H. Sharma	M/s Protech Realtors pvt. Ltd. , Ganeshguri, Ghy, Assam
Proof Checking of Structural Design for Proposed ?G+7? R.C.C. Building Golden Estate situated at Latakata, Basistha, Guwahati, Dist. Kamrup, Assam	Dr. H. Sharma	GSD Builders & Promoters Ltd., 1st floor fort Building, Kachari Basti, G.S. Road, Ghy-781007. Assam
Proof Checking of Structural Design for Proposed 'G+7' R.C.C. Residential Building at Kahilipara, Guwahati, Dist. Kamrup, Assam	Dr. H. Sharma	M/s Adityam Enterprise, Kahilipara-781019
Proof Consultancy of 2 Laning of existing Akajan - Likabali Bame Road on EPC basis from design km 12.000 to km 33.000 (Existing KM 12.000 to km 36.000) in the state of Arunachal Pradesh under SARDP-NE	Dr. H. Sharma	JKM-KCL JV, Ivory Enclave, First Floor, R.G. Baruah Road, Guwahati, Assam
Design and Drawing for Design and Construction of 74 MTR span Steel Structure (Through Type) Major PMT Bridge (Including casting of Deck slab, wearing coat, kerbs and Hand rails, drainage spout, procurement and fixing of expansion joints, painting, I	Dr. H. Sharma	Mechfab Engineering Industries Pvt. Ltd., 2nd floor G.S. Road, Ghy-781005
Verticality & twist before work of 115 Meters Mast ?A & B (02Nos.) at 200 KW MW Transmitter, All India Radio Itanagar (Arunachal Pradesh)	Dr. H. Sharma	Jai Durgey Engineering Co., Aligarh- UP
Proof Checking of detailed structural design and drawing for construction of balanced work of Dalkhola Bypass (Length 5.5 Km) including ROB on NH 34 in the state of West Bengal	Dr. H. Sharma	ABCI infrastructure Pvt. Ltd., Guwahati
Proof Checking Consultancy of PNP for project titled ?Construction of 2 Lane Road with Paved Shoulders from km 16.000 of Roing Hunli section to km 21.500 of Hunli-Anini Road (Greenfield Alignment) (NH-313) (Total Length =74.863 km) in Arunachal Prade	Dr. H. Sharma	DRA-ITL(JV), Ahmedabad
Proof Checking of Structural Design for Proposed ?Basement+G+7? R.C.C. Commercial Cum Residential Buildings at V.I.P. Road, Borbari, Guwahati, Dist. Kamrup, Assam	Dr. H. Sharma	M/s Pragjyotish Housing Pvt. Ltd. Ulubari, Guwahati
Proof Checking of Structural Design for Proposed ?G+8? R.C.C. Residential Building at Bhabananda Boro Path, Ahomgaon, Garchuk, Guwahati-35	Dr. H. Sharma	M/s Riscon Builders Pvt. Ltd., GS Road, Guwahati
Proof Checking of Structural Design for Proposed ?G+9? R.C.C. Commercial Cum Residential Buildings at Ganesh Turning, Kahilipara, Guwahati -19, Dist. Kamrup, Assam	Dr. H. sharma	M/s Pragjyotish Housing Pvt. Ltd., Ulubari, Guwahati
Strength evaluation of Reinforcement Bars	DR. H. SHARMA	M/s Patel Engineers Ltd., Meghalaya
Proof Checking of Structural Design for Proposed Block A to E ?GF+7th Floor Residential Apartment Building at N H 37, Betkuchi, Guwahati -05 by M/s Royal Associates	DR. H. SHARMA	Royal Associates, Guwahati

Proof Checking of Structural Design for Proposed ?Block A= Basement + Ground + Seven Storied?, ?Block D= Basement + Ground + Eight Storied?, ?Block E= Basement + Ground + Eight Storied? R.C.C. Buildings of M/s Priyashi Aashi Developers Pvt. Ltd.	DR. H. SHARMA	M/s Priyashi Aashi Developres Pvt. Ltd., Guwahati
Proof Checking of Structural Design for Proposed ?B+G+11? R.C.C. Structure	Dr. H. Sharma	M/s Asomi Hospitals Pvt. Ltd., Guwahati
Proof Checking of Structural Design for Proposed ?Block A= Ground + Eight Storied?, ?Block B= Ground + Eight Storied? R.C.C. Buildings of M/s S. M. Engineers and Developers	DR. H. SHARMA	M/s S. M. Engineers & Developres, Ulubari, Ghy
Proof Checking of Structural Design for Proposed ?G+1? R.C.C. Kitchen Building at Jorhat for Akshyapatra Foundations submitted by Activ Consulting Engineers (India) Pvt. Ltd	DR. H. SHARMA	M/s Activ Consulting, Guwahati
Construction of extra dosed bridge at river Ganga, 2 ROB?s, plan/profile of Highway and Pavement Design, 8 Box culverts, and other supporting structure	DR. H. SHARMA	NHAI, Bihar
Proof Checking of Structural Design for Proposed ?G+3? Mini Secreteriat Building at Daporijo, Arunachal Pradesh submitted by M/s Kurung Kumey Enterprise	DR. H. SHARMA	M/s Kurung Kumey Enterprise, Arunachal Pradesh
Proof Checking of Structural Design for Proposed ?Basement+G+7? R.C.C. of Ridhi Sidhi Towers, Gauri Sarma Colony Road, Fatasil, Guwahati-781009	DR. H. SHARMA	M/s Ridhi Sidhi Infracon Pvt. Ltd.
Proof checking of Structural Design and Drawings of F-Type Quarters in IIT Guwahati	Dr. K. Dasgupta	M/s Suresh Goyal & Associates
Proof checking of Design & Drawings of Steel Composite Bridge (Span 60.00 m) over river Sissar at 14 Km on Dambuk-Paglam road under CRF (Normal)	Dr. K.D. Singh	Government of Arunachal Pradesh, Office of the Executive Engineer, Roing Division, Roing, Itanagar
Investigation on Various Properties of Fiberglass Reinforced Polymer (FRP) Platform Samples for Young Construction Guwahati-781 005, Kamrup, Assam	Dr. K.D. Singh	M/s Young Construction , 560, G.S. Road, VIP World, Christian Basti, Ghy-05
Mix Design of concrete M-30 for the work stage II construction of 2nd km MS Ryngud road to Sohbar under PMGSY Package No. MG/02/08/08 and Investigation of cement (Dalmia PPC)	Dr. K.D. Singh	M/s K.B. Makdoh, Executive Engineer, PWD (Roads), Sohra Sub-Division
Concrete mix design of M30 grade for construction of 2.35 Km of PMGSY reoad at Sohbar, Meghalaya	Dr. K.D. Singh	M/s K.B. Makdoh, Executive Engineer P.W.D (Roads), Sohra Division, Sohra
Verification of availability of reinforcement in various locations of constructed buildings at Rayang Station, Arunachal Pradesh	Dr. K.D. Singh	Shree Gautam Construction Company Limited, Paltan Bazar, Ghy-781001
Proof checking of Design & Drawings of RCC retaining structure at Km.72+440 (LHS) of Contract package EW-II, AS-26 (Bal)	Dr. K.D. Singh	Jitendra Prasad, Acting Resident Engineer
Proof checking of Design & Drawings of Well Foundation for the bridge over river Kapili on Jagiroad-Morigaon Road	Dr. K.D. Singh	Superintending Engineer, NH(P), Assam Chandmari, Guwahati-3
Verification of Estimates of the work ?Construction of Road from Bijni Kuklung road to Boripara No.2 in Chirang District (L=3.00Km) under Chirang (R&B) Division?	Dr. K.D. Singh	Govt. of Assam, Office of the Executive Engineer, PWD, Chirang (R&B) Division, Kajalgaon
Proof checking of Design & Drwaing of sub-structure of proposed Rob-305...	Dr. K.D. Singh	Office of the Dy. Chief Engineer (Con), N.F. Railway, Jogighopa

Unconfined Compressive strength of Concrete Core extracted from pile cap and pier of Sawombung Bridge at Churachandpur section in the state of Manipur	DR. K. D. SINGH	PWD Manipu
Non-destructive evaluation (NDE) of constructed part of bridge "Sawombung Bridge" at Churachandpur section in the state of Manipu	Dr. K.D. Singh	NH Circle, Manipur
Design, Engineering, Procurement and Construction (EPC) including Operation & Maintenance of All India Institute of Medical Sciences at Guwahati(Assam), India- Evaluation of Concrete Mix Design M30 and M 35 with Different Construction Materials	Dr. K. D. Singh	M/s HLL Infra Tech Services Limited.
Proof checking of detail Structural Designs and Drawings for proposed Construction of Academic and Residential complex under phase II for the campus of IIT Patna at Bihar	Dr. K. D. Singh	M/s NCC Ltd.
Third party evaluation of ongoing projects under North East Road Sector Development Scheme	Dr. L.B. Singh	NEC Shillong
Mix design of M-25 and M-30 for work of CA No. CCE (Army) No. 02/05 of 2017-18: Augmentation of Central Sewage System at Misamari and Investigation of Cement	Dr. L.B. Singh	M/s Mecgale Pneumatics Pvt Ltd
Testing of non-modular Fly Ash Bricks (ICL mark)	Dr. L. Boeing Singh	HSCC India Ltd., West Bangal-734012
Cost Vetting of New Umtru Hydro Electric Project 40 MW (2 x 20 MW)	Dr. L. Boeing Singh	Meghalaya Power Generation Corporation Limited
Mix design of concrete M-30 (both normal and underwater condition) & M35, M-40 (normal condition) for N.F. Railway projects	Dr. L. Boeing Singh	Bhartia Infra Projects Ltd.
Mix Design of Concrete M 25 for construction of office building cum storage block for Directorate of Census Operation Assam	DR. L.B. SINGH	Wapcos Ltd., Haryana
Evaluation of physical properties of PPC	DR. L. B. SINGH	M/s Joyshree Cement Industries, Guwahati
Mix Design for M25 Grade Concrete of 100 Seated Women's Hostel Building at NEHU, Shillong	DR. L.B. SINGH	CPWD, shilling
Design Mix for PQC for Hanger and Allied Works	DR. L.B. SINGH	M/s Varindera Construction, New Delhi
Mix Design of Concrete M25 (for piling) and M25 (for structure)	DR. L.B. SINGH	Star Ciment Ltd., Ghy
Design Mix for PQC for Base Security Chabua	DR. L.B. SINGH	M/s Varindera Construction, New Delhi`
Design Mix for M25 Grade Concrete for Development of Ash Silo Area	Dr. L.B. Singh	NTPC Ltd, Bongaigaon
Testing of water sample of the River Brahmaputra	Dr. P.K. Ghosh	Government of Assam, office of the Director, Water and Sanitation Support Organisation, Public Health Engineering Department, Betkuchi, Guwahati-35
Physical and Bacteriological test of IIT Guwahati Drinking water samples	Dr. P. K. Ghosh, Professor	M/s Sri Narayan Deka, Amingaon, Lothia Bagicha, Ghy-781031
Evaluation of water sample for construction purposes	Dr. P. K. Ghosh	M/s MBECL Ltd.
Evaluation of water sample for construction purposes	PROF. P.K. GHOSH	M/s Wapcos limited., Gurugram-122015 (Haryana)



Physical and Bacteriological testing of water for drinking purpose as per I.S: 10500	Dr. P.K. Ghosh	IIT Guwahati
Evaluation of water sample for construction purposes	Dr. P.K. Ghosh	NTPC Limited, Bongaigaon
Proof Check of Cementitious Base	Rajan Choudhury	LNMIPL-AIPPL (L.N. Malviya Infra Projects Pvt. Ltd.)
Design of pumps and pipelines from boring to overhead tank at NIPER, Guwahati project	Dr. Rajib Kumar Bhattacharjya,	Prasad Associates
Verification of modified design of Intake Well No.3 of South Guwahati West Water Supply Project due to incomplete sinking	DR. S. A. KARTHA	M/S GECPL, Jalukbari
Modelling Study and Appropriate Measure for Protection Work at Dillighat Intake at NTPS	Dr/ Subashisa Dutta	Assam Power Generation Corporation Limited, Bijulee Bhawan, 2nd Floor, Plantan Bazar, Ghy-781001
Vetting of Retrofitting Proposal for RBI residential buildings made by IIT Kanpur	Dr.S.K. Deb	RBI Patna
Proof checking of modified design & detailing of STU-brackets connection for Srinagar-Banihal road project	PROF. S.K. DEB	M/s METCO Pvt. Ltd., kolkata-700054, India
Evaluation of rock and soil characteristics for Rammam HPP	Sreedeeep S.	NTPC Limited
Structural/Technical Audit of ESIC Buildings through Nondestructive Evaluators	Dr. S. Talukdar	Deputy Director, ESIC Bamunimaidam
Request for Job Mix Formula for Cementitious subbase layer with cement (OPC 43 Grade), evocrete and soil available along the stretch of teh road	Dr. T. Lyngdoh	M/s CCL International Limited
Strength Determination (UCS) of 6 Field Core samples	Dr. Teiborlang L. Ryntathiang	GREF
Job Mix Formula and Mix Design of SDBC Grading 1 (MORTH-2001: 4th Revision)	DR. T. LYNDONH	Rajeshwari Construction, Dibrugarh
Quality Assessment of Emulsion Product - RS1, CSS1, MS and SS2	DR. T. LYNDONH	Roadmix India Pvt. Ltd., Odisha
Quality Assessment of Aggregate for Source Approval.	Dr. T. Lyndoh	NHAI, WB
Soil Testing at construction boundary wall and earth filling for the project Assam judicial Academy and National Law School at Amingaon, Guwahati	Dr. T.V. Bharat	Executive Engg, PWD(E-C), GHY
Training Program on Road Safety Audit during 12-16 Nov 2018	DR. A. K. MAURYA	Asian Institute of Transport Development (AITD), New Delhi
Mix design of concrete for construction of Bomnag Bridge at KM 49.810 om OKSRT Road	Dr. Hrishikesh Sharma	Manish Pathak, Lt.Col., Officer Commanding, 1441 BCC (GREF) C/o 99 APO
Physical and Bacterial test of IIT Guwahati Drinking water samples	Dr. P.K. Ghosh	M/s Sri Narayan Deka, Govt. Regd. Contractor Class I (A), Amingaon, Lothia Bagicha, Ghy-781031
Consultancy support for energy plan and action action for the state of Assam	DR. PANKAJ KALITA	ICF Consulting India Pvt. Ltd.
Efficient and economical method for bleaching	Dr. P.K. Iyer	Inchem India Pvt Ltd., VIP Chowk, Jogipara Guwahati-781015
Quantitative analysis of wastewater for Nonylphenol and baby products for Bisphenol-A	Dr. Kaustubh Mohanty	The Just Enviornment Charitable Trust, H2 (Ground Floor) Jungpura Extension, New Delhi-110014

Treatment of membrane reject by using polymeric surface active agents (SAA)	Dr. M.K. Purkait	Tata Steel Limited, Jamshedpur 831001
Evaluation of Carbon Molecular Sieves for Kinetic Selectivity of Oxygen, Nitrogen and Argo	PROF. S. GUMMA	Government – DRDO
(i) Design of detection & communication system for NBC agents and (ii) Design of NBC filtration system, for project SP, Vishakapatnam	Dr. Senthilmurugam S	M/s Larsen & Toubro Limited Construction Buildings & Factories, Mount Poonamallee Road, Chennai-600089
(i) UG facility ventilation control and optimization strategy, (ii) Air-conditioning system design optimization strategy, for Project SP, Vishakhapatnam	Dr. Senthilmurugan	M/s Larsen & Toubro Limited Construction Buildings & Factories, Mount Poonamallee Road, Chennai-600089
Training at the Laboratories of Chemical Engineering Department for the students of NIT Arunachal Pradesh	Dr. V.V. Goud	NIT Arunachal Pradesh
Conduct training at the Laboratories of Chemical Engineering Department for the students of RGIPT Assam Center Sivsagar	DR. V.V. GOUD	RGIPT Assam Center Sivsagar
Training at the Laboratories of Chemical Engineering Department for the students of NIT Arunachal Pradesh	Dr.V.V. Goud	NIT Arunachal Pradesh
Technical Officer Selection for AIDC	Dr. Hemangee Kalpesh Kapoor	Assam Industrial Development Corporation
Website Standardisation Workshop for Assam State Government Employees in collaboration with NIC, Guwahati-LEVEL1	DR. P. C. KALITA	Joint Secretary to the Govt. of Assam, Secretariat Administration Department, Government of Assam
Training Programme on 'Marketing Management' for Managers/ Executives of Central Public Sector Enterprises and State Level Public Enterprises	DR. PRATUL CH. KALITA	Ministry of Heavy Industries and Public Enterprises, Government of India
Consultancy services to Develop Solar Home Lighting System	Dr. L.N. Sharma	Purbanchal Enterprise
Techno Commercial Evaluation of EV Drivetrain for Commercial Vehicles	Dr. Praveen Kumar	M/s Ashok Leyland Limited
Consultancy services for various electrical works in GU - 750KVA Transformer in front of Physics Dept, 500 KVA Transformer in the BKB Auditorium & IDOL, DG Set for BKB Auditorium & IDOL	Mr. Amarendra Goswami	University Works Department, Gauhati Univeristy, Gopinath Bardoloi Nagar: Guwahati-781014, Assam
Testing of water filters candles	Dr. M.K. Purkait	Mr Abhijit Deshmukh, Sr. Manager-QA
One day workshop on Polluted river stretches-preparation of action plan (For NE states)"	Dr. Deepmoni Deka	Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi- 110032
Transnational Policy Dialogue for Improved Water Governance of Brahmaputra River	Dr. Anamika Barua	World Bank Group, 70 Iodi Estate, New Delhi
Electrocoagulation Techniques for the Treatment of Rejected Stream of Nanofiltration in Tata Steel	Dr. m.K. Purkait	TATA STEEL, Jamshedpur
Analysis of Microstructure of Carbon Grade CY 4000 (I)	Dr. Sukhomay Pal	Assam Carbon Ltd, Guwahati
Setting of Technical Papers	Dr. Amaresh Dalal	Dipankar Dehingia & Deepanjali Gogoi
Catalytic Enhancement of Aromatic Yield	DR. AKSHAI KUMAR A S	RIL, Navi Mumbai

**Research Projects Completed During 2017-2018**

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
<b>Biosciences and Bioengineering</b>					
Dr. B. Anand	Mechanistic Insights into the Functional Landscape of Sensory and Regulatory RNAs	DST-SERB	29.96	-	2015-2018
Dr. B. Anand	Mechanistic Insights into the Adaptation Stage of CRISPR-Cas Immune System	DBT	43.23	-	2015-2018
Dr. Biplob Bose	Investigation to Understand Cell Signaling in Noisy Environment	ICMR	36.67	Dr. S. S. Ghosh	2016-2019
Dr. Biplob Bose	Diphtheria toxin derived proteins for possible therapeutic uses	SERB (DST)	47.38	Dr. Bhubaneswar Mandal	2016-2019
Dr. Anil M. Limaye	A multifaceted research program to investigate the role of the G-protein coupled estrogen receptor (GPR30) in the normal and neoplastic breast: molecular investigations using in vitro, in vivo and clinical approaches	DBT(Twinning)	39.95 (IITG component)	Dr. Sachin Kumar	2014-2018
Dr. Vimal Katiyar, Chemical Engineering	Centre of Excellence for Sustainable Polymers (CoE-SuSPOL)	Ministry of Chemicals and Fertilizers	600	Dr. Biman B. Mandal (member)	2012-2018 (6 years)
Dr. S. Pan, Chemistry, IIT Guwahati	Asymmetric organocatalytic benzylic C-H activation. Application to the synthesis of sugiol and its derivatives with biological studies	SERB, DST	49.5	Dr. Biman B. Mandal	2015-2018 (3 years)
Dr. Priyadarshi Satpati	Energetic basis of accuracy for RIG-I immune response to pathogens	IIT Guwahati Top Up Grant	10	-	2018-2019
Dr. Priyadarshi Satpati	Structural and thermodynamic basis of translational fidelity in prokaryotic cells – A Structure based computational study.	DST-SERB	19.62	-	2015-2018
Dr. Ajaikumar B Kunnumakkara	Liposome Encapsulated Azadiradione for Triple Negative Breast Cancer Treatment	DST	6.3	Prof. Fariod Badria, Mansoura University, Egypt	2016-2018
Prof. G J N Rao	Biotechnological interventions for crop improvement	DBT Visiting Research Professorship Programme in NER	17.9	Prof. Lingaraj Sahoo (Host)	2017-2018

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Prof. Lingaraj Sahoo	Development of transgenic cowpea for insect resistance through RNA interference technology	DBT	78.7 (45.23 IITG)	Prof. M. V. Rajam, Delhi University South Campus, New Delhi	2015-2018
<b>Chemical Engineering</b>					
Partho S G Pattader	Start Up Grant	IIT Guwahati	5		2 years
<b>Chemistry</b>					
A. Chattopadhyay	Newer Chemical and Physical Methods of Engineering Devices with Nanoscale Functional Components	DST	92	-	5
A. Chattopadhyay	Engineering Nanoscale Materials and their Applications in nanotechnology	DST	2.02	-	3
A. Chattopadhyay	Novel Nanoscale Materials: Generation, Characterization, and Device Applications	DST	190.6	A number of faculty members from various departments	3
A. Chattopadhyay	Development of Nanoscale Materials for Bacteria Removal from Surface Water	DRL	9.98	S.S.Ghosh	2
T. Punniyamurthy	Studies Toward C-H Activation for Carbon-Carbon and Carbon-Heteroatom Bond Formation	SERB	38.75	-	2015-2018
S. Paul	The Role of Aqueous Solutions of Trimethylamine-N-Oxide (TMAO) on the Pressure Induced Hydrophobic Interactions and the Pressure Induced Hydrogen Bond Properties and Dynamics	DST	21.38	-	3 years
S. Paul	Counteraction of Osmolyte Trimethylamine-N-Oxide on Pressure Induced and Urea Induced Denaturation of Proteins BPTI and Rnase A: Molecular Dynamics Simulation Study	CSIR	10.62	-	3 years
S. Paul	The mechanism of bioprotective effect of trehalose through hydrophobic and hydrogen bonding interactions on peptide and polypeptide: A molecular dynamics simulation study	BRNS	24.245	D. Manna	3 years
S. Paul	Effect of osmolytes urea and trimethylamine-N-oxide on hydrophobicity and protein folding/unfolding under confinement	DST	20.7	-	3 years
C. V. Sastri	Structure-Reactivity Correlations of High Valent Metal Intermediates Bearing Structurally Tunable Coordination Spheres	DST-SERB	46.9		2015-2018
A. S. Achalkumar	Symposium Grant	DST-SERB	1.5	-	

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
C. K. Jana	Metal and Oxidant Free Stereoselective sp <sup>3</sup> C-H Arylation: Facile Access to Optically Active Disubstituted N-heterocycles and Their Application in Synthesis	SERB	30.9	-	06/2015-05/2018
K. Sahu	Excited state hydrogen bonding driven photophysics in solvent mixtures- spectroscopic and theoretical approach	CSIR	6	-	2015-2018
K. Sahu	Study of nanoparticle-fluorophore interaction inside surfactant assemblies	SERB-DST	52.5	-	2015-2018
S. C. Pan	Asymmetric Organocatalytic Benzylic C-H Activation: Application to the synthesis of sugiol and its Derivatives with Biological Study	DST SERB	46	-	3 years
K. Raidongia	Application of Nanofluidic Channels of Reconstructed Two-dimensional Nanomaterials for rChiral Resolution	SERB	30.31	-	3 years
Krishna P. Bhabak	Enhancement of the Anti-cancer Properties of Lipids: Possible Role of Antioxidants towards Cancer	DST-INSPIRE	34.36	NA	2013-2018
Krishna P. Bhabak	Design and Synthesis of Novel Fluorescent Substrates for Sphingolipid Metabolizing Enzymes	SERB (Start-up)	22.3	-	3 years
U. Manna	Stimuli Responsive Superhydrophobic Material for Triggered Drug Release	IIT Guwahati	5	-	2 years
U. Manna	Physically and Chemically Durable "Bulk" Superhydrophobic Material: An Avenue for Smart Drug Delivery	DST	31.56	-	3 years
Akshai Kumar A S	Chiral and Achiral Hydrofunctionalization of Olefins Via Iron and Cobalt Catalyzed XH (X = C and O) Activation Reactions: Access to High Value Fuels, Organic Materials and Commodity Chemicals	SERB-DST	23.1	-	2016-2019
S. Chatterjee	Design, Synthesis and Conformational Analysis of $\alpha$ Hybrid Peptides containing $\gamma$ 3/ $\gamma$ 2 Amino Acids with Proteinogenic Side Chains	SERB-DST	26.7	-	2015-2018
<b>Civil Engineering</b>					
Dr. Amit B. Shelke	Protective health and usage monitoring system using phononic crystal for aerospace	DST	2200000	NA	3years
Dr . A. Chakraborty	Development of adjustable tuned mass damper for vibration control in passive or semi active mode	BRNS	1475000	NA	3 yrs
Dr. Anjan Dutta	Development of Software for Optimal Shape/ Design of Aircraft	ARDB	209200	NA	3 yrs
Dr. Anjan Dutta	Studies on influence of HyFRC in enhancing of reinforced concrete bridge pier	SERB	827000	Dr. S.K. Deb	2years
Dr. A. Kalamdhad	Potential of aerobic digestion (composting) and Anaerobic digestion of kitchen waste	MDWS	2079880	NA	3 yrs

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Dr. A. Kalamdhad	Composition of water Hyacinth using different composition technologies	SERB	1700000	NA	3 yrs
Dr. Ajay Kalamdhad	Biodegradation of pulp and paper mill waste using different composting techniques	SERB	130000	NA	3years
Dr. A. K. Maurya	Dynamic Behavioural Data Collection using an Instrumented Vehicle	SERB	1308000	NA	3 yrs
Dr. A. K. Maurya	Development of Indo-Highway Capacity Manual (HCM)	CSIR	10045000	Dr. Rajan Choudhary	5 yrs
Dr. A.K. Sarma	Urban Flood Hazard Mitigation of Guwahati City by Silt Monitoring and Watershed Modeling	MHRD (TAP)	1000000	Dr.V.Chandramouli, Dr.B.Singh	NA
Dr. A.K. Sarma	GIS based Inventory of Rivers of the Northeastern Region of India	MoEF	2108000	NA	NA
Dr. A.K. Sarma	Event Based Flood Forecasting Model for Flood Hazard Mitigation	AICTE	50000	Dr. Rajib Bhattacharya, NIT Silchar	NA
Dr. A. K. Sarma	A modeling based study towards mitigating Fluoride contamination ha	DST	1325280	NA	NA
Dr. A. Murali Krishna	Sismic Requalification of Geotechnical structure	UKIERI	1452500	NA	2 years duration (pound 20750)
Dr. Bimlesh Kumar	Seepage effect on regime condition of alluvial channel	DST	2400000	NA	36 MONTHS
Dr. Bimlesh Kumar	Resistance characteristics of alluvial channel with mobile bed vegetation	Ministry of Earth Sciences	921360	NA	2years
Dr. B. Singh	Rural Roads Pavement Performance Study	NRRDA	800000		NA
Dr. C. Mahanta	Distribution, Fractionation and Deposition of Phosphorus in the Flood Plain Sediments	MHRD	250000	Dr. V. Chandramouli	NA
Dr. C. Mahanta	Design Bank (GIS based Digital Information System) of traditional handicrafts of the Northeast for their conservation and sustainability focusing on green design	MoT	5635000	Prof. P. M. Puneekar, Prof. A. K. Das, Dr. M. Majhi, Dr. A. Saikia, Dr. S. D. Hazarika	NA
Dr. D. Maity	Design of a Concrete Dam Under Seismic Excitation Considering Fluid Structure Interaction	MHRD	800000		NA
Dr. Gautam Barua	Transient analysis of ditch drainage networks subjected to variable ponding distributions at the surface of the soil	SERB	4031400	Dr. Suresh A. Kartha	3years
Dr. H. B. Kaushik	Evaluation and enhancement of seismic capacity of Assam type housing	DST	3872500	Dr. Sandip Das	3 yrs

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Dr. H. B. Kaushik	Evaluation of a strengthening scheme for unreinforced masonry building using steel bands	SERB	2520000	Dr. K. Mohanty	3years
Dr. H. Sharma	Validation and qualification of structural static/dynamic models for containment structures under impact and reliability based design evaluation	DAE	2337900	NA	3 yrs
Dr. H. Sharma	Performance-Based Probabilistic Capacity Models for Concrete Structures subject to Blast loading	DRDO	2156200	Dr. Hemant B. Kaushik	3 yrs
Dr. K. Dasgupta	Seismic Vulnerability Assessment of Building Tubes in India	NDMA	2520000	NA	1 year 3 months duration
Dr. L. Boeing Singh	Astudy on feasibility of PPPs as mitigation strategy for climate change	HUDCO	1569264	NA	2yrs
Dr. L. Boeing Singh	Procurement Management of PPP Regional Municipal Solid Waste Management Facility at Taloja Maharashtra	PMI	256500	NA	1year
Dr. Mallikarjuna C.	Evaluation of the urban road network in terms of the traffic and road way conditions: a case study of Guwahati	DST	2738164	NA	3 yrs
Dr. M. Jawed	Ganga River Basin Management Plan	MEF	5950000	Dr. A. Kalamdhad, Dr. S. Dutta, Dr. S. A. Kartha, Dr. B. Kumar, Dept. of Civil Engg, Dr. Utpal Bora, Dept. of Biotechnology, Dr. Mrinal Kanti Dutta, HSS, Dr. Ranjan Tamuli, BSBE	2 Date of completion 31.05.2012
Dr. Manish Kumar	Assessment of snowmelt and glacier melt runoff contribution in upstream part of Teesta river catchment using hydrological modeling and field based measurements	SERB	2506000	NA	3years
Dr. Manish Kumar Goyal	Innovation in Sciences Pursuit for Inspired Research	DST	3500000	NA	5years
Dr. Manish Kumar Goyal	An integrated approach for snowmelt hydrological modeling at downstream of Sikkim Glaciers	SERB	2651000 (Revised sanction amount)	Prof. Arup Kr. Sarma	3years
Dr. P.K.Ghosh	Micro - Aerobic Process of Sulfate Reduction to Elemental Sulfur	CSIR	1660000	NA	3 yrs

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Dr. P. K. Ghosh	Development of bioreactor system for simultaneous removal of multi-pollutants such as iron, nitrate, arsenic and fluoride from ground water	MoDW	1408628	NA	3 yrs
Dr. R. Ayothiraman	Seismic Behaviour of Pile Groups in Clay	DST	1068000	NA	NA
Dr. R. Choudhury	Study on lowering of mixing and compaction temperatures of bituminous mixes through warm through warm mix asphalt addition	SERB	5903100	Dr. A K Maurya	3 yrs
Dr. Rajib Kumar Bhattacharjya	Numerical modelling based study for assessing quality of groundwater of Bharalu River Basin of Guwahati	DST	850000	Dr.A. K. Sarma	2years
Dr. S. Das	Sesmic design criteria for RC structures considering Mainshock sequence for Northeastern India	DST	2314614	Dr. H. B. Kaushik	3yrs
Dr. Sharad B. Gokhale	Urban Black Carbon Global Impacts and Local Mitigations	SERB	4910000	NA	3years
Dr. Saswati Chakraborty	Application of amine based for Polymers for removal and recovery of acid azodyes from waste water	CSIR	1176000	NA	3yrs duration
Dr. S. Dutta	Analysis of Water Balance in Rice Agriculture Sysytem Using Distributed Hydrologic Model	SAC, Ahmedabad	2011700	Dr. Sujit Kr. Dutta	NA
Dr. S. Dutta	An Integrated Hydrologic Modeling of the Brahmaputra Valley	DST	734400	NA	NA
Dr. S. Dutta	Water Energy and Sediment Budgeting (WESB) of Subtropical Humid Hilly Watersheds with Altitudinal Variation	ISRO	7793000	NA	NA
Dr. S. Dutta	Technique development for generation probabilistic flood waves of different recurrence periods	Dept. of space	1400000	NA	3yrs
Dr. S. Dutta	Modeling river level variations using satellite altimetry and applications in water resources management	SAC	960000	NA	2yrs
Dr. S. Dutta	Development of hydrological module for different hillslope processes	SAC	1950000	NA	3yrs
Dr. S. K. Deb	Verification Test of a Prototype Base Isolated Two Storeyed RCC Framed Building Subjected to Actual Earthquake	DAE, BRNS	3787000	Dr. Anjan Dutta	NA
Dr. S. K. Deb	National Programme on Earthquake Engineering Education	MHRD	6425000	NA	NA
Dr. S. K. Deb	Studies on Seismic Behavior of Building with Soft First Storey based on Pseudo Dynamic Testing	MHRD (R&D)	1000000	Dr. A. Dutta	NA
Dr. S. K. Deb	Installation of strong motion array in Guwahati for site characterization & instrumentation of multistoreyed building at Guwahati	DST	9637000	Dr. Ashok Kumar, IIT Roorkee	NA
Dr. S. K. Dass	Geocell-Reinforced Sand Foundation on Soft Clay, Behaviour under Cyclic Loading	DST	1164000	NA	NA
Dr. Sreedeeep S	Hydro-Chemical evaluation of bentonite-fly ash as backfill material in near surface hazardous waste disposal facility	DST	4000000	NA	3 yrs



Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Dr. S. Sreedeeep	Design and evaluation of closure cap system for near surface radioactive waste disposal facility	BRNS	2473613	NA	3 yrs
Dr. S. Talukdar	Study of the Performance of Magneto Rheological (MR) Dampers for Mitigation of Wind and Seismic Induced Vibration in Tall Buildings	MHRD (TAT)	1400000	Dr. D. Maity	NA
Dr. T. L. Rynthathiang	Determining the suitability of Assam aggregates of different sources as ingredient for microsurfacing	DST	4221356	Dr. A. Mallikarjuna	3yrs
Dr. T. V. Bharat	Innovation in Science Pursuit for Inspired Research (INSPIRE AWARD)	DST	3500000	NA	5yrs
Dr. V. Chandramouli	Developing a Remote Sensing Laboratory for Better Water Resources Management and Flood Mitigation	MHRD (TAP)	1000000	Dr. B. Singh	NA
Dr. V. Chandramouli	Geographical Information System For Bharalu Watershed of the Brahmaputra River Basin for Flood Control, Mitigation and Water Resources Planning	DST	1163800	Dr. C. Mahanta	NA
Dr. A. Shelke	Structural health monitoring of steel bridge using nonlinear solitary waves	SG-IITG	500000	NA	2yrs
Dr. Ankit Garg	A study on vegetation root water uptake induced surface settlement	IITG	500000	NA	2years
Dr. Abhishek Kumar	Seismic site classification of Guwahati city and development of design response spectra considering detailed in-situ geotechnical and geophysical studies	IITG	500000	NA	2years
Dr. Anil Kr. Mishra	Effect of the salt on the Swelling, Hydraulic and compressibility behavior of Bentonites	SG-IITG	500000	NA	2 yrs
Dr. Archana M Nair	Formation Evaluation of Upper Assam Shelf Basin based on routine core Analysis for reassessment of petroleum reserves	IITG	500000	NA	2yrs
Dr. Budhaditya Hazra	Development of a real-time low cost structural health monitoring system	IITG	500000	NA	2years
Dr. G. Indu Siva Ranjani	Reduction in drying shrinkage of mix formed foam concrete using shrinkage reducing admixtures	IITG	500000	NA	2years
Dr. Hrishikesh Sharma	Reliability Assessment of Seismically Resistant Buildings Subject to Blast Loading	SG-IITG	500000	NA	2 yrs
Dr. Manish Kumar Goyal	Green House gas emission and Carbon Sequestration	SG-IIT	500000	NA	2 yrs
Dr. Sandip Das	Stochastic Simulation of aftershock ground motion and structural safety evaluation considering main shock aftershock sequence	SG-IITG	500000	NA	2 yrs
Dr. Sri Harsha Kota	Studying air quality during Common Wealth Games in 2010 at New Delhi	IITG	500000	NA	2years

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
<b>Computer Science and Engineering</b>					
Santosh Biswas	On line Testing of Complex VLSI Circuits using Failure Detection and Diagnosis Theory of Discrete Event Systems	Meity	124	S Nandi, J. K. Deka	4
<b>Electronics and Electrical Engineering</b>					
Rohit Sinha, (Local PI of Consortium Project)	Speech-based Access of Agricultural Commodity Prices and Weather Information in 11 Indian Languages /Dialects	Deity, Gol	69	S. R. M. Prasanna	Aug 2014 – Mar 2018 (Likely to be extend by another 3 months)
Sakuntala Mahanta	Digital Preservation Analysis and Technology Development of the Languages of the North-East	DIT	203.96	S R M Prasanna	2012-2017
C. Mahanta	Robust Control of a Robotic Manipulator using Sliding Mode Controller	Science and Engineering Research Board (SERB), DST, Govt. of India	15	---	03 Yrs.
R. P. Paily	Design and Implementation of a Blind Assistance System using FPGAs and Sensors	DIT, Govt. of India	70.26	H.B. Nemade and Josephine S.	03 Yrs.
<b>Humanities and Social Sciences</b>					
Rajshree Bedamatta	NPTEL-MOOCs course on Economic Growth and Development	MHRD, CSS	3	NA	6
S. Mallick	Online Video Course on Sociological Perspectives on Modernity	MHRD (under CSS-MOOCs)	6	None	7
<b>Mathematics</b>					
Rupam Barman	Hypergeometric functions, algebraic curves and supercongruences	IITG (Startup Grant)	2.70 Lakh	NA	2 years
<b>Physics</b>					
Bipul Bhuyan	B-Physics at Belle and Belle II experiments at KEK, Japan	DST-SERB	45	-	2015-2018
Gagan Kumar	Plasmonic metamaterials based terahertz guided wave devices	DST	26	-	3 Years
Gagan Kumar	Terahertz active and passive waveguide components using engineered plasmonic metamaterials on semiconductor surfaces	BRNS	21	-	3 Years
D. Pamu	Development of (K,Na)NbO <sub>3</sub> ceramics modified with LiNbO <sub>3</sub> and LiTaO <sub>3</sub> for piezo and pyroelectric sensor applications	BRNS	35	-	3 Years

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Perumal Alagarsamy	Preparation and characterization of nano-sized NiO powders and thin films for spintronic applications	CSIR	~22	-	2015-2018
Perumal Alagarsamy	Laminated magnetic thin films for soft magnetic applications	BRNS	~26.8	Dr. Subhankar Bedanta, NISER, Bhubaneswar	2015-2018
S. Thota	Investigation of Relaxor-like dielectric behavior and the role of extrinsic origins in Zn <sub>1-x</sub> Ni <sub>x</sub> O/NiO two-phase composite.	DST SERB	24.9	-	3 years
S. Thota	Dielectric studies of few disordered complex spinels	DAE-BRNS	20	-	3 years
<b>Centre for Energy</b>					
Dr. Pankaj Kalita	Design and development of a Fluidized Bed Paddy Dryer with waste heat recovery suitable for North-Eastern region of India.	Assam Science Technology & Environment Council	2.7	---	2 years
Dr. Pankaj Kalita	Performance improvement and thermodynamic management of a hybrid solar photovoltaic and thermal system	IIT Guwahati startup project	5	---	2 years
Prof. P. Muthukumar:	Design and development of metal hydride based hydrogen purification system	NTPC	20.2	---	2016-2018
Prof. P. Muthukumar	Energy Auditing in Cadila RAC plants	M/s. Cadila Pharmaceutical	7.935	Dr. R. Anandalakshmi	2017
<b>Centre for the Environment</b>					
Prof. Utpal Bora	Exploration and characterization of Seri-bioresources of North East India for potential textile and non-textile applications	DBT	154.25	NA	2014-2017
Prof. Utpal Bora	Aptamer probes for detection of celiac disease epitopes of gluten in commercial varieties of Indian wheat , rye and barley	DBT	80.35	NA	2014-2017
Prof. V. K. Dubey	Variations in proteome profile of legume plants in response to heavy metal toxicity	DST	23.28	Dr. Anil Verma	2012-2015
Prof. A. K Ghoshal	Assessment of microbial communities and their biodegradation potentials in petroleum hydrocarbon contaminated environments in Assam	DBT	21.8		2013-2016
Dr. Ranjan Tamuli	Molecular investigation of epigenetic modifications caused by environmental pollution using Neurospora crassa as a model system	DBT	55	Prof. Utpal Bora	2013-2016
Prof. M.K.Purkait	Treatment of contaminated drinking water using electrocoagulation technique	DRL, Tezpur (DRDO)	9.72	-	2010-2013

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Prof. A. K Ghoshal	Petroleum Wastewater treatment in packed Bed reactor using suitable Microorganism(s)	CSIR	16	-	2009-2012
Prof. Gopal Das	Synthesis, Characterization of Metal Oxides and Their Application to Wastewater Treatment.	CSIR	16.88	-	2008-2011
<b>Centre for Nanotechnology</b>					
Prof. Arun Chattopadhyay	Newer Chemical and Physical Methods of Engineering Devices with Nanoscale Functional Components	DST	Rs.92 Lakhs	None	5
Prof. Arun Chattopadhyay	Engineering Nanoscale Materials and their Applications in nanotechnology	DST	Rs.2,02Lakhs	None	3
Prof. Arun Chattopadhyay	Novel Nanoscale Materials: Generation, Characterization, and Device Applications	DST	Rs.190.60 Lakhs	A number of faculty members from various departments	3
Prof. Arun Chattopadhyay	Development of Nanoscale Materials for Bacteria Removal from Surface Water	DRL	Rs. 9.98 Lakhs	Prof. S.S.Ghosh	2
Dr.D.Pamuru	Development of pill box type rf window based on AlN ceramic for 3.7 GHz	DAE BRNS	35 Lakhs	Nil	-
Prof. Siddhartha S. Ghosh	Nanoscale materials with therapeutic implications	DBT	Rs.102.62 Lakhs	Prof. A. Chattopadhyay, Dr. A. Ramesh and Dr. B. Bose	3
Prof. Siddhartha S. Ghosh	Novel nanoscale materials targeted towards antimicrobial and anticancer activities.	DBT	169 Lakhs	Prof. A. Chattopadhyay & Dr. Biplab Bose	3
Dr.Dipankar Bandyopadhyay	Design and Development of Intelligent Catalytic Nanobots	DST Nano Mission	43 Lakh	Dr. Tapas K. Mandal	2013-2016
Dr.Dipankar Bandyopadhyay	A computational study on the phase separation induced pattern formation employing ultrathin films	CSIR	16.5 Lakh	N/A	2012-2015
Prof. Pravat K. Giri	Controlled Growth and Studies on Semiconductor Nanowire Heterostructures for Solar Photovoltaic Applications	BRNS	25	--	2012-2015
Prof. Parameswar K. Iyer	Design and development and fabrication of OLED, organic solar cells and organic TFTs based on molecular, polymeric and composite materials	DST, India	649.89 lacs	Dr. Mohd Qureshi, Dr. Deepak Goswami, Prof. A. Srinivasan	5 years
Prof. Dipankar Bandyopadhyay	External Field Driven Flow Induced micro/nano scale Patterning, Mixing, Heat and Mass transfer in micro/nano Fluidic Devices	DST SERB	45 Lakh	Dr. Tapas K. Mandal	2011-2014

Principal Investigator	Project Title	Sponsoring Agency	Amount Sanctioned (Rs. In Lakh)	Co-Investigator	Duration
Prof. Dipankar Bandopadhyay	A combined experimental and theoretical study on the instability and patterning of thin liquid crystal films	DST Fast Track	9.6 Lakh	N/A	2010-2013
Prof. Dipak Kumar Goswami	Fabrication and Characterization of Organic thin film transistor	DST	Rs. 34.60 Lakhs	None	3
Dr. A. Khan	Development of Stimuli Sensitive Nanogels/Nanoparticles for Controlled Release System	DST	Rs. 10 Lakhs	None	3

**PART IV**

**APPENDICES**

**Faculty**

**Officers and Scientific Staff (Group A)**

**Degree Awardees**

**Progress in Construction Works**

**Summary of Institute Accounts**



**Appendix–I****FACULTY****Biosciences and Bioengineering****Professor**

- 1 Bora, U.
- 2 Chaturvedi, R.
- 3 Das, D.
- 4 Dasu, V. V.
- 5 Dubey, V. K. (upto 16.05.2018)
- 6 Ghosh, S. S.
- 7 Goswami, P.
- 8 Goyal, A.
- 9 Pakshirajan, K.
- 10 Patra, S.
- 11 Ramesh, A.
- 12 Rangan, L.
- 13 Sahoo, L.
- 14 Saini, G. K.
- 15 Swaminathan, R.
- 16 Tamuli, R.
- 17 Trivedi, V.

**Associate Professor**

- 1 Baskaran, A.
- 2 Bose, B.
- 3 Chaudhary, N.
- 4 Jaganathan, B. G.
- 5 Kanaujia, S. P.
- 6 Kumar, M.
- 7 Kumar, S.
- 8 Kunnumakkara, A. B.
- 9 Limaye, A. M.
- 10 Mandal, B. B.
- 11 Pandey, L. M.
- 12 Ramakrishnan, V.
- 13 Sivaprakasam, S.

**Assistant Professor**

- 1 Chanda, S. (From 02.05.2017)
- 2 Chandra, P.
- 3 Gupta, C. N.
- 4 Maiti, S. K.
- 5 Nagotu, S.
- 6 Narayanasamy, S. (From 24.04.2017)
- 7 Satpati, P.
- 8 Singh, K. K.
- 9 Thummer, R. P.

**Chemical Engineering****Professor**

- 1 Bandyopadhyay, D.
- 2 Banerjee, T.
- 3 Das, C.
- 4 Ghosh, P.
- 5 Ghoshal, A. K.
- 6 Golder, A. K.
- 7 Goud, V. V.
- 8 Gumma, S.
- 9 Katiyar, V.
- 10 Kishore, N.
- 11 Majumder, S. K.
- 12 Mandal, B.
- 13 Mandal, T. K.
- 14 Mohanty, K.
- 15 Moholkar, V. S.
- 16 Pugazhenth, G.
- 17 Purkait, M. K.
- 18 Saha, P. K.
- 19 Singh, A.
- 20 Uppaluri, R. G. V. S.

**Associate Professor**

- 1 Anandalakshmi, R.
- 2 Dasmahapatra, A. K.
- 3 De, M.
- 4 Gupta, R.
- 5 Katha, A. R.
- 6 Kotecha, P.
- 7 Kumar, A.
- 8 Murugan, S. S.
- 9 Peela, N. R.
- 10 Rajaraman, P. V.
- 11 Tiwari, P.
- 12 Upadhyay, R. K.
- 13 Vairakannu, P.

**Assistant Professor**

- 1 Pattader, P. S. G.
- 2 Suresh Resmi M. P.



**Chemistry****Professor**

- 1 Bag, S. S.
- 2 Baruah, J. B.
- 3 Chattopadhyay, A.
- 4 Das, G.
- 5 Gupta, A. K.
- 6 Iyer, P. K.
- 7 Khan, A. T.
- 8 Krishnamoorthy, G.
- 9 Manivannan, V.
- 10 Mondal, B.
- 11 Panda, A. N.
- 12 Patel, B. K.
- 13 Paul, A.
- 14 Paul, S.
- 15 Punniyamurthy, T.
- 16 Ray, M.
- 17 Saikia, A. K.
- 18 Qureshi, M.

**Associate Professor**

- 1 Biswas, S. P.
- 2 Das, D.
- 3 Dutta, S.
- 4 Jana, C. K.
- 5 Kundu, L. M.
- 6 Mandal, B.
- 7 Manna, D.
- 8 Mukherjee, C.
- 9 Pan, S. C.
- 10 Sahu, K.
- 11 Sarma, M.
- 12 Sastri, C. V.
- 13 Sudhakar, A. A.

**Assistant Professor**

- 1 Bhabak, K. P.
- 2 Chatterjee, S.
- 3 Das, A.
- 4 Kancharla, P. K.
- 5 Mahata, K.
- 6 Manna, U.
- 7 Raidongia, K.
- 8 Seetharam, A. K. A.
- 9 Srimani, D.

**Civil Engineering****Professor**

- 1 Barua, G.
- 2 Bhattacharjya, R. K.
- 3 Chakraborty, S.
- 4 Choudhury, R.
- 5 Deb, S. K.
- 6 Dutta, A.
- 7 Dutta, S.

- 8 Ghosh, P. K.
- 9 Gokhale, S. B.
- 10 Jawed, M.
- 11 Kalamdhad, A.
- 12 Kaushik, H. B.
- 13 Mahanta, C.
- 14 Mallikarjuna, C.
- 15 Pradhan, B.
- 16 Ryntathieng, T. L.
- 17 Sarma, A. K.
- 18 Sekharan, S.
- 19 Singh, A. K.
- 20 Singh, B.
- 21 Singh, K. D.
- 22 Talukdar, S.

**Associate Professor**

- 1 Bharat, T. V.
- 2 Chakraborty, A.
- 3 Dasgupta, K.
- 4 Dey, A.
- 5 Hazra, B.
- 6 Kartha, S. A.
- 7 Krishna, A. M.
- 8 Kumar, A.
- 9 Kumar, B.
- 10 Maurya, A. K.
- 11 Mishra, A. K.
- 12 Pekkatt, S.
- 13 Singh, L. B.

**Assistant Professor**

- 1 Bharati, R.
- 2 Das, S.
- 3 Dashora, A.
- 4 K., Ravi
- 5 Kota, H. S. (upto 09.05.2018)
- 6 Nair, A. M.
- 7 Ranjani, G. I. S.
- 8 Sarma, H.
- 9 Shelke, A.
- 10 Siddagangaiah, A. K.

**Computer Science and Engineering  
Professor**

- 1 Barua, G.
- 2 Bhaduri, P.
- 3 Das, P. K.
- 4 Deka, J. K.
- 5 Goswami, D.
- 6 Kapoor, H. K.
- 7 Malhotra, V. M. (upto 07.12.2018)
- 8 Nair, S. B.
- 9 Nandi, S.
- 10 Rao, S. V.
- 11 Sajith, G.

**Associate Professor**

- 1 Anand, A.
- 2 Bhattacharya, S.
- 3 Biswas, S.
- 4 Inkulu, R.
- 5 Karmakar, S.
- 6 Mitra, P.
- 7 Sahu, A.
- 8 Saradhi, V. V.
- 9 Sarkar, A.
- 10 Singh, S. R.
- 11 Sur, A.
- 12 Venkatesh, T.

**Assistant Professor**

- 1 Awekar, A. C.
- 2 Baruah, R. D.
- 3 Jose, J.
- 4 Karfa, C.
- 5 Kenkireth, B. G.
- 6 Kesh, D.
- 7 Khatua, M.(from 21.05.2018)
- 8 Patra, M.(from 14.05.2018)

**Design****Professor**

- 1 Barua, U.
- 2 Chakrabarti, D.
- 3 Das, A. K.
- 4 Puneekar, R. M.
- 5 Yammiyavar, P. G.

**Associate Professor**

- 1 Kalita, P. C.
- 2 Karmakar, S.
- 3 Kumar, D. U.
- 4 Majhi, M.
- 5 Sorathia, K. B.

**Assistant Professor**

- 1 Banerjee, S.
- 2 Das, S.
- 3 Dhar, Debayan
- 4 Gokhale, S. M.
- 5 Iqbal, S.
- 6 Madhukailya, M.
- 7 Monga, C.
- 8 Pal, S. (upto 04.10.2018)
- 9 Salve, U. R.
- 10 Shinde, A. (17.09.2018)
- 11 Singh, A.
- 12 Srivastava, A.
- 13 Upadhyay, P.

**Visiting Faculty**

- 1 Baruah, Nikhilesh

**Electronics and Electrical Engineering  
Professor**

- 1 Ahamed, S. R.
- 2 Bhattacharjee, R.
- 3 Bhuyan, M. K.
- 4 Bora, P. K.
- 5 Bose, S. K.
- 6 Dandapat, S.
- 7 Gogoi, A. K. (upto 31.05.2018)
- 8 Kumar, P.
- 9 Mahanta, C.
- 10 Majhi, S.
- 11 Nemade, H. B.
- 12 Palathinkal, R. P.
- 13 Prasanna, S. R. M.
- 14 Singh, K. R.
- 15 Sinha, R.

**Associate Professor**

- 1 Chouhan, S.
- 2 Jacob, T.
- 3 Kar, I.
- 4 Karthik, K.
- 5 Nayak, S. K.
- 6 Rajesh, A.
- 7 Sundaram, S.
- 8 Tripathy, P.
- 9 Trivedi, G.

**Assistant Professor**

- 1 Adda, R.
- 2 Agarwal, Satyam (upto 14.08.2018)
- 3 Arrawatia, Mahima
- 4 Das, S.
- 5 Dhaka, K.
- 6 Ganguly, S.
- 7 Guha, P.
- 8 Kashyap, S.
- 9 Krishnaswamy, S.
- 10 Kulkarni, R. D.
- 11 Kumar, C.
- 12 Mallajosyula, A. T.
- 13 Nallam, N.
- 14 Nath, S.
- 15 Rai, B. K.
- 16 Ribhu
- 17 Sekhawat, H. S.
- 18 Sikdar, D.
- 19 Sonkar, R. K.

**Humanities and Social Sciences****Professor**

- 1 Barua, A.
- 2 Borbora, S.
- 3 Das, L.
- 4 Dutta, M. K.

- 5 Puneekar, R. M.
- 6 Saikia, A.
- 7 Sharma, N. K. (upto 11.07.2018)
- 8 Tripathi, N.

**Associate Professor**

- 1 Barua, A.
- 2 Bedamatta, R.
- 3 Das, D.
- 4 Hussain, D
- 5 Kashyap, N.
- 6 Mahanta, S.
- 7 Mallick, S.
- 8 Ray, S.
- 9 Saikia, Pahi
- 10 Sarmah, P.
- 11 Sengupta, B.
- 12 Sharma, S.
- 13 Som, B.
- 14 Venkataraman, P.

**Assistant Professor**

- 1 Basu, D.
- 2 Dutta, V.
- 3 Jairath, V.
- 4 Jha, M. K.
- 5 Keshavamurthy, K.
- 6 Khanolkar, P.
- 7 Kipgen, N.
- 8 Mahanta, A.
- 9 Parmar, D. C.
- 10 Ranjan, R.
- 11 Roychoudhuri, R.
- 12 Sarkar, A.
- 13 Thomas, J.

**Mathematics**

**Professor**

- 1 Alam, R.
- 2 Bora, S.
- 3 Bora, S. N.
- 4 Dalal, D. C.
- 5 Kalita, J. C.
- 6 Kapoor, K.
- 7 Krishna, K. V.
- 8 Pati, S.
- 9 Prasad, M. G. P.
- 10 Saikia, A.
- 11 Sarma, B. K.
- 12 Selvaraju, N.
- 13 Sinha, R. K.
- 14 Srinivasan, N.

**Associate Professor**

- 1 Barman, R.

- 2 Bhattacharjya, B.
- 3 Chakrabarty, S. P.
- 4 Das, G. K.
- 5 Deka, B.
- 6 Dey, A. K.
- 7 Mandal, P. S.
- 8 Sairam, A. S.
- 9 Swain, J.
- 10 Wagh, V. V.

**Assistant Professor**

- 1 Bandyopadhyay, S.
- 2 Chakrabarty, A. K.
- 3 Chattopadhyay, A.
- 4 Dutta, S.
- 5 Ganguly, A.
- 6 Kamal, S.
- 7 Kenettinkara, S. K.
- 8 Kumar, P.
- 9 Palaparthi, A. S. S. K.
- 10 Pal, C.
- 11 Ramesh, H.
- 12 Saha, S.
- 13 Srikanth, K. V.
- 14 Srivastava, R. K.
- 15 Tiwari, S.
- 16 Upadhyay, S.

**Mechanical Engineering**

**Professor**

- 1 Biswas, G. (Director)
- 2 Chakraborty, D.
- 3 Dass, A. K.
- 4 Dixit, U. S.
- 5 Dwivedy, S. K.
- 6 Hazarika, S. M. (From 16.05.2017)
- 7 Kakoty, S. K.
- 8 Kanagaraj, S.
- 9 Mahanta, P.
- 10 Murthy, K. S. R. K.
- 11 Muthukumar, P.
- 12 Pandey, M.
- 13 Robi, P. S.
- 14 Saha, U. K.
- 15 Sahasrabudhe, A. D.
- 16 Sahoo, N.
- 17 Senthilvelan, S.
- 18 Tiwari, R.

**Associate Professor**

- 1 Bag, S.
- 2 Bandopadhyay, D.
- 3 Banerjee, A.
- 4 Basu, D. N.
- 5 Biswas, P.

- 6 Dalal, A.
- 7 Das, M.
- 8 De, A. K.
- 9 Joshi, S. N.
- 10 Kalita, K.
- 11 Kore, S. D. (upto 09.05.2018)
- 12 Kulkarni, V. N.
- 13 Kumari, P.
- 14 Narayanan, R. G.
- 15 Natarajan, G. (upto 20.12.2018)
- 16 Pal, S.
- 17 Panda, S.
- 18 R., Sangamesh Deepak (upto 30.05.2018)
- 19 Sharma, D.

#### **Assistant Professor**

- 1 Basireddy, S. R. (from 17.12.2018)
- 2 Gautam, S. S.
- 3 Gavara, M. R.
- 4 Kapil, S. (from 03.12.2018)
- 5 Khanikar, P.
- 6 Kumar, B.
- 7 Manadal, P. K.
- 8 Mehta, B. (upto 20.02.2019)
- 9 Muthu, N. (From 22.05.2017)
- 10 Nandy, A. K. (From 28.06.2017)
- 11 Reddy, A. N. (expired on 03.06.2018)
- 12 Shankar, M. R. (upto 16.01.2019)

#### **Physics**

##### **Professor**

- 1 Agarwal, P.
- 2 Ahluwalia, D. V.
- 3 Alagarsamy, P.
- 4 Basu, S.
- 5 Bhuyan, B.
- 6 Boruah, B. R.
- 7 Ghosh, S.
- 8 Giri, P. K.
- 9 Khare, A.
- 10 Khijwania, S. K.
- 11 Padmanabhan, P. K.
- 12 Pal, D.
- 13 Poullose, P.
- 14 Ravi, S.
- 15 Santra, S. B.
- 16 Sarma, A. K.
- 17 Setlur, G. S.
- 18 Srinivasan, A.

#### **Associate Professor**

- 1 Das, S.
- 2 Dey, T. N.
- 3 Kadolkar, C. Y.
- 4 Kumar, G.
- 5 Nandy, M. K.
- 6 Pamu, D.
- 7 Sharma, A. K.
- 8 Sil, A.
- 9 Thota, S.

#### **Assistant Professor**

- 1 Bhattacharya, S.
- 2 Borah, D.
- 3 Chakrabarti, S. K.
- 4 Chakraborty, S.
- 5 Kumar, M. C.
- 6 Maiti, U. N.
- 7 Maity, D.
- 8 Majhi, B. R.
- 9 Mishra, P. K.
- 10 Mishra, T.
- 11 Nandi, S.
- 12 Pandey, K.
- 13 Raha, U.

#### **Centre for Energy**

##### **Assistant Professor**

- 1 Chaturvedi, H.
- 2 Kalita, P.

#### **Centre for Linguistic Science and Technology**

##### **Visiting Faculty**

- 1 Samudravijaya, K.

#### **Centre for Rural Technology**

##### **Associate Professor**

- 1 Mitra, S.

##### **Assistant Professor**

- 1 Singha, S.
- 2 Khwairakpam, M.

# OFFICERS AND SCIENTIFIC STAFF (GROUP A)

## Officers (Group A)

Name	Designation	Dept./Section
Das, U. C.	Registrar	
Bhuyan, K.	Joint Registrar	Establishment and QIP
Boro, D.	Joint Registrar	PIO & EO-cum-SRC
Goswami, D. J.	Joint Registrar	Administration
Hazarika, P.	Joint Registrar	Finance and Accounts
Sharma, D.	Joint Registrar	R&D
Haokip, T. T.	Deputy Registrar	S&P
Boishya, D. L.	Assistant Registrar	Finance and Accounts
Borgohain, P.	Assistant Registrar	Faculty Affairs
Choudhury, S.	Assistant Registrar	Establishment
Das, G.	Assistant Registrar	Medical & QIP
Das, K. C.	Assistant Registrar	Admn. (Recruitment)
Dutta, D. J.	Assistant Registrar	Internal Audit
Kakati, M.	Assistant Registrar	Students' Affairs
Konwar, L. K.	Assistant Registrar	Public Relations
Mandal, S. (On Deputation)	Assistant Registrar	R&D
Phukan, A.	Assistant Registrar	Director's Office
Salhotra, N. D.	Assistant Registrar	Legal Cell
Shynret, A. W.	Assistant Registrar	AA&ER
Singh, T. J.	Superintending Engineer (Civil)	Engineering Section
Bhagawati, D. (up to 31.12.2018)	Exe. Engineer (Elect.)	Engineering Section
Roy, N.	Addl. Superintending Engineer	Engineering Section
Gogoi, A. K.	Executive Engineer	Engineering Section
Barman, K.	Asst. Exe. Eng. (Elect.)	Engineering Section
Bhattacharjee, S.	Asst. Exe. Eng. (Civil)	Engineering Section
Choudhury, B.	Asst. Exe. Eng. (Civil)	Engineering Section
Dutta, D.	Asst. Exe. Eng. (Civil)	Engineering Section
Sarma, N. K.	Asst. Exe. Eng. (Civil)	Engineering Section

Senapati, S.	Asst. Exe. Eng. (Elect.)	Engineering Section
Guha, T. K.	Librarian	LNB Central Library
Deka, S. K.	Assistant Librarian	LNB Central Library
Rajbangshi, R. K.	Assistant Librarian	LNB Central Library
Borthakur, M.	Chief Medical Officer (SAG)	Medical
Barua, L.	Chief Medical Officer (NFSG)	Medical
Baruah, A. K.	Chief Medical Officer (NFSG)	Medical
Majumdar, Surojit	Medical Officer	Medical
Sarmah, Pallabi	Medical Officer	Medical
Gohain, B. B.	Sr. Security Officer	Security

### Scientific Staff (Group A)

Name	Designation	Department/Centre
Das, S.	Sr. Technical Officer	Electronics and Electrical Engineering
Dutta, P. K.	Sr. Technical Officer	Computer and Communication Centre
Sharma, L. N.	Sr. Technical Officer	Electronics and Electrical Engineering
Acharyya, K.	Technical Officer Gr. I	Nanotechnology
Barbora, L.	Technical Officer Gr. I	Centre for Energy
Borah, B.	Technical Officer Gr. I	Computer Science and Engineering
Borah, M. M.	Technical Officer Gr. I	Computer and Communication Centre
Borgohain, C.	Technical Officer Gr. I	Central Instruments Facility
Borsaikia, A. C.	Technical Officer Gr. I	Civil Engineering
Das, B.	Technical Officer Gr. I	Chemistry
Das, M. P.	Technical Officer Gr. I	Electronics and Electrical Engineering
Das, P.	Technical Officer Gr. I	Nanotechnology
Das, S.	Technical Officer Gr. I	Computer and Communication Centre
Deka, D.	Technical Officer Gr. I	Centre for the Environment
Ghosh, J. K.	Technical Officer Gr. I	Computer and Communication Centre
Inam, I.	Technical Officer Gr. I	Computer and Communication Centre
Islam, J.	Technical Officer Gr. I	Computer and Communication Centre
Kachari, N. A.	Technical Officer Gr. I	Computer Science and Engineering
Kalita, R.	Technical Officer Gr. I	Chemical Engineering
Paul, P.	Technical Officer Gr. I	Mechanical Engineering
S. Josephine	Technical Officer Gr. I	Electronics and Electrical Engineering
Saikia, G. K.	Technical Officer Gr. I	Computer and Communication Centre
Saikia, J.	Technical Officer Gr. I	Civil Engineering
Saikia, R.	Technical Officer Gr. I	Mechanical Engineering
Sarma, S.	Technical Officer Gr. I	Physics
Senapati, K. K.	Technical Officer Gr. I	Central Instruments Facility

Barik A.	Technical Officer Gr. II	Computer and Communication Centre
Baruah, A. M.	Technical Officer Gr. II	Chemistry
Baruah, D.	Technical Officer Gr. II	Centre for Energy
Barua, P. B.	Technical Officer Gr. II	Electronics and Electrical Engineering
Biswanath, H.	Technical Officer Gr. II	Chemical Engineering
Bora, C. B. (up to 21.12.2018)	Technical Officer Gr. II	Centre for Educational Technology
Bordoloi, D.	Technical Officer Gr. II	Mechanical Engineering
Chhetry, G.	Technical Officer Gr. II	Nanotechnology
Das, S.	Technical Officer Gr. II	Nanotechnology
Gogoi, D.	Technical Officer Gr. II	Central Instruments Facility
Kakati, J.	Technical Officer Gr. II	Mechanical Engineering
Kalita, A.	Technical Officer Gr. II	Physics
Kalita, K.	Technical Officer Gr. II	Civil Engineering
Kalita, S.	Technical Officer Gr. II	Civil Engineering
Kumar, P	Technical Officer Gr. II	Chemical Engineering
Pathak, D.	Technical Officer Gr. II	Computer and Communication Centre
Purkayastha, B. B.	Technical Officer Gr. II	Physics
Saikia, D.	Technical Officer Gr. II	Computer and Communication Centre
Sarma, A.	Technical Officer Gr. II	Electronics and Electrical Engineering
Sevda, S.	Technical Officer Gr. II	Biosciences and Bioengineering
Sharma, H.	Technical Officer Gr. II	Design
Tamuli, B.	Technical Officer Gr. II	Design
Dutta, R. C.	Asst. Physical Education Officer	Gymkhana
Saikia, D.	Asst. Physical Education Officer	Gymkhana
Das, N. K.	Asst. Workshop Supdt.	Mechanical Engineering
Das, N.	Students' Counsellor	Students' Affairs
Chowdhury, P. B.	Students' Counsellor	Students' Affairs
Rynjah, N. N.	Students' Counsellor	Students' Affairs

## Appendix–III

# DEGREE AWARDEES

In the 20th Convocation held on 25 June 2018, a total number of 1450 students received their BTech, BDes, MA, MSc, MTech, MDes, MS(R) and PhD degrees as given below:

Programme	Degree Awarded
<b>BTech/BDes</b>	
Biotechnology	40
Chemical Engineering	58
Chemical Science and Technology	35
Civil Engineering	53
Computer Science and Engineering	85
Design	45
Electronics and Communication Engineering	84
Electronics and Electrical Engineering	44
Engineering Physics	46
Mathematics and Computing	55
Mechanical Engineering	84
<b>Total</b>	<b>629</b>
<b>MSc</b>	
Chemistry	50
Mathematics and Computing	44
Physics	46
<b>Total</b>	<b>140</b>
<b>MA</b>	
Development Studies	26
<b>Total</b>	<b>26</b>

Programme	Degree Awarded
<b>MTech/MDes</b>	
Biotechnology	35
Chemical Engineering	48
Civil Engineering	83
Computer Science and Engineering	41
Design	24
Electronics and Electrical Engineering	59
Mechanical Engineering	116
Rural Technology	6
<b>Total</b>	<b>412</b>
<b>MS(R)</b>	
Centre for Energy	<b>11</b>
<b>Total</b>	<b>11</b>
<b>PhD</b>	
Biosciences and Bioengineering	20
Chemistry	28
Chemical Engineering	25
Civil Engineering	24
Computer Science and Engineering	10
Design	9
Electronics and Electrical Engineering	29
Humanities and Social Sciences	20
Mechanical Engineering	25
Mathematics	9
Physics	21
Centre for Energy	3
Centre for the Environment	2
Centre for Nanotechnology	7
<b>Total</b>	<b>232</b>
<b>Grand Total</b>	<b>1450</b>



**Gold and Silver Medalists**

**President of India Gold Medal**

Abheek Ghosh  
BTech (Mathematics and Computing)

Silver Medals  
Sangana Abhiram  
BTech (Computer Science and Engineering)

N Hariharan  
BTech (Electronics and Communication Engineering)

Gaurav Agrawal  
BTech (Mechanical Engineering)

Kumar Shubham  
BTech (Civil Engineering)

Smriti Priya  
BTech (Biotechnology)

Abhigyan Malviya  
BTech (Chemical Engineering)

Saumitra Sharma  
BTech (Electronics and Electrical Engineering)

Ambikesh Gupta  
BTech (Engineering Physics)

Chinmay Singhal  
BTech (Chemical Science and Technology)

Mayank Shubhankar  
BDes (Design)

Arnob Kumar Ghosh  
MSc (Physics)

Angshuman Das  
MSc (Chemistry)

Tanmoy Bera  
MSc (Mathematics and Computing)

Meledathu Thomas Kuriakose  
MA (Development Studies)

**Dr. Shankar Dayal Sharma Gold Medal**

Sujeet Saurav  
BTech (Chemical Science and Technology)

**List of students who have fulfilled the requirements for award of B.Tech. degree in Computer Science and Engineering**

Sl. No	Roll No	Name
1.	140101001	ABHINAV PRINCE
2.	140101002	ABHINAV SINGH
3.	140101003	ABHISHEK KUMAR
4.	140101004	ABHISHEK TYAGI
5.	140101005	ABHISHEK YADAV
6.	140101007	AKASH RAKHEJA
7.	140101008	AMOGH SHANKAR GUPTA
8.	140101009	ANEESH BARTHAKUR
9.	140101010	ANKIT KUMAR
10.	140101011	ARPAN INDORA
11.	140101013	BETHA YASHWANTH KUMAR
12.	140101014	BODDEDA KARTHIK SAI PAVAN
13.	140101015	CHELIMILLA MAHESH KUMAR
14.	140101016	CHETNA WARKADE
15.	140101017	CHINANGSHUK ROY
16.	140101018	DARSHIT D PATEL
17.	140101020	DATIR VIVEK PRABHAKAR
18.	140101021	DOGGA V GEORGE
19.	140101022	GAURAV ANAND
20.	140101023	GAURAV MANCHANDA
21.	140101024	GEETESH SAIKAMAL TABJUL
22.	140101025	GOTTAPU SRAVAN KUMAR
23.	140101026	HARSHIT RAI
24.	140101027	HEMANTH GANDHAM
25.	140101028	HRITIK JAIN
26.	140101029	JAGJOT SINGH CHHABRA
27.	140101030	JAYESH MATHUR
28.	140101031	KAMAL KISHORE JAIN
29.	140101032	KRISHNA ROHILA
30.	140101034	KULDEEP SINGH PAREWA
31.	140101036	MACHAVARAM HEMANTH KUMAR VENKATA
32.	140101037	MALOTH TEJA
33.	140101038	MANISH KUMAR REGAR
34.	140101039	MAULIK PATNI
35.	140101040	MEHUL SAWARKAR
36.	140101041	MOHD IMRAN
37.	140101042	MUDIT AGRAWAL
38.	140101043	N RAJESH
39.	140101044	NILESH VAISHNAV
40.	140101045	NITISH GARG
41.	140101046	PALLAGANI LIKHITH
42.	140101047	PANDYA KEVIN SNEHAL
43.	140101048	PARITOSH MITTAL
44.	140101049	PRAKHAR GAJBHIYE
45.	140101051	PRASHANT GUDIPUDI
46.	140101052	PRATEEK VIJ
47.	140101053	RAHUL KANT
48.	140101054	RAHUL RAJ GUPTA
49.	140101055	RAHUL RANJAN
50.	140101057	RAJAN GARG

51.	140101058	RISHABH SHARMA	15.	140102019	D ROSHAN
52.	140101059	RITVIK RAWAT	16.	140102020	DEEPAK KUMAR
53.	140101060	SAGAR MANCHANDA	17.	140102021	DHAMMARATNA SUKHADEVE
54.	140101061	SAGAR ROY PRODHAN	18.	140102022	DHANIREDDY SAI CHARAN REDDY
55.	140101062	SAHIL SHARMA	19.	140102023	DIPTOPAL ROY
56.	140101063	SAMBHAV KOTHARI	20.	140102024	HEMANT KUMAR
57.	140101064	SANDEEP KUMAR MARKANDE	21.	140102025	K VIGNESH
58.	140101065	SANGANA ABHIRAM	22.	140102026	KARTHIK RAMAN
59.	140101066	SAURABH BATRA	23.	140102027	KOMANDLA ADITYA
60.	140101067	SHAH HET JAGESHKUMAR	24.	140102029	KUNAL GAUTAM
61.	140101069	SHIRSHAK KUMAR	25.	140102030	MANAMALA SREE CHARAN
62.	140101070	SHIVAM SHAKTI	26.	140102031	MANIGALA RAHUL KUMAR REDDY
63.	140101071	SIDDHARTH KHABIA	27.	140102033	MEESALA TARAKA SIVA SATYA VENKATESH
64.	140101072	SUBHAM GUPTA	28.	140102034	MENDHE PRASHIK ARVIND
65.	140101073	SUNIL KUMAR	29.	140102035	MURALI KRISHNA SANNIDI
66.	140101074	SURAJ KUMAR JHA	30.	140102037	NAMBULA NAVEENDRA.
67.	140101076	UGARE SHUBHAM DIPAK	31.	140102038	NIKHIL N
68.	140101077	VAMSI KRISHNA HEMADRIHOTLA	32.	140102039	NISHANT RAUT
69.	140101078	VISHAL KUMAR	33.	140102041	POLNATI HIMA SAI KISHOR
70.	140101079	VISTAAR JUNEJA	34.	140102042	POTHUKUCHI SAKETH
71.	140101080	YASH POTE	35.	140102043	PRASHIK RAUT
72.	140101081	ANISH V MONSY	36.	140102044	PULLETI SAI ADITYA
73.	140101082	MANOJ GHUHAN A	37.	140102045	RAHUL KUMAR GUPTA
74.	140101083	YADALA NIKHIL	38.	140102046	RAVINUTHALA SATYA SAI TEJA
75.	140101084	UPPINDER SINGH CHUGH	39.	140102047	RISHAV AGARWAL
76.	140101085	SOUMIK MUKHOPADHYAY	40.	140102048	RISHAV KARKI
77.	140101086	RISHAV CHOURASIA	41.	140102049	RITWIK VATSYAYAN
78.	140101087	MANISH KUMAR DASH	42.	140102050	S K VAIBHAV KODAVATI
79.	140101088	SAMBHAV KUMAR DASH	43.	140102051	SABELLA YUGANDHARA SANTOSH KUMAR REDDY
80.	10010128	KARAM VINOD KUMAR	44.	140102052	SALLA NIKHIL KUMAR
81.	120101078	VENKATESH NAGARAJU	45.	140102054	SAMIR PANDIT
82.	130101002	ABHISHEK KUMAR	46.	140102055	SETTIPALLI PANCHAJANYA VIKRANTH
83.	130101052	NARENDRA CHOUDHARY	47.	140102058	SHUUBHAM OJHA
84.	130101068	SAIKAT BISWAS	48.	140102059	SINDHU MADICHERLA
85.	130101078	VAS ALPESHKUMAR RANABHAI	49.	140102060	SUNIL KUMAR BALLA

**List of students who have fulfilled the requirements for award of B.Tech. degree in Electronics and Communication Engineering**

Sl. No	Roll No	Name
1.	140102001	ACHIN JAIN
2.	140102002	ADITYA SHEKHAR
3.	140102004	ALIKANTI AKSHAY
4.	140102005	AMAN DALMIA
5.	140102007	ANKIT CHAHAR
6.	140102008	ARPAN VYAS
7.	140102009	AYYANKI AKHIL
8.	140102010	B HARSHITH SAI
9.	140102011	BANDLAMUDI TEJASWINI
10.	140102012	BANOTHU PRAVEEN
11.	140102013	BEDEKAR NANDAN MILIND
12.	140102015	BOLLA SATYA VENKATA SAI CHANDRAHASA
13.	140102016	CHANDRIMA MRIDHA
14.	140102017	CHENNURU NARAYANA
55.	140102068	VARSHEEKA MARIA DAVID
56.	140102069	VENGADA DIVYA TEJASWINI
57.	140102070	VISHAL SINGH
58.	140102071	Y SRIKAR
59.	140102072	YELLA REDDY SUSHANTH REDDY
60.	140102073	YERUNKAR TANMAY BHAGWAN
61.	140102074	JAYA SINGH
62.	140102075	SPOORTHY BHAT
63.	140102076	N HARIHARAN
64.	140102078	GODBOLE AMEYA PRADEEP
65.	140102079	APRAJIT CHOUBEY
66.	140102080	NIKHIL MENGHRAJANI
67.	140102081	ANMOL NIJHAWAN

68.	140102082	ATHUL R	34.	140103040	MAYANK SHAH
69.	140102083	SHUBHAM GUPTA	35.	140103041	MRIDUL GUPTA
70.	08010224	LELLAPALLI VINOD KUMAR	36.	140103042	MRINAL GUPTA
71.	10010236	PALIVELA MANI DEEP	37.	140103044	P ANIRUDH REDDY
72.	11010222	CHITIKELA CHAITANYA GIRI	38.	140103045	PANDHARE SANKET VIJAY
73.	120102027	GYANESHWAR KUMAR AMAR	39.	140103046	PARV TIWARI
74.	130102011	ARUGULA SWAROOP RAJ	40.	140103047	PERUR RAMASANTHOSH KUMAR REDDY
75.	130102016	CHIKKANDRU SAI PAVAN	41.	140103048	PIMPALKAR AKSHAY MANOJ
76.	130102036	MAILA RAJANIKANTH	42.	140103049	PORIKA LIKHITH RAJ
77.	130102038	MOHAMMAD FAIZAL	43.	140103050	PRAJWAL JAIN
78.	130102043	NAVEEN SAGAR	44.	140103052	PRASOON RAURAHA
79.	130102047	PANKAJ MEENA	45.	140103053	PRAVEEN KUMAR JANGID
80.	130102051	RAGHURAM K	46.	140103054	PRAVIN KUMAR
81.	130102060	SAURABH PRAKASH	47.	140103055	PUNEET KUMAR
82.	130102061	SHANTAM RAJ	48.	140103058	SACHIN DEV
83.	130102065	SHUBHAM GAURAV	49.	140103059	SAMATHAM VEERA NAGA SIVA KUMAR
84.	130102067	SUHAS REPALLY	50.	140103061	SANDULA AJAY KUMAR

**List of students who have fulfilled the requirements for award of B.Tech. degree in Mechanical Engineering**

Sl. No	Roll No	Name	Sl. No	Roll No	Name
1.	140103001	AAYUSH SAHAY	51.	140103062	SAWARKAR VIVEK HEMRAJ
2.	140103002	ABHI RAJ	52.	140103063	SHIVAM KUMAR
3.	140103003	ADISH JAIN	53.	140103065	SHUBHAM GUPTA
4.	140103004	ADITYA PARASHAR	54.	140103066	SHUBHAM PIPPAL
5.	140103005	AJAY KUMAR	55.	140103067	SIMANTA BAISHYA
6.	140103006	AJAY MOHAN MEENA	56.	140103068	SNEHIL VAIDH
7.	140103007	AMAN SAXENA	57.	140103069	SOLANKI PRITHIVIRAJ KANUBHAI
8.	140103010	AMIT KABI	58.	140103070	SRIKRISHNA VANAM
9.	140103011	ANGSHUMAN DAS	59.	140103072	SYED ZAHEER BASHA
10.	140103012	ANICODE GANESHAN GOUTHAM	60.	140103073	UDAY PANDEY
11.	140103013	ANNAM YACHENDRA VENKATA SUBBA RAO	61.	140103074	UGHADE AKSHIT ASHOK
12.	140103015	ARVIND KUMAR	62.	140103075	VAIDYA UJJAIN PURUSHOTTAM
13.	140103016	BHAIJU PANGING	63.	140103076	VIKAS KUMAR
14.	140103017	PRANAY RAI A DASARI	64.	140103078	VINAY JYANI
15.	140103018	DHARMENDRA CHOUDHARY	65.	140103079	VISHNU VISHAL
16.	140103019	GADDE GAGANTHEJA	66.	140103080	WAGHMODE AVDHOT SHARAD
17.	140103020	GAJRAJ SINGH JODHA	67.	140103081	WAKAR AHEMAD KHAN
18.	140103022	GAUDI SACHIT	68.	140103082	SHASHWAT SRIVASTAVA
19.	140103023	GAURAV AGRAWAL	69.	140103083	SIDDHARTHA RAJ
20.	140103024	HARSH CHAUHAN	70.	140103084	SUWESH KUMAR
21.	140103025	HITANSH SINGHAL	71.	140103085	NAVEEN KUMAR TRIPATHI
22.	140103026	JITHIN KRISHNAN B	72.	140103086	DINESH MAKKAR
23.	140103027	KANDALKAR SWAPNIL SARJERAO	73.	08010310	BANDILA NEWTON
24.	140103028	KANDIKATLA RAJESH	74.	11010357	SARAGADAM SAI PRASANNA KUMAR
25.	140103030	KRISHNA MOHAN	75.	11010360	SETHIA AYUSH SHANTILAL
26.	140103031	ADITYA KUMAR	76.	120103026	BHUKYA VIJAYKUMAR
27.	140103032	KUMBAM CHARASMAI	77.	120103043	NAGISETTI PAVAN TEJA
28.	140103033	KUNAPULI SIVA SAI SANTHOSH	78.	130103014	ASHISH KUMAR MEENA
29.	140103034	KUTE VIKAS DNYANESHVAR	79.	130103018	AVIKSHIT PRATAP
30.	140103035	LOKESH NANDAL	80.	130103026	DIVYANSHU KUMAR
31.	140103036	MAHESH YOGI	81.	130103030	GAURAV KUMAR
32.	140103038	MATISHWAR SINGH	82.	130103039	KISHOR MALAKAR
33.	140103039	MAYANK	83.	130103040	LALIT YOGI
			84.	130103045	MD FAIYAZ ALAM

**List of students who have fulfilled the requirements for award of B.Tech. degree in Civil Engineering**

Sl. No	Roll No	Name
1.	140104002	ABHAY PAL SINGH
2.	140104005	AKASH CHOUKSEY
3.	140104006	AKASH GUPTA
4.	140104007	AMAR KUMAR
5.	140104010	AMRINDER SINGH
6.	140104014	ARYAMAN
7.	140104015	AVNISH NANDA
8.	140104016	B GANGADHAR
9.	140104018	BHASWATA SAIKIA
10.	140104024	DHOBAL ARPIT ARUN
11.	140104026	GAURAV VERMA
12.	140104027	GORAKHNATH NIGAM
13.	140104028	HARBANS SINGH
14.	140104029	HARI RAM MALI
15.	140104031	HEMANT KUMAR
16.	140104032	HEMANT VERMA
17.	140104033	HIMANSHU KUMAR
18.	140104035	INDU PRIYA M
19.	140104038	KUMAR SHUBHAM
20.	140104041	MEGHANA MIRIYALA
21.	140104042	MOHIT PRAKASH
22.	140104045	NIVESH ARON
23.	140104047	PARAG SANTLANI
24.	140104049	PRABHAT KUMAR VERMA
25.	140104050	PRASHANT KUMAR SHARMA
26.	140104052	RAJKISHAN SHEKHAWAT
27.	140104057	ROOP SINGH
28.	140104058	SACHIN MALIK
29.	140104059	SAJAL PACHAURI
30.	140104063	SHANKAR RAVIKANT
31.	140104064	SHIV PRAKASH
32.	140104065	SHIVAM RAJ SINGH
33.	140104067	SHUBHAM TRIPATHI
34.	140104068	SIDDHARTH MISHRA
35.	140104069	SIDDHARTH VIKRAM SINGH PARMAR
36.	140104071	SUMIT KUMAR ROUT
37.	140104074	SURAJ SINGH
38.	140104077	VIDYADHAR V PATIL
39.	140104078	VISHAL KUMAR
40.	140104079	VIVEK KUMAR SINGH
41.	140104080	YARRA PHANEENDRA
42.	09010425	KALIDINDI RAVITEJVARMA
43.	11010475	AMRIT KAMAL LENKA
44.	120104019	CHILUVURI REX SANDEEP
45.	120104061	SAMEER PARMAR
46.	120104069	SUDHANSHU RATHORE
47.	130104006	ANIRUDH GUPTA
48.	130104028	JITENDRA SINGH BHATI
49.	130104031	OMKAR MAHESH KOCHAREKAR
50.	130104063	SHREYANS JAIN
51.	130104065	SHUBHANKAR JHA
52.	130104070	SURYA PRAKASH
53.	130104078	VISHWAS VYAS

**List of students who have fulfilled the requirements for award of B.Tech. degree in Biotechnology**

Sl. No	Roll No	Name
1.	140106001	ABHISEK MISHRA
2.	140106002	ABHISHEK AJAY
3.	140106006	ANAND SHARMA
4.	140106007	ANKITA ANSHU
5.	140106009	ANUSUA SARKAR
6.	140106010	APOORV BAJPAI
7.	140106011	APOORVA MANURAJ
8.	140106013	ARROJWALA MANU TEJ SHARMA
9.	140106015	ASHUTOSH GUPTA
10.	140106018	BALLA VAMSHI KRISHNA
11.	140106019	BELEKAR YASH ASHOKKUMAR
12.	140106021	DEEPANSH MATHUR
13.	140106022	DEEPTI DEBBARMA
14.	140106023	G KARTHIK VARMA
15.	140106024	GAURAV GANGWAR
16.	140106025	GYAN WAIBHAW
17.	140106026	HENA KASAWATIA
18.	140106027	JAI PRAKASH
19.	140106028	JIBRAN JAVED KOUL
20.	140106031	KAMAL KUMAR
21.	140106034	LIMAYE ROHAN SAMIR
22.	140106035	M SAI KRISHNA BHARADWAJ
23.	140106041	PRACHI TOSNIWAL
24.	140106042	RAJEEV KUMAR
25.	140106043	RAJESH KUMAR
26.	140106045	RIGZIN DOLKER
27.	140106046	SAMANT AMEY YOGESH
28.	140106047	SHINDE SHRIKANT SHRIHARI
29.	140106048	SIDDHARTHA SHARMA
30.	140106049	SIMRAN GUPTA
31.	140106050	SMRITI PRIYA
32.	140106052	SUPARNA SIKDAR
33.	140106054	VISWAVARAPU RAVI TEJA
34.	08010616	KALLURU ANUDEEP
35.	10010606	BUDIDA DEEPAK
36.	120106022	KARTIK KUMAR
37.	130106005	ANKIT KUMAR
38.	130106012	BUTHKURI RAHUL
39.	130106046	SRIKANTH DOMMATI
40.	130106050	VASAM MANJVEEKAR PRABANTU

**List of students who have fulfilled the requirements for award of B.Tech. degree in Chemical Engineering**

Sl. No	Roll No	Name
1.	140107002	ABHAY KUMAR MISHRA
2.	140107003	ABHIGYAN MALVIYA
3.	140107004	ABHISHEK MURARAKA
4.	140107005	AGRAWAL RAUNAK RAJESH
5.	140107007	AKSHAY GUPTA BURSAINYA
6.	140107009	AMLAN JYOTI DAS
7.	140107010	ANAND KUMAR

8.	140107011	ANIKET GUPTA
9.	140107012	ANUSHKA ANAND
10.	140107013	ANVESH DIXIT
11.	140107016	AZIZ MALIK
12.	140107017	BHARTENDU NIRAJ
13.	140107018	BHUMIKA SINGHAL
14.	140107020	CHETAN MEENA
15.	140107021	CHOPPA NAVYA SRI
16.	140107023	DEEPAK GARG
17.	140107024	DHARMENDRA VERMA
18.	140107026	GANESH CHUNDWAL
19.	140107027	HARDIK LODHA
20.	140107028	HARSH KAMAL
21.	140107029	KAILASH CHANDRA GURJAR
22.	140107031	MAHASHWETA
23.	140107034	NILANG NANDAN
24.	140107035	NIRANJAN S
25.	140107036	PANKAJ KUMAR SAINI
26.	140107037	PARDE RAJAT PRAKASH
27.	140107038	PARDHI UMANG RAJKUMAR
28.	140107039	PRABAL JAIN
29.	140107040	PRABHAS MISHRI
30.	140107041	PRAGYAM MAHESHWARI
31.	140107042	PRAKASH SINGH
32.	140107044	PRASHANT KUMAR GUPTA
33.	140107045	PRATEEK MANTHAPURWAR
34.	140107046	RAJ KRISHNA
35.	140107049	RIYA AGARWAL
36.	140107050	ROHAN SHARMA
37.	140107051	SAKSHAM SHARMA
38.	140107052	SANDEEP VEETHU
39.	140107053	SANJAY RAGHUWANSHI
40.	140107054	SHASHI RANJAN KUMAR
41.	140107055	SHIVAM SHASWAT
42.	140107056	SHREEYANSH RASTOGI
43.	140107057	SHUBHAM CHATURVEDI
44.	140107058	SHUBHAM MESHRAM
45.	140107059	SIDDHARATH
46.	140107061	SONU KUMAR
47.	140107063	SUBHAM SWAIN
48.	140107064	SUMIT KUMAR
49.	140107068	UTKARSH KUMAR
50.	140107069	VANKUNAVATH THARUN KUMAR
51.	140107070	VIBHAV YADAV
52.	140107071	VIKAS KUMAR
53.	140107072	VIKAS YADAV
54.	10010761	VISHAL ANANDA INGLE
55.	120107010	AWASHKAR RAJ
56.	120107014	CHALLA ADITYA SRIRAM
57.	130107036	NILESH RAJ
58.	130107064	SURU ADITYA ASHUTOSH

**List of students who have fulfilled the requirements for award of B.Tech. degree in Electronics and Electrical Engineering**

Sl. No	Roll No	Name
1.	140108001	ABHINAV GIRI
2.	140108002	ABHISHEK ANAND
3.	140108003	ABHISHEK KUMAR
4.	140108004	AJAY SINGH RAGHAV
5.	140108005	AKASH ASTHANA
6.	140108006	AKASH KUMAR BURNWAL
7.	140108007	ANUGU VISHWAJITH REDDY
8.	140108009	AYUSH JHA
9.	140108010	BADRINATH SINGHAL
10.	140108011	CHANDAN SINGH GANGWAR
11.	140108012	DHRUBOJIT BHATTACHARYA
12.	140108013	DINESH JAT
13.	140108015	GANNI SURYA TEJA
14.	140108017	KATTEPOGU SHARATH PAWAR
15.	140108018	KUMAR SAGAR
16.	140108019	LIYEN PERMEY
17.	140108022	NAMAN GOYAL
18.	140108023	POOJARI VENKATA LAKSHMIKANTH
19.	140108024	POTLURI KRISHNA SUMANTH
20.	140108025	RAHUL KUMAR
21.	140108026	RAKESH KUMAR MEENA
22.	140108027	RISHI BINDA
23.	140108029	S SAI KUMAR
24.	140108030	SAHIL SULTAN AHMAD HANFI
25.	140108032	SHUBHAM VYAS
26.	140108033	KULKARNI SHUBHANKAR SUNIL
27.	140108035	SUBHAM SUBHASIS
28.	140108036	SUJESHA SHARMA
29.	140108041	VEMULURI NAGESWARA HEMANTH
30.	140108042	VIDIT KUMAR
31.	140108043	SAUMITRA SHARMA
32.	140108044	PRANAY MANOCHA
33.	140108045	ASHUTHOSH UPADHYAYA
34.	140108046	SURAJ KUMAR KASHYAP
35.	140108047	VIKRAM SINGH
36.	140108048	SUMIT KUMAR
37.	140108049	YOSHA SINGH TOMAR
38.	140108050	DEWAL AGARWAL
39.	140108051	AYUSH SHAMBHAV
40.	140108052	AYUSH ANSHUL
41.	11010830	RAVI KUMAR MEENA
42.	130108013	KUNJ TRIPATHI
43.	130108035	PRITAM KUMAR PATRA
44.	130108036	RAJAT PRAKASH MOURY

**List of students who have fulfilled the requirements for award of B.Tech. degree in Engineering Physics**

Sl. No	Roll No	Name
1.	140121002	ABHINAV BHUYAN
2.	140121003	ABHISHEK KUMAR YADAV

3.	140121008	ARPAN OJHA	6.	140122006	ANJALI KANNOJIA
4.	140121013	CHANDAN	7.	140122007	ANUPJOT SINGH
5.	140121014	CHANDRAMOULI CHOWDHURY	8.	140122010	ASHISH KUMAR AGARWAL
6.	140121016	DEEPANSHU KUMAR	9.	140122012	AYUSH SURANA
7.	140121018	ESHAN BHARGAVA	10.	140122013	CHINMAY SINGHAL
8.	140121020	KIRANMAYI D DIXIT	11.	140122014	GAURAV SINGARIYA
9.	140121021	KIRTHANAA INDUMATHI	12.	140122015	HIMANSHU MOHAN
10.	140121022	KULKARNI SHREYAS VIVEK	13.	140122016	JATIN BHATNAGAR
11.	140121023	MADASU CHETAN SRIRAM	14.	140122017	KADAM LALJI SANJITRAO
12.	140121024	MADIRA SRAVANAKHIL	15.	140122018	KRISHNA RAGHAV A C
13.	140121026	MOHIT VAMSI SULE	16.	140122019	LOHIYA NIHAR NISHANT
14.	140121027	PATHLAVATH MAHESH KUMAR	17.	140122020	MADAKA SRILAHARI
15.	140121028	PRAVEEN KUMAR	18.	140122021	MD SARFRAZ ALAM
16.	140121029	RAJNANDAN CHOUDHURY DAS	19.	140122022	NAMIT CHOUDHARY
17.	140121030	RAVIKANT VERMA	20.	140122024	NIPON DOLEY
18.	140121031	SACHIN KUMAR	21.	140122025	PARVATHANENI ROHITH PAVAN
19.	140121035	SHIVAM VERMA	22.	140122027	RAJENDRA CHOTIYA
20.	140121036	SOUVICK BISWAS	23.	140122028	RICKY GUPTA
21.	140121037	SUBHAM CHOUDHURY	24.	140122029	ROSHAN KUMAR MEENA
22.	140121038	SUDHIR KUMAR	25.	140122030	RUCHIKA JANGID
23.	140121039	SUJAY VIJAY JADHAV	26.	140122031	SARANG PANDE
24.	140121041	AMBIKESH GUPTA	27.	140122034	SHREERAM MEENA
25.	140121042	TIRUVASKAR SHREYAS ASHOK	28.	140122035	HARSHIT SINGH
26.	140121043	VIMAL KUMAR VERMA	29.	140122036	SOURABH PATIDAR
27.	140121044	VINEETH PACHAVA	30.	140122037	SUJEET SAURAV
28.	09012106	BIBHAS RANJAN TARAFDAR	31.	140122039	SURYA SHANMUGARAJA
29.	10012108	B N JAYASREE	32.	140122042	UTTAM KUMAR
30.	10012132	TERE NAGENDRABABU	33.	140122043	VIKAS KUMAR
31.	11012138	VEERABOMMALA B G CHARAN GUPTA	34.	130122014	DEEPAK MEENA
32.	120121003	AKHILESH RAVINDRA BHOGALE	35.	130122040	SAURABH KUMAR AHIRWAR
33.	120121031	RAHUL RAJ			
34.	130121003	AMRIT THAKUR			
35.	130121005	ARNAB ROY			
36.	130121007	AYUSH KRISHNA			
37.	130121008	AYUSH RAJA			
38.	130121009	BONDA VENKATA VARDHAMANA SURENDRA KUMAR			
39.	130121011	DEEPAK KUMAR			
40.	130121012	DIVYA KUMAR MEENA			
41.	130121013	GAGAN CHITTOR			
42.	130121014	GUNADEEP TERON			
43.	130121030	ROHAN SONI			
44.	130121032	SAKHAMURI MANIKANTA			
45.	130121035	SHAYAN SHUKLA			
46.	130121036	SOMNATH BANERJEE			

**List of students who have fulfilled the requirements for award of B.Tech.degree in Chemical Science and Technology**

Sl. No	Roll No	Name
1.	140122001	AAYUSH CHAUDHARY
2.	140122002	ABHISHEK KHANDKIYA
3.	140122003	ABHISHEK PANDEY
4.	140122004	AJAY NAGAR
5.	140122005	AKSHAY KELKAR

**List of students who have fulfilled the requirements for award of B.Tech. degree in Mathematics and Computing**

Sl. No	Roll No	Name
1.	140123001	AAYUSHI KHANDELWAL
2.	140123002	ADITYA DEVENDRA KANTHALE
3.	140123003	ADITYA SHIVAJI DIVEKAR
4.	140123004	AKKALLA VENKATA NAGA KESAVA SAI CHARAN
5.	140123005	AKUL GOEL
6.	140123006	AMAN KUMAR
7.	140123007	ASHISH KUMAR SINGH
8.	140123008	ASUTOSH M R
9.	140123009	B CH L KAVYA
10.	140123010	BANDA SANTHOSH REDDY
11.	140123011	BODEPUDI NAGA SAI
12.	140123012	BURDE KAMESH KESHAORAO
13.	140123013	DEVUTT THAWARE
14.	140123014	DHARMVEER BAIGER
15.	140123015	DIKSHITANAND GAUTAM
16.	140123016	KADAMBALA ANIL
17.	140123017	KELAM SOWMYA
18.	140123018	KOPPAR MANAS RAVI
19.	140123020	LAKKIMSETTI SUJAY

20.	140123022	MEHUL JAIN	15.	140205016	KOTTA SURAJ
21.	140123023	NAVEEN SINGH RANWA	16.	140205017	KRISHANPAL SINGH
22.	140123026	RISHIKESH VYAS	17.	140205018	MALLA PRASANTH
23.	140123029	SAHIL MALAV	18.	140205019	MANAS SHARMA
24.	140123030	SANDEEP KUMAR	19.	140205020	MAYANK SHUBHANKAR
25.	140123031	SARTHAK AGARWAL	20.	140205021	MEHUL CHAUDHARY
26.	140123032	SERALATHAN V.S.	21.	140205022	MOHITE SANGRAMSINH RAJENDRA
27.	140123033	SHALU RUNGTA	22.	140205024	N B MUKESH
28.	140123034	SHASHANK GAUTAM	23.	140205026	PANDIRI SRUJAN KUMAR
29.	140123035	SHIVAM SINGLA	24.	140205027	PINGAL KAKATI
30.	140123036	SOUMITRA AGARWAL	25.	140205028	PRANAV KHARE
31.	140123037	SREE BHARGAV YALAMATI	26.	140205030	PRIYANK AGARWAL
32.	140123038	SUHAS N	27.	140205031	RAJAT GAUTAM
33.	140123039	SURENDRA KUMAR SHESHMA	28.	140205033	RAYANI PRUDHVI RAJESH KUMAR
34.	140123040	TALASILA SAI TEJA	29.	140205034	S ADARSH RAO
35.	140123041	VAIBHAV SAXENA	30.	140205035	SAJIYA CHAUDHARY
36.	140123042	VIJAY KUMAR RAJU NADIMPALLI	31.	140205036	SAVALIA ZANKAR
37.	140123043	VIPIN BAHAR	32.	140205037	SHIVAM GOYAL
38.	140123045	YASH JETWANI	33.	140205038	SHUBHANGI GUPTA
39.	140123046	YASH VANJANI	34.	140205039	SHUBHANK PAWAR
40.	140123047	ABHEEK GHOSH	35.	140205041	VANGALA SAIDEEP
41.	140123048	VAISHNAV PAWAN MADANDAS	36.	140205042	VEGIREDI PRADEEP KUMAR
42.	140123049	DIVYAE VATS	37.	140205043	VINJAM VINAY
43.	140123050	CHANDAN KUMAR	38.	140205044	YASHVARDHAN SINGH CHAUHAN
44.	140123051	PRAKHAAR BHARGAVA	39.	140205045	VISHAL GOYAL
45.	130123001	AARYAN DEORI	40.	140205046	SANJEET
46.	130123004	AKEPOGU PRINCE	41.	120205007	AMIT BINAY TOPPO
47.	130123015	DIPO DAIMARY	42.	130205024	ONKAR DADASAHEB WADAVKAR
48.	130123019	K SHARATH RUSHI	43.	130205027	PURNANGA PLAWAN BORAH
49.	130123020	KARTIK YADAV	44.	130205037	SRIJAN SHAIENDRA
50.	130123021	LAKSHAY GARG	45.	130205038	SUBHAM MITTAL
51.	130123022	NIKHIL NIMAWAT			
52.	130123024	NISHANT MOR			
53.	130123030	RAHUL KUMAR PATWARI			
54.	130123041	VAIBHAV ADLAKHA			
55.	130123042	VIKRAM KAVIYA			

**List of students who have fulfilled the requirements for award of B.Des.degree in Design**

Sl. No	Roll No	Name
1.	140205001	ABHILASH SINGH
2.	140205002	AKHIL PATEL
3.	140205003	AKRITI KAUR
4.	140205004	ANAND VIJAY JEE
5.	140205005	CHARU SONI
6.	140205006	CHHAVI GOPAL SHRIVASTAVA
7.	140205007	DEEPAK DALAL
8.	140205008	DHRUV KOHLI
9.	140205009	DIPANKAR RABHA
10.	140205011	INDUKURI MAHENDRA CHAITANYA VARMA
11.	140205012	ISHA AGARWAL
12.	140205013	KARAN KISHORE
13.	140205014	KARTIK KATARIA
14.	140205015	KIRANKUMAR NATEKAR

**List of students who have fulfilled the requirements for award of M.Sc.degree in Physics**

Sl. No	Roll No	Name
1.	162121001	ABDUR ROUF
2.	162121002	ABHISHEK BARUAH
3.	162121003	AJAY BARO
4.	162121004	AMANDEEP KAUR
5.	162121005	AMEER MEHER
6.	162121006	ANJANA JOSEPH
7.	162121007	ANSHUL
8.	162121008	ANUPAMA S
9.	162121010	ARNOB KUMAR GHOSH
10.	162121011	ASHNA MITTAL
11.	162121013	ATANU JANA
12.	162121015	BIHAN BANERJEE
13.	162121017	CHANDAN KUMAR SAH
14.	162121018	CHIRANJIT MAHATO
15.	162121019	CHITRAK KARAN
16.	162121020	DEEPAK KUMAR
17.	162121021	DEEPAK SINGH OLA
18.	162121022	DEEPIKA DAS
19.	162121023	DESH RAJ VERMA
20.	162121024	HITENDRA SARKAR

21.	162121025	JAMALUDDIN	24.	162122026	POOJA SINGH
22.	162121026	JINKU DAS	25.	162122027	PRASENJIT MANDAL
23.	162121027	JONMANI RABHA	26.	162122028	RESHMA KUMARI
24.	162121028	JOYDIPTO BHATTACHARYA	27.	162122029	RUPESH KUMAR TIWARI
25.	162121030	KOUSIK BERA	28.	162122030	SAKSHI MEHTA
26.	162121032	MANISH SAINI	29.	162122031	SALU KUMAR RAM
27.	162121033	MRINAL KANTI GIRI	30.	162122032	SAMBIT PRADHAN
28.	162121034	NIKHIL KUMAR	31.	162122033	SANGLAP DAS
29.	162121035	NITIN GUPTA	32.	162122034	SATYAJIT PATRA
30.	162121036	RANJINI MONDOL	33.	162122035	SAURAV KUMAR
31.	162121037	RONI CHATTERJEE	34.	162122036	SAYAN ATTA
32.	162121038	SAHABUB JAHEDI	35.	162122038	SUBHASHREE PAUL
33.	162121039	SHEIKH MOONSUN PERVEZ	36.	162122039	SUBHAYAN SAMANTA
34.	162121040	SHOUNAK DE	37.	162122040	SUJAY PAUL
35.	162121041	SHUBHENDU DAS	38.	162122041	SUMAN DOLAI
36.	162121042	SOURAV PAL	39.	162122042	SUMAN GHOSH
37.	162121043	SUDESHNA SAHA	40.	162122043	SUSMITA BARUAH
38.	162121044	SUKHJOVAN SINGH GILL	41.	162122044	TEJBAHADUR SINGH
39.	162121045	SUPRIYA PAN	42.	162122045	VARSHA YADAV
40.	162121046	SUSMITA DAS	43.	162122046	VEDPRAKASH OLA
41.	162121047	UPASANA DEORI	44.	162122047	VIMAL PRATAP SINGH
42.	152121006	ARUP JYOTI DAS	45.	162122048	YATISH KHULBE
43.	152121019	LALNUNPUIA KHIANGTE	46.	152122017	KARTICK CHANDRA MAJHI
44.	152121021	MANISH KUMAR MEENA	47.	152122023	PABITRA MONDAL
45.	152121023	MOHIT KUMAR	48.	152122024	PALTU MANDAL
46.	152121035	RAKESH PRASAD	49.	152122025	PRASUN CHOWDHURY
			50.	152122044	TANUMAY ROY

**List of students who have fulfilled the requirements for award of M.Sc.degree in Chemistry**

Sl. No	Roll No	Name
1.	162122001	AASHISH
2.	162122002	ABHAY GAUR
3.	162122003	AKSHAY MALIK
4.	162122004	ANGSHUMAN DAS
5.	162122005	ANIMESH BHUI
6.	162122006	ARUP MONDAL
7.	162122007	AVISEK BERA
8.	162122008	BAISHAKHI SARKHEL
9.	162122009	BISWAJIT MONDAL
10.	162122010	BRIJESH MADDESHIYA
11.	162122011	DIPANKAR MAJI
12.	162122012	DUSHYANT YADAV
13.	162122014	INDRAJIT CHATTERJEE
14.	162122015	KIRAN BEDI SINGH
15.	162122016	KOUSIK ROUTH
16.	162122017	MANISHA NAYAK
17.	162122019	MILAN KUMAR JENA
18.	162122020	MONGOLI BRAHMA
19.	162122021	MRINMOY ROY
20.	162122022	NABA KUMAR BISWAS
21.	162122023	OIYAO APPUN PEGU
22.	162122024	PARTHA PRATIM KHATUA
23.	162122025	PAWAN KUMAR TIWARI

**List of students who have fulfilled the requirements for award of M.Sc.degree in Mathematics and Computing**

Sl. No	Roll No	Name
1.	162123001	AAKASH CHOUDHARY
2.	162123002	ABHIJIT SHIT
3.	162123004	AKHILESH KUMAR SINGH
4.	162123006	AMIT DEBNATH
5.	162123007	ANUPAM BARLA
6.	162123009	ARIJIT ROY
7.	162123011	BHAVISHYA DHAKER
8.	162123012	CHANDAN PRADHAN
9.	162123013	DEV KARAN SINGH
10.	162123015	DHARMRAJ CHAUHAN
11.	162123016	HIMANSHU JHAMB
12.	162123017	JAMES DINAKARAN NARJINARY
13.	162123018	KALLOL RAY
14.	162123019	KHYODENO MOZHUI
15.	162123020	LALTU ROY
16.	162123022	MRITYUNJOY CHARAN
17.	162123023	MRITYUNJOY GHOSH
18.	162123024	MUDIT TIWARI
19.	162123025	NEELAM ARYA
20.	162123026	NIBEDITA ROY
21.	162123027	NIDHI YADAV
22.	162123028	NIKHIL BHATIA
23.	162123030	RAGHAV SINGHAL



24.	162123033	RASHMIRANJAN SAHU
25.	162123035	RISHABH SARMA
26.	162123036	RUPAMSHANKAR NATH
27.	162123037	SAGAR AGARWAL
28.	162123038	SAIKAT GHOSH
29.	162123040	SATVANT KUMAR YADAV
30.	162123043	SAURAV
31.	162123044	SAURAV SAHOO
32.	162123045	SOURAV MAHATA
33.	162123046	SUBHADRA MISHRA
34.	162123047	SUBHENDU KEORA
35.	162123049	SUMAN HALDER
36.	162123050	TANMOY BERA
37.	162123051	TUSHAR GOEL
38.	162123052	VIRENDRA KUMAR
39.	152123014	HARIDEV MAJHI
40.	152123015	HARPREET SINGH BHATIA
41.	152123016	HMINGSANGLIANA
42.	152123022	MOHIT PARASHAR
43.	152123028	NEERAJ KUMAR
44.	152123039	SAURABH SHUKLA

**List of students who have fulfilled the requirements for award of M.A.degree in Development Studies**

Sl. No	Roll No	Name
1.	162241002	ABHINAV SHARMA
2.	162241003	ARINDAM CHAKMA
3.	162241004	BALRAM KUMAR
4.	162241005	BHABNA MEDHI
5.	162241006	BIDYUT BIKASH CHANGMAI
6.	162241007	BONANI GOGOI
7.	162241008	CHANDRASHEKHAR
8.	162241009	DIPLEENA SAIKIA
9.	162241010	LOPAMUDRA BORUAH
10.	162241011	MELEDATHU THOMAS KURIAKOSE
11.	162241012	NITESH KUMAR
12.	162241013	PARSHANT KUMAR
13.	162241014	PIYUSH NIRANJAN
14.	162241015	PRIYANKA DAS
15.	162241017	RAVISHANKAR
16.	162241018	RAYA DAS
17.	162241020	RUPAMJIT SONOWAL
18.	162241021	SALIL KUMAR
19.	162241022	SHILPA CHAYA MAZUMDAR
20.	162241023	SHUBHA TIWARI
21.	162241024	SIDDHARTH KUMAR
22.	162241027	SUPRIYA BAWLARI
23.	162241028	SWAPNALI SAIKIA
24.	162241029	SYED MASOOM MUMEEN
25.	162241030	MAHRAN ALGHADA
26.	152241021	MAYANK PARMAR

**List of students who have fulfilled the requirements for award of M.Tech. degree in Computer Science and Engineering**

Sl. No	Roll No	Name
1.	144101050	SANJOY DAS
2.	144101079	ODBILEG ERDENEBILEG
3.	154101010	PARDEEP SINGH NAGRA
4.	154101014	PAWAN KISHOR SINGRE
5.	154101023	ANIRBAN LEKHARU
6.	154101030	ABHIMANYU
7.	154101033	SANDEEP KUMAR
8.	154101037	ANOOP KUMAR SINGH
9.	154101038	AMIT PRATAP SINGH
10.	154101039	MANISH SINGH
11.	154101040	SOURABH HITENDRA GAVHALE
12.	154101045	BHUPENDRA MEENA
13.	154101051	NIHAL JAIN
14.	154101060	SHARMA PRIYA
15.	164101004	RAHUL SHARMA
16.	164101006	SHRUTI GANAPATHY SUBRAMANIAN
17.	164101009	NEELES KUMAR SHUKLA
18.	164101011	NABIL NISARALI SAYYAD
19.	164101016	AKANKSHA
20.	164101018	CHIRAG SODANI
21.	164101019	SMRITI BAHUGUNA
22.	164101021	TAMEEM SALMAN CHOUDHURY
23.	164101024	UTKARSH BHUSAHEB PAGAR
24.	164101025	NEHA SAINI
25.	164101027	VINOD KUMAR M
26.	164101030	RACHITH CHANDRAN
27.	164101034	ROHIT CHAUDHARY
28.	164101036	BHAWANA GUPTA
29.	164101037	SUBASH M
30.	164101040	PRATHAMESH SHIVDAS RAUT
31.	164101041	SHUBHADEEP DAS
32.	164101042	ANIK RANJAN MONDAL
33.	164101047	PANKAJ KUMAR KALITA
34.	164101049	THIYAM SUSMA DEVI
35.	164101051	MANGIRISH AJIT KENKARE
36.	164101052	PRANAY SANGHVI
37.	164101054	SUDIP SUPRAKASH PATI
38.	164101055	KANKAN BARMAN
39.	164101057	PAVAN GANESH JEEREDDY
40.	164101059	MANKAR AJINKYA SANJAY
41.	164101061	SUWETA SHAKYA

**List of students who have fulfilled the requirements for award of M.Tech. degree in Electronics and Electrical Engineering with Specialization in Signal Processing**

Sl. No	Roll No	Name
1.	154102012	BARNAJIT GHOSH
2.	154102013	ARINDAM CHOWDHURY
3.	154102014	SRINATH SATAPATHY
4.	154102015	SUDHIR KUMAR SHUKLA
5.	154102019	GRANDHI KARTHIK

6.	154102020	JEFIN JACOB
7.	154102028	MOHIT KUMAR BHAGAT
8.	154102068	ANGANA NATH
9.	154102071	AMIT NEGI
10.	154102075	KORLEPARA NAGA SANDEEP
11.	154102083	NILADRI BHATTACHARYA
12.	154102084	SUCHIT AMOL DHAWLE
13.	164102088	SOUMAYAN DUTTA
14.	164102092	PRANAY PRAMOD KATE
15.	164102094	SURBHI PILLAI
16.	164102096	AMIT ABHISHEK
17.	164102097	DEEKSHA GUPTA
18.	164102116	ALAKUNTA SIVA RAJ KUMAR
19.	164102136	DEVENDRA KUMAR JAISWAL

**List of students who have fulfilled the requirements for award of M.Tech. degree in Electronics and Electrical Engineering with Specialization in VLSI**

Sl. No	Roll No	Name
1.	154102001	TARUNDEEP SINGH
2.	154102002	BEN THOMAS
3.	154102003	MEGHANA RAI
4.	154102004	SATISH PUROHIT
5.	154102006	ANISH JOBOY AUGUSTINE
6.	154102008	NITHIN V KRISHNA
7.	154102009	BANDARI BHASKAR
8.	154102010	GUGULOTHU SRIDEVI
9.	164102006	CHENNURI VENKATESH
10.	164102085	SOHAM TALUKDER

**List of students who have fulfilled the requirements for award of M.Tech. degree in Electronics and Electrical Engineering with Specialization in Communication Engineering**

Sl. No	Roll No	Name
1.	154102032	SACHIN GUPTA
2.	154102033	HARSHIT KHANDELWAL
3.	154102035	SANDEEP TEWARI
4.	154102037	MUNAGALA MERCY
5.	154102046	SANSAR SINGH
6.	154102047	ANIL KUMAR BEDGUJAR
7.	154102048	AJAY SINGH
8.	154102049	PREETI JHARIA
9.	154102063	DEEPAM GAUTAM
10.	154102072	AJEET YADAV
11.	154102073	SACHIN NIMBALKAR
12.	154102074	KAPIL SHARMA
13.	154102088	AMIT YADAV
14.	154102089	AKASH SONI
15.	154102090	BODDETI N V SIVA SAI KALYAN
16.	154102091	BRIJGOPAL SUTHAR
17.	164102071	TM UDAY KUMAR
18.	164102100	SHREYA ROY
19.	164102101	SHARMISTHA SEN
20.	164102120	RAMA GUPTA

**List of students who have fulfilled the requirements for award of M.Tech. degree in Electronics and Electrical Engineering with Specialization in Power and Control**

Sl. No	Roll No	Name
1.	154102052	KAMAL LOCHAN SAMAL
2.	154102057	KOLHE KALPESH MURLIDHAR
3.	154102058	DEVENDRA SINGH
4.	154102059	VIBHA RANJAN
5.	164102108	VINAY KUMAR RATHORE

**List of students who have fulfilled the requirements for award of M.Tech. degree in Electronics and Electrical Engineering with Specialization in RF and Photonics**

Sl. No	Roll No	Name
1.	154102069	SURASREE MONDAL
2.	154102070	PALTHIYA RAMKUMAR
3.	154102101	JAGADISH YADAV
4.	164102130	PAMSHANGPHY RAIKHAM
5.	164102131	SHUBHAM DIBAKAR HORH

**List of students who have fulfilled the requirements for award of M.Tech. degree in Mechanical Engineering with Specialization in Machine Design**

Sl. No	Roll No	Name
1.	154103001	BIDHAYAK GOSWAMI
2.	154103005	AMAN AGARWALLA
3.	154103006	RAGHAVENDRA ROHIT DABBARA
4.	154103007	GYAN RANJAN
5.	154103008	NAGENDRA KUMAR MEHTA
6.	154103009	PRIYABRATA MAHARANA
7.	154103010	PARTHASARATHI MOHAPATRA
8.	154103011	PATIL NISHANT MAHADEV
9.	154103012	ANOOP KUMAR DUBE
10.	154103013	TARUN SACHDEVA
11.	154103014	ANIMESH KUNDU
12.	154103015	MAHANGARE MANOJ SHANKAR
13.	154103016	PRANESH DUTTA
14.	154103020	SOMA MALLIKARJUNA
15.	154103022	BHANU PRATAP PATEL
16.	154103023	ADITYA KUMAR
17.	154103026	RUPAM HAZARIKA
18.	154103029	PARDEEP PANKAJ
19.	154103030	DEEPAK ADHIKARI
20.	154103031	PANKAJ JYOTI DOLEY
21.	154103037	TELSHINGE PRAVIN RAJARAM
22.	154103056	SHAILESH BAMORIYA
23.	154103074	TADAVI SAMEER DILEEP
24.	154103117	KBROM MEKONEN BERHE
25.	164103010	GUNJAN RAJ AGRAWAL
26.	164103020	JANGE ROHAN SUNIL
27.	164103021	SHESHMANI CHAUDHARY
28.	164103043	ABHAY RAI
29.	164103045	AMRUTH KUMAR L R
30.	164103054	AKHINLAL K. S.

**List of students who have fulfilled the requirements for award of M.Tech. degree in Mechanical Engineering with Specialization in Fluids and Thermal Engineering**

Sl. No	Roll No	Name
1.	154103034	UDDIPTA SINGHA
2.	154103035	MANDEEP DEKA
3.	154103040	KOVVURI GANESH REDDY
4.	154103042	SMRUTI RANJAN JENA
5.	154103045	AMIT SHARMA
6.	154103047	UJJWAL CHETAN
7.	154103048	DANVENDRA SINGH
8.	154103049	SUJEET KAUSHIK
9.	154103050	VINEET KUMAR TRIPATHI
10.	154103051	VISHNU PRAKASH K
11.	154103052	KUMAR YASHOJEET
12.	154103053	ABHINESH KUMAR
13.	154103054	YASHWANT KUMAR
14.	154103055	RAMAKRISHNAN T
15.	154103057	RANA PRATAP CHAUDHARY
16.	154103058	ARIF SARDAR
17.	154103059	MOHAMMED RAFI A
18.	154103060	NITESH KUMAR GAUTAM
19.	154103061	SATYENDRA KUMAR KUSHWAHA
20.	154103062	GUNENDRA YADAV
21.	154103065	DEBENDRA NATH SARKAR
22.	154103067	NITISH KUMAR
23.	154103068	MAINAK MANDAL
24.	154103070	AMIT KUMAR
25.	154103084	KAMLESH KUMAR SINGH
26.	154103105	PUSHKIN MITTAL
27.	154103106	ROHIT KUMAR
28.	154103112	BANAMALI TAPPO
29.	154103114	SAMBIT MAJUMDER
30.	154103121	MOHAMMAD SHAFIQUE
31.	164103033	SHAH GEET JAYESHKUMAR
32.	164103034	APURBA ROY
33.	164103036	RAVISHANKAR
34.	164103063	MANOJ N. H.
35.	164103066	NIKKI RAJAURA
36.	164103067	MANOJ KUMAR
37.	164103089	KATAMALA MALLESWARARAO
38.	164103093	RACHIT NAWANI
39.	164103120	PANKAJ KAUSHIK
40.	164103121	MIDHUN GS
41.	164103123	YOGESH YALLAPA GAWADE

**List of students who have fulfilled the requirements for award of M.Tech. degree in Mechanical Engineering with Specialization in Computer Assisted Manufacturing**

Sl. No	Roll No	Name
1.	154103077	AHAD NOOR
2.	154103083	BRIJESH KUMAR PANDEY
3.	154103092	HIRAKJYOTI BASUMATARY
4.	154103099	RANDHIR KUMAR RAMAN
5.	154103100	SONDIP DAS
6.	154103113	SANJEEV KUMAR SAHOO
7.	154103122	SHYAM ASOPA
8.	154103123	SUDHIR KUMAR GUPTA
9.	154103125	PRANAYDHAR DIWAN
10.	154103127	ANIRBAN SAHA
11.	154103129	ABHISHEK KUMAR
12.	154103130	SHIVESH KUMAR SAREEN

13.	154103131	JUAN CHOWDHURY
14.	154103132	KARN KUMAR RAVI
15.	154103133	DEWART BANJARE
16.	164103113	SANJEEV KUMAR SINGH
17.	164103114	KUNAL SHARMA
18.	164103130	GEORGE R VARUGHESE
19.	164103132	ALOK SINGH
20.	164103141	SUBRATA DEBNATH

**List of students who have fulfilled the requirements for award of M.Tech. degree in Mechanical Engineering with Specialization in Computational Mechanics**

Sl. No	Roll No	Name
1.	154103080	SUDHANSHU DUBEY
2.	154103094	SANIT KUMAR
3.	154103096	AVINASH KUMAR PANDEY
4.	154103126	THAKOR SAGARKUMAR VIJAY-SINH
5.	154103134	SYED NAYEER IQBAL
6.	154103135	MITHILESH KUMAR YADAV
7.	154103136	ASHUTOSH KUMAR
8.	154103137	ARUN KUMAR
9.	164103146	RAHUL KUMAR CHAUDHARY
10.	164103152	DILEEP SANKAR E M
11.	164103153	AKHILESH KUMAR

**List of students who have fulfilled the requirements for award of M.Tech. degree in Mechanical Engineering with Specialization in Aerodynamics and Propulsion**

Sl. No	Roll No	Name
1.	154103107	ROBIN JOSEPH
2.	154103110	SIBA PRASAD BEHERA
3.	154103139	SHAZEE RAHMANI
4.	154103140	DHRUBAJYOTI DAS
5.	154103142	RAJESH KUMAR MAHTO
6.	164103116	TEWODROS DERESE GIDEBO
7.	164103117	ALI JRAISHEH
8.	164103137	AMRITA PATHAK
9.	164103156	TANMOY DUTTA
10.	164103157	PRERNA PHUKAN
11.	164103158	ANURAG SHRIVASTAVA
12.	164103161	ANAND VERMA
13.	164103162	TARUN KUMAR DAS
14.	164103163	ABHISHEK KAMAL

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Structural Engineering**

Sl. No	Roll No	Name
1.	154104002	ROHAN MILIND DHARMADHI-KARI
2.	154104003	ANANTA SINHA
3.	154104005	SHAHABAZ SHA A M
4.	154104007	DIPTOJIT DATTA
5.	154104008	SOUVIK KUMAR KHANKARI
6.	154104010	SANIL SURESH NAIK
7.	154104012	VENNAPUSA NARAYANA REDDY
8.	154104015	REX ALFRED E.
9.	154104018	PARIKSHIT YADAV
10.	154104019	SHEKHAR SINGH

11.	154104020	AMIT KUMAR DAS
12.	154104021	SOURAV DAS
13.	154104022	SUNEET KUMAR MEENA
14.	154104023	ALLAN LAMBOR MARBANIANG
15.	154104033	FAIZAL RASHID Y
16.	154104113	DHARMENDRA SINGH DHAKA
17.	164104005	AYUSH MAHESHWARI
18.	164104006	PARASA VIJAY KUMAR
19.	164104007	SEEVANI BALI
20.	164104008	JOANNE MATHEW
21.	164104109	ANIL KUMAR SAH

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Water Resources Engineering and Management**

Sl. No	Roll No	Name
1.	154104058	TAPASRANJAN DAS
2.	154104059	SAUMYA SRIVASTAVA
3.	154104060	PRATIK ACHARYA
4.	154104062	WALTER SAMUEL
5.	154104064	BONU VENKATARAMANA
6.	154104065	SANGITA PANI
7.	154104066	ABHISEK MAHAPATRO
8.	154104068	SAPTARSHI DEBNATH
9.	154104070	KARUNA DUTTA
10.	154104071	MRINAL MAZUMDAR
11.	164104065	BALAPANURU ANIL
12.	164104072	JHILAM SINHA

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Geotechnical Engineering**

Sl. No	Roll No	Name
1.	154104028	MITHRESH K PUSHPAN
2.	154104030	MANDA VENKATA PRAVEEN
3.	154104032	MD ROJIMUL HUSSAIN
4.	154104036	SAURABH ANAND
5.	154104051	VAVILAPALLI YUGANDHARA RAO
6.	154104061	SUBHASH SABU
7.	154104114	DEVENDRA KAFALTIYA
8.	164104024	MANASH JYOTI BORA
9.	164104025	BISWAJIT PANDA
10.	164104035	SIRAJ HOSSAIN
11.	164104038	ALOK CHANDRA
12.	164104053	BISMOY ROY CHOWDHURY
13.	164104082	AKHILA S
14.	164104107	ANANGSHA ALAMMYAN
15.	164104115	ASWATHI. C. K.

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Environmental Engineering**

Sl. No	Roll No	Name
1.	154104082	CHRISTY K BENNY
2.	154104083	GAURAV ARORA
3.	154104084	RAJHANS NEGI
4.	154104085	ABHIJITH A
5.	154104087	ANKIT PRATIM GOSWAMI
6.	154104088	MOHIT DAGA

7.	154104089	GIRISH VYAS
8.	154104090	KIRAN C BABU
9.	154104091	AVINASH CKR
10.	154104092	NIKHIL V A
11.	154104093	VENKATA SRIHARI RONANKI
12.	154104094	NIDHI BHARTI
13.	154104095	VELUGU WILSON RAJU
14.	154104096	KAUSHIK SARKAR
15.	154104128	ABHISHEK NARAYANA SRI-VASTAVA
16.	164104095	GAJJELA RAJASHEKHAR

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Transportation Systems Engineering**

Sl. No	Roll No	Name
1.	154104034	ADITYA KUMAR
2.	154104044	PARITOSH MONDAL
3.	154104045	AKHIL RAJ
4.	154104046	VIKRAMKUMAR RAJITRAM YADAV
5.	154104047	SANTANU PATHAK
6.	154104053	ANKIT KUMAR YADAV
7.	154104054	DIBYOJYOTI SAHA
8.	154104098	SUPRATIM KAUSHIK
9.	154104121	THAMARANA RENUKA KUMAR
10.	164104047	ABU SAEED AHMED
11.	164104048	ABHIJIT BAIRAGI
12.	164104081	BHANU RANA
13.	164104111	DEMISSEW TEKILU

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Infrastructure Engineering and Management**

Sl. No	Roll No	Name
1.	154104078	DINO GEORGE
2.	154104079	AKASH BISHAL DAS
3.	154104080	MUM TAGGU
4.	164104110	MEBRAHTOM ARAYA GE-BREMARIAM

**List of students who have fulfilled the requirements for award of M.Tech. degree in Civil Engineering with Specialization in Earth System Science and Engineering**

Sl. No	Roll No	Name
1.	164104104	CHINTALA SRIVASAGANAPA-THI
2.	164104105	SANDEEP KUMAR MONDAL

**List of students who have fulfilled the requirements for the award of the M.Tech. degree in Biotechnology**

Sl. No	Roll No	Name
1.	154106002	RISHI AGARWAL
2.	154106003	PRANAV PREMAN
3.	154106011	VIMEE RATURI
4.	154106013	ANUPRIYA BARANWAL
5.	154106015	SAI SARANGA DAS
6.	154106018	MUKESH B
7.	154106021	KARTHIKA BALASUBRAMANIAM
8.	154106024	MANOJ KUMAR
9.	154106026	SHUBHRA SACHAN
10.	154106028	SIMONS DHARA

11.	154106035	BITHORAI BASUMATARY
12.	164106001	AAMEN TALUKDAR
13.	164106003	ABHISHEK SIROHA
14.	164106007	APARNA K MOHAN
15.	164106008	ARPITA SACHAN
16.	164106009	BALAKUMARAN A
17.	164106010	BITAN SAHA
18.	164106011	GANTEDI NARAHARI
19.	164106012	INDUMATHI P
20.	164106013	MAIBAM PREMESHWORII DEVI
21.	164106015	PALLAVI DAS
22.	164106016	POULOMI SAHA
23.	164106017	PRATYUSH RAJIV BEHERE
24.	164106020	RIDDHIPRATIM MANDAL
25.	164106021	RITHIMA WARRIER
26.	164106023	SAHAYA GLINGSTON R
27.	164106025	SAUMYA SRIVASTAVA
28.	164106026	SOUPAL DAS
29.	164106027	SUBHAJIT KARMAKAR
30.	164106028	SUDESHNA SAIKIA
31.	164106030	SWATI RAJPUT
32.	164106031	TARISHI GUPTA
33.	164106032	TORSHA KUNDU
34.	164106034	KAWKAB KANJO
35.	164106035	NAFISEH MANTEGHI

**List of students who have fulfilled the requirements for award of M.Tech. degree in Chemical Engineering with Specialization in Petroleum Science and Technology**

Sl. No	Roll No	Name
1.	154107004	SHAIK SHAHID
2.	154107006	SURYA KANTA DE
3.	154107008	SATADRU CHAKRABARTY
4.	154107010	AVINASH ANAND
5.	154107011	PERAMBADUR JYOTHIKRISHNA
6.	154107013	TOOBA FATMA
7.	154107018	TEJAY VIJAY LANJEWAR
8.	154107020	MADU PURNIMA
9.	154107021	MD SHAHFAISHAL
10.	154107022	MD SHADAB
11.	154107025	MEENAL VIJAY WAHANE
12.	154107026	PRANAB KUMAR MAHALIK
13.	154107027	ATUL KUMAR SINGH
14.	154107030	DURLOV PAIT
15.	154107034	ANANT KUMAR
16.	154107035	SAIPRASAD PATI
17.	154107037	DEEPAK KUMAR MISHRA
18.	154107047	DINESH KUMAR VEMULA
19.	154107049	YEDLA VENKATA DURGA ANUDEEP
20.	154107055	SUDIP DAS
21.	164107003	KASHISH DHIR
22.	164107013	RUPESH KUMAR SINGH
23.	164107023	BHARGAVI TALLA
24.	164107026	NEHA RAWAT
25.	164107058	NASABA JOHN CEASAR
26.	164107059	OGENE FORTUNATE

**List of students who have fulfilled the requirements for award of M.Tech. degree in Chemical Engineering with Specialization in Materials Science and Technology**

Sl. No	Roll No	Name
1.	154107032	DEBDATTA GHOSH
2.	154107036	PRANAV SREENIVASA AKELLA
3.	154107038	DEBANJAN GHOSH
4.	154107041	SOUHITYA SEN
5.	154107042	ANANYA BASAK
6.	154107043	AMIT SHASHIKANT KHISTE
7.	154107044	PRABHAT PATEL
8.	154107045	POOJA SAXENA
9.	154107050	SARVESH NAMDEO
10.	154107052	VENKATESH PRASAD BAMMIDI
11.	154107053	GITANJALI ROY
12.	154107056	AKASH
13.	154107058	PRITAM SARDAR
14.	154107059	BONGLIBA T SANGTAM
15.	154107060	NGANYEI KONYAK
16.	154107069	NILADRI SHEKHAR SAMANTA
17.	154107072	PREETHI A
18.	154107080	ANKIT PATIDAR
19.	164107033	BURGULA KRISHNA PRADEEP
20.	164107047	SAGAR HARESHKUMAR SHAH
21.	164107050	SALIL JAIN
22.	164107051	CHETANA SUDHAKAR PATIL

**List of students who have fulfilled the requirements for the award of M.Tech. degree in Rural Technology**

Sl. No	Roll No	Name
1.	164154002	RAGHVENDRA CHAUHAN
2.	164154003	CHUPIKAMAL KALITA
3.	164154004	MANOJ SHARMA
4.	164154005	SRIMONTI DUTTA
5.	164154007	SUMIT KUMAR DAS
6.	164154009	VIRENDRA KUMAR GAUTAM

**List of students who have fulfilled the requirements for award of M.Des. degree in Design**

Sl. No	Roll No	Name
1.	164205001	ABHISHEK CHAUHAN
2.	164205002	YEVALKAR ABHISHEK ARUN
3.	164205003	ANI DALAL
4.	164205004	ANJALI KAUSHIK
5.	164205005	AVINASH SHARMA
6.	164205006	BEDANTA DEORI
7.	164205007	DAKSH BAHUGUNA
8.	164205008	DARSHANA S KUMAR
9.	164205009	DASARI ABHISHEK
10.	164205010	MANI SANKAR CHOUDHURY
11.	164205012	BANKAPURE MIHIR PRAMOD
12.	164205013	MOHIJEET DAS
13.	164205014	POOJA SHANDILYA
14.	164205015	NIPHADKAR PRANAV KISHOR
15.	164205016	ROHIT KUMAR
16.	164205017	SATHISWARAN P
17.	164205018	SAURAV SARKAR
18.	164205019	HOLKAR SHIVANI SANJAY
19.	164205020	SIDDHARTH S KUMAR
20.	164205021	INGLE SUGAT ASHOKRAO

21.	164205023	SURAJ R PAI
22.	164205024	VISHNU C
23.	164205025	VISHNU SUKUMAR
24.	164205026	YOGESH RATHOD

**List of students who have fulfilled the requirements for award of Master of Science by Research degree in Centre for Energy**

Sl. No	Roll No	Name
1.	154351001	MOON MOON BORDEORI
2.	154351002	PUSHPITA DAS

3.	154351003	MAYUR MITRA
4.	154351004	SANDEEP KUMAR SAHOO
5.	154351010	VIKAS KUMAR
6.	164351001	TONI ZHIMOMI
7.	164351002	VIVEK GHRITLAHRE
8.	164351005	TOTA SAI SANTHOSH
9.	164351007	MOHAMMAD ADIL
10.	164351009	SHUBHANGI BHARDWAJ
11.	164351012	MRIGANKA SAHA

**List of students who have fulfilled the requirements for award of Ph.D. degree in Computer Science and Engineering**

Sl. No	Roll No	Name	Thesis Title
1.	10610107	DEBANJAN SADHUKHAN	Stochastic Approach to Quality of Service in Data Gathering for Wire-less Sensor Networks
2.	11610103	BISWAJIT BHOWMIK	Performance-Aware Test-Time Optimization Schemes for Analysis of Logic Level Faults in Channels of On-Chip Networks
3.	11610107	PRADEEP KUMAR BISWAL	Decision Diagrams Based On-line Testing of Digital VLSI Circuits
4.	11610111	SHOUNAK CHAKRABORTY	Energy and Thermal Management of CMPs by Dynamic Cache Recon-figuration
5.	126101004	RADHIKA SUKAPURAM	Update Algorithms for Software Defined Networks
6.	136101007	SUNIL KUMAR SAHU	Neural Architectures for Named Entity Recognition and Relation Clas-sification in Biomedical and Clinical Texts
7.	136101014	SHUVENDU RANA	Watermarking of 3D Images and Video
8.	146101018	RAKESH TRIPATHI	Towards Cost-aware Capacity Provisioning and Load Balancing in Fault-tolerant Distributed Data Centers

**List of students who have fulfilled the requirements for award of Ph.D. degree in Electronics and Electrical Engineering**

Sl. No	Roll No	Name	Thesis Title
1.	08610214	DEBASISH DEB	Investigation On Various Aspects Of Mimo Radar
2.	09610221	RAMESH CHANDRA MISH-RA	Investigation on Some Approaches for Improving Channel Equali-za-tion in Wireless Environment
3.	10610214	SHIVANSHU SHRIVASTAVA	Security Issues in Cognitive Radios
4.	10610216	BASUDEBA BEHERA	Modelling, Simulation and Fabrication of Surface Acoustic Wave Mo-tors Employing Dual Friction-drive
5.	10610219	YANUMULA VENKATA KARTEEK	Design and Implementation of Concensus in Multi-Agent Systems With Input and Communication Time-Delays
6.	10610229	TOUSIF KHAN N	Design and Implementation of Online Estimation Based Backstep-ping Controller for DC-DC Buck Converters
7.	11610201	BRAJESH RAWAT	Numerical Modeling and Analysis of Graphene-based Field- Effect Transistors
8.	11610203	SANDEEP P	GMM Priors for Image Correlations
9.	11610205	ANKIT DALAL	Design and Analysis of Dual Rotor Motor for Electric Vehicle Applica-tion
10.	11610206	NABANITA ADHIKARY	Design of a Few Backstepping Sliding Mode Based Robust Control Techniques for Robot Manipulators
11.	11610208	KUKIL KHANIKAR	New Strategies for Cooperative and Multi-Band Spectrum Sensing

Sl. No	Roll No	Name	Thesis Title
12.	11610213	SANTOSH KUMAR YADAV	Matrix Estimation using Shrinkage of Singular Values with Applications to Signal Denoising
13.	11610217	AJAY KUMAR MADDIRALA	Efficient Subspace based Techniques for Processing Single Channel Electroencephalogram Signals
14.	11610220	MEGHAVATH BHASKAR-NAIK	The Solar Assisted Smart Public Transportation System and its Coordination with the Grid
15.	11610228	BHANU PRIYA	Speech Subspace Modelling With Speaker Adaptation for Stress Normalization
16.	11610232	HIMANSHU SEKHAR SAHU	Development of new MPP estimation schemes and maximizing the power generation of a PV array under partial shading conditions
17.	11610239	SHEKHA RAI	Robust Estimation of Low Frequency Modes for On-line Stability Monitoring of Power System
18.	11610240	SAURABH PANDEY	Identification Schemes for Modelling of Dead Time Processes: A Limit Cycle Approach
19.	11610243	DHEERAJ KUMAR SINHA	Modeling Ambipolar Behavior under High Current Injection Regimes in Layered Semiconductor Device Structures
20.	126102003	SUNIL KUMAR	Extraction of Facial Informative Regions and Discriminative Shared Space for Facial Expression Recognition
21.	126102011	ANAND AGRAWAL	BER Analysis of UWB and mm-Wave Communication Systems Adhering to IEEE 802.15 WPAN Standards
22.	126102023	BIPLAB KETAN CHAKRABORTY	A Novel Framework for Segmentation of Skin Regions using Chromatic and Textural Information
23.	126102026	ROHAN KUMAR DAS	Speaker Verification Using Sufficient Train And Limited Test Data
24.	126102033	BANRISKHEM K KHONGLAH	Speech Knowledge based Broadcast Audio Classification and Phone Recognition
25.	136102009	ABHISHEK SHARMA	Novel strategies for online signature verification using Dynamic Time Warping
26.	136102011	RAJIB SHARMA	Empirical Mode Decomposition for Adaptive AM-FM Analysis of Speech
27.	136102014	SUMAN DEB	Stressed Speech Analysis for Assessment of Emotion and Physical Health
28.	136102017	BIDISHA SHARMA	Improving Quality of Statistical Parametric Speech Synthesis Using Sonority Information
29.	136102026	AMAR NATH YADAV	Design and Analysis of Balanced-to-Unbalanced and Unbalanced-to-Balanced Power Dividers

**List of students who have fulfilled the requirements for award of Ph.D. degree in Mechanical Engineering**

Sl. No	Roll No	Name	Thesis Title
1.	09610315	PURNENDU KUMAR MANDAL	Role and Influence of Microalloying with Silver on Mechanical Properties and Deformation Behavior of Aluminum Alloys
2.	10610301	PARAGMONI KALITA	Regulation of Numerical Diffusion for Compressible-Flow Computations
3.	10610313	HEMA GURUNG	Self-Sensing Shape Memory Alloy Wire Actuators using Kalman Filters
4.	10610326	KALIDASAN R	Experimental Investigations On Double Tool Turning Process
5.	11610314	KALPAJYOTI BORAH	Finite Volume and Meshless Algorithms for Ideal Magnetohydrodynamics
6.	11610318	ARPAN KUMAR MONDAL	Experimental and Numerical Study of Submerged Arc Welding Induced Thermal History, Residual Stresses, Distortion and Weldment Characterization

Sl. No	Roll No	Name	Thesis Title
7.	11610323	CHANDRAHAS PATEL	Application Of Electromagnetics In Forming Of Tubes And Perforation Of Sheets
8.	11610329	JAI MANIK	Well-Balanced And Consistent Algorithms For Three-Dimensional Simulations Of Binary Immiscible Flows
9.	11610330	SRINIVAS PAVAN KUMAR A	Active Control Of Annular Plates Through The Design Of Extension/Shear Mode Pfc Actuators
10.	126103001	BIPUL DAS	Weld Quality Monitoring And Defect Identification In Friction Stir Welding Process
11.	126103005	SUMIT AGARWAL	Surface Junction Thermal Probe For Transient Measurements- Conceptual Design To Field Applications
12.	126103007	AMBESH KUMAR	Design of 1-3/0-3 viscoelastic composite layer for augmented active/ passive constrained layer damping of structural vibration
13.	126103012	GYAN SAGAR SINHA	Development and Performance Analysis of Self-Aspirated Porous Radiant Burners for Kerosene Pressure Stove
14.	126103016	KODEESWARAN M	Bi-Directional Bending Fatigue And Static Transmission Characteristics Of Polymer Composite Gears
15.	126103017	HAKEEM NIYAS U S	Experimental and Numerical Investigations on the Development and Optimization of Latent Heat Storage System
16.	126103020	GURURAJ BOLAR	Numerical and Experimental Studies on Thin-Wall Machining of Aero-space Grade Aluminum Alloy
17.	126103022	JITENDRA KUMAR PATEL	A Generic and Robust Numerical Framework for Multiphase Flows using Volume-of-Fluid/Immersed Boundary Methods
18.	126103024	ANWESA BARMAN	Nanofinishing of Freeform Surface using Magnetic Field Assisted Finishing (MFAF) Process
19.	126103031	SACHIN SINGH	Experimental Study and Modeling of Abrasive Flow Finishing Process for Nanofinishing of Macro to Micro Features
20.	126103044	PREETIREKHA BORGHAIN	Development and Applications of a Generic Quasi-Incompressible Framework for Miscible Fluid Flows
21.	136103016	ASHISH KUMAR RAJAK	Electromagnetic Crimping of Terminal-Wire Interconnections
22.	136103022	DEVA KANTA RABHA	Development and Performance Investigation of a Solar Dryer Integrated with Latent Heat Storage
23.	136103023	MAYUR DHIRAJLAL KEVAT	Simulation of Chemical Looping Combustion Using Coal and Biomass Mixtures
24.	136103030	DAWIT GUDETA GUNJO	Thermal Analysis of Solar Flat Plate Collector Coupled with Heat Storage
25.	146103011	PURUSHOTTAM GANGSAR	Diagnostics of Mechanical and Electrical Faults in Induction Motors Based on Support Vector Machine Algorithms

#### List of students who have fulfilled the requirements for award of Ph.D. degree in Civil Engineering

Sl. No	Roll No	Name	Thesis Title
1.	07610409	PRANAB JYOTI BARMAN	Experimental investigations of leaching of sodium, calcium, potassium, and zinc through refuse soil from Boragaon Landfill (Guwahati)
2.	07610410	LALIT SAIKIA	Sediment Properties And Processes Influencing Key Geoenvironmental Aspects Of A Large Alluvial River, The Brahmaputra In Assam
3.	09610420	SANJAY DEORI	Deterioration Modelling of Flexible Pavements with Modified Bitumen in Wearing Course
4.	10610404	ARVIND KUMAR SHAKYA	Drinking Water Treatment By Biological Process For Simultaneous Removal Of Arsenic, Nitrate And Iron In Presence Of Sulphate



Sl. No	Roll No	Name	Thesis Title
5.	10610409	ARPIT CHOUKSEY	Runoff and Sediment Yield Modelling for Agroforestry Watersheds un-der Climate Change
6.	10610414	SNEHAL KAUSHIK	Influence of Floor Slab on Seismic Design of Rectangular Structural Wall in RC Frame- Wall Buildings
7.	10610415	SYED OMAR B	Analysis and Modeling of Passenger Car Equivalents for Heterogeneous Traffic Conditions
8.	10610424	FOUZIA SHAHEEN	Effect of Chloride Ion, Sulfate Ion and Conjoint Chloride-Sulfate Ions on Corrosion Behaviour of Steel Reinforcement And Performance of Concrete
9.	11610403	KHWAIRAKPAM SACHIDANANDA	Lean Duplex Stainless Steel (LDSS) Flat Oval Hollow Columns under Axial Compression – a Finite Element Study
10.	11610411	ASHOK JULAGANTI	Evaluation of Modified Binders and Mixes with Warm Mix Asphalt (WMA) Additives
11.	11610413	SUDARSHAN PATOWARY	A 2-D coupled surface and sub-surface flow model for river flow simulation with piedmont zone
12.	11610421	SODOM BALI REDDY	Scrap Tire - Derived Geomaterials In Retaining Wall Applications
13.	11610431	PATIL NILESH AGARCHAND	Framework for Enhancing Sustainability of PPP Procurement Process for Infrastructure Development
14.	126104001	SUSANT KUMAR PADHI	Control of Gaseous Volatile Organic Compounds Using a Sponge-medium Based Rotating Biological Contactor
15.	126104010	NEEDHI KOTOKY	Seismic Performance Evaluation Of Hyfrc Bridge Piers By Hybrid Simulation
16.	126104011	GEETIMUKTA MAHAPATRA	Parametric Study of Heterogeneous and No-Lane Disciplined Traffic Stream
17.	126104015	RUNTI CHOUDHURY	Influence of Geochemical, Morphological and Hydrological Factors on Groundwater Arsenic Distribution in a Complex Terrain
18.	126104027	SHIV SHANKAR KUMAR	Evaluation of Dynamic Response of Soils Subjected to Regular and Irregular Excitations Using Cyclic Triaxial Tests
19.	126104031	MAHESH PATEL	Flow and Bed-Features Dynamics in Seepage Affected Alluvial Channels
20.	126104039	SHIVAM	River Basin Planning of Subansiri River Under Climate Change Scenarios
21.	136104015	ANUJ KISHOR BUDHKAR	Modeling of Inter-Vehicular Gaps and Driver Behavior in Heterogeneous Traffic Stream with Weak Lane Discipline
22.	136104030	ABDULKERIM BEDEWISE-RUR	Climate Change Impacts on Hydrological Processes and Water Demand Scenario in the Weyib River Basin, Southeastern Ethiopia
23.	146104037	CHAVAN RUTUJA MANOHAR	Hydrodynamics and Morphology around Bridge Piers in Seepage Affected Alluvial Channel
24.	156104013	ANURAG SHARMA	Structure of Turbulence in a Nonuniform Sand Bed Channel with Emphasis on the Bedload Transport

**List of students who have fulfilled the requirements for award of Ph.D. degree in Design**

SL. No	Roll No	Name	Thesis Title
1.	08610505	MANOJ MAJHI	A study of multimedia communication training strategy emphasizing imaginative representation
2.	10610501	SWATHI MATTA REDDY	Influence of Colour and Form in Product Choice: Cognitive Ergonomics Perspective
3.	11610502	VIKRAMJIT KAKATI	Design Intervention for Mechanisation of Tealeaf Harvesting to Improve Productivity and Efficiency (A case study of an improved harvesting device in the context of Assam, India)

SL. No	Roll No	Name	Thesis Title
4.	11610504	AVINASH SHENDE	Enhancing creativity amongst Master of Design students with heterogeneous background: use of combinatorial tool through generative method
5.	11610505	DIPANKA BORUAH	Design and Development of an Amphibian Ambulance for Riverine Areas
6.	126105002	DANDESWAR BISOYI	A Study of Visual Rhetoric and Metaphors in Indian Newspaper Advertisements
7.	126105004	SURENDRA KUMAR	Impact of Low Illumination and High Noise Level on Occupational Health of Indian Handloom Weavers: Special Reference to Bargarh District of Odisha
8.	126105009	PREETI YADAV	A study of young consumers' perception on mascot design characteristic with reference to Indian food brand
9.	136105010	ZUK NECHEMIA TURBO-VICH	Design Methodology for Product Designers in the Context of Personal 3D Printing

**List of students who have fulfilled the requirements for award of Ph.D. degree in Biosciences and Bioengineering**

Sl. No	Roll No	Name	Thesis Title
1.	07610605	NIVIDH CHANDRA	Perturbation of Amyloidogenic Conditions of Hen Lysozyme, Inhibition Thereof by Naturally Occurring Osmolytes and Numeric Code of Amino Acids
2.	10610601	DARILANG MAWRIE	Isolation and Characterization of Mesenchymal Stem Cells from Ocular Adipose Tissue and Extra Ocular Muscle
3.	10610606	TULSI SWAIN	Investigating the Unique features of Self-assembled Hen Egg White Lysozyme Nano-aggregates using Biophysical Approaches
4.	11610604	PRIYAMVADA JAIN	Studies on DNA as a Biorecognition Element for the Detection of Plasmodium Species Lactate Dehydrogenase in Optical and Electro-chemical Platforms
5.	11610610	ARUN DHILLON	Cloning, expression, purification, structure and functional Characterization of Rhamnogalacturonan Lyase (CtRGL) from family 11 Polysaccharide Lyase (PL11) and associated Carbohydrate Binding Module 35 (CBM35) from Clostridium thermocellum ATCC 27405
6.	11610612	KARTIKEYA TIWARI	Understanding pyrimidine and aspartate metabolism in the growth and infectivity of L. donovani
7.	11610617	SAMBHAVI	Cloning, Expression and Purification of Epidermal Growth Factor Receptor for Aptamer Selection for certain Bioassays
8.	11610620	MOHAN C M	Towards Understanding the Expression And Regulation of GPER1, and its Significance Thereof in Human Breast Cancer
9.	11610621	DEEPIKA	Mitochondrial Genome Informatics of Selected Seri-Bioresources and Database Development
10.	11610622	ARUNA RANI	Structure and functional characterization of recombinant chondroitin sulphate AC lyase of family 8 polysaccharide lyase (PsPL8A) from Pedobacter saltans for its in vitro applications in therapeutics and production of chondroitin oligosaccharide with anti-cancer and prebiotic properties
11.	11610623	THIYAGARAJAN D	Bactericidal Potential of a Dual-Target Synthetic Amphiphile
12.	11610624	CHINNAPAKA SOMAIAH	Role of Cell Extrinsic and Intrinsic Factors in Regulating Mesenchymal Stem Cell Properties
13.	11610630	ANANYA BARMAN	Studies on Calcium Signaling Genes Phospholipase C-1, Secretory Phospholipase A2, and Calcium Proton Exchanger-1 in Neurospora Crassa

Sl. No	Roll No	Name	Thesis Title
14.	126106007	MD ASIF RAZA	Connexin-43 Mediated Communication in Cancer Gene Therapy
15.	126106016	SUNITA OJHA	Green Synthesis of Metallic Nanoparticles using Leaf Extract of Se-lected Silkworm Host Plants and Their Applications.
16.	126106022	MAHESH AGARWAL	Studies on Recombinant Protein and Peptides derived from Diph-theria Toxin
17.	126106027	SUSHMA CHITYALA	Bacillus subtilis as an expression host for the production of glutam-inase free recombinant L-asparaginase II
18.	126106028	RWIVOO BARUAH	Production and characterization of dextran and prebiotic isomalto-oligosaccharides from Weissella cibaria RBA12 isolated from Pummelo (Citrus maxima) for functional food applications
19.	126106030	MEHAK KAUSHAL	Sustainable Production of biofuels from Clostridium sporogenes NCIM 2918: Process strategies and system biology approach
20.	136106019	ASHISH A. PRABHU	Process Development for the Production of Recombinant Human Interferon Gamma using Pichia pastoris Cell Factory

**List of students who have fulfilled the requirements for award of Ph.D. degree in Chemical Engineering**

Sl. No	Roll No	Name	Thesis Title
1.	10610708	RAJASEKHARA REDDY BOGGULA	Model Based Control of Resonating Processes using Kautz Models
2.	11610703	RUPAK KISHOR	Development of Amine Functionalized Mesoporous Silica (KIT-6) for Carbon Dioxide Capture
3.	11610711	BISWESWAR DAS	Absorption of Carbon Dioxide into Novel Single and Blended Amine Solvents
4.	11610713	ARVIND GUPTA	Studies on Stereocomplex Poly(lactic acid) and its Biocomposites
5.	11610716	BOLLEDDU RAVI	Self-Organized Instabilities of Liquid Crystal Droplets and Ultrathin Films
6.	11610717	SEIM TIMUNG	Fundamentals and Applications of Pressure and External Field Driven Oil-Water Microflows
7.	11610720	CHITRITA KUNDU	Investigation of Crystallization of Diblock Copolymer by Dynamic Monte Carlo Simulation
8.	11610723	AKHILESH KUMAR PAL	Studies on Poly (Lactic Acid) / Chitosan based Bionanocomposites for Packaging Applications
9.	11610724	SWAROOPA RANI DASARI	Process Intensification of Methyl Esters Synthesis using Castor Seeds by Reactive Extraction Technique
10.	126107001	KELOTHU SURESH	Preparation and Characterization of Organomodified Co-Al and Ni-Al Layered Double Hydroxides (LDHs) Reinforced Polystyrene (PS) Nanocomposites
11.	126107005	SUMAN SAHA	Membrane Separation Technique for the Treatment of Humic Acids Solution, Paper and Tea Factory Wastes
12.	126107006	KISHANT KUMAR	Molecular Simulation Studies on Selective Capture of CO <sub>2</sub> from Gas Mixtures using Pure and Modified Mesoporous Absorbents
13.	126107007	RAHUL RAMDAS RAMTEKE	Spheres In Power-Law Liquids With Velocity Slip At Solid-Liquid Interface: Momentum And Heat Transfer Phenomena
14.	126107017	RICHA SHARMA	Production of High Purity Hydrogen through Methanol Based Membrane Reformer
15.	126107024	PRODYUT DHAR	Studies on Functionalization of Cellulose Nanocrystals for Development of Polymeric Bionanocomposites and Applications in Sustainable Chemical Processes
16.	126107028	SUNNY KUMAR	Self-organized Dynamics of Mesoscale Particles and Droplets

Sl. No	Roll No	Name	Thesis Title
17.	126107029	SAPTAK RAROTRA	Micro and Nano Devices for Energy Harvesting
18.	126107030	RAHUL PATWA	Studies on Silk-based Bionanocomposites
19.	126107033	PRITAM KUMAR DIKSHIT	Bioconversion of Crude Glycerol to Dihydroxyacetone using Immobilized Gluconobacter oxydans: Process Design, Optimization and Intensification
20.	126107037	SANJUKTA BHOI	Dispersion and Dissolution of Indian Coal in Ionic Liquids: Theoretical Predictions and Experimental Validation
21.	136107015	ANAND BHARTI	Multiscale Modeling And Experimental Studies On Bio-Oil Upgradation
22.	136107019	CH VENKATANARASIMHA RAO	Bio-Inspired Route Of Metal Nanoparticles Synthesis And Photocatalysts Doping
23.	136107032	MELAKUU TEFAYE ALEMEA	Studies on Melt Processing and Rheology of Poly (lactic acid) and its Efficacy in Recyclable Bionanocomposite, Biodiesel and Biolubricant
24.	136107034	ALI SHEMSEDIN RESHAD	Utilization of Rubber Seeds for Biofuels Production
25.	136107036	MANEESH KUMAR PODDAR	Ultrasound Assisted Synthesis and Characterization of Polymethyl Methacrylate (PMMA) Nanocomposites

**List of students who have fulfilled the requirements for award of Ph.D. degree in Physics**

Sl. No	Roll No	Name	Thesis Title
1.	10612102	ROHIT SINGH	Renormalization-Group Calculations for the Critical Properties of Per-ovskite Manganites, Uranium Superconductors, and Hexagonal Manganites
2.	10612105	BAPPADITYA ROY	Discontinuous percolation transition: Search for new models and scaling theory
3.	10612109	UPENDRA KUMAR	A Theoretical Study of Rabi Oscillations in Dirac-Weyl Fermionic System
4.	10612112	BISWAJIT KARMAKAR	Neutrino Physics and Flavor Symmetries: some studies in view of non-zero $\theta_{13}$
5.	10612114	PARTHA PRATIM DEY	Studies on Linear and Non Linear Optical Properties of Pulsed Laser Deposited Si, SiO <sub>x</sub> and SiC Nanostructured Thin Films
6.	10612115	BHAGABAN KISAN	Preparation and Characterization of Nanocrystalline Metal-Oxide Powders
7.	11612101	DEBASHISH DAS	Density Functional Theory studies of Fe and Mn substituted CoCr <sub>2</sub> O <sub>4</sub>
8.	11612111	RANGANADHA GOPALA RAO TANGUTURI	Deposition of La-Mn-O and Nd-Mn-O Based Thin Films and Study of Their Electrical Transport and Magnetic Properties
9.	11612112	BIPUL DEKA	Dielectric and Magnetic Properties of Fe and Ti Based Perovskite Oxides
10.	11612122	GONE RAJENDER	Controlled Synthesis and Photo-Physical Properties of Graphene Quantum Dots and Its Heterostructures for Visible Light Photocatalysis and Bio-Imaging Applications
11.	11612124	PATTA RAVIKUMAR	Preparation and Characterization of NiO Powders and Thin Films
12.	126121007	SUDIN GANGULY	Quantum conductance in spin-orbit coupled devices: A focus on transport in Graphene
13.	126121009	ASHIS KUNDU	First principles study of phase stability, electronic structure and magnetism in Mn <sub>2</sub> YZ systems with multiple functionalities
14.	126121013	JUNMONI BARMAN	Magnetic Properties of NiCr <sub>2</sub> O <sub>4</sub> and MnCr <sub>2</sub> O <sub>4</sub> Based Spinel Chromites
15.	126121029	KOUSHIK PAUL	Inverse engineering in quantum and classical systems via shortcut to adiabaticity

Sl. No	Roll No	Name	Thesis Title
16.	136121010	DEEP CHANDRA JOSHI	Dielectric and Magnetic Studies of Wide-bandgap Mott Insulators and their Composites
17.	136121016	SUSMITA GHOSH	Development of a New Class of Enhanced Kinetic Sampling Methods for Biomolecular Simulations
18.	136121018	SANJIB NAYAK	Investigation of the Magnetic and Magneto-dielectric Properties of few Complex Spinels
19.	136121025	KAJWAL KUMAR PATRA	Investigation of structural dynamics and Allosteric mechanisms of SAMHD1 protein complex via molecular dynamics studies
20.	136121032	BISWAJIT PATHAK	Development of a Zonal Wavefront Sensor with Enhanced Performance Using a Reconfigurable Array of Binary Diffraction Gratings
21.	146121014	MAIDUL ISLAM	Analytical and Simulation Modeling of Terahertz Waveguides and Sensors based upon Plasmonic and Metamaterial Structures

**List of students who have fulfilled the requirements for award of Ph.D. degree in Chemistry**

Sl. No	Roll No	Name	Thesis Title
1.	10612203	ASHIM MALAKAR	Intramolecular Charge Transfer and Proton Transfer in Heterogeneous Environments
2.	11612202	AFSANA YASHMEEN	Design, Synthesis and Study of Photophysical/Biophysical Properties of Small Molecule Scaffolded Peptides and Fluorescent B-Lactams
3.	11612211	MANOJ KUMAR PRADHAN	Studies on The Interaction of Small Fluorescent Molecules/Nucleoside with Duplex, G-Quadruplex and Calf Thymus DNA
4.	11612228	SUMAN KALYAN DAS	Design, Synthesis and Studies on the Photophysical Properties of Unnatural C-Triazolyl, Aryl Fused N-Triazolyl Nucleosides and Hybridisation Accompanying FRET Event in Another Set of Chimeric DNA Duplexes
5.	11612233	T. BHIM RAJU	Design and Development of Organic Photovoltaics Based on $\pi$ -Conjugated Materials
6.	11612244	UTPAL NATH	Organocatalytic Asymmetric Michael and Cyclization Reactions Involving Electron Deficient Olefins
7.	11612245	ANUSHREE DUTTA	Designing Nanoscale Metal Particles for Higher Order Assembly
8.	126122002	SOUMEN SAHA	Synthetic Approach towards the Formation of Cobalt Peroxynitrite Intermediate
9.	126122005	KRAPA SHANKAR	Interplay of Weak Interactions in Layered Structures of Ionic Complexes of Divalent Cobalt, Nickel, Copper, Zinc and Trivalent Lanthanum
10.	126122009	KULDEEP GOGOI	Redox Reactions of NO <sub>x</sub> (x = 1, 2) with First Row Transition Metal Complexes
11.	126122012	RAJENDRA MAITY	Organocatalytic Asymmetric Michael and Aza-Henry Reactions for the Synthesis of Nitrogen- & Oxygen-Containing Heterocyclic Compounds
12.	126122013	BEDIKA PHUKAN	Synthesis and Investigation on Water Soluble Mono(aquated) and Bis(aquated) Gd(III) and Mn(II) Complexes as Potential MRI Contrast Agents
13.	126122014	MD ASHRAFUL HAQUE	Syntheses of Unnatural Meroterpenoids and Evaluation of Their Anti-cancer Potential
14.	126122017	DEVULAPALLY MAHESH	Copper-Catalyzed Cascade C-H Functionalization and C-N Bond Formation: Synthesis of Functionalised Benzimidazoles
15.	126122019	ARKALEKHA MANDAL	Syntheses of Heterocycles and Aroylhydrazones using Organic Ni-triles: Molecular Structures and Self-assembly of their Transition Metal Complexes
16.	126122022	SHUBHADIP DAS	Hydrotropic Action and Solubilization of Sparingly Soluble Drugs

Sl. No	Roll No	Name	Thesis Title
17.	126122024	AKHTAR HUSSAIN MALIK	Design and Development of Polyfluorene Based Conjugated Polyelectrolytes for Sensing Applications
18.	126122026	SAHNAWAZ AHMED	Supramolecular Assembly of Amino Acid/Peptide Based Small Molecules and Some Applications
19.	126122027	MD. BELAL	Exploration of 3-Aminocoumarins for Construction of Pyridocoumarins and Pyrrolocoumarins & Synthesis of Fused Oxazoles and Thiazoles via Oxidative C-H Bond Functionalization
20.	126122029	KARUNA MAHATO	Exploration of 4-Hydroxydithiocoumarin for the Synthesis of Novel Organosulfur Compounds
21.	126122030	RAMANJANEYULU UNNAVA	<i>Synthesis of Complex Nitrogen Heterocyclic Compounds</i>
22.	126122034	NIBEDITA BEHERA	Coordination Chemistry and Recognition of Some Metal Ions Using N- or N,O-Donor Ligands
23.	126122035	SURANJAN DE	Synthesis of Unnatural Amino Acids and Their Spectroscopic Applications
24.	126122036	SUBRATA NATH	Design and syntheses of some heterocyclic liquid crystals and organogelators
25.	126122040	WAJID ALI	Construction of C-C & C-Heteroatom Bonds via C-H Functionalization and Cascade Strategies
26.	126122041	SAYAN ROY CHOWDHURY	Modulation of Amyloid Aggregation and Cancer Theranostic using Luminescent Conjugate Materials
27.	136122002	MADHURJYA BORAH	Synthesis of Five- and Six- membered Nitrogen and Sulfur Heterocyclic Compounds
28.	136122029	AMLAN BURAGOHAIN	Development of Functionalized Metal-Organic Frameworks for Gas Storage and Fluorescence Sensing Applications

#### List of students who have fulfilled the requirements for the award of Ph.D. degree in Mathematics

Sl. No	Roll No	Name	Thesis Title
1.	09612307	ARNAB GHOSH	Linearization, Sensitivity and Backward Perturbation Analysis of Multiparameter Eigenvalue Problems
2.	11612304	GAYATRI S PANICKER	If-Then-Else over the Algebra of Conditional Logic
3.	126123004	ANIRBAN MAJUMDAR	Robust Numerical Methods for Singularly Perturbed Parabolic PDES with Interior and Boundary Layers
4.	126123005	ABHISHEK DAS	Parameter-Uniform Numerical Methods for Singularly Perturbed Delay Parabolic Partial Differential Equations
5.	126123010	ANKUR KANAUIYA	Numerical Methods for Pricing Passport Option
6.	126123011	HIRANMOY PAL	State Transfer on NEPS and Cayley Graphs
7.	126123015	ANIRUDHA PORIA	A Study of Frames and Their Generalizations
8.	126123018	RAMESHKUMAR JALLU	Approximation Algorithms for Dominating Set and its Variants on Unit Disk Graphs
9.	136123005	DEB KUMAR GIRI	Uniqueness of the Fourier Transform on Euclidean Spaces and Certain Locally Compact Lie Groups

#### List of students who have fulfilled the requirements for the award of Ph.D. degree in Humanities and Social Sciences

Sl. No	Roll No	Name	Thesis Title
1.	08614108	ASIMUL ISLAM TWAHA	Intonational Phonology and Focus in Two Varieties of Assamese
2.	09614105	DEVARTHA MORANG	A Critical Reflection On Environmental Pragmatism

3.	09614110	DIPAK KUMAR SARMA	Factional Politics in Assam: A Study on the Asom Gana Parishad
4.	10614109	RACHNA YADAV	Entropy and The Development Process an Entropic Perspective to Sustainable Development
5.	10614110	PANKAJ SINGH	Provenance Study of the Archaeological Pottery of Northeast India
6.	10614113	SANGITA BHARATI	Domestic Violence and Women's Responses: A Study in Assam
7.	11614103	MAHSINA RAHMAN	A Study of Food Security in Rural Assam: Are Food Based Welfare Programmes Doing Enough?
8.	11614107	MUNMI SAIKIA	Outward Foreign Direct Investment from India: An Investigation of the Determinants
9.	11614109	PRANTI DUTTA	Maternal Health and Maternal Mortality: A Study of Four Selected Districts of Assam
10.	11614113	KALYAN DAS	Tone And Intonation In Boro
11.	11614116	ANIRUDDHA KUMAR BARO	Political Decentralization and Ethnic Violence in Sixth Schedule Areas of Assam
12.	11614119	BHUPEN MILI	A Human Development Approach to Vulnerability Assessment: A Study based on East Sikkim
13.	11614120	LUKE HORO	A Phonetic Description of Assam Sora
14.	126141003	AVINASH KUMAR	Dynamics of Scientific Collaboration: A Study of Rice Biotechnology Research in Selected Scientific Institutions in India
15.	126141004	MIRZA ZULFIQUR RAHMAN	Waters of Conflict or Waters of Cooperation?: Geopolitics of Sino-Indian transboundary water management in the Yarlung Tsangpo and the Brahmaputra
16.	126141005	BABAN BAYAN	Dairy Productivity and Crossbreeding Technology Adoption in Assam: Impact and Determinants
17.	126141011	HEMANTA BARMAN	Services Sector Growth in India: Trend, Pattern and Determinants of Services Sector with special reference to Banking and Telecommunications Services
18.	126141016	RAJASHREE BARGOHAIN	Echoes from the Hills: Poetry in English from Northeast India
19.	136141001	GUNJAN KUMAR	Institutional Environment and Entrepreneurship in India: An Interstate Study
20.	136141011	SUMAN DHAKA	Role of Sleep in Affect Regulated Decision Making under Risk: An ERP Study

**List of students who have fulfilled the requirements for the award of Ph.D. degree in Centre for Energy**

Sl. No	Roll No	Name	Thesis Title
1.	11615103	YENKHOH DISCO SINGH	Profiling Of Selected Grass Species For Bioethanol Production
2.	126151005	MADHUSMITA DASH	Dilute Acid and Ionic Liquid Based Pretreatment of Lignocellulosic Biomass towards Fermentable Sugars
3.	126151006	ASHISH JAGANNATH CHAUDHARI	Design, Installation and Assessment of a Novel Variable Compression Ratio Mechanism for Multifuel Spark Ignition Engine

**List of students who have fulfilled the requirements for the award of Ph.D. degree in Centre for the Environment**

Sl. No	Roll No	Name	Thesis Title
1.	126152001	ISHA VISHAN	Biosorption of Pb(II) by bacterial strain Bacillus badius AK isolated from rotary drum compost of water hyacinth
2.	126152002	MOTHE GOPIKIRAN	Biological sulfate reduction for batch and continuous removal of heavy metals from wastewater

**List of students who have fulfilled the requirements for the award of Ph.D. degree in Centre for Nanotechnology**

Sl. No	Roll No	Name	Thesis Title
1.	11615303	RADHAKRISHNA RATHA	Design Development and Fabrication of Thiophene and Benzothiadiazole Based Conjugated Polymers for Photovoltaics
2.	126153002	DIPJYOTI DAS	Design and Development of High Performance Polymer Light Emitting Diode for Solid State Lighting
3.	126153004	ASHISH SINGH	Influence of Electrode Buffer Layers in Plasmonic Bulk Heterojunction Solar Cells
4.	126153006	BANDHAN CHATTERJEE	Developing Gold Nanocluster Based Cancer Theranostics
5.	126153008	GOPI KRISHNA P	Design and Synthesis of Novel Conjugated Organic Semiconducting Materials for Organic Light Emitting Diodes
6.	136153003	ANAMIKA DEY	Device Engineering of Organic Field Effect Transistors for Sensing Applications
7.	136153004	ANAMIKA KALITA	Design and Fabrication of Rylene Diimide Based Active Materials, Devices and Applications

**List of students who have fulfilled the requirements for the award of Dual Degree (M.Tech. + Ph.D. degree) in Computer Science and Engineering**

Sl. No	Roll No	Name	Thesis Title
1.	11620101	SIBAJI GAJ	Watermarking Schemes for High Definition Videos
2.	11620102	SATISH KUMAR	Resource Allocation Strategies for Multimedia Services in Cellular Networks



Appendix-IV

PROGRESS IN CONSTRUCTION WORKS

Sl. No.	Works	Cost of works ( in lakhs)	Physical progress		Total progress upto 31.03.19		This year
			Upto 31.03.18	During 2018-2019	Physical	Financial ( in lakhs)	
	Hostel Building						
1.	Boys' Hostel 11 1152 capacity with 34785 sqm floor area)	9665.03	65%	10%	75%	7705.00	Construction of Boys' Hostel 11 with 1152 capacity was taken up in March 2015 at a total value of ` 9665.00 lakhs. Works of 580 rooms has been completed. Out of which 290 rooms are under occupation since Dec'2018. Remaining works including kitchen & dining hall area expected to be completed by October 2019.
2.	<b>Classroom Complex and Research Building:</b>						
a)	Class room (9875 sqm floor area)	7925.00	95%	5%	100%	7876.82	Construction of 18 classrooms are already completed November 2017 and 200 capacity halls completed in March 2018. Installation of furniture in 18 classroom has been done. Classes in this classroom complex has been started from January 2019.
b)	Research Building Complex (1850 sqm per floor)	6795.00	90%	10%	100%	6745.65	The work has been completed on 30.09.2018. As per scope of contract the building structure has been completed with external painting upto G+9 and internal finish upto G+5. R&D section has already shifted their office to the building. Top five floors are kept unfinished for future use as per requirement of the Institute.
3.	(Phase - V) DoD, CSE, Physics, Chemical Engg, HSS, Mathematics and Centre for Nano Technology. (19045 sqm floor area)	6944.74	90%	8%	98%	5883.70	98% of works in DoD, Physics, Chemical, HSS and Mathematics Departments have been completed and finishing items of works are going on and partly handed over to the department. Work in Nano Center is also now going on.

Sl. No.	Works	Cost of works ( in lakhs)	Physical progress		Total progress upto 31.03.19		This year
			Upto 31.03.18	During 2018-2019	Physical	Financial ( in lakhs)	
4.	<b>Residential Building</b>						
a)	Prefabricated Residential Quarter (1440 sqm)	542.73	95%	5%	100%	537.00	Work was completed on 30.09.2018
b)	F-Type (Phase-V)	13686.00	Nil	15%	15%	285.60	The pile foundation work has been completed. The raft foundation, plinth beam etc. are in progress.
5.	Guest House 2 (15090 sqm floor area)	4059.00	95%	5%	100%	4549.00	The building has been completed. Furniture for balance rooms (133 rooms) is in progress through S&P section and will be completed by August 2019.
6.	Boundary wall Phase-V (3.9 Km)	2221.45	37%	38%	75%	1257.79	Out of 3900 Rm, 2100Rm completed. The work is expected to be completed within December 2019.
7.	Dormitory for Security (2875 sqm floor area)	951.14	90%	10%	100%	835.28	The institute decided to use the other dormitory building as Transit Accommodation for newly joined faculties. Accordingly with modification in the internal wall plan has been converted to 122 units of 2 bed room quarters. The work has been completed in Nov 2018.
8.	Maintenance of Internal Road phase-II (8.5Km)	1105.97	70%	20%	90%	884.78	The APWD (NH) has taken up the work from November 2016 and almost 90% of work has been completed so far after further extension of the work for a value of . 1809.68 Lakhs. The work is about to be completed on June 2019.
9.	Estate Office (3000 sqm floor area)	1011.51	30%	50%	80%	600.59	The foundation works, structural work including walls and plastering works complete. The finishing works like internal partition, false ceiling, air conditioning works, sanitary and plumbing works etc. are in progress.
10.	Dormitory for Guest House (2155 sqm floor area)	488.86	50%	30%	80%	252.00	Flooring, painting, electrical and sanitary work is in progress and will be completed by August 2019

## Appendix-V

**SUMMARY OF INSTITUTE ACCOUNTS****Balance Sheet as on 31 March 2019**

Sources of Funds	Current Year	Previous Year
<b>CORPUS/CAPITAL FUND</b>	13,01,95,45,615	12,23,15,01,605
<b>DESIGNATED/ EARMARKED / ENDOWMENT FUNDS</b>	1,25,34,98,929	1,59,20,44,808
<b>CURRENT LIABILITIES &amp; PROVISIONS</b>	4,26,23,69,308	5,56,27,20,657
<b>TOTAL</b>	<b>18,53,54,13,853</b>	<b>19,38,62,67,070</b>

Application of Funds	Current Year	Previous Year
<b>FIXED ASSETS</b>		
Tangible Assets	11,17,08,26,161	9,49,52,55,740
Intangible Assets	5,58,19,395	5,51,76,734
Capital Works-In-Progress	3,04,63,14,070	3,70,52,01,774
<b>INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>		
Long Term	65,63,20,113	1,34,36,32,501
Short Term	-	-
<b>INVESTMENTS - OTHERS</b>	58,27,35,161	32,76,58,837
<b>CURRENT ASSETS</b>	2,52,41,03,124	1,85,15,16,460
<b>LOANS, ADVANCES &amp; DEPOSITS</b>	49,92,95,830	2,60,78,25,024
<b>TOTAL</b>	<b>18,53,54,13,853</b>	<b>19,38,62,67,070</b>

## Income and Expenditure Account for the year ended on 31 March 2019

Particulars	Current Year	Previous Year
<b>INCOME</b>		
Academic Receipts	2,51,69,754	28,77,60,758
Grants / Subsidies	3,09,87,00,000	2,43,00,00,000
Income from investments	4,35,09,149	2,70,67,763
Interest earned	4,61,659	7,11,660
Other Income	6,29,45,446	6,84,34,231
Prior Period Income	42,346	7,37,735
<b>TOTAL (A)</b>	<b>3,23,08,28,354</b>	<b>2,81,47,12,147</b>
<b>EXPENDITURE</b>		
Staff Payments & Benefits (Establishment expenses)	1,62,86,78,402	1,78,08,66,831
Academic Expenses	83,03,81,342	76,98,20,846
Administrative and General Expenses	39,33,18,752	23,74,44,982
Transportation Expenses	2,87,60,382	2,26,37,191
Repairs & Maintenance	49,45,30,055	43,01,60,274
Finance costs	18,26,579	1,64,250
Depreciation	71,15,06,827	53,85,98,014
Other Expenses	-	-
Prior Period Expenses	1,79,37,977	6,69,69,642
<b>TOTAL (B)</b>	<b>4,10,69,40,316</b>	<b>3,84,66,62,029</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>	<b>(87,61,11,961)</b>	<b>(1,03,19,49,883)</b>
<b>Transfer to / from Designated Fund</b>		
Building fund		
Others (specify)		
<b>Balance Being Surplus / (Deficit) Carried to Capital Fund</b>	<b>(87,61,11,961)</b>	<b>(1,03,19,49,883)</b>

Receipt and Payment Account for the Period Ended on 31 March 2019

RECEIPTS		Current Year	Previous Year	PAYMENTS		Current Year	Previous Year
I.	Opening Balance			I.	Expenses		
	a) Cash Balances	2,61,000	2,54,000		a) Establishment Expenses	1,39,69,49,482	1,19,52,25,071
	b) Bank Balance				b) Academic Expenses	65,11,42,287	61,64,02,244
	i. In Current accounts	12,13,34,355	53,92,16,461		c) Administrative Expenses	75,14,135	19,55,48,309
	ii. In Savings accounts	1,29,10,80,944	1,40,02,88,540		d) Transportation Expenses	12,69,991	9,06,497
	iii. In Deposit accounts	-	-		e) Repairs & Maintenance	1,62,153	6,84,276
II.	Grants Received				f) Prior period expenses	16,98,557	-
	a) From Government of India	3,61,04,50,443	2,49,42,00,000		g) Finance Cost	1,03,357	1,64,250
	b) From State Government	-	-	II.	Payments against Earmarked/Endowment Funds	93,07,02,800	55,00,94,896
	c) From others	-	-	III.	Payments against Sponsored Projects/Schemes	-	69,49,00,271
	d) Grants in aid receivable for 18-19 received during the year	-	18,04,41,207	IV.	Payments against Sponsored Fellowships/Scholarships	2,75,52,947	1,83,91,549
				V.	Investments and Deposits made	-	1,18,95,00,000
III.	Academic Receipts	54,68,83,192	46,71,44,933		a) Out of Earmarked/Endowments funds	4,98,00,000	2,85,53,544
IV.	Receipts against Earmarked/Endowment Funds	16,03,86,293	1,41,76,48,520		b) Out of own funds (Investments- Others}	29,00,00,000	1,17,54,450
V.	Receipts against Sponsored Projects/Schemes	-	91,89,55,268	VI.	Term Deposits with Scheduled Banks	43,99,19,617	11,04,08,431
VI.	Receipts against sponsored Fellowships and Scholarships	5,78,40,505	2,74,17,226	VII.	Expenditure on Fixed Assets and Capital Works - in- Progress	-	-
VII.	Income on Investments from				a) Fixed Assets	17,94,653	7,33,63,537
	a) Earmarked/Endowment funds	3,24,04,723	11,99,224		b) Capital Works- in- Progress	-	-
	b) Other investments	2,41,87,895	27,54,450	VIII.	Other Payments including statutory payments	2,07,64,37,927	37,25,90,376
VIII.	Interest received on						
	a) Bank Deposits	1,18,31,774	5,34,96,814	IX.	Refunds of Grants	-	-
	b) Loans and Advances	12,10,87,831	7,87,806	X.	Deposits and Advances	3,15,99,81,645	52,04,38,585
	c) Savings Bank Accounts	1,38,47,188	2,50,20,605	XI.	Other Payments	40,70,66,470	2,34,71,39,283
IX.	Investments encashed	81,78,50,344	48,55,64,075	XII.	Closing balances		

	<b>RECEIPTS</b>	<b>Current Year</b>	<b>Previous Year</b>		<b>PAYMENTS</b>	<b>Current Year</b>	<b>Previous Year</b>
X.	Term Deposits with Scheduled Banks encashed	79,39,63,761	7,39,59,763		a) Cash in hand	2,55,000	2,61,000
XI.	Other income (including Prior Period Income)	83,18,818	4,95,76,146		b) Bank balances		
XII.	Deposits and Advances	2,46,38,26,825	19,32,92,227		In Current Accounts	65,87,07,158	13,66,55,110
XIII.	Miscellaneous Receipts including Statutory Receipts	89,28,85,401	78,68,50,908		In Savings Accounts	1,78,02,63,892	1,27,57,60,189
XIV	Any Other Receipts - Fixed Assets/ Direct-Indirect expenses	91,28,80,778	22,06,73,695		In Deposit Accounts	-	-
	<b>TOTAL</b>	<b>11,88,13,22,069</b>	<b>9,33,87,41,868</b>		<b>TOTAL</b>	<b>11,88,13,22,069</b>	<b>9,33,87,41,868</b>



*A view of the Residential Blocks of IIT Guwahati*



*The construction of the Institute Estate Building is nearing completion*

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