



Indian Institute of Technology Guwahati

www.iitg.ac.in



ANNUAL REPORT 2019-2020



ANNUAL REPORT

2019-2020



Indian Institute of Technology Guwahati

Guwahati 781039, INDIA

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. Enrolment of students started in 1995

Growth

Particulars	2018-19	2019-20
Student Strength	6117	6419
Faculty Strength	412	411
R&D Funds Received (In crores)	105.12	134.39
Total Research Publications	2516	2015

Major R&D Project Received:

- ◆ Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater; Chemical; SERB
- ◆ Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel utilization; Chemical; DST
- ◆ DST-Energy Storage platform on hydrogen; Mechanical; DST
- ◆ Low-cost innovative technology for water quality monitoring and water resources management for Urban and rural water systems in India (LOTUS); Chemical; DST
- ◆ Indian Institutions-Fermi Lab Collaboration in Neutrino Physics; Physics; DST
- ◆ Approximate Computing Techniques for Resource Constrained Edge Devices; Computer Science and Engineering; MHRD
- ◆ NRL-Centre of Excellence on Sustainable Materials [NRL-COE-SUSMAT] for Development of Biodegradable Plastics from Oil and Bio-Refinery Stream; Chemical; Numaligarh Refinery, PSU
- ◆ Dynamics and Control of Two and Three-dimensional Excitation Waves; Chemistry; SERB

Major Conference etc. Held:

- ◆ India-EU ICT Supported Workshop on oneM2M Standard for IoT, April 13, 2020
- ◆ AIRTF - ASEAN-INDIA Research Training Fellowship, May 15 - June 30, 2019
- ◆ Workshop on Advanced Mathematical Modeling for Bioengineering Applications, May 17-18, 2019
- ◆ ISEA Sponsored Workshop on Advances in Hardware Security, May 24-29, 2019
- ◆ ASP-19 - Fifth International Symposium on Advances in Sustainable Polymers, October 14-18, 2019
- ◆ ICANN2019 - 6th International Conference on Advanced Nanomaterials and Nanotechnology, December 18-21, 2019
- ◆ Colloquium on "Truth and Non-Violence: Gandhi in the Post-Truth Era", January 8-9, 2020
- ◆ 2nd Rural Dialogue on Rural Development, January 20-21, 2020
- ◆ WATER 2020 - National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment, January 23-25, 2020
- ◆ DST-UKIERI supported workshop cum symposium on "Bio-inspired Nanomaterials for Environmental Applications", February 12-13, 2020
- ◆ RECYCLE 2020 - 3rd International Conference on Waste Management, February 13-14, 2020

Annual Report 2019-20: A Quick Look

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

Students Admitted	
Preparatory	08
BTech/BDes	832
MTech/MDes	591
MSc/MA	200
PhD	357
MS (R)	13
Dual Degree	02
Total	2003

Students Strength	
Preparatory	08
BTech/BDes	2926
MTech/MDes	1020
MSc/MA	369
PhD	2044
MS (R)	24
Dual Degree	28
Total	6419

Number of Degrees Awarded 21st Convocation	
BTech/BDes	617
MTech/MDes	346
MSc	119
MA	30
MS (R)	10
PhD	232
Total	1354

Staff Strength	
Academic Staff/ Faculty	411
Technical Staff (Group A)	47
Administrative Staff (Group A)	42
Technical & Administrative Staff (Group B&C)	426
Total	926

Research Papers	
Research Publications	2015
Total	2015

Grants (In crores)	
Revenue	369.57
Capital	50.28
Total	419.85

Consultancy Projects	
New Projects	153
Total	153

Sponsored Research Projects	
New Projects	128
Total	128

CONTENTS

PART I

Organisation
IIT Council
Board of Governors
Senate
Finance Committee
Building & Works Committee
Executive Summary

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

PART I

Organisation

IIT Council

Board of Governors

Senate

Finance Committee

Building & Works Committee

ORGANISATION

Chairman, Council of IITs

Dr. Ramesh Pokhriyal Nishank

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

Chairman, Board of Governors

Prof. T. G. Sitharam

Director

Prof. T. G. Sitharam

Deputy Director

Prof. P. S. Robi

Dean, Academic Affairs

Prof. Chitralkha Mahanta

Dean, Faculty Affairs

Prof. Ananthkrishnan Srinivasan

Dean, Research and Development

Prof. Vimal Katiyar

Dean, Students' Affairs

Prof. V. V. Dasu

Dean, Infrastructure, Planning and Management

Prof. Sharad Gokhale

Dean, Alumni and External Relations

Prof. Rakhi Chaturvedi

Dean, Outreach Education Programme

Prof. Kalpesh Kapoor

Dean, Public Relation, Branding and Ranking

Prof. Parameswar K. Iyer

Dean, Industrial Interactions and Special Initiatives

Prof G. Krishnamoorthy

Dean, Resource Generation and Finance

Prof. Sashindra K. Kakoty

Associate Dean, Academic Affairs

Prof. S. Senthilvelan

Prof. Vimal Katiyar

Associate Dean, Faculty Affairs

Prof. Utpal Bora

Associate Dean, Research and Development

Prof. Sreedeeep S.

Associate Dean, Students' Affairs

Prof. Mallikarjuna C.

Prof. Anamika Barua

Associate Dean, Infrastructure, Planning and Management

Prof. M. K. Bhuyan

Associate Dean, Alumni and External Relations

Prof. Aditya Narayan Panda

Registrar

Dr. Suresh S. M.

Head, Department of Biosciences and Bioengineering

Prof. Latha Rangan

Head, Department of Chemical Engineering

Prof. Anugrah Singh

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

Dr. D. Udaya Kumar

Head, Department of Electronics and Electrical Engineering

Prof. Rohit Sinha

Head, Department of Humanities and Social Sciences

Prof. Mrinal K. Dutta

Head, Department of Mathematics

Prof. M. Guru Prem Prasad

Head, Department of Mechanical Engineering

Prof. Santosha K. Dwivedy

Head, Department of Physics

Prof. Subhradip Ghosh

Head, Centre for Energy

Prof. Vijay S. Moholkar

Head, Centre for the Environment

Dr. Mihir Kumar Purkait

Head, Centre for Linguistics Science & Technology
Prof. Sukumar Nandi

Head, Centre for Nanotechnology
Prof. Dipankar Bandyopadhyay

Head, Centre for Rural Technology
Prof. Sashindra K. Kakoty

Head, Centre for Career Development
Prof. Vinayak Narayan Kulkarni

Head, Centre for Creativity
Dr. Manoj Majhi

Head, Centre for Educational Technology
Prof. Hemant B. Kaushik

Head, Central Instruments Facility
Prof. Mohammad Qureshi

Head, Computer & Communication Centre
Prof. G. Sajith

Librarian, Lakshminath Bezbaroa Central Library
Dr. Tamal Kumar Guha

IIT Council

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

Board of Governors

Prof. T. G. Sitharam Director, IIT Guwahati	Officiating Chair- man	
Prof. T. G. Sitharam Director, IIT Guwahati	Member (Ex- officio)	
Dr. (Ms.) Chitra Dutta Head, Structural Biology & Informatics Division CSIR-Indian Institute of Chemical Biology, Kolkata – 700032 (Till 17.03.2019)		
Dr. Prahlada Rama Rao Pro Chancellor S-VYASA; Director, Centre for Energy Research; Former vice-chancellor, DIAT(DU), Pune; DRDO, Min of Defence Adjunct Faculty, Dept. of Management IISc and NIAS, Bengaluru, Member, IISc Court (From 18.03.2019)	Member	
Prof. S. K. Srivastava Vice Chancellor North Eastern Hill University, Shillong – 793 022	Member	
Prof. Varadraj B. Bapat Faculty in Accounting and Finance SIM School of Management Indian Institute of Technology Bombay Powai, Mumbai – 400 076	Member	
Dr. Rakesh Sarwal Additional Secretary (TE) Ministry of HRD, Shastri Bhawan, New Delhi		
Commissioner & Secretary to the Govt. of Assam Higher Education (Technical) Department, Guwahati – 781 006	Member	Nominee from Govt. of Assam
Er. Vikeduosie Kehie Retired Engineer-in Chief (NPWD) House No. – 174, Kohima Science College Road JOTSOMA, Kohima, Nagaland	Member	Nominee from North Eastern Re- gion
Prof. Bhaba Kr. Sarma, Department of Mathematics, IIT Guwahati (Till 31.12.2019)		
Prof. Diganta Goswami Professor, Dept. of Computer Science & Engineering, IIT Guwahati (From 01.01.2020)	Member	
Prof. Bishnupada Mandal Professor, Department of Chemical Engineering, IIT Guwahati	Member	
Dr. Suresh S. M. Registrar, IIT Guwahati	Secretary (Ex- officio)	

Senate

The Director	Chairman (Ex-Officio)
The Deputy Director	Member (Ex-Officio)
All Professors of the Institute	Member
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	Board Nominated Members
Prof. Dilip Kr. Saikia Professor, Computer Science and Engineering Tezpur University and Former Director of NIT Meghalaya	Member
Prof. Abani Kumar Bhagabati Professor, Department of Geography Guwahati University	Member
Prof. Dhruva J. Saikia Inter-University for Astronomy and Astrophysics Pune	Member
Head of the Academic Departments and Academic Centers	Member
Librarian of the Institute	Member
Chairman, Hostel Affairs Board	Member
Registrar of the Institute	Secretary

Finance Committee

Prof. T. G. Sithram

Director IIT Guwahati

Chairman

Director (IITs)

Dept. of Higher Education,
MHRD, Shastri Bhawan,
New Delhi-110 115

Member

Director (Finance)

Integrated Finance Division,
MHRD, DoHE,
IF-I Section, Shastri Bhawan,
New Delhi-110 115

Member

Prof. Gautam Barua

Director, IIIT Guwahati,
IT Park Street Bongora, Guwahati-781015

Member

Dr. U. S. N. Murty

Director,
National Institute of Pharmaceutical Education and Research
Guwahati (NIPERG), Sila Katamur (Halugurisuk),
P.O.: Changsari, Guwahati-781101

Member

Prof. Sashindra Kr. Kakoty

Professor, Dept. of ME & Dean, Resource Generation and Finance,
IIT Guwahati

Special Invitee

Dr. Suresh S. M.

Registrar
Finance Committee

Secretary

Building and Works Committee

Prof. T. G. Sitharam Director, IIT Guwahati	Chairman (Ex-officio)
Superintendent Engineer CPWD, Assam	Member (Ex-officio)
Chief Engineer (B) PWD, Assam	Member (Ex-officio)
Prof. D.N. Buragohain Professor Emeritus, Department of Civil Engineering, IIT Guwahati	Member
Mr. Mrinal R. Das Secretary (Retd.), PWD, GoA	Member
Prof. Sharad Gokhale Dean IPM, IIT Guwahati	Member (Ex-officio)
Prof. P. S. Robi Dy. Director, IIT Guwahati	Member (Ex-officio)
Prof. M. K. Bhuyan Associate Dean, IPM IIT Guwahati	Special Invitee
Dr. Suresh S. M. Registrar, IIT Guwahati	Member Secretary (Ex-officio)

Executive Summary



INTRODUCTION

The year 2019 saw IIT Guwahati's twenty second 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 graduated 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, students 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.

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 2019-20 is 6419. Of these, 54.29% are postgraduate students.

Twenty First Convocation

In the Twenty First Convocation, a total number of 1354 students received their BTech, BDes, MA, MSc, MTech, MDes and PhD degrees as given below:

Course	2019-20
BTech and BDes	617
MTech and MDes	346
MSc	119
MA	30
MS	10
Dual Degree (MTech+PhD)	02
PhD	230
Total	1354

Programme	Nos.
BTech/BDes	
Biotechnology	39
Chemical Engineering	56
Chemical Science and Technology	37
Civil Engineering	79
Computer Science and Engineering	85
Design	45
Electronics and Communication Engineering	77
Electronics and Electrical Engineering	46

Engineering Physics	35
Mathematics and Computing	42
Mechanical Engineering	76
Total	617
MSc	
Chemistry	47
Mathematics and Computing	34
Physics	38
Total	119
MA	
Development Studies	30
Total	30
MTech/MDes	
Biotechnology	33
Chemical Engineering	39
Civil Engineering	71
Computer Science and Engineering	34
Design	24
Electronics and Electrical Engineering	55
Mechanical Engineering	84
Rural Technology	06
Total	346
MS(R)	
Centre for Energy	10
Total	10
PhD	
Biosciences and Bioengineering	20
Chemical Engineering	20

Chemistry	31
Civil Engineering	30
Computer Science and Engineering	07
Design	08
Electronics and Electrical Engineering	20
Humanities & Social Sciences	11
Physics	24
Mathematics and Computing	13
Mechanical Engineering	28
Centre for Energy	07
Centre for the Environment	04
Centre for Nanotechnology	07
Total	230

NIRF RANKINGS

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 2020 in which IIT Guwahati ranked seventh among the engineering institutions and seventh 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 staff members and well-wishers of the Institute. The Institute shall firelessly strive in the coming days to achieve higher rank.

SWACHHTA RANKING

The Indian Institute of Technology, Guwahati (IITG) has been ranked third in the cleanliness ranking for higher educational institutions organised by Union HRD Ministry, officials said. IITG was ranked in the category of 'Residential University - AICTE' in the third edition of annual 'Swachh Campus Ranking 2019' for higher educational institutions organised by HRD ministry.

NATURE INDEX RANKING

IIT Guwahati has been ranked 350th in the Overall World Category and 6th in Overall India Category in the Academic Sector of Nature Index Annual Ranking 2020. While in Subject-wise Rank in India, IITG has been ranked 5th in Chemistry, 7th in Physical Sciences and 9th in Life Sciences. The 'Nature Index' functions as an indicator of high-quality research in the Natural and Physical Sciences.

Overall World Rank : 350th
Overall India Rank : 6th

Subject wise Rank in India

Chemistry : 5th
Physical Sciences : 7th
Life Sciences : 9th

QS RANKING

In the QS World University Ranking 2021 IIT Guwahati was ranked at 470, which is an improvement of 21 place, as IIT Guwahati was ranked 491 in 2020.

RESEARCH AND DEVELOPMENT

The other component of our research program is sponsored (or directed) research. There are 289 research projects in progress with a total sanctioned value of about `298.5 crore. In the year under report, we received 129 new projects with a sanctioned value of ` 43.99 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. 341 personnel are engaged in various research projects at the Institute with 98 Principal Investigators involved.

The Institute has applied for 31 patents in 2019-2020.

Some of the major research projects received during the year are: the same has already sent as attachment, however again the same is given below for records.

Project Title	Principal Investigator	Funding Agency	Department/ Centre	Amount Sanctioned (₹)
Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	Animesh Kumar Golder	SERB	Chemical	9663060
Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel	Prabu Vairakannu	DST	Chemical	7402047
DST-Energy Storage platform on hydrogen	P. Muthukumar	DST	Mechanical	16594920
Low-cost innovative technology for water quality monitoring and water resources management for Urban and rural water systems in India (LOTUS)	Senthilmurugan Subbiah	DST	Chemical	23271000
Indian Institutions-Fermi Lab Collaboration in Neutrino Physics	Bipul Bhuyan	DST	Physics	16054000
Approximate Computing Techniques for Resource Constrained Edge Devices	John jose	MHRD	Computer Science and Engineering	7748935
NRL-Centre of Excellence on Sustainable Materials [NRL-COE-SUSMAT] for Development of Biodegradable Plastics from Oil and Bio-Refinery Streams	Vimal Katiyar	Numaligarh Refinery, PSU	Chemical	40000000
Dynamics and Control of Two and Three-dimensional Excitation Waves	Sumana Dutta	SERB	Chemistry	7719154
Functional Mechanism of CRISPR RNA Maturation in an Atypical CRISPR-Cas Adaptive Immune System	Anand Baskaran	SERB	Biosciences and Bioengineering	7448760
Assembly of Nanoscale Particles for Theranostic and Energy Applications	Arun Chattopadhyay	SERB	Nanotechnology	9500000

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 contribu-

-tions to the industrial, economic and social growth of the country with special emphasis on this region.

A total of 135 new consultancy projects were carried out during the year. The total value of consultancy projects undertaken during this year is ₹12.42 crores and ₹ 10.77 crores was received for all consultancies.

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:

- ◆ Fully Motorized inverted fluorescence microscope
- ◆ High-Performance Liquid Chromatograph
- ◆ High speed and High capacity centrifuge
- ◆ Parallel Fermenter with Accessories
- ◆ Ultracentrifuge
- ◆ PSU, Zeta Board for ZEN 3600, DSP board, Micro-processor board
- ◆ Ultimaker 3FDM 3D printer, Multi-Filament pack, Modified 3D Tool Kit, UTM Cleaning Filament
- ◆ Basic Plasma Cleaner, PYREX SAMPLE TRAY for the PDC, Thermocouple Vacuum Gauge Assembly
- ◆ Full set of optical alignment including power meter for Dilase 250
- ◆ HPLC
- ◆ TOC Analyser

Lakshminath Bezbaroa Central Library created state-of-the-art facilities to offer innovative services for teaching, learning and research activities. The library has a fast growing collection of books, journals, magazines both in print and digital format. It has a collection of about 1.81 lakhs of printed books and bound volumes of journals, 2.03 lakhs of

e-books and 27,557 online and print 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/utility database like ACS Web Edition, EBSCO Business Source Complete, EBSCO Discovery Service, eHRAF Database, IEC Standards, IOP Science Collection, ISO Standards, Royal Society of Chemistry Gold Collection, SciFinder Scholar, Scopus, Turnitin, etc. and some well-known national database i.e. BIS Standards, CMIE ProweesIQ, Economic Outlook, EPWRF Time Series, etc.

For better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Presently the library subscribes to 16,667 journal titles across all academic areas of which 16, 638 are online journals. In addition, Institute has access to 8,824 online journals through the 'e-ShodhSindhu Consortium' and the 'DeLCON: DBT- Electronic Library Consortium'. Library has also developed a reasonably good collection of Assamese language books and the literary works of Sahityarathi Lakshminath Bezbaroa.

Due to ongoing pandemic, students and research scholars staying beyond the Institute Campus faced severe difficulties to access subscribed online contents. To mitigate this challenge, Library immediately developed and deployed well-structured remote access facility of online contents of more than 30 world renowned publishers.



The midnight celebration of the Silver Jubilee of Indian Institute of Technology Guwahati commenced in presence of the then hon'ble HRD Minister Dr. Murl Manohar Joshi, the founder Director Prof. Dhirendra Nath Buragohain and the present Director Prof. Dr. T. G. Sitharam

ACADEMIC AND RESEARCH COLLABORATIONS

SUZUKI ENDOWED COURSE & SUZUKI INTERNSHIP PROGRAM

Following the MoU that IIT Guwahati signed with Suzuki Motor Corporation, Japan; Maruti Suzuki India Limited & The Association for Overseas Technical Cooperation and Sustainable Partnership, Japan, the Suzuki Endowed Course was started at IIT Guwahati whereby the top 10 students registered for the *Japanese Language* and *Automobile Engineering* courses would be selected for the Suzuki Internship Program at the Maruti Suzuki offices in Japan and India. The classes for the same started on February 08, 2020 and continued till March 08, 2020 after which it had to be postponed due to the spread of the Covid-19 pandemic. A total of 43 students from IIT Guwahati had applied for the course.

The formal inaugural ceremony of the Japanese Endowed Course and exchange of the MoU was held in the august presence of the Hon'ble Ambassador of Japan to India, H.E. Mr. Satoshi Suzuki IIT Guwahati on March 03, 2020.



TRAINING ON ICT FOR FACULTY FROM SHERUBTSE COLLEGE, ROYAL UNIVERSITY OF BHUTAN

A team of faculty members from Sherubtse College, Royal University of Bhutan had undergone a Training Programme on 'Role of ICT in Teaching' at IIT Guwahati during January 20-23, 2020. The Training Programme was organized by the Alumni & External Relations office in collaboration with the Centre for Educational Technology, IIT Guwahati. The Training Programme for the 20 faculty members included 10 lectures by faculty of IIT Guwahati and visits to various labs and other facilities of IIT Guwahati. All the participants were awarded Certificates of Participation by Prof. T.G. Sitharam, Hon'ble Director, IIT Guwahati.

JOINT DEGREE PROGRAMMES WITH GIFU UNIVERSITY, JAPAN

- A. The Joint Degree programs with Gifu University, Japan have been highlights of the collaborative efforts the Institute has had with foreign universities. The formal launch of the program was held in Japan during a Joint Degree Symposium held at the Nagaragwa Convention Center, Gifu City, Japan on October 07-08, 2019. The launch was inaugurated by Prof. T G Sitharam, Director of IITG, Prof. Ir. Dr. Mohd Hamdi Bin Abd Shukor, Vice-Chancellor of UKM, Prof. Hisataka Morikawi, President of Gifu University, Dr. Fumiaki Suzuki from Gifu University, delegates from IIT Guwahati, other overseas partner universities, representatives from various industries, Gifu Chamber of Commerce and Industry, academic staff and students.
- B. The following students from Gifu University Japan, had registered at IIT Guwahati in the July-November 2019 semester as part of the Joint



Master Degree Programme in Food Science & Technology

- I. Ms. Yume Saito
- II. Ms. Ayaka Tsuchiya
- III. Mr. Tatsushi Aoyagi
- IV. Ms. Haruka Maruyama

C. The following students from IIT Guwahati have enrolled for the Joint Master Degree Programme in Food Science & Technology and were supposed to undertake the semester exchange at Gifu University, Japan in April 2020.

- I. Sanjay Raghuwanshi (194162006)
- II. Rupesh Kumar (194162005)
- III. Mayank Sharma (194162004)
- IV. Priyanka Korgaonkar Vilas (194162003)

D. The following students from IIT Guwahati are currently enrolled under the International Joint Ph.D programme in Food Science & Technology

- I. Mr. Mohammed Rafi Uz Zama Khan (BSBE)

E. The following student from IIT Guwahati is currently enrolled under the International Joint Ph.D programme in Integrated Mechanical Engineering

- I. Mr. Rishiraj Purkayastha (Centre for Energy)

F. The following students have been selected for enrolment under the Joint Ph.D programme in Food Science & Technology & Integrated

Mechanical Engineering for the year 2020.

- I. Ms Imnanaro (FST)
- II. Mr Kamal Narayan Baruah (FST)
- III. Mr Subhash Pratap (IME)

COLLABORATIVE DOCTORAL PROGRAMME WITH CURTIN UNIVERSITY, AUSTRALIA

The following students have enrolled for the Collaborative Doctoral programme with Curtin University, Australia

- I. Mr. Anant Aishwarya Dubey (Civil Engineering)
- II. Md. Shakeel Iqbal Saikia (Computer Science & Engineering)
- III. Mr. Arindam Dutta (Chemical Engineering)
- IV. Mr. Jinesh Subhash Machale (Chemical Engineering)
- V. Ms. Sikha (Chemical Engineering)

NATIONAL CHUNG HSING UNIVERSITY, TAIWAN

The Faculty of National Chung Hsing University (NCHU), Taiwan Prof. Wen-Ling Deng, Director, Division of Foreign Student Affairs & Prof. Mu-Min Chen, Vice President of International Affairs along with their team visited IIT Guwahati and attended the interactive session with student, faculty and staff members of IIT Guwahati on November 18, 2019. Faculty of NCHU interacted and introduced



the students with Student and Faculty Bi-lateral mobility, Internships, Research Collaboration and various scholarship opportunities available for students. Such as Taiwan Government Scholarships by Ministry of Education, Foreign Affairs and Science & Technology. Apart from government scholarships, NCHU also provide institute scholarships such as NCHU Elite scholarships.

The session was followed by the Taiwan Tea Ceremony, where the officials from Taiwan Tea Industry participated, they prepared the Taiwanese Tea themselves and served the gathering also distributed tea samples as a part of promoting their Tea Industry.



HON'BLE AMBASSADOR OF FRANCE TO INDIA, H.E. MR. EMMANUEL LENAIN

A delegation led by the Hon'ble Ambassador of France to India, H.E. Mr. Emmanuel Lenain had

visited IIT Guwahati on November 05, 2019. The delegation included Ms. Virginie Corteval, Consul General of France in Kolkata, Mr. Romain Otal, Second Counsellor, Political Service, Ms. Emilia Cartier, Attachée for University Cooperation (North & East) and

Ms. Anjita Roychaudhury, Press Attachée, General Consulate of France in Kolkata.

The visit of the delegation started with a meeting with Prof. T.G. Sitharam, hon'ble Director IIT Guwahati along with Prof. Rakhi Chaturvedi, Dean Alumni & External Relations, Prof. Aditya N. Panda, Associate Dean Alumni & External Relations and other officials of the Institute. The delegation had discussions on a broad range of issues related to academic and research collaborations with the hon'ble Director IIT Guwahati and the others present.

After the meeting with hon'ble Director IIT Guwahati, the delegation visited the Department of Design, Centre for Energy, Central Instruments facility and the Centre of Excellence for Sustainable Polymers, where they were shown the laboratory facilities and different projects being undertaken by the centres.

H.E. Mr Emmanuel Lenain also interacted with Students, Staff and faculty members of IIT Guwahati and expressed appreciation to each and every one for the wonderful academic ambience and infrastructure.



LATIN AMERICAN MUSIC AND DANCE FESTIVAL

Indian Institute of Technology Guwahati (IITG), in collaboration with the Indian Council for Cultural Relations, Ministry of External Affairs, Government of India, hosted the "Latin American Music and Dance Festival" on November 08, 2019 at the Dr. Bhupen Hazarika Auditorium, IIT Guwahati on November 08, 2019. The event saw participation of musical and dance groups from Bolivia and Columbia.

The event was inaugurated by the Chief Guest, H.E. Dr. Shah Mohammad Tanvir Mansoor, Asst. High Commissioner and Head of Mission, Assam High Commission of Bangladesh in Guwahati in the presence of Prof. T.G. Sitharam, Director, IIT Guwahati and Smt. Madhurima Baruah Sen, Secretary, Cultural Affairs, Govt. of Assam as Guests of Honour.



VICE-CONSUL AT U.S. DEPARTMENT OF STATE

The Vice-Consul at U.S. Department of State, Mr. Daniel Wilson along with his team visited Indian Institute of Technology Guwahati on November 14, 2019 and interacted with students, faculty and staff members of the institute.

Prof. Rakhi Chaturvedi, Dean of Alumni and External Relations (AER) chaired the session and delivered the formal welcome address. Prof. Aditya Narayan Panda, Associate Dean, AER also attended the session.

In this interactive session, the Vice-Consul addressed the gathering on various Fulbright Fellowships such as Fulbright-Nehru Doctoral Research Fellowship, Fulbright-Nehru Postdoctoral Research Fellowships, Fulbright-Nehru Academic and Professional Excellence Fellowship, eligible fields of study, etc. He also focussed on the types of VISA available, procedures to apply for VISA and other Higher Education opportunities in the United States. The session was attended by undergraduate, post-graduate, doctoral students and the faculty and staff members of the Institute.

CURTIN UNIVERSITY, AUSTRALIA

A delegation from Curtin University, Australia, consisting of Prof. Kate Trijnastic, Dean Research, Faculty of Science and Engineering and Prof. Abhijit Mukherjee, Dean International (South Asia), visited Indian Institute of Technology Guwahati on November 21, 2019 and interacted with students, faculty and staff members.

The delegation had a meeting with Prof. T.G. Sitharam, Director, IIT Guwahati which was also attended by Prof. Rakhi Chaturvedi, Dean of Alumni and External Relations (AER), Prof. Aditya Narayan Panda, Associate Dean, AER,



JAPAN CARAVAN 2019 (A JAPANESE LANGUAGE AND CULTURE WORKSHOP)

A Japanese Language and Culture Workshop, titled, Japan Caravan 2019 was held in IIT Guwahati on November 07, 2019. The event was jointly organised by IIT Guwahati and the Japan Foundation, New Delhi. The event was aimed at initiating students to the different aspects of Japanese language and culture.

More than 350 students had registered for the programme out of which 100 students were shortlisted on a 'first-come first-served basis'. The participating students were introduced to different aspects of Japanese Culture such as Japanese Origami or paperwork workshop which was followed by a Japanese Calligraphy session mentored by an expert from the Japan Foundation, New Delhi.

Prof. Chandan Mahanta, HoD, Department of Civil Engineering and Mr. A. Wanshai Shynret, Assistant Registrar, AER. The meeting focussed on the ongoing mobility as part of the Collaborative Doctoral Program between IIT Guwahati and Curtin University and how to strengthen it further. Discussions were also held on extending the scope of mobility to science-based departments apart from the existing mobility from engineering departments. The delegation expressed satisfaction at the progress of partnership and planned the priorities for the next year.



MEMORANDUM OF UNDERSTANDING (MOUs)

CHONNAM NATIONAL UNIVERSITY, SOUTH KOREA & NATIONAL INSTITUTE FOR MATERIALS SCIENCE, JAPAN

MoUs were signed with the above two institutions with the objective to enhance mutual relations and develop academic interchange in the areas of education and research. The areas of cooperation will include exchange of students, exchange of faculty members and researchers, Joint research projects, Joint cultural programs, Internship opportunities, etc.

NXP INDIA PRIVATE LIMITED

An agreement is proposed with NXP India Private Limited to encourage jointly guided doctoral research with part of the work done using NXP ecosystem. The proposed agreement among other things also envisages to enable IITG M.Tech/ B.Tech students to get exposure to practical R&D scenario in semiconductor industry through collaborative M.Tech projects guided jointly by IITG faculty and NXP personnel and to enable IITG M.Tech students to get the experience of working in an industrial environment through internships at NXP. It is also proposed that every year NXP will invite applications for NXP-Ph.D fellowships.

INTERNATIONAL COOPERATIVE GRADUATE PROGRAM WITH NATIONAL INSTITUTE FOR MATERIALS SCIENCE, JAPAN

The purpose of the proposed Cooperative Graduate Program Agreement is to provide a mechanism for the acceptance of PhD students of Indian Institute of Technology Guwahati, to the National Institute for Materials Science, Japan and for exchanging key researchers within the partnering institutions.

KYOTO INSTITUTE OF TECHNOLOGY, JAPAN

The Institute has finalized the Agreement for renewal of the MoU with Kyoto Institute of Technology (KIT) which will expire on June 2020. IIT Guwahati has already seen robust collaborative activities with Kyoto Institute of Technology which included bilateral movement of a number of students and annual symposiums. The most recent symposium with KIT titled, 5th International Symposium on Advances in Sustainable Polymers (ASP-19) was held in October 14-18, 2019, at Kyoto.

ERASMUS+ AGREEMENT (UNIVERSITY OF ICELAND)

The Institute has finalized the Inter-Institutional Agreement with University of Iceland under the Erasmus+ Programme to cooperate for the exchange of students and/or staff in the context of the Erasmus+ programme. The programme aims at Mobility for Higher Education Student and Staff for the period 2020-2023. The programme is fully funded by the European Commission.

SEMESTER EXCHANGE PROGRAMME WITH UNIVERSITY CARLOS III DE MADRID (INBOUND)

The following students had registered for the semester exchange programme for July-November 2019 as part of the Semester Exchange programme with University Carlos III de Madrid.

- I. Mr. Victor Fernandez Sanchez Pascuala (UC3 Madrid) registered in the Department of Mechanical Engineering
- II. Mr. Francisco Javier Martinez Parra (UC3 Madrid) registered in the Department of Mechanical Engineering

SEMESTER EXCHANGE/RESEARCH INTERNSHIPS WITH PARTNER UNIVERSITIES (OUTBOUND)

The following students of IIT Guwahati have undertaken their semester exchange programmes/ research internships with partner universities abroad

1. Mr. Nirdesh Kumar Sharma (184104006)- Technische Universität Darmstadt, Germany under DAAD
2. Mr. Varun Seshadri (160121042) - Technische Universität Munich, Germany
3. Mr. Sukumar Purohit (1661051007) – Gifu University, Japan Research Internship 6 months
4. Ms. Bhanupriya Das (176107011) - National Ilan University, Taiwan
5. Ms. Imnanaro (196106009) – National Chung Hsing University Taiwan
6. Ms. Purpa Dema Thungon (BSBE) - University of Alberta, Canada
7. Mr. Aakash Agarwal (160122001)- Gifu Winter School 2019, Japan
8. Ms. Sosmitha Girisa (176106101) - National Institute of Advance Industrial Science & Technology Japan
9. Mr. Yash Toshniwal (B.Tech, Chemical) University of Alberta, Canada
10. Mr. Aditya Bansod (B.Tech, Chemical), University of Alberta, Canada
11. Mr. Vishal Agarwal (146103021), Aachen University, Germany
12. Mr. Gourab Mukharjee (146122021), University of Manchester, UK
13. Mr. Prateek Manocha (160108045), University of Southern California
14. Ms. Neha Manojkumar Mulchandani (166107006), Kyoto Institute of Technology, Japan
15. Ms. Kona Mondal (176107003), Kyoto Institute of Technology, Japan
16. Mr. Gurpreet Singh Sodhi (156103007), University of Guelph, Canada
17. Mr. Bikram Paul (146102038), University of Pardubice, Czech Republic
18. Mr. Kushagra Agrawal (166107102), University of Alberta Canada
19. Ms. Priyanka Talukdar (146104025), University of Alberta Canada
20. Ms. Udangshree Boro (166107027), University of British Columbia Canada
21. Ms. Kajal Ingtipi (166107029), University of British Columbia Canada
22. Mr. Shwetank Panwar (160106044), Mc Gill University Canada

WINTER SCHOOL, GIFU UNIVERISTY, JAPAN

The Annual Winter School at Gifu University was held in December 2019 at Gifu University, Japan. Mr. Aakash Agarwal (Roll No: 160122001) attended the same from IIT Guwahati.

DBT-TWAS and ASEAN-INDIA RESEARCH TRAINING FELLOWSHIP (AI-RTF)

A total number of 4 students from Indonesia, Cameroon, Iran and Egypt had enrolled at IIT Guwahati under various fellowships such as DBT-TWAS fellowship, ASEAN-INDIA Research Training Fellowship.

SCHEME FOR PROMOTION OF ACADEMIC AND RESEARCH COLLABORATION (SPARC)

Prof. Peter Comba from University of Heidelberg, Germany visited IIT Guwahati in August 2019 to carry out the project under SPARC titled, "Perspective of Fluctuations in Electron Transfer Reactions in Non-Heme Chemistry" in collaboration with Dr. Chivukula Vasudeva Sastri, Department of Chemistry, Indian Institute of Technology Guwahati.

NAMASTE+

NAMASTE+ is a mobility and research cooperation project between the Georg-August Universität Göttingen and 12 Indian Higher Education Partner Institutions of which IIT Guwahati is one. The project is financed by the DAAD and the German Ministry of Education and Research within the Program "A New Passage to India". Ms. Karishma Rubab, JA, AER office was selected for the Namaste+ Staff Training Programme and scheduled to visit Georg-August Universität Göttingen during May 10-16, 2020. The mobility has now been postponed to 2021 due to the worldwide pandemic caused by Covid-19.

DUO-INDIA FELLOWSHIP PROGRAMME

The Ministry of Human Resource Development (MHRD), Government of India, had announced the launch of the DUO-India Fellowship Programme in July 2019 to encourage research collaboration and exchange of faculty and students between India and European countries. 14 European countries namely Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and **UK** are part of this programme. As part of the application process, faculty and student applicants had to jointly apply for the fellowship with their counterparts from European institutions.

The following five faculty members from IIT Guwahati were awarded the 2020 DUO-India Professor Fellowship Award:

1. Dr. Amit Shelke - University of Tromso, Norway
2. Dr. Partha Sarathi Mandal - Universite Grenoble-Alpes, France
3. Priyadarshi Satpati - Uppsala University, Sweden
4. Poonam Kumari - Loughborough University, UK
5. Sushanta Karmakar - Loughborough University, UK

HERITAGE NETWORK ANNUAL GENERAL ASSEMBLY

IIT Guwahati is one of the partners of the Heritage Network, a body of HEIs from India and Europe. The Annual Heritage Network General Assembly was scheduled to be hosted by IIT Guwahati, India, during **19-20 March, 2020**. The same however had to be postponed due to the worldwide pandemic caused by Covid-19.

RTG SUMMER SCHOOL WITH HEIDELBERG UNIVERSITY

IIT Guwahati was scheduled to host the RTG Summer School 2020 in collaboration with Heidelberg University, Germany from March 23-27, 2020 as part of the Joint Degree program in Big Data Research. The same however had to be postponed due to the worldwide pandemic caused by Covid-19.

In a development related to the IITG-Heidelberg Joint Degree Program in Big Data Research, a tandem with Dr. Navin Gupta, BSBE as PI from IIT Guwahati and another faculty from Heidelberg University has been formed facilitating the way for a student to enrol for the program as part of the MoU.

List of Students under Internship Programme (Inbound)

Name	Name of Fellowship/ Internship	Home University
Mr. Choi Jawoon	Winter School 2020	Hangyang University, Korea
Mr. Chung Sung Hoon	Winter School 2020	Hangyang University, Korea
Mr. Cho Soohyeon	Winter School 2020	Hangyang University, Korea
Mr. Lee Minseok	Winter School 2020	Hangyang University, Korea
Mr. Jun Park Young	Winter School 2020	Hangyang University, Korea
Mr. Doohyun Lee	Winter School 2020	Hangyang University, Korea
Mr. Park Taemin	Winter School 2020	Hangyang University, Korea
Mr. Jun Do Lee	Winter School 2020	Hangyang University, Korea
Mr. Sung Hyeonsu	Winter School 2020	Hangyang University, Korea
Mr. Hyeok Jae Yoon	Winter School 2020	Hangyang University, Korea
Mr. Kim Kwonjae	Winter School 2020	Hangyang University, Korea
Mr. Seob Hyung Yoon	Winter School 2020	Hangyang University, Korea
Mr. Yun Jae Ahn	Winter School 2020	Hangyang University, Korea
Mr. Kwon Hyeokjin	Winter School 2020	Hangyang University, Korea
Mr. Lim Heemin	Winter School 2020	Hangyang University, Korea
Mr. Kim Yunhyeon	Winter School 2020	Hangyang University, Korea
Mr. Ryu Ha Seung	Winter School 2020	Hangyang University, Korea

Mr. Serfeon Lee	Winter School 2020	Hangyang University, Korea
Mr. Jang Juyoung	Winter School 2020	Hangyang University, Korea
Mr. Yoon Su Hwan	Winter School 2020	Hangyang University, Korea
Mr. Yoon Jae Ho	Winter School 2020	Hangyang University, Korea
Mr. Park Yea Chan	Winter School 2020	Hangyang University, Korea
Mr. Jung Jihoon	Winter School 2020	Hangyang University, Korea
Mr. Choi Insik	Winter School 2020	Hangyang University, Korea
Mr. Kang Jongsu	Winter School 2020	Hangyang University, Korea
Mr. Minki Lee	Winter School 2020	Hangyang University, Korea
Mr. Nayan Deep Tiwari	Internship	Shantou University, China
Mr. Ali Hamza Younes	Internship	Bangalore University
Dr. Bahaa El Din Mohamed Hemdan	TWAS DBT Fellowship Post Doc	-
Ms. Deborah Ebunoluwa	AIRTF Fellowship	-
Mr. Peinen Chen	Internship	Shantou University China
Mr. Kota Onoda	Internship	Gifu University, Japan
Mr. Weiling Cai	Internship	Shantou University China
Mr. Yuto Ochiai	Intersnhip	Gifu University, Japan
Mr. Katsuki Watanabe	Internship	Gifu University, Japan
Mr. Takuya Hosokawa	Internship	Osaka Prefecture University Japan
Mr. Alybaev Dastan	Internship	-
Mr. Ahmad Samim Qeyam	Internship	-

List of Full Time Foreign Student enrolled in 2019

NAME	Country	Programme	Department
Ms. Juana Hatwik	Syria	PhD	BSBE
Mr. Ghadir Nofal	Syria	PhD	BSBE
Mr. Mebratu Adamu Assegie	Ethiopia	PhD	Centre for Energy
Mr. Masresha A Achomo	Ethiopia	PhD	Mechanical
Mr. Temam K Dawud	Ethiopia	PhD	Mechanical
Mr. Achenef F Mekonnen	Ethiopia	PhD	Civil
Mr. Sibusiso L Ngidi	South Africa	M Tech	EEE
Mr. Abdulwahid K Kedir	Ethiopia	M Tech	Civil

Mr. Tesfay G Teklehaimanot	Ethiopia	M Tech	Chemical
Ms. Baian El Sebbay	Syria	M.Des	Design
Ms. Yume Saito	Japan	International Joint Masters Degree	Chemical Engineering
Ms. Ayaka Tsuchiya	Japan	International Joint Masters Degree	Chemical Engineering
Mr. Tatsushi Aoyagi	Japan	International Joint Masters Degree	Chemical Engineering
Ms. Haruka Maruyama	Japan	International Joint Masters Degree	Chemical Engineering

ALUMNI ACTIVITIES

◆ ALUMNI INITIATIVES DURING COVID-19 PANDEMIC

MARUT DRONETECH PRIVATE LIMITED

Marut Dronetech Private Limited (www.marutdrones.com), an organisation set up by IIT Guwahati alumni, Mr Prem Kumar Vislawath has been playing an integral role in the fight against the spread of the Covid-19 virus in the state of Telangana. In line with the Telangana state government's efforts to combat the coronavirus pandemic, Karimnagar Municipal Corporation (KMC) has deployed Marut Drones for spraying disinfectants in public areas. This drone technology was brought in by KMC from an IITG Alumni Mr Prem Kumar Vislawath, Co-Founder and CEO of Marut Dronetech Private Limited.



Marut drones have also developed Public Monitoring and Warning Drones which are fitted with a camera and speaker. These can be used by personnel to monitor places especially with high disease prevalence for crowd gathering and give appropriate instructions to people using fitted loud speakers. In additions, Marut drones have developed technology drone technology for thermal imaging for temperature checks of human beings and also for swift and efficient delivery of medicines and critical medical supplies.

IZAKE DESIGN AND CONSULTANCY PRIVATE LIMITED

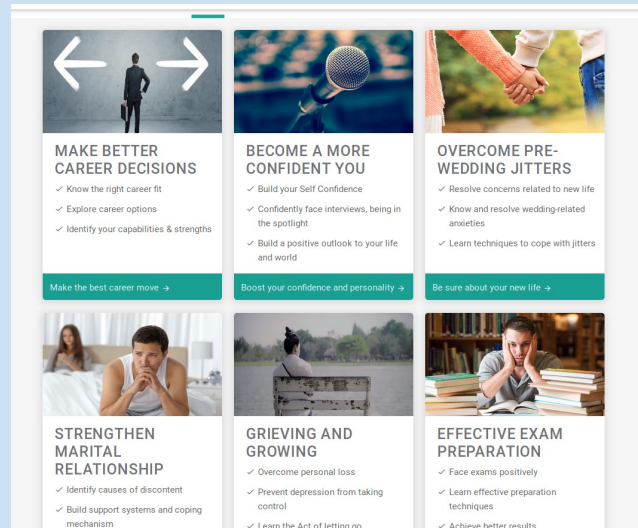
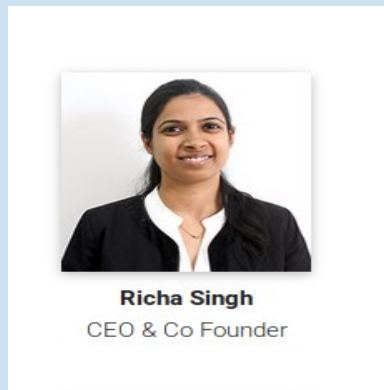
Izake Design and Consultancy Private Limited, a design company inducted at IIT Guwahati and founded by Mr. Himujall Sarmah, an Alumnus of IIT Guwahati has been manufacturing high grade quality of Face Shields to fulfill the need for face shields locally for the hospitals in Assam & North-east India. Despite the logistical challenges, Izake Design and Consultancy Private Limited has successfully been able to manufacture & distribute around 12,000 Face Protection Shields, and supplied to 118 direct clients like GMCH, GNCR, Dispur Hospital, Apollo Hospital, Dr B Borooah Cancer Institute. Etc. More than 800 Doctors/Nursing staff & individuals throughout Assam currently using the face shields and they have also donated 2000 Face Shields to Govt. officials/NGOs/GMCH-Guwahati for COVID-19 response.



YOURDOST

YourDOST, co-founded by IIT Guwahati alumna, Ms. Richa Singh is India's first and the largest online mental health and emotional wellness coach. IIT Guwahati has now collaborated with YourDOST to provide this facility to its students whereby expert advice from 900+ Experts, with complete privacy, confidentiality and anonymity on a range of subjects is available to all the students. Amidst this pandemic, YourDOST has also started initiatives to deal with mental health issues called 'Covid-19 Resources'.

<https://yourdost.com/>



◆ OTHER NOTABLE ACTIVITIES RELATED OT IIT GUWAHATI ALUMNI

Telford Premium 2020 Prize for IIT Guwahati Alumni

The British Institute of Civil Engineers (ICE) has been conferring the prestigious Telford Premium 2020 Prize for the last 50 years to authors from both industry and academia who have produced work judged by their peers to be of exceptional quality and benefit to the civil engineering, construction and materials science community. This year the award was given to IITG alumnus, Dr. Sanandam Bordoloi, of the department of Civil Engineering Department for his collaborative work with the department of Civil Engineering, Shantou University, China, where another IIT Guwahati alum Dr. Ankith Garg, Associate professor also played an instrumental role.

Alumni Mentorship Program (AMP)

The Alumni Mentorship Program (AMP) is a mentorship program where the alumni of IIT Guwahati act as mentors to the currently registered students of IIT Guwahati. This initiative which started in 2018 has been continuing and being coordinated by the Student Alumni Interaction Linkage (SAIL) team. The academic year 2019-20 has seen the launch of AMP 3.0.2.

An interaction talk by Mr. Akshat Jain, B.Des, batch of 2017, an Alumnus of IIT Guwahati .He has secured an All India Rank 2 in the UPSC Civil Services Examination, 2018 and is an inspiration to all the civil services aspirants in the campus.



IIT GUWAHATI ALUMNI MEET HELD IN GIFU, JAPAN (OCTOBER 09, 2019)

An Interactive session was held at Gifu City, Japan, between IIT Guwahati Alumni based in Japan and the delegates from IIT Guwahati on October 09, 2019. The meet was presided over by Prof. T.G. Sitharam, Director and also attended by Prof. Gautam Biswas, Former Director IIT Guwahati and Shree Ram Muivah, Secretary, North Eastern Council, India. Among the Alumni present were,

Dr Pradyut Dhar, Dr Amit Pandey, Dr Himangshu Jha and Dr Devendra Marawi.

Prof. T.G. Sitharam, Director, IIT Guwahati, addressed the gathering and stressed on the role of Alumni as Ambassadors of IIT Guwahati and the role and impact of Alumni in Institution Building. He welcomed the initiative of the AER office and encouraged all to contribute in strengthening the alumni-institute bonding. The meeting concluded successfully with an idea to be connected to the Alma Mater and to participate actively on Alumni Connect Campaign in order to establish strong and robust Institute–Alumni relationship. All the alumni present congratulated and welcome the initiative of IIT Guwahati to connect and establish a strong alumni linkage.



INTERACTIVE SESSION WITH ALUMNI OF 2000 GRADUATE BATCH OF IIT GUWAHATI

A group of the 2nd batch of IIT Guwahati alumni of the 2000 graduating batch from the departments of Computer Science and Engineering, Mechanical Engineering and Electronics and Electrical Engineering, visited IIT Guwahati campus during 27-29 December 2019. In the evening of 27th December, a get-together was organized in the institute guest house and it was attended by the faculty members from the above three departments. The alumni also wished to interact with some of the faculty members who taught them during their initial years of academic journey.



GRADUATE TEA PARTY 2019

The annual Graduate Tea Party 2019 was a grand success and a memorable event from more than 1000 students from the graduating batch who had attended it. Prof. Rakhi Chaturvedi, Dean of Alumni & External Relations welcomed the participants and impressed upon them to continue being connected to the institute. This was followed by the address of the Dean of Academic Affairs, Dean of Students' Affairs, and the keynote address by the Director, Prof. Gautam Biswas. The Annual Class Song for the graduating batch of 2019 was also released during the event.

INFRASTRUCTURE DEVELOPMENT IN THE INSTITUTE

The Institute has been continuously developing since its inception. The development of infrastructure to meet the fast expanding ACADEMIC Activities along with accommodation facilities for the students as well as faculty members, officers and staff in the campus has been a great challenge. The Institute has been successfully implementing projects in order to fulfill all the requirements.

The following are ongoing projects in the Campus:

- 1. Construction of Boys' Hostel-11:** There are presently ten hostels for boys accommodating about 5000 boys' students. In addition to this the 11th boys' hostel of capacity 1152 is under construction. The work was taken up in March 2015 at a total value of ₹. 9665.00 lakhs. Works of 580 rooms has been completed and are under occupation since Dec'2018. Remaining works including kitchen & dining hall area is expected to be completed by March 2021.
- 2. Expansion of academic complex Phase-V:** The handing over of the completed parts is going on. The development of Nano-center is going on, will be handed over shortly.
- 3. Expansion of Academic Complex Phase-VI:** Under this phase, expansion works in the Centre for Education Technology (CET) and Centre for Instrumentation Technology (CIF) are taken up. The work comprises of two parts (i) upto G+4 for CET and (ii) above from 5th to 7th floor for CIF. The works have already been awarded for a value of 36.65 crore lakhs in August, 2018 by UPRNN to PSK

Construction Co. Ltd. and the work was commenced from April'2019. The work is in progress and almost 60% of pile foundations works has been completed.

4. Construction of 160 units of F-type residential quarters: In order to meet the requirement of residential quarters for the faculty members the Institute took up construction of F-type residential buildings. The present scope of work shall cover construction of 160-units of F-Type residential quarters in 4 blocks having 40 units in each tower having all basic amenities. It is a G+9 Storied building with 42.35m height. The approved cost of the project was `13686.01 Lakhs. The work has been awarded to UPRNNL. Total area of 5186.08 Sqm, was handed over to M/s Uttar Pradesh Rajkiya Nigam Limited (M/s UPRNNL) on May, 2018. M/s UPRNNL after tendering allotted the work to M/s Badri Rai & Co, Duliajan(Assam). The execution of the work started on July, 2018. The piling work has already been completed and the raft foundation, plinth beam work is on progress. The total progress achieved so far is 23%. The schedule date of completion of the tower is March 2021. Due to outbreak of covid 19, the progress of work has been suffered. Now construction of sample flat is under process .

5. 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) of 10 ft. height from the main entrance gate to the Ghorajan Nallah near Sewerage Treatment plant is in progress. The work has been split in two groups (Group-A & Group-B) as per advice of B&WC. Group-A has completed 1430 m out of 1812 m and Group-B has almost completed the total length of 2076 m including additional 250 m boundary wall in the southern part of the campus. The painting work and providing and fixing of concertina coil under group -B is under progress. The work is expected to be completed within October 2020.

6. Dormitory for Security: The Institute engages number of security personals to maintain security of the campus. In order to provide them accommodation inside the campus dormitories have been constructed at different places inside the Campus. Two such buildings were taken up at the cost of ` 808.00 lakhs. One building has been handed over to the Security for occupation. However, the second one was modified for Transit accommodation of Faculty members because of shortage of quarters for faculty members and 12 faculty members have been accommodated.

7. Dormitory for Guest House: The building has been renamed as Transit accommodation 3 and it is planned to use for project staff and student. 95%

work has been completed till date. Due to lock down period of balance work could not be completed in time. Now it is expected to be completed by end of June 2020.

8. Estate Building: Due to the space constraint of the Engineering Section in the Administrative Building Institute proposed to construct an estate office for accommodating of engineering section including the supporting staff near the Central Library building. The construction work of estate office was allotted in October 2016 at a cost of ` 1011.51 lakhs. The building is proposed for G+3 however in this phase G+2 shall be taken up for construction. The G+2 has been made ready and both the Engineering and Maintenance section has been shifted and started functioning from this building since August 2019. It a pleasure for the Institute that the Building has been formally inaugurated by the inaugurated by Shri Ramesh Pokhriyal 'Nishank', Hon'ble Minister, MHRD, Govt. of India in Presence of our Director Prof. T.G. Sitharam, on 14th February 2020.

9. Research Park: The Ministry of Human Resource & Development (Deptt. of Higher Education) on 03.10.2017, sanctioned for establishment of Research Park at IIT Guwahati. The HRD Ministry had allocated ` 7500.00 lakhs for the construction of the Research Park at IITG. The building has been planned with total built up area of 21380.00 sqm. This will house one Research Block of G+ 9 floors and an Office block of G+7 floors.

The first phase of construction work has been started with the following scope:

- I. RCC superstructures of research block up to G+8 level (out of G+9) and total superstructure of office block upto G+7 level.
- II. Complete external finishes of both the blocks.
- III. Complete internal finishing including electrical and HVAC of both the blocks upto G+2 level.

The work upto plinth level has been completed. The scheduled date of completion of the work is December 2021.

10. Electrical infrastructure: Expansion of academic complex of IIT Guwahati is considered from time to time. Therefore, it is necessary to augment the electrical infrastructure to meet the power requirement in the institute.

Today we have one 33 KV substation with capacity of 17.5 MVA comprising of 1 X 7.5 MVA and 2 X 5 MVA transformers installed in the campus to cater the Electrical load to the whole IIT G campus. This 33 KV substation is connected to the 132 KV substation of APDCL near Sishugram.

We have 10 numbers of 11KV distribution substations installed in various locations of the campus through which the electrical power is mainly supplied to the areas like academic complex, residential areas, hostels, Director bungalow, guest houses etc. These substations are well connected to the 33Kv substations through two ring main system by using 33KV/11KV grade underground cables.

Upgradation of electrical infrastructure is considered from time to time as per requirement of the institute.

11. AC infrastructure: Due to Rapid expansion IIT Guwahati academic complex augmentation of air conditioning system become essential. Today IIT Guwahati have two HVAC plants having total 3000TR capacity provide air-conditioning facility to most areas like whole academic complex, lecture hall complex auditorium, CCC, conference center, lecture hall complex, and library building etc.

In addition to this other types of air-conditioning like VRV air conditioning system (1050TR capacity) is an energy efficient AC system installed in various buildings to provide AC facility in buildings like NEW SAC, new guest house, Research building and estate office building.

Moreover, there are another 1000TR capacity of allied AC systems comprising of window splits Ductable ACs are also installed in admin building, central workshop, B type community hall, Technology complex, old guest house and some labs in Academic complex.

In view of the growing Academic expansion, HVAC infrastructure facility is also considered for upgradation from time to time.

EQUAL OPPORTUNITIES

During the year under review the following works were performed by Equal Opportunity Cum Special Reservation Cell:

Schemes and Concessions

The EQSRC facilitates all SC/ST/ PWDs students/ employees to avail benefits meant for them in the Institute and other Programmes of the Ministry of Social Justice and Empowerment, Ministry of Tribal Affairs, concerned State Government authorities and PSUs etc.

Job Notification

To facilitate the job seeking Persons with disabilities, Scheduled Castes & Scheduled Tribes students,

this office uploads/sends email about job notification announcement received from various sources

Financial assistantship Notification

To facilitate the financial assistantship (from NGOs, Corporate houses etc,) seeking Persons with disabilities, Scheduled Castes & Scheduled Tribes students, this office uploads/sends email about financial assistantship notification.

The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) {PoA} Act 1989

The Prevention of Atrocities Act was enforced on 31.01.1990, with a view to prevent "atrocities against members of SCs and STs, to provide for Special Courts for the trial of such offences, and for relief and rehabilitation of the victims" of atrocities. The PoA Act extends to the whole of India except the State of Jammu and Kashmir, and the responsibility for its implementation rests with State Governments and Union Territory Administrations.

The PoA Act has been further amended by the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Amendment Act, 2018, and after section 18, section 18A has been inserted and notified in the Gazette of India, Extraordinary on 17.08.2018.

This year there is no cases reported against caste based discrimination. There is a provision for online Complaints Registration Prevention of Caste Based Discrimination in IIT Guwahati intranet website(<https://intranet.iitg.ernet.in/cbd/>).

Periodical Returns

During this reporting year the office submitted timely quarterly returns with regard to Redressal of Grievances of SC/ST Employees and Students in the prescribed form to the Ministry of Human Resource Development.

Educational Guidance

It is very gratifying to report that the EOCSRC facilitated on various aspects of education/co-curricular activities to 471 PWDs/SCs/STs students during the year 2019-20 as compared to 385 PWDs/SCs/STs students during the year 2018-1019.

This office links between Departments/ Sections of the Institute and all SCs/STs/ PWDs students for various academic and non- academic matters.

Orientation Meeting

Orientation meeting was held for freshers SC/ST/ PWDs students both for UG & PG programmer to

acclimatize with the Institute activities/ life in campus.

Training Programme

- ◆ A training programme was organized on 4th to 7th April 2019 for the employees of the Institute on "Reservation Policy in Services for SC/ST/OBC & PWD, Recruitment Rules & DPC". Approximately about 80 employees benefitted out of this programme in two batches. Resource persons were from SERT, Delhi to conduct in-house training.



- ◆ The head of EOCSRC attended a National Conference during 2-3 August 2019 on Assistive Technology for all 2030 organized by "MOBILITY INDIA" in collaboration with "National Institute for Empowerment of Persons with multiple Disabilities" at NIMHANS, Bengaluru.

IMPLEMENTATION OF SCHEDULED CASTES SUB PLAN (SCSP) AND TRIBAL SUB PLAN (TSP) IN IIT GUWAHATI

Assistantship and their Extension

"Assistantship and their Extension" under this programme assistantship were provided to such regular SC/ST PhD students who could not complete their PhD programme as per IIT Guwahati, norms but continuing the same. There were 32 beneficiaries from December 2013, July 2014 batches.

Distribution of Laptops as Learning Equipment:

As a part of welfare scheme for SC/ST/PWDs this office had distributed total 161 Laptops to SC/ST/PWDs students 2019 July batch undergraduate, MSc & MA (Development Studies) under Scheduled Castes Sub Plan (SCSP) and Tribal Sub Plan (TSP) programme.

Book Allowances

In July-November 2019 semester fifty-eight (58) and January–May 2020, forty (40) SC/ST/PWDs undergraduate students, MSc & MA (Development Studies) have benefited under "Book Allowances" scheme.

Celebration of International Day for Persons with Disabilities

In the light of the Rights of Persons with Disabilities Act, 2016 (RPwD Act 2016) to create awareness/sensitize people about significance of International Day for Persons with Disabilities on 3rd December 2019 a poster campaign was arranged in campus. This office continues to undertake public awareness programmes such as printing of posters, publishing information materials for general public to address issues on disabilities.

To celebrate International Day for Persons with Disabilities on 13.11.2019 Mr. Kausar Jamil Hilaly, ACS, the Commissioner for Persons with Disabilities, Assam was the chief guest and Deputy Director, Prof. P.S. Robi the guest of honour. Mr. Kausar Jamil Hilaly, delivered a lecture on "Understanding Disability-National Frameworks and Role of Technology" and a large number of students, faculty and employees actively participated. A young special achiever Ms. Princy Gogoi was felicitated on this day.



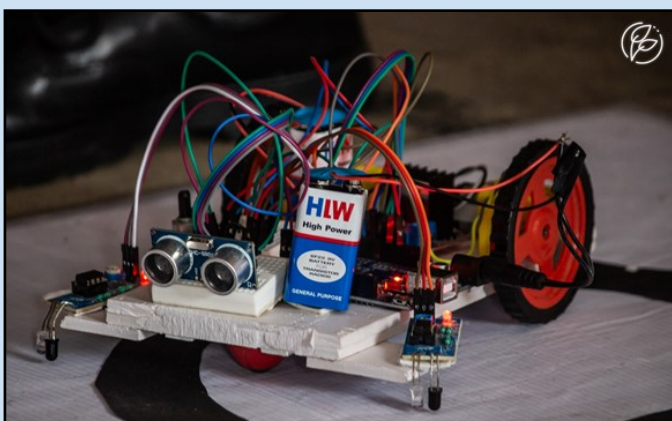
Internal Transport for PWDs Students

The Nodal Officer in respect of SC, ST, OBC (non-creamy layer), PWDs & Minorities (MHRD) has taken steps especially for the PWDs students based on their requirement to arrange transport for their smooth movement in campus.

STUDENTS' ACTIVITIES

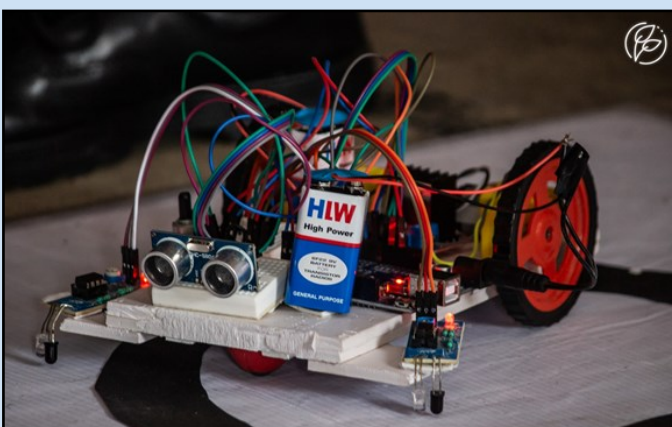
Techniche 2019 - the annual Techno-Management Festival of the Institute - was organized from 29 August to 1 September, 2019. From its beginning in 1999, Techniche has grown to become one of the premier Techno-Management festivals of the nation. With a reach of thousands of colleges and school students from across the country, Techniche plays a phenomenal role in bringing out the true potential of the young generation.

This edition's lecture series saw eminent personalities from various fields as keynote lectures, sharing their experiences and stories. They included Padma Vibhushan Dr. V.K. Aatre, former Director General, DRDO on the topic Battle field technologies, Dr. Murlidhar Manohar Joshi, former Union Minister of HRD, Mr. Pete Michels, Director of shows like Rick and Morty, Family Guy and The Simpsons, Mr. Paul Aron, VFX Head for movies like Avengers, Jungle Book.



The 21st edition of the annual techno-management also witnessed various events like Panel Discussion on Artificial Intelligence: Morals, machines and robot reign, various Workshops, Funniche, Robotics, NEXUS, CORPORATE, Techolympics, Techexpo, Exhibitions.

Techniche 2019 ended with Pronites, an event with mix of comedy, music and dance, featuring Comicstaan winning comedian Nishant Suri and popular Bollywood singer Amit Mishra.



Alcheringa, the annual cultural festival of Indian Institute of Technology Guwahati entered its 24th incarnation and was spread over three days and four nights from 30 January to 2 February.

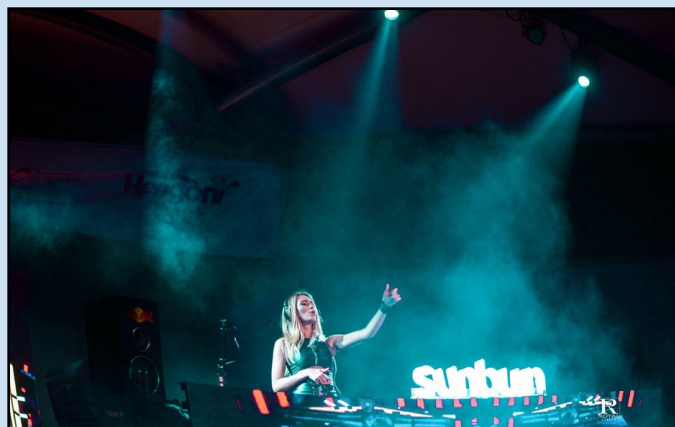


The inaugural night saw the much awaited classical night Saaz with performances by U. Ramesh (Mandolin), Giridhar Udapa (Ghatam), Dany Ali Khan (Violin), Hafeez Ahmed Khan (Tabla), Gino banks (Drums), Mohini Dey (Bass Guitar).

North East Social Summit (NESS), a conference held over two days during Alcheringa, aimed to tackle and bring awareness about the social, political and economic problems of North East India by means of case study competitions and round table discussions. It provided a confluence of the sharp students minds with the experience of experts in the concerned issue.

In Crescendo 2020, Alcheringa bought one of the biggest names of Bollywood to IIT Guwahati. With chart-busting numbers such as 'Tujhe Kitna Chahein Aur Hum', 'Kabil Hoon', 'Zindagi kuch to bata' _Jubin Nautiyal swayed the crowd his way with his absorbing and soulful music.

Other interesting attractions in this 24th edition were, Fashion Shows, Fashion Designing Competition, Fashion Design and Photoshoot Competition; Rock-O-Phonix, Rap Battle, Acoustic Band Competition, Parliamentary Debate, Online Doodle Designing Competition, Stage Play Competition, various Sporting events, and many others events attracted participation in huge numbers.



FACULTY AND STAFF

The faculty strength at the end of March 2019 was 411. The number of non-teaching staff at the end of March 2019 was 515.

FACULTY ACHIEVEMENTS

- ◆ Prof. Arun Chattopadhyay has been elected as an Fellow by the Indian National Science Academy for his fundamental contributions to nanoscale material science and technology by way of devising new methods of synthesis as well as applications in submicron scale color lithography and tunable luminescence of quantum dot complexes.
- ◆ Dr. Uttam Manna has received the INSA Young Scientist Medal 2019 in Chemical Sciences.
- ◆ Prof. Tamal Banerjee, Department of Chemical Engineering, has been declared as one of the top five Indian Authors of ACS Omega which is an interdisciplinary journal publishing new findings in chemistry and interfacing areas of science and engineering. Prof. Banerjee's research is aimed at both emerging aspects namely environmental remediation and energy generation. His publications in ACS Omega ranges from areas such as Cellulose-Xylan Hydrogel for Vitamin B12 release and reprocessing of spent nuclear fuel involving cesium ions. Further he has also reported the hydrogen production from chemical hydrides; and Deep Eutectic Mixtures as novel thermal fluids for Concentrated Solar Power
- ◆ Prof. Biman Mandal, Department of Bioscience & Bioengineering has been awarded the Young Scientist Award 2019 by the Asian Polymer Association (APA). Prof. Mandal has been invited to receive the APA Young Scientist Award (YSA) in Goa during APA-2019 conference in 16-18 October, 2019. He shall also be delivering an Invited talk on this occasion.
- ◆ Prof. Vimal Katiyar, Dept. of Chemical Engineering has been
 - Elected as the Vice-President of 'Association of Sustainable Polymers' in the meeting in Japan
 - Honoured as NRL-Chair-Professor by Numaligarh Refinery Limited
 - Honoured as Chair Professor by Hindustan Gums & Chemicals Limited, M P Birla Groups
 - Honoured as Visiting Professor at Gifu University, Japan
- ◆ Prof. Lingaraj Sahoo, Dept. of BSBE has been Honoured as Visiting Professor at Gifu University, Japan.
- ◆ Prof. Arun Chattopadhyay, Professor Department of Chemistry, IIT Guwahati has been recommended for the Award of J. C. Bose Fellowship.



Prof. T. G. Sitharam, Director, IIT Guwahati met Shri. Sarbananda Sonwal, Hon'ble Chief Minister of Assam on 4 August 2019 to handover the contribution of a day's salary of a good no of employees towards Chief Minister Relief Fund for the flood victims.

- ◆ Prof. Parameswar K Iyer, Dept. of Chemistry, has been selected to receive the MRSI Medal for 2020 at the Annual General Meeting of Material Research Society of India to be held at Kolkata, during 11-14 February 2020.
- ◆ Prof. Pravat Kumar Giri, Dept. of Physics, has been selected to receive the MRSI Medal for 2020 at the Annual General Meeting of Material Research Society of India to be held at Kolkata, during 11-14 February 2020.
- ◆ Prof. Mohammad Qureshi, Dept. of Chemistry, has been awarded Sakura Science Fellowship to visit Kyushu Institute of Technology Japan from 1-10 December 2019.
- ◆ Mr. Rabindranath Garai, PhD Scholar, Dept. of Chemistry, has been awarded Sakura Science Fellowship to visit Kyushu Institute of Technology Japan from 1-10 December 2019.
- ◆ Dr. Pranjal Chandra, Dept. of Bioscience & Bio-engineering, has been appointed as the Associate Editor of the Journal "Sensors International", published by the joint venture of ELSEVIER and CSPM China (Publishing arm of Chinese Academy of Sciences)
- ◆ Prof Biman Mandal of the Dept. of BSBE has been selected for Prestigious BM BIRLA SCIENCE PRIZE 2018 in BIOLOGY . The award comes with a citation and 1 lakh cash prize. For Institute and in particular for Dept. of BSBE this is a great

news starting of New Year 2020 as this is second time that a faculty member of Dept. of BSBE has bagged this very prestigious award where in faculty are selected every alternate year through an extensive peer review process.

- ◆ Dr. Dipankar Narayan Basu of Dept. of Mechanical Engineering has received an international fellowship from Chinese Academy of Sciences under CAS President's International Fellowship Initiative (PIFI) 2020, which will enable Dr. Basu to work as a Visiting Scientist at Institute of Engineering Thermophysics, Beijing, for 6 months.

INSTITUTE EXPENDITURE

The details of expenditure (provisional) during the year 2019–2020 are as follow (in crores):

Revenue expenditure	: 369.57
Capital	: 50.28
R&D	: 146.58
Total Expenditure	: 566.43

In comparison, in 2018–2019, 566.6 crores were spent.



All the four Directors, who have spent their valuable time of their life in the development of the institute, were felicitated as a part of the Silver Jubilee Foundation week.



Hon'ble Union Minister of HRD Shri Ramesh Pokhriyal 'Nishank' inaugurated NRL-Centre of Excellence (CoE) for Sustainable Materials at IIT Guwahati. The main vision of the Centre is the development of sustainable materials including biodegradable plastics for our civil society utilizing various waste as well as intermediate materials sourced from the existing petro-refineries and bio-refineries.

This CoE will troubleshoot and work on the techno-scientific utilization of furfural and its derivatives, wax, oil sludge and bamboo-based bio-refinery waste materials produced at NRL to develop biodegradable plastics and other value-added chemicals for commercial applications.

Industrial Interactions and Special Initiatives

To fulfill the twin objective of enriching the research infrastructure and enhancing the interaction and collaboration with industry a new Office of Dean, II&SI is established. Director Prof. T. G. Sitharam appointed Prof. G. Krishnamoorthy as first Dean of II&SI. The office of II&SI started to function with taking over of charge by the Dean, II&SI.

The following activities have been performed during the period under consideration:

Technology Transfer

II&SI has been actively promoting Technology Transfer since its inception so that the benefits of research reach the common man and the society at large. The following Technology Licensing Transfers have recently taken place or just on the verge of being signed:

- ◆ Energy Efficient and Environment Friendly Porous Radiant Burners for LPG, Kerosene and Bio-gas based Stoves for both domestic and commercial cooking applications – Prof. P. Muthukumar.
- ◆ Antimicrobial formulation as hand sanitizer – Prof. Biman B. Mandal.
- ◆ “Viral Transport Media” for transportation and detection of Covid-19 – Prof. P. K. Iyer and Prof. S. S. Ghosh.
- ◆ Antimicrobial formulation as disinfectant – Prof. Biman B. Mandal.
- ◆ RTq PCR Kit” for detection of Covid-19 virus – Prof. P. K. Iyer, and Prof. S. S. Ghosh.
- ◆ RNA Extraction Kit” for detection of Covid-19 virus – Prof. P. K. Iyer, and Prof. S. S. Ghosh.
- ◆ Hand Sanitizer effective against Covid-19 virus – Prof. P. K. Iyer, and Prof. S. S. Ghosh.
- ◆ Rapid Bacteria Detection Kit– Prof. P. K. Iyer, and Prof. S. S. Ghosh.

While the following on the pipeline:

- ◆ Design and development of a UV Chamber to disinfect items of everyday use in hospitals, public transport systems, public spaces, offices as well as homes – Dr. Harsh Chaturvedi, Centre for Energy and Dr. Charu Monga.
- ◆ Easily and fast Deployable Isolation Rooms (EDIR) for safeguarding frontline healthcare workers to fight COVID-19 and other similar contagious diseases – Dr. Arun Ch. Borsaikia.
- ◆ Low cost sterilization technology for floor surface – Dr. Senthilmurugaon.

Foreign Patent

An US Patent was granted based on "Free space optical communication system, apparatus and a method thereof" (US10673525B2) developed by Prof. Bosanta R. Boruah. This patent has been assigned tentatively till 2036.

MoU and MoA

A total number of three MoUs and MoA-s were signed recently:

- ◆ Collaboration agreement for the development of a vaccine against covid-19; Dr. Sachin Kumar, BSBE; Hester Biosciences Limited, Ahmedabad.
- ◆ Technical collaboration towards the VTM for covid 19 for the detection of COVID 19; Prof. P. K. Iyer, Chemistry; RR Animal
- ◆ Development of peptide-based molecular constructs for intracellular Cargo-delivery and development of breast cancer specific peptide-based molecular constructs for therapeutic drug delivery applications; Dr. Vibin Ramakrishnan and Gaurav Jerath, BSBE; Pepthera Laboratories Pvt. Ltd.

Technology Incubation Centre

The Technology Incubation Centre of IIT Guwahati has become a hub of enterprising young minds who are enthusiastically pursuing their dreams and turning them into reality. At present 14 incubatees are present in the TIC and 10 have already graduated from the Centre. 5 applications for new incubates are under process. A few more new companies might be joining TIC, IIT Guwahati in coming days as start-ups funded by Oil India Limited and Numaligarh Refinery Limited. Some more recent activities

- ◆ Collaboration with Assam startup, The nest and IIMCIP (knowledge partner of Assam startup, The nest).
- ◆ Received clearance from legal cell, IITG for MoU with IIMCIP (acting on behalf of Assam startup, The nest, Guwahati).
- ◆ CA appointment in the GB of IITG-TIC completed.
- ◆ CA appointment for IITG-TIC and incubates started in discussion with II&SI office.
- ◆ New performance review committee formed.
- ◆ Organized several webinars for incubates on startups, innovation, prototyping, and will continue.
- ◆ Received new applications for incubation, and started the presentation process.



Hon'ble Union Minister of HRD addressing IITG community on the occasion of Silver Jubilee Celebration

- ◆ Started collaboration with IIM Bangalore incubation cell for WSP.
- ◆ requested soft loan defaulters to pay the loan (some responded).
- ◆ submitted TIC financial budget for 2020-21.
- ◆ TIC took part in panel discussion on Biotech NE-RES 1.0.

IIT Guwahati Research Park

IIT Guwahati Research Park (IITGRP), presently registered as a Society under Society Registration Act, XXI of 1860 and envisioned as a high energy workspace that naturally encourages innovative thinking and collaboration, is much more than a physical space.

Agreement has been signed with six companies to start the wing that will collaborate with IIT Guwahati.

The companies details are summarized below:

- ◆ Hester Biosciences Limited

Hester Biosciences Limited is one of India's leading animal healthcare companies and second largest poultry vaccine manufacturer. Hester has already started its operation at Research Park from May, 2020. They are having research collaboration with IIT Guwahati .

◆ Workspace Metal Solutions Pvt

It is an India based company which offers Control Room and Control Desk Design solutions for industries like Oil & Gas, Petrochemical, Power & Transmission, Manufacturing and Process Control, Security & Surveillance, Transport and Traffic Control Rooms etc.

Their contribution to Research and development of IIT Guwahati would be H2O2 tunnel design and development, UVC Chamber design and development, Room environment disinfection system study, covid related product analysis.

◆ RR Animals Healthcare Limited

R R Animal Health Care Ltd is a leading Veterinary Pharmaceutical Company based out of Hyderabad, India. They cater to the needs of farmers to get maximum production with their unique and varied range of products in the following segments - Bio-security, treatment and feed supplements. Their main contribution to Research and development of IIT Guwahati will be technical collaboration for the development of better and secured public health by collaborating with IIT Guwahati. They are also developing virus transport and RTQPCR Kit for the transportation and detection of Covid 19 virus in collaboration with IIT Guwahati

◆ Bay Area Advanced Analytics Pvt

The company deals in bringing Artificial Intelligence into the world of surgery, helping upskill surgeons and improving patients' outcomes. Their devices perform AI inference at the edge to deliver advanced capabilities to surgeons. Their contribution to research and development of IIT Guwahati would be towards Artificial Intelligence and machine Learning in the medical field.

◆ Primary Healthcare Pvt Ltd

The company deals with Bio Medical device manufacturing. Their main contribution to Research and development of IIT Guwahati will be to hire students of IIT Guwahati as interns and Research fellows and to engage with faculty members in some partially/fully funded projects

◆ All Pro Auto Consultants Pvt Ltd.

It works at providing solutions to the automotive industry in the North-Eastern Region. Their contribution to IIT Guwahati will be through the proposed Automatic Skill excellence centre which will serve as a hub for research ideation, simulation, product study, market research as well as to help develop future trainers for international automatic market.

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:

- ◆ India-EU ICT Supported Workshop on oneM2M Standard for IoT; April 13, 2019
- ◆ AIRTF - ASEAN-INDIA Research Training Fellowship; June 30- May 15
- ◆ Workshop on Advanced Mathematical Modeling for Bioengineering Applications; May 17-18, 2019
- ◆ ISEA Sponsored Workshop on Advances in Hardware Security; May 24-29, 2019
- ◆ Symposium on Sustainable Polymers; August 23-25 August 2019
- ◆ ASP-19 - Fifth International Symposium on Advances in Sustainable Polymers; October 14-18, 2019
- ◆ North East Green Summit - 4th Edition; November 1-3, 2019
- ◆ NCUPE 2019 - National Conference on Upstream Petroleum Engineering; November 2-3, 2019

- ◆ ICANN2019 - 6th International Conference on Advanced Nanomaterials and Nanotechnology; December 18-21, 2019
- ◆ Colloquium on "Truth and Non-Violence: Gandhi in the Post-Truth Era"; January 8-9, 2020
- ◆ 2nd Rural Dialogue on Rural Development; January 20-21, 2020
- ◆ WATER 2020 - National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment; January 23-25, 2020
- ◆ DST-UKIERI supported workshop cum symposium on "Bio-inspired Nanomaterials for Environmental Applications"; February 12-13, 2020
- ◆ RECYCLE 2020 - 3rd International Conference on Waste Management; February 13-14, 2020
- ◆ ISEA-ISAP 2020 - Third ISEA Conference on Security and Privacy 2020; February 27-March 1, 2020

CAMPUS PLACEMENT

The placement scenario of the Centre for Career Development at IIT Guwahati for the year 2019-20 has been impressive so far. A total of 147 companies/organizations from various categories [Private, MNC (Indian origin and Foreign origin), Govt., PSU, NGO, etc.] and sectors (Sector wise-IT, R&D, Core Engineering, Consulting, Analytics, Finance, Oil & Gas, Educational, Pharmaceutical, etc.) participated in the recruitment process.

The total no. of registered students for campus placement in the year 2019-20 is 1060 students.

The overall placement of B.Tech and B.Des students is 86.45%. For B.Tech and B.Des., number of total job offers is 485 out of 561 students. An average package offered for B.Tech. and B.Des. students is Rs.20.71 Lakhs per annum (treated as CTC).

The overall placement of M.Tech. and M.Des. students is 50.14%. For M.Tech. and M.Des., number of total job offers is 177 out of 353 students. An average package offered for M.Tech. and M.Des. students is Rs. 16.34 Lakhs per annum (treated as CTC).

For M.Sc. programs, 8 (Mathematics -7 Chemistry -1) students have been placed out of 55 registered candidates.

For M.S.R. program, 2 students have been placed out of 5 registered candidates.

For PhD programs, 5 PhD students (Physics-1, Chemistry-1, Civil -1, CSE-2) have received job offers out of 85 registered candidates. This is mainly in the education and research sectors.

Total number of International offer is 28 (B.Tech -23 & M.Tech-5).

Overall placement of all programs (B.Tech. & B.Des., M.Tech. & M.Des., MSc, MSR, MA, PhD) is 63.86%.



Prof. T. G. Sitharam, Director, IIT Guwahati, Sanjay Dhotre, Hon'ble Minister of State for HRD, Shri. Ramesh Pokhriyal, Hon'ble Minister of State for HRD and Prof. A. D. Sahasrabudhe, Chairman, AICTE after the signing of MoU.

PART II

ACADEMIC DEPARTMENTS

Biosciences and Bioengineering
Chemical Engineering
Chemistry
Civil Engineering
Computer Science and Engineering
Design
Electronica 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 CENTERES

Lakshminath Bezbaroa Central Library
Centre for Education Technology
Computer and Communication Centre

DEPARTMENT OF BIOSCIENCES AND BIOENGINEERING

LABORATORY FACILITIES

- ◆ MAB (Mechanistic Approaches to Biology) Lab (Dr. B. Anand): The current focus of our vibrant research group is directed towards addressing fundamental and important questions in the area of RNA biology by employing an eclectic mix of modus operandi that is drawn from biochemical, biophysical, computational and molecular genetics approaches. Our immediate obsession is to resolve the mechanistic questions pertaining to CRISPR Biology and Ribosome Biogenesis
- ◆ BERL (Bioengineering Research Laboratory) (Prof. Utpal Bora): The research interests of this laboratory include Biomedical Engineering, Seriodiversity, Serio-bioinformatics and Bio-entrepreneurship
- ◆ 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
- ◆ 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, biomarkers) using electroanalytical methods such as cyclic voltammetry, chronoamperometry, impedance spectroscopy, (ii) Nanobiosensors (Aptamer, antibody, enzyme) based biological phenomenon investigation, (iii) Porous silicon based label free self reporting optical nanosensors, (iv) Microfluidics and Nanomachines
- ◆ Bioprocess Development Lab (Dr. 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
- ◆ 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 photobioreactors
- ◆ 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
- ◆ 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

- ◆ Prof. V. V. Dasu lab: The laboratory focuses on Bioprocess development (upstream to downstream), metabolic engineering, and bioenergy
- ◆ 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 pursuing 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
- ◆ 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
- ◆ Prof. Arun Goyal Lab: The lab research interests include Microbial Biotechnology, Molecular Biology, Protein Engineering, Structural & Functional studies of carbohydrate enzymes
- ◆ Stem Cell and Cancer Biology Group (Dr. Bithiah Grace Jaganathan): The current focus of the research group is to understand the role of mechanotransduction in stem cell differentiation and cancer metastasis. The group also studies various signaling pathways and microenvironment mediated chemoresistance in leukemia and breast cancer
- ◆ 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
- ◆ 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
- ◆ 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
- ◆ Cancer Biology Laboratory (Prof. 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
- ◆ 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 anti-cancer activity of EGCG, (vii) Karanjin and its biological effects
- ◆ Biomaterial and Tissue Engineering laboratory (Prof. 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
- ◆ 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

- ◆ 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
- ◆ 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
- ◆ 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
- ◆ Prof. Sanjukta Patra laboratory: The research interests of the lab include enzyme applications, biotransformation, and biosensors
- ◆ Prof. Aiyagari Ramesh laboratory: Biocompatible hydroxyapatite-based nanocomposites have been generated using secreted proteins of probiotic lactic acid bacteria (LAB) as biomineralization scaffolds. The antibiotic loaded nanocomposites exhibited bactericidal activity against *Pseudomonas aeruginosa* biofilm. A gastric fluid tolerant bacteriocin-loaded nanocomposite was generated as an antiadhesion agent to reduce *in vitro* colonization of intestinal cells by pathogenic bacteria and support adhesion of beneficial probiotic LAB. In another research endeavor, low molecular weight synthetic amphiphiles having multimodal chemistry have been rationally designed to promote interaction with staphylococcal lipoteichoic acid and facilitate metal sequestration. The amphiphile could render a profound effect on cell growth and metallophore gene expression in methicillin-resistant *Staphylococcus aureus* (MRSA)
- ◆ Molecular Informatics and Design Group (Prof. 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
- ◆ 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 North-east India using an integrative approach
- ◆ 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
- ◆ 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
- ◆ Computational Structural Biology laboratory (Dr. Priyadarshi Satpati): Working in the area of biomolecular interactions using computational methods (e.g, Molecular Dynamics, Electronic Structure Calculations). We are mainly interested 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

- ◆ 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 proceed 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
- ◆ 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 our 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. We are currently focusing 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
- ◆ 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. Intrinsic electronic absorption and luminescence spectra in proteins originating from photoinduced electron transfer and charge recombination, respectively are actively studied. These novel spectra discovered in our lab are employed to monitor events like protein folding or aggregation in a label-free approach
- ◆ 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
- ◆ 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. Our 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 our research will bring patient-specific cell therapy closer to clinic for treatment of various debilitating
- ◆ Malaria Research Group (Prof. Vishal Trivedi): The research interests of the lab include Antimalarial Drug Discovery, Immunotoxicity studies in Macrophages, Regulation of Innate Immune Response, Endothelial Cells-RBC cytoadherence during Cerebral Malaria, Designing immunostimulatory and Anticancer agents
- ◆ Dr. Selvaraju Narayanasamy Lab: The research interest of the lab include Environmental Biotechnology, Bioprocess Engineering, and Biochemical Engin
- ◆ 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
- ◆ Computational lab: The computational lab is used for carrying out the Bioinformatics and Computational Biology Lab, a lab course of the B. Tech. curriculum
- ◆ Experimental Teaching laboratory: The laboratory is used to conduct the experimental course of the B. Tech. and M.Tech. curriculum

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

Ultracentrifuge, Parallel Fermenter with Accessories, High speed and High capacity centrifuge, Reversed Phase Ultra High Performance Liquid Chromatograph, Motorized inverted fluorescence microscope

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Cell signaling, 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

- ◆ Dr. Biplab Bose: We have investigated and established a new approach in quantitative investigation cellular state change during epithelial to mesenchymal transition. We have developed a novel model for pattern formation in planar cell polarity based on statistical physics. We have filed a patent application on a new biosensor for detection of Hepatitis B surface antigen in human blood. We have also reported new peptides derived from diphtheria toxin that may have therapeutic applications
- ◆ Prof. S. S Ghosh: Apart from our ongoing work on cancer therapeutics, we have worked on flow dynamics of EMT cells during migration in constricted microchannel. Our studies helped in understanding drug resistant behavior of triple negative breast cancer EMT cells during deformation. In addition, we have investigated several signaling events in EMT related to cancer therapeutics. Further, membrane expressed TNF- α coated nanoparticles showed effect anti-cancer activities. In device front, our collaborative work led to development of FET based POC device. The transfer of technology (TOT) for the sensor device was also completed
- ◆ Prof. Pranab Goswami: Following two products developed in the lab of Prof. Goswami has been dedicated to the nation by the HRD minister, India in a meeting held on Feb 14, 2020
 - I. Low cost paper-based kit for onsite detection of formaldehyde
 - II. Low cost paper-based kit for onsite detection of methanolFollowing product developed in Prof. Goswami's lab: A prototype of ALCOHOL FUELED ENZYMATIC BIO-BATTERY CUM BIOFUEL CELL. The biofuel cell with a series connection of six unit cells produce 3.1 V power
- ◆ Prof. Arun Goyal: Initiatives: Structure and functional characterization of endoglucanases

(GH5, GH16) from *Ruminococcus flavefaciens*; Protein engineering of carbohydrate enzymes (chimeric GH5-GH1) for developing novel biocatalysts from *Clostridium thermocellum*; Crystallization and 3D structure analyses of Xyn30A, GH43, GH81, GH26 and PL1B from *Clostridium thermocellum*; Structure and functional characterization of Hemicellulases (L-arabinofuranosidase, a family 43 glycoside hydrolase (GH43), glucuronoxylan-xylanohydrolase, (GH30) and β -mannanase (GH26) from *Clostridium thermocellum*, Selection of agro-waste on the basis of their structural carbohydrate composition: Estimation of cellulose, hemicellulose and lignin of different lignocellulosic leafy biomasses viz., jamun, neem, asoka, bamboo, poplar, wild grass, thatch grass, eucalyptus, mango, water hyacinth, corn cob, sugarcane bagasse and whitetop weed, Identification of efficient pre-treatment process aiding in improved saccharification: Confirmation of structural destabilization with porosity increment and lignin breakdown by field emission scanning electron microscopy (FESEM) and Fourier transform infrared (FTIR) spectroscopic analyses

Breakthroughs: Successfully engineered a chimera of two enzymes namely endoglucanase (ctGH5) and β -glucosidase (ctGH1). This engineered enzyme efficiently hydrolyses the biomass – Sorghum stalk. It is beneficial for bioethanol production (Priyanka Nath et. al., 2019); Improved the efficiency of endoglucanase enzyme through UV-irradiation mediated directed evolution (mutation) (Shweta Singh et. al., 2020)

- ◆ Prof. Biman B Mandal: *Research outcome on "Bone"*: Large volume bone defects are often plagued by concerns relating to donor site morbidity, inadequacy of allogenic/ autogenic graft for transplant, improper onset of vascularization in conventional bone grafts leading to failure of grafts. Addressing these critical issues, we had developed resorbable silk-bioceramic composites which were attributed with osteoinductive and proangiogenic traits. The synergistic effects of mediating osteogenesis and angiogenesis by doping silicon/ zinc doped brushite cements and silk scaffolding enabled in triggering cell responses without the use of any additional growth factors (such as BMPs; vascular endothelial growth factor, VEGF), thus proving to be an alternative for conventionally used strategies (Moses et al 2019). The work was highlighted in "The Hindu" (National Daily, article titled 'IIT Guwahati's bone graft aids extensive bone formation' March 24 2019) and the work was selected to be featured in the ACS Biomaterials Science and Engineering Journal Coverpage for Mar 2019 volume 5 issue 3

Research outcome on "3D Printing Bioinks": We have developed multifunctional silk-based bioinks which by the virtue of their physico-

chemical nature help in preferentially preserve the chondrogenic phenotype and osteogenic phenotype in stem cell laden silk bioinks (Moses et al 2020). The hierarchically biomimetic nature of the osteochondral constructs thus bioprinted maintained cellular crosstalk due to the permeable gel network, bone phase exhibited osteo-inductive traits while chondral phase enabled in preservation of the chondrogenic phenotype, during the 2 weeks culture period in vitro. The bioink composition was filed for an Indian patent (Application Number: 201831038727 Filing Date: Oct 12, 2018)

Research outcome on "Cancer Therapy": As per the World Health Organization (WHO) report, by 2030, new cases and deaths related to cancer are projected to be 22 million and 13 million, respectively. Conventional chemotherapy is a radical alternative to treat cancer; however, it causes various side effects due to the systemic route of delivery. In our lab, we are using silk as a biomaterial to fabricate injectable hydrogel as a reservoir for anticancer drugs/nanoparticles. In our approach, silk hydrogel properties were further enhanced due to the incorporation of single-walled carbon nanotube, which was modified by the folic acid ligand (SWCNT-FA) to target folic acid receptor-positive cancer cells. The SWCNT-FA/DOX release from silk hydrogel was controlled by pH, temperature, and near-infrared laser illumination. With our in vitro biological studies, we showed active internalization of SWCNT-FA in oral cancer cells for target-specific cytotoxicities (Gangrade et al. 2019). The work was also covered in "The Times of India" (Education, the article titled 'IIT Guwahati researchers develop nature-derived nanomaterials for targeted delivery of cancer drugs' Sep 26, 2019)

Research outcome on "3D Bioprinting": We have developed a 3D bioprinted anatomically relevant human ear cartilage using silk fibroin based bioink in a cross-linker free approach. The absence of crosslinkers enables the bioink to be completely non-toxic for the encapsulated cells and provides good print fidelity and stability for the structures and makes it cost effective. The printed constructs supported proliferation of chondrocytes and were biocompatible. We have filed for patent for the developed bioink (Indian patent submitted on Oct 12, 2018 with application number 201831038727). The work is published in ACS Applied Materials & Interfaces journal (IF 8.4) and also highlighted by BBC India

Research outcome on "Skincare": Chronic exposure of skin to Ultraviolet radiation (UVR) and pollutants depletes endogenous antioxidants and causes various skin disorders, including oxidative damage, photoaging, and skin cancer. Most of the exogenous antioxidants delivered

through skin care products lack complete protection or get oxidized by exposure to air and UVR or causes adverse side effects. Addressing most of these critical issues, we have formulated skin care preparation using Muga sericin, which could protect the skin against UVR induced inflammation, oxidative damage, aging, wrinkling, and skin cancer. The work was highlighted in the National news services ("India Science Wire, Down to Earth, Biotech Times, Research Stash, BioVoice, and Gaon Connection"), as titled "This silk protein can help make beauty and skincare products" Aug 22, 2019. The results have been published in Photochemical and Photobiological Sciences (Kumar and Mandal 2019a and 2019b), and ACS Applied Bio Materials (Kumar et al., 2018)

Research outcome on "Bioengineered Cardiac Patch": We have developed a 3D printed cardiac patches using non-mulberry silk fibroin (nSF) based bioink. The specially designed bioink features a dual crosslinking mechanism that results in a stable fabrication of 3D microfibrillar constructs. Addition of non-mulberry silk into the conventional bioink cocktail resulted in the enhancement of the mechanical properties of the constructs making them more suitable for mimicking the local modulus of the native cardiac tissue as well aiding in better implantation ability which has been a drawback with the other bioprinted structures developed using naturally derived materials. Also, the presence of innate cell binding residues in nSF such as RGD motifs and poly arginine residues enhance greater cardiomyocyte attachment, proliferation and functional ability. The bioink developed has been also explored for its potential towards developing vascular as well as avascular constructs. We have filed for patent for the developed bioink (Indian patent submitted on 12th October 2018 with application number 201831038727). The work is published in Advanced Functional Materials (IF 15.6) and also highlighted as a cover article for the journal (Vol. 30, Issue No, 12)

- ◆ Dr. Lalit M. Pandey:
 - I. Established Titanium alloy (Ti6Al4V) modified with hybrid self-assembled monolayers as a potential metallic orthopedic implant
 - II. Fe-doped ZnO nanoassembly was designed and established as an effective nanoantibiotic
 - III. Biodegradation of waste cooking oil and simultaneous production of Rhamnolipids biosurfactant
 - IV. Insights of biosurfactant mediated microbial oil biodegradation

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

S.No	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
1	Dr. Anil Mukund Limaye	National Conference on Cancer Biology and Therapeutics	ILS, Bhubaneswar	Nov 29 - 30, 2019	National
2	Dr. Anil Mukund Limaye	2 nd World Congress on Cancer	MGUMST, Jaipur	Feb 3-5, 2020	International
3	Dr. Anil Mukund Limaye	8 th International Translational Cancer Research Conference	BH, Varanasi	Feb 13-16, 2020	International
4	Prof. Biman B. Mandal	IITG Society And Northeast India (ISANI-an Introspection)	IIT Guwahati	Feb 21, 2020	National
5	Prof. Biman B. Mandal	Nanobioteck 2019, Organized by Indian Society of Nanomedicine (ISNM) in partnership with Department of Biotechnology (DBT), Govt. of India,	Aerocity Delhi	Nov 21-23, 2019	International
6	Prof. Biman B. Mandal	Combined symposium of The International Society for Applied Cardiovascular Biology and International Society of Vascular Tissue Engineering (ISACB + ISVTE 2019)	University of Zurich, Zurich, Switzerland	June 19-21, 2019	International
7	Prof. Kannan Pakshirajan	National Conference on Environment and Biosciences	Avinashilingam University, Coimbatore, Tamil Nadu	Feb 20-21, 2020	National
8	Prof. Kannan Pakshirajan	Workshop on Metal Biorecovery and Bioremediation	Principal Hotel, Manchester, UK	Nov 28-29, 2019	International
9	Prof. Kannan Pakshirajan	MaREI Symposium 2019	University of Limerick, Ireland	Nov 6-7, 2019	International
10	Prof. Kannan Pakshirajan	Trends in Environmental Biotechnology - Bio-hydrogen and Bio-chemical Production for Ireland's circular economy	National University of Ireland Galway, Ireland	Oct 31, 2019	International
11	Prof. Kannan Pakshirajan	Launch of GenComm's Community Hydrogen Forum	Dublin College University Alpha, Dublin, Ireland	Oct 21, 2019	International
12	Prof. Kannan Pakshirajan	Symposium on Microbial Genomics, Host-Pathogen Interactions and Metagenomics	National University of Ireland Galway, Ireland	Oct 8-9, 2019	International
13	Dr. Lalit M. Pandey	Emerging Trends on Advances in Materials Science, ETAMS-2020	Gurgaon	Jan 16-17, 2020	National
14	Prof. Aiyagari Ramesh	"Exploring Synthetic Molecules and the Nano-Bio Platform as Therapeutics Against Drug-Resistant Pathogenic Bacteria"	Acharya Nagarjuna University, Andhra Pradesh	Mar 05, 2020	Guntur
15	Prof. Latha Rangan	2 nd Rural Dialogue	IIT Guwahati		National

16	Prof. Latha Rangan	21st Indo US Flow Cytometry Workshop on "Basics of Flow Cytometry and its Applications in Plant Biology Indo-US Flow Cytometry Symposium	Eternal University, Sahib, HP	Feb 6-7, 2020	International
17	Prof. Latha Rangan	Fourth INCD	IIT Guwahati	Sep 23-25, 2019	International
18	Prof. Latha Rangan	IPR Conclave	USTM, Meghalaya	Aug 16, 2019	National
19	Prof. Latha Rangan	International workshop on empowerment and autonomy of women through a biobased circular economy design: resource recovery from waste.	IIT Guwahati	July 25, 2019	International
20	Dr. Kusum K. Singh	World Congress on Cancer	Mahatma Gandhi Medical College and Hospital, Jaipur	Feb 03 - 05, 2020	International
21	Dr. Kusum K. Singh	Cancer Biology Conference	Institute of Life Science, Bhubaneswar	Nov 29 - 30, 2019	National
22	Prof. Ranjan Tamuli	15 th European Conference on Fungal Genetics (ECFG15)	Sapienza University of Rome and Frentani Convention Center Rome, Italy	Feb 17-20, 2020	International
23	Prof. Ranjan Tamuli	XI International Conference on Biology of Yeasts and Filamentous Fungi (ICBYFF 2019)	Hyderabad Central University, India	Nov 27-29, 2019	International
24	Prof. Ranjan Tamuli	Asian Microbiology Conference 2019 (AMC 2019)	Mie Center for the Arts, Tsu, Japan	Oct 1-4, 2019	International
25	Prof. Ajaikumar B Kunnumakara	The International Conference on Pharmacology Advances in Translational Sciences & Drugs Discovery	National University of Singapore, Singapore	July 4-5, 2019	International
26	Prof. Ajaikumar B Kunnumakara	2nd International Conference on Cancer Biology and Cell Science	Kuala Lumpur, Malaysia	Nov 23-24, 2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

S.No	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Dr. B. Anand	Assembly Defects Compromise Initiation Codon Recognition by Initiation Factors and License the Entry of Premature Ribosomes into the Translation Cycle	10 th RNA Group Meet, Rajiv Gandhi Centre for Biotechnology	Thiruvananthapuram	May 2, 2019
2	Prof. S. S. Ghosh	Towards Point of Care Nanotheranostic Devices	International Conference "RDAB-2020	Indian Institute of Information Technology Allahabad (IIIT Allahabad)	Mar 7, 2020

3	Prof. Pranab Goswami	Delivered key note lecture on DEVELOPING 3G BIO-ELECTRODE FOR BIOSENSOR AND BIOFUELCELL APPLICATIONS	International Conference on Nanoscience and Nanotechnology (ICNAN) Organized by VIT, Vellore- 632014, Tamil Nadu, India.	VIT, Tamilnadu	Nov 29, 2019
4	Prof. Pranab Goswami	Delivered Plenary lecture on Biosensor and biofuelcell: Smart devices for next generation healthcare and analytical science.	"2nd International Conference on Advances in Bioprocess Engineering and Technology (ICABET-2020)"	Heritage Institute of Technology, Kolkata	Jan 20, 2020
5	Prof. Pranab Goswami	BIOFUELCELL: Smart devices for next generation healthcare and analytical science.	Analytical Methods in Chemical Sciences	Tezpur University	Jan 23, 2020
6	Prof. Pranab Goswami	BIOFUELCELL Smart device emerged from the interface of material, (bio)chemical, and communication technology for next generation healthcare applications	Recent Trends in Green Energy Utilization	Department of Mechanical Engineering and Industrial and Production Engineering, AEC Guwahati	Feb 10-14, 2020
7	Prof. Arun Goyal	Assembling of β -glucosidase (CtGH1) and mutant endoglucanase (CtGH5-F194A) from <i>Clostridium thermocellum</i> to develop chimera by protein engineering for enhancing biomass saccharification.	DBT National Workshop on Bioenergy (DNWB-2019)	IIT Kharagpur, Kolkata, West Bengal, India	Oct 17-18, 2019
8	Prof. Arun Goyal	Chondroitin sulphate disaccharide and its applications as anticancer and prebiotics for functional foods.	International Conference on Nutraceuticals and Chronic Diseases (INCD 2019)	Indian Institute of Technology Guwahati, Assam, India	Sep 23-25, 2019
9	Prof. Arun Goyal	Chimera construction from cellulose hydrolysing enzymes by protein engineering for enhancing biomass saccharification	8th International Forum on Industrial Bioprocessing (IBA-IFIBiop 2019) "Bridging Sustainability and Industrial Revolution through Green Bioprocessing"	Imperial Hotel, Miri, Sarawak, Malaysia	May 1-5, 2019
10	Dr. Sachin Kumar	Newcastle disease virus based approach for the development of diagnostics and vaccine against pathogens.	Microbiology Department, GMCH, Guwahati	Guwahati	July 18, 2019
11	Dr. Sachin Kumar	Recombinant Protein based approach for development of rapid and user friendly diagnostics against economically important diseases of Livestock	College of Veterinary Science, Assam Agricultural University, Khanapara Campus	Guwahati	Dec 21, 2019

12	Prof. Biman B. Mandal	Bioengineered Human Tissues: The Way Forward	Assam Science and Technology University	Guwahati	Feb 26-27, 2020
13	Prof. Biman B. Mandal	Silk Based Tissue Engineering	Smart Materials for Sustainable Technology (SMST-2020), Conference	Goa	Feb 22-25, 2020
14	Prof. Biman B. Mandal	Bioengineered Human Tissues and Organs	ICANN 2019, IIT Guwahati	Guwahati	Dec 18-20, 2019
15	Prof. Biman B. Mandal	3D Bioprinting for Tissue Regeneration	IISER Mohali	Mohali	Dec 18-21, 2019
16	Prof. Biman B. Mandal	3D Bioengineered Human Implants	BioTERM-2019, IIT Kanpur,	Kanpur	Nov 27-30, 2019
17	Prof. Biman B. Mandal	Bioengineered Human Organs	NatFOS 2019, Conference	Jaipur	Nov 06-08, 2019
18	Prof. Biman B. Mandal	Bioengineering in Healthcare	West Bengal State Student-Youth Science Fair-2019	Kolkata	Nov 08, 2019
19	Prof. Biman B. Mandal	Bioengineered Tissues	IIT Madras	Chennai	Oct 18-19, 2019
20	Prof. Biman B. Mandal	Bioengineered Human Tissues: The Way Forward	APA-STERMI 2019, Conference	Goa	Oct 16-18, 2019
21	Prof. Biman B. Mandal	Bioengineered Human Organs	Reflux, IIT Guwahati,	Guwahati	Sep 28, 2019
22	Prof. Biman B. Mandal	My Research My Passion	Jadavpur University	Kolkata	Sep 19, 2019
23	Prof. Biman B. Mandal	3D Bioprinting of Organs	Institute of Life Sciences (ILS), Bhubaneswar,	Bhubaneswar	Sep 13, 2019
24	Prof. Biman B. Mandal	Healthcare Bioengineering	IISc Bangalore	Bangalore	Aug 25, 2019
25	Dr. Shirisha Nagotu	Structural and functional analysis of disease causing mutations of Drp1 through analyses of the yeast homologue Dnm1	ICBYFF-2019 University of Hyderabad	Hyderabad	Nov 27-29, 2019
26	Prof. Kannan Pakshirajan	<i>Rhodococcus opacus</i> as a potential biological chassis for second generation biorefineries	National University of Ireland Galway	Galway, Ireland	Dec 5, 2019
27	Prof. Kannan Pakshirajan	Lessons learned on waste management and climate change in developing countries	National University of Ireland Galway	Galway, Ireland	Nov 13, 2019
28	Prof. Latha Rangan	Footprint of Women in Science	Royal Global University	Guwahati	Feb 28, 2020
29	Prof. Latha Rangan	New record of nuclear DNA and genome size variation among some species of Zingiberaceae from North east India	Baru Sahib, HP	Himachal Pradesh	Feb 6, 2020
30	Prof. Latha Rangan	Labdane diterpenes from seeds of <i>Alpinia nigra</i> as promising nutraceuticals	IIT Guwahati	Guwahati	Sep 23, 2019

31	Prof. Latha Rangan	Basics of IPR	USTM, Meghalaya	Ribhoi, Meghalaya	Aug 16, 2019
32	Prof. Latha Rangan	IPR and Biotechnology	IIT Guwahati	Guwahati	July 25, 2019
33	Dr. P. Satpati	Impact of Molecular Dynamics Simulations in Drug Discovery	National Symposium on Biomedical Engineering, Assam Science and Technology University (ASTU)	Guwahati	Feb 26 th - 27 th , 2020
34	Dr. Kusum K. Singh	Present Day Biology: Impact of Research at Molecular and Cellular Level	Dept. of Biotechnology, St. Xavier's College, Ahmedabad	Gujarat	Jan 03, 2020
35	Dr. Kusum K. Singh	Green, Sustainable and Evolving Sciences	Dept. of Zoology, Cotton University, Guwahati	Guwahati	June 29, 2019
36	Prof. R. Swaminathan	Protein charge transfer luminescence can modify fluorescence parameters of intrinsic and extrinsic fluorophores in a protein	FCS-2019, Tata Institute of Fundamental Research	Hyderabad	Dec 19, 2019
37	Prof. R. Swaminathan	Investigating protein structure in a novel and unconventional approach	NSRTZS, North-Eastern Hill University	Shillong	Feb 29, 2020
38	Prof. R. Swaminathan	Spectroscopic features of plant flavonoid Karanjin in different solvents and micro-heterogeneous systems	INCD-2019, IIT Guwahati	Guwahati	Sep 25, 2019
39	Prof. R. Swaminathan	My journey at IITG	BSBE Departmental Retreat, IIT Guwahati	Guwahati	Dec 21, 2019
40	Dr. Rajkumar P Thummer	Technology and its impact on human health	Asian Institute of Nursing Education	Guwahati	Feb 22, 2020
41	Dr. Rajkumar P Thummer	The art of writing scientific papers	Indian Institute of Technology Guwahati	Guwahati	Dec 21, 2019
42	Dr. Rajkumar P Thummer	An Insight into a DNA-free Reprogramming Approach to Generate Integration-Free Induced Pluripotent Stem Cells for Prospective Biomedical Applications	65th Annual National Conference of the Association of Physiologists and Pharmacologists of India	Guwahati	Nov 29, 2019
43	Dr. Pranjal Chandra	Nano-bioengineered Sensors: An Innovative Tool for Next Generation Point-of-Care Clinical Diagnostics	Auspices of CME Foundation of India	Hyderabad, Telangana	Apr 14, 2019
44	Prof. Ajaikumar B Kunnumakara	Oral Cancer: challenges and solutions	Gujarat cancer Research Institute	Ahmedabad, Gujrat	Sep 28, 2019
45	Prof. Ajaikumar B Kunnumakara	Nutraceuticals and Chronic Diseases	Arya Vidyapeeth College	Guwahati	Oct 3, 2019
46	Prof. Ajaikumar B Kunnumakara	Nutraceuticals in the Prevention and Treatment of Chronic Diseases	Ramaiah Medical College and Hospitals	Bangalore	Feb 14, 2020

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

S.No	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Dr. King Hang Aaron Lau	University of Strathclyde, United Kingdom	Invited speaker for the conference Bio-inspired Nanomaterials for Environmental Applications	Feb 12-15, 2020	
2	Dr. Aruna Ivaturi	University of Strathclyde, United Kingdom	Invited speaker for the conference Bio-inspired Nanomaterials for Environmental Applications	Feb 11-14, 2020	
3	Dr. Dr Sasidhar Gumma	IIT Tirupati	Invited speaker for the conference Bio-inspired Nanomaterials for Environmental Applications	Feb 12-13, 2020	
4	Prof. Sukesh R Bhaumik	SIU school of medicine, USA	Regulatory mechanism of eukaryotic transcription and its coupling to DNA repair	June 24, 2019	
5	Prof. H. Raghuraman	Saha Institute of Nuclear Physics, Kolkata	Site-directed fluorescence approaches for dynamic structural biology of membrane peptides	June 27, 2019	
6	Prof. Man Mohan	Shanghai Jiao Tong University, China	DYRK1A interacts with histone acetyl transferase p300 and CBP and localizes to enhancers.	July 17, 2019	
7	Prof. Pennathur Gautam	Anna Univeristy, Chennai	Green synthesis and characterization of cadmium sulphide nanoparticles from <i>Chlamydomonas reinhardtii</i>	July 26, 2019	
8	Dr. Patrick Shaw Stewart	Director of Douglas Instruments Ltd	A novel microseeding method for the crystallization of membrane proteins in lipidic cubic phase	Jan 23, 2020	
9	Prof. Arindam Banerjee	Dept. of Biological Chemistry, Indian Association for the Cultivation of Science, Kolkata	Self-assembling peptides	Feb 13, 2020	

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. S. S. Ghosh (Joint Convener)	6th International Conference on Advanced Nanomaterials and Nanotechnology (ICANN2019)	-	Dec 18-21, 2019	International	250
2	Dr. Lalit M. Pandey and Prof. Animes Golder	Bio-inspired Nanomaterials for Environmental Applications	DST-UKIERI	Feb 12-13, 2020	International	75
3	Organizing Chairman Prof. Latha Rangan, Organizing Secretaries Dr. P. Satpati, Dr. Navin C. Gupta, Dr. Souptick Chanda, Dr. N Selvaraju	Advanced Mathematical Modelling for Bioengineering Applications	DBT	May 17-18, 2019	National	35

4	Prof. Ajaikumar B Kunnumakkara	Fourth International Conference on Nutraceuticals and Chronic Diseases	Society for Nutraceuticals and Chronic Diseases, Society for Translational Cancer Research, DBT and DST	Sep 23-25, 2019	International	618
5	Principal Investigator: Dr. Selvaraju Narayanasamy Co-Principal Investigator: Prof. Kannan Pakshirajan	Empowerment and autonomy of women through a bio-based circular economy design: resource recovery from waste	TMT-NUFFIC	July 22-26, 2019-	International	40
6	Dr. Rajkumar P Thummer (Member of Program Advisory Committee)	Two Days National Symposium on Biomedical Engineering organized by Assam Science and Technology University, Guwahati	TEQIP-III	Feb 26-27, 2020	National	130
7	Dr. Sachin Kumar	Diagnostic approaches in virology	DBT U-Excel Part-III	Mar 4-6, 2020		28
8	Prof. Ajaikumar B Kunnumakkara	Recent Advances in Cancer Biology and Therapeutics	DBT U-Excel	Sep 23-25, 2019	National	200

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Goswami N, Paily R P, Bose B	Surface Acoustic Wave Based System for detection of HBsAg.	2019 (Applied)	201931054349	Indian Patent
2	Pranab Goswami, Priyanki Das, Lepakshi Borbora, Arup Das. Title of the invention:	Alcohol fueled enzyme based bio-battery cum bio-fuel cellenzymatic biofuel cell	2019	201931046354	
3	Pranab Goswami, Sanjay M, Naveen K Singh	Optisense - a smartphone-based multichannel static Ispr system for detection or diagnosis	2019	201931039853	
4	Pranab Goswami, Lightson Ng, Smita Das,	Low cost paper-based kit for onsite detection of methanol.	2020	202031004522	
5	Sachin Kumar	A recombinant Newcastle disease virus (ndv) live vaccine vector system for classical swine fever	2020 (Applied)	TEMP/E-1/2074/2020-KOL	
6	Biman B. Mandal and Prerak Gupta	Bi-layered Porous Silk Vascular Grafts and their Uses Thereof	June 19, 2019	201931024432	
7	Vibin Ramakrishnan, Ruchika Goyal and Gaurav Jerath	Peptide based Molecular Constructs for Tumor Homing and Cell Penetration	Aug 23, 2019.	TEMP/E-1/36058/2019-KOL	
8	Vibin Ramakrishnan and Gaurav Jerath	Peptide-based Drug Delivery Vectors	Aug 23, 2019	TEMP/E-1/36087/2019-KOL	
9	Vibin Ramakrishnan, Gaurav Pandey and Vivek Prakash	Peptide based modulators for amyloidogenic diseases	Aug 27, 2019	TEMP/E-1/36478/2019-KOL	

AWARDS AND HONOURS

- ◆ Prof. Pranab Goswami visited University of Alberta, Canada as visiting Professor under the faculty exchange programme of SERB-UAlberta, Canada during Sep 30 to Oct 19, 2019
- ◆ Prof. Arun Goyal:
 - Invited as a Member, for Third Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for BTech) Feb 18, 2019
 - Invited as an Expert member committee for selection of Professor and Associate Professor, Department of Bioengineering, BIT Mersa, Ranchi, Jan 19, 2020
 - Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area of Energy, Environment and Biodiversity to review new proposals and project progress, Jan 17, 2020
 - Invited as Member, for Second Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for BTech) Sep 30, 2019
 -) Invited as Member, for First Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for BTech) July 8, 2019
 - Invited to Judge Best Poster award at International Carbohydrate Conference on Emerging Frontiers in Carbohydrate Chemistry and Glycobiology, Dec. 5-7, 2019, University of Lucknow, UP, India
 - Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area Energy, Environment and Biodiversity to review new proposals and project progress, June 19, 2019
 - Nominated by Chairperson, Governing Body, CIAB and Secretary, DBT as a Member of Scientific Advisory Committee (SAC) of Center of Innovative and Applied Bioprocessing (CIAB), Mohali, Punjab, for period of 3 years till Apr 2022 from June 2019
 - Invited as a member, Board of Studies, for approval of syllabi of B.Tech and M.Tech (Biotechnology) at Department Biotechnology, College of Engineering and Technology (CET), Bhubaneswar, Odisha. May 2019
 - Invited by Department of Microbiology, Sikkim University to give feedback for course syllabus for MPhil and PhD in Industrial Microbiology from June 2019
- ◆ Dr. Sachin Kumar: Indian Association for the Advancement of Veterinary Research Excellence Award, 2019
- ◆ Prof. Ajai B. Kunnumakkara:
 - Best Scientific presentation award, The International Conference on Pharmacology Advances in Translational Sciences & Drugs Discovery, from National University of Singapore, 2019
- Member, Senate, National Institute of Pharmaceutical Education and Research (NIPER) Guwahati, Assam, India
- Member, Screening committee for faculty selection (Assistant, Associate and Professor), Manipur University, Imphal, Manipur
- ◆ Prof. Biman B Mandal:
 - Prof. Biman B Mandal is awarded B.M. BIRLA SCIENCE PRIZE 2018 in BIOLOGY
 - Prof. Biman B Mandal is awarded 3D PRINTING WORLD AWARDS 2019 as "Innovator in Tissue Engineering of the year – Medical" for his contribution in 3D bioprinting of human organs and tissues for transplantation
 - Prof. Biman B Mandal is awarded APA- Young Scientist Award 2019 by Asian Polymer Association, an International forum on Polymer Science and Technology
 - Prof. Biman B. Mandal became Editorial Board Members of the following journals: Journal of the Indian Institute of Science; Biomedical Materials; Trends in Biomaterials and Artificial Organs (TIBAO); Frontiers in Bioengineering and Biotechnology; Frontiers in Materials; Frontiers in Molecular Biosciences;
 - Prof. Biman B. Mandal was interviewed by BBC India for his work on 3D Bioprinting. A documentary is made on the bioprinting work
 - Prof. Biman B. Mandal's research was highlighted in leading International, National Newspapers, Magazines and News Channels: BBC India, Scientific American, New Scientist, Rajya Sabha TV, The Hindu, The Times of India, Anandabazar Patrika, Nature India, The Telegraph, India Today, Zee News, Deccan Herald, Financial Express, Science Daily, Dainik Sambad, and Ganashakti etc
- ◆ Prof. Latha Rangan: Inducted member for NASI NORTH-EASTERN CHAPTER for 2019-2020
- ◆ Dr. P. Satpati: "DUO-India Professors Fellowship" for academic visit to Sweden during June 5- July 5, 2020

STUDENTS' ACHIEVEMENTS

- ◆ Best Poster Award for Manasasri Muralidharan "Characterization of Essential Riboswitches in Mycobacteria" May 2-4, 2019, 10th RNA Group Meet, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram
- ◆ Mr. Pratik Nag (PhD student) got selected for 'DBT sponsored BIRAC-National Biopharma Mission in association with Biotech Consortium India Limited Training program' for a hands-on training in 'Medical Device Prototyping' held at IIT, Kanpur from Jan 13 – 17, 2020
- ◆ Ms. Adeline S Vio War (PhD student) won Best Screening Device for Novelty award in 'Medical Device Innovation Camp' organized by BETIC, IIT Bombay from Sep 28 to Oct 2, 2019

- ◆ Mr. Jaideep Singh Bhardwaj (M.Tech student) got selected for 'DBT sponsored BIRAC-National Biopharma Mission in association with Biotech Consortium India Limited Training program' for a hands-on training in 'Operation and Testing of Medical Devices' held at CSIR-CSIO, Delhi from Feb 24 – 28 , 2020
- ◆ Best Ph.D. Thesis Award (2019-2020) to Dr. Sharbani Kaushik (PhD graduate from Center for Energy) from the International Society for Energy, Environment and Sustainability (ISEES). Dr. Sharbani completed her PhD in Oct 2018. The title of her thesis was: Cyanobacteria Based Photosynthetic Microbial Fuel Cell: Development and Application for Sensing Alcohol
- ◆ Sanjay Manoharan, MTech project student (completed 2019) has received 1st prize for his research proposal, OPTISENSE- A simple smartphone based fibre optic biosensor for detection malaria in human serum sample submitted to Guwahati Biotech Park (GBP) at Assam Start-up Talent Search Contest on Nov 20, 2019
- ◆ PhD student Phurpa Dema Thungon has received prestigious Overseas Visiting Doctoral Fellowship (OVDF) from SERB (DST)-UAlberta Partnership scheme to carry out a part of the PhD work at University of Alberta (UAlberta), Canada for a period of one year (May 2019-Apr 2020)
- ◆ Kedar Sharma received IUCr Young Scientist Award and AsCA and DST travel grants to attend 16th Conference of the Asian Crystallographic Association, Dec 17-20, 2019, NUS, Singapore
- ◆ Kedar Sharma received best poster award for research work entitled "Isolation and characterization of glucuronoxylan from Babool as substitute of commercial xylan for xylanase activity evaluation". International Carbohydrate Conference on Emerging Frontiers in Carbohydrate Chemistry and Glycobiology, Dec. 5-7, 2019, University of Lucknow, UP, India
- ◆ Kedar Sharma received best poster award for research work entitled Molecular organization and protein stability of the *Clostridium thermocellum* glucuronoxylan endo- β -1,4-xylanase of family 30 glycoside hydrolase in solution. Presented at Research Conclave, Mar 14-17, 2019, IIT Guwahati, Assam
- ◆ Abhijit Thakur received best poster award for research work entitled "Efficient saccharification of finger millet stalk by a new thermostable α -L-arabinofuranosidase (PsGH43A) from *Pseudopedobacter saltans*." Presented at Research Conclave, Mar 14-17, 2019, IIT Guwahati, Assam
- ◆ Monika Chandravanshi under Dr. Shankar Prasad Kanaujia received IUCr Young Scientist Award to attend the "16th Conference of the Asian Crystallographic Association (AsCA2019)" held at the National University of Singapore (NUS), Singapore, from Dec 17- 20 2019
- ◆ Monika Chandravanshi under Dr. Shankar Prasad Kanaujia received Students Travel Assistant Fund (STAF) for the "16th Conference of the Asian Crystallographic Association (AsCA2019)" held at the National University of Singapore (NUS), Singapore, from Dec 17- 20 2019
- ◆ Mr. Vineet Anand received best poster award in a conference "Challenges and Threats of Microbes to Animals and Humans" at ICAR-IVRI, Izatnagar, Feb 6-7, 2019
- ◆ Janani Guru has been awarded "Fulbright Nehru Doctoral Research Fellow" (Aug 2018-May 2019), visited University of Pittsburgh for 9 months, award financed by United States India Education Foundation (USIEF) and Institute of International Education (IIE) New York
- ◆ Prerak Gupta has been awarded DST Travel grant award 2019 (SERB) to attend ISACB + IS-VTE 2019, Zurich, Switzerland (June 19-21, 2019)
- ◆ Shreya Mehrotra has been awarded Bajpai Saha Student Award 2019, International conference on Biomaterial based therapeutic engineering and regenerative medicine, IIT Kanpur, Dec 2019
- ◆ Nayan Moni Deori working with Dr. Shirisha Nagotu got the best poster prize at ICBYFF-2019, Hyderabad, India for the poster "Characterizing the dual targeting and function of the peroxisomal protein PEX30"
- ◆ G Bhatt received Best Poster Award in 4th International Conference on Nutraceuticals and Chronic diseases in poster titled "Insight into Estrogen receptor α (ER α) and ligands (estrogen, karanjin) interactions using computer simulations" Sep 23-25 IIT Guwahati
- ◆ Ms. Bhagyashree Deka (Roll No. 156106047) received training on "Genome/Transcriptome sequence analysis" during Nov 13-15, 2019 at NCBS, Bangalore
- ◆ Mr. Pratap Chandra (Roll No. 166106109) received training on "Genome/Transcriptome sequence analysis" during Nov 13-15, 2019 at NCBS, Bangalore
- ◆ Ms. Ayushi Rehman (Roll No. 196106005) was selected for the INSPIRE fellowship
- ◆ Ms. Babita Th. Devi received best poster presentation award at the 8th International Translational Cancer Research Conference held at Banaras Hindu University, Varanasi, India from Feb 13-16, 2020
- ◆ Ms. Elina Khatoon received best poster presentation award at the 8th International Translational Cancer Research Conference held at Banaras Hindu University, Varanasi, India from Feb 13-16, 2020
- ◆ Ms. Sosmitha Girisa received best poster presentation award at the 8th International Translational Cancer Research Conference held at Banaras Hindu University, Varanasi, India from Feb 13-16, 2020

- ◆ Ms. Parama Dey was 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. In this program, she attended a workshop on "Research on Molecular Biology of Stress, Aging and Cancer Using Cell Culture Based Assays - Interventions by Natural Compounds" at National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, Oct 6-12, 2019
- ◆ Ms. Harsha Choudhary received best oral presentation award at the Fourth International Conference on Nutraceuticals and Chronic Diseases (INCD 2019) held at Indian Institute of Technology Guwahati, Guwahati, India from Sep 23-25, 2019
- ◆ Ms. Babita Th. Devi received best poster presentation award at the Fourth International Conference on Nutraceuticals and Chronic Diseases (INCD 2019) held at Indian Institute of Technology Guwahati, Guwahati, India from Sep 23-25, 2019
- ◆ Ms. Varsha Rana received best poster presentation award at the Fourth International Conference on Nutraceuticals and Chronic Diseases (INCD 2019) held at Indian Institute of Technology Guwahati, Guwahati, India from Sep 23-25, 2019
- ◆ Srirupa Bhattacharyya, Best poster presentation award, INCD 2019: 4th International Conference on Nutraceuticals and chronic diseases, Organized by IIT Guwahati, Sep 23 – 25 2019
- ◆ Srirupa Bhattacharyya, Best poster presentation award, World Congress on cancer (WCC), Organize jointly by Mahatma Gandhi University of medical Sciences and Technology (MGUMST, Jaipur and Cancer Institute< Chennai, Ichan School of medicine at Mount Sinai, New York, Feb 3-5, 2020
- ◆ Ms Moumita Nandi, a M.Tech project student at Biosciences and Bioengineering department working with Prof. Kannan Pakshirajan as the supervisor received the Best oral presentation award (2nd prize) at WATER 2020. Jan 23-25, 2020, IIT Guwahati, Guwahati, India
- ◆ Ms Tanushree Paul, a Ph.D. student at Centre for the Environment with Prof. Kannan Pakshirajan and Prof. G. Pugazhenth (Chemical Engineering Department) as the supervisors received the Best oral presentation award (1st prize) at WATER 2020. Jan 23-25, 2020, IIT Guwahati, Guwahati, India
- ◆ Ms Tanushree Paul, a Ph.D. student at Centre for the Environment with Prof. Kannan Pakshirajan and Prof. G. Pugazhenth (Chemical Engineering Department) as the supervisors received the Best poster award at INCD-2019. Sep 23-25, 2019, IIT Guwahati, Guwahati, India
- ◆ Ms Khyati Raina working with Dr. Rajkumar P. Thummer: Was awarded a travel grant to travel to Kyoto, Japan for "Training program in Generation and Maintenance of Human iPS cells" organized by "The Accelerating the application of Stem cell technology in Human Diseases (ASHD)" program supported by Department of Biotechnology (DBT), Government of India and The Centre for iPS Cell Research and Application (CiRA), Kyoto University, Japan from Nov 20 to 26, 2019
- ◆ Yogendra Pratap Singh has delivered an Invited speaker talk to the "3D PRINTING WORLD 2019" -5th International Conference, Show & Awards held on Nov 29, 2019 at THE ORCHID HOTEL, Mumbai, on the topic "*Silk based 3D Bioprinting of human load-bearing tissues*"
- ◆ Ashutosh Bandyopadhyay secured 4th Position in Talent Search Contest on Innovative Research Ideas Leading to Entrepreneurial Venture in Biotechnology and Allied Areas 2019 organized by Guwahati Biotech Park, 2019, Guwahati, Assam (Nov 20, 2019)"

SPECIAL MENTION

- ◆ The first departmental news letter "Awalokan" was launched
- ◆ The first departmental retreat (Biotech express) conducted in Dec 2019
- ◆ New and updated department website launched
- ◆ Prof. Pranab Goswami's lab:
 - "Nature India" highlights the work as Paper-based sensor detects malaria parasites: doi:10.1038/nindia.2019.65 published online May 24, 2019
 - The Hindu highlighted the work new paper-based test kit for malaria detection, in its on June 08, 2019
- ◆ Dr. Rajkumar Thummer - Judge for the Regional level of the Indian Science & Engineering Fair - 2019, conducted on the Oct 12, 2019 organized at Bharatiya Vidya Bhavan's R.K Sarda Vidya Mandir, Raipur, Chhattisgarh, India

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	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 Nifin	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	Ghosh Siddhartha S.	Indian Institute of Chemical Biology (IICB), Kolkata	Professor	Cancer Gene Therapy, Nanobiotechnology, Molecular Pathways Involving Drug Resistance
11	Goswami Pranab	Gauhati University	Professor (HAG)	Biosensors and Biofuel cells
12	Goyal Arun	Indian Institute of Technology Kanpur, Kanpur, India	Professor and Former Head	Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes and other industrially important microbial enzymes
13	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
14	Jaganathan Bithiah G.	Johann Wolfgang Goethe University, Frankfurt, Germany	Associate Professor	Stem Cell Biology, Cancer signaling
15	Kanaujia Shankar Prasad	Indian Institute of Science Bangalore	Associate Professor	Structural Biology and Bioinformatics Studies
16	Kumar Manish	University of Maryland, College Park, USA	Associate Professor	Molecular interaction of host-pathogen-vector of infectious diseases
17	Kumar Sachin	University of Maryland, College Park, USA	Associate Professor	Molecular biology of paramyxoviruses
18	Kunnumakkara A. B.	University of Calicut, Kerala	Professor	Role of inflammatory pathways in cancer development, Identification of novel biomarkers for cancer diagnosis and prognosis, Cancer drug discovery.

19	Limaye Anil Mukund	Indian Institute of Science Bangalore	Associate Professor	Hormonal regulation of gene expression
20	Maiti Soumen Kumar	Indian Institute of Technology Bombay	Assistant Professor	Bioprocess Engg, biofuel
21	Mandal Biman B	Indian Institute of Technology Kharagpur	Professor	Cell based tissue engineering, Biomaterials, Stem cells, Drug delivery systems
22	Nagotu Shirisha	University of Groningen, Groningen, The Netherlands	Assistant Professor	Organelle biology and Inter-organelle communication, Cellular Ageing, Membrane fission and fusion
23	Pakshirajan Kannan	Indian Institute of Technology Madras	Professor	Environmental Technology
24	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
25	Patra Sanjukta	Central Food Technological Research Institute, Mysore	Professor	Enzymes - applications in pharma and food industry
26	Ramesh Aiyagari	CFTRI, Mysore (Degree awarded by Mysore University)	Professor	Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors
27	Ramakrishnan Vibin	Indian Institute of Technology Bombay	Professor	Computational Biology, Bioinformatics, Biophysics, Bio-Organic Chemistry, Biotechnology
28	Rangan Latha	University of Madras (Research work carried at IRRI, Manila)	Professor and HOD	Molecular systematics, Biofuel, IPR
29	Sahoo Lingaraj	Maharshi Dayanand University, Rohtak, India	Professor	Genetic engineering and functional genomics of plants
30	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
31	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
32	Selvaraju Narayanasamy	Indian Institute of Technology Madras, India	Assistant Professor	Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering
33	Senthilkumar S	Central Leather Research Institute, Chennai	Associate Professor	Biocalorimetry, BioPAT, Real-time monitoring and control of bioprocess systems

34	Singh Kusum K	Institute of Molecular Medicine, Heinrich-Heine University of Duesseldorf, Germany	Assistant Professor	Post-transcriptional gene regulation by RNA binding Proteins
35	Swaminathan Rajaram	Tata Institute of Fundamental Research, Mumbai	Professor	Protein Structure and Function; Protein Charge Transfer Spectra.
36	Tamuli Ranjan	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Professor	Calcium signaling, Genetics, DNA repair
37	Rajkumar P. Thummer	University of Groningen, Groningen, The Netherlands	Assistant Professor	Stem Cell Engineering and Regenerative Medicine
38	Trivedi Vishal	Central Drug Research Institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum

DEPARTMENT OF CHEMICAL ENGINEERING

LABORATORY FACILITIES

Undergraduate Laboratories: 6

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

Mechanical Operation Lab: Ball Mill, Froth Flootation 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

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

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

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

Thermodynamics Lab: Vapour - Liquid Equilibrium Apparatus, Liquid - Liquid Equilibria, Equilibrium Flash Distillation Apparatus, Separating & Throttling Calorimeter

Postgraduate Laboratories: 1

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

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, PFD Detector, Gas Chromatography-Mass Spectroscopy, High Performance Liquid Chromatography, High Pressure Thermo Gravimetric Analyser (HPTGA), Interfacial Rheometer, Karl Fisher Titrator, Laser Particle Size Analyser, Mercury Intrusion Porosimeter, Microscope, Microwave Assisted Reactor, Millipore Water Purification, Refractometer, Rheometer, Spinning drop Tensiometer, Tensiometer, Thermogravimetric Analyzer, Time Resolved Stereoscopic Particle Image Velocimetry (PIV), Total Organic Content Analyzer, UV-Visible Spectrophotometer, X Ray Diffraction, Zeta Potential

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 to 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 AREAS OF RESEARCH AND DEVELOPMENT

Fluids

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

Reaction Engineering

- ◆ Catalysis electrolysis and Heterogeneous reactions
- ◆ Electrochemical corrosion
- ◆ Electroless plating
- ◆ Hydrocarbon processing
- ◆ Interfacial reactions
- ◆ Kinetic analysis
- ◆ Micro- and nano-fluidic reactors
- ◆ Non-equilibrium reactive systems

- ◆ Pyrolysis of waste plastics
- ◆ Separations with chemical reaction
- ◆ Sono-process engineering

Chemical Engineering Science

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

Environmental Pollution Control

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

Process Systems Engineering

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

Materials Engineering

- ◆ Bio-lubricant
- ◆ Complex organic solids
- ◆ Functional multiscale structures & composites
- ◆ Graphene synthesis and application
- ◆ Ionic liquids
- ◆ Liquid crystalline materials
- ◆ Low cost ceramic membranes
- ◆ Micro and nano sensors
- ◆ Non Newtonian fluids

- ◆ Palladium membranes
- ◆ Reactive systems and gels
- ◆ Responsive materials for environmental, biological and chemical separation
- ◆ Self-healing surfaces
- ◆ C-C composites and C-Polymer composites

Polymer Science and Engineering

- ◆ Polymers synthesis and characterization
- ◆ Polymer reaction engineering
- ◆ Polymer processing
- ◆ Polymer rheology
- ◆ Polymer solutions and thermodynamics
- ◆ Polymer simulation and computing
- ◆ Polymer based nano and biocomposites
- ◆ Polymer degradation
- ◆ Polymer and nano-material migration studies
- ◆ Polymer recycling and reuses
- ◆ Biodegradable polymers
- ◆ Polymer based technology development, licensing, training and entrepreneurship
- ◆ Biodegradable polymers and biobased nanocomposites

Energy Engineering

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

Separation and Mixing Processes

- ◆ Adsorption
- ◆ Bio-separation
- ◆ Membrane separation processes
- ◆ Micro-mixers & separators
- ◆ Post CMP cleaning
- ◆ Separation using supercritical fluids
- ◆ Surfactant mediated separation processes

Food Science and Technology

- ◆ Membrane technology based juice processing
- ◆ Drying technologies (RWD, Tray and Oven) for food product development from North-East horticulture resources
- ◆ Microwave assisted food processing
- ◆ Functional foods
- ◆ Food packaging

CONFERENCES /WORKSHOPS/SYMPOSIA ATTENDED

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
1	Prof. Chandan Das	11th World Congress on Water Resources and Environment (EWRA 2019), "Managing Water Resources for a Sustainable Future", Madrid, Spain	Madrid, Spain	June 25-29, 2019	International
2	G. Pugazhenth	16th PATTAYA International Conference on Chemical, Biological, Agricultural and Environmental Sciences (PCBAE-19-PATTAYA)	Pattaya, Thailand	Dec 23-25, 2019	International
3	Prof. Chandan Das	7th International Conference on Chemical and Biological Sciences, National University of Singapore, Singapore	Singapore	Mar 6-8, 2020	International
4	Resmi Suresh	Battery and Energy Storage Workshop AIChE	New York	Oct 21, 2019	International
5	Prof. Animes Kumar Golder	Bio-inspired Nanomaterials for Environmental Applications	IIT Guwahati, Assam, INDIA	Feb 12-13, 2020	International
6	Prof. Animes Kumar Golder	Bioprocess for Sustainable Environment and Energy	NIT Raurkela, Odisha INDIA	Mar 5-7, 2020	International
7	Ashok Kumar Dasmahapatra	COMPFLU – 2019	IISER Bhopal	Dec 05 – 07, 2019	International
8	Ashok Kumar Dasmahapatra	Conference on Recent Topics in Statistical Mechanics	NISER Bhubaneswar	Dec 11 – 13, 2019	National
9	Raghvendra Gupta	Fluid Mechanics and Fluid Power	Coimbatore	Dec-2019	National
10	Resmi Suresh	Indian Process Systems Engineering	Chennai	Aug 18, 2019	National
11	Partho S G Pattader	Nanotech France 2019	France	June 26-28, 2019	International
12	Raghvendra Gupta	National Conference on Upstream Petroleum Engineering	Guwahati	Nov 2019	National
13	Prof. Animes Kumar Golder	Recent Advances in Water Contaminants Evaluation and Remediation	University of Strathclyde, Glasgow, Scotland, UK	Feb 04, 2020	International
14	Resmi Suresh	RTG Big Data Research Summer School	Allahabad	Apr 02, 2019	International
15	Ashok Kumar Dasmahapatra	SM-YIM– 2019	Shillong	May 12 – 14, 2019	National
16	G. Pugazhenth	The 2 nd Green Technologies for Sustainable Water 2019 (GTSW 2019)	Ho Chi Minh City, Vietnam	Dec 1-5, 2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No	Name of Faculty	Name of Lecture	Name of Inst./ Org.	Place	Date
1	Prof. Chandan Das	Arsenic contamination in drinking water: An overview” at TEQIP III Sponsored Symposium on “Rise of Arsenicosis and Fluorosis like diseases in the North-Eastern states of India – Technologies and techniques for mitigation	Centre for the Environment, IIT Guwahati	Guwahati	Jan 23, 2020
2	Prof. Animes Kumar Golder	Bio-inspired Route for Synthesis of Metal and Metal Oxide Nanoparticles	University of Strathclyde	Glasgow, Scotland, UK	Feb 04, 2020
3	Prof. Animes Kumar Golder	Bio-inspired Synthesis and Functionalization of Metal Nanoparticles for Environmental Applications	IIT Guwahati	Guwahati, Assam, INDIA	Feb 12-13, 2020
4	Prof. Animes Kumar Golder	Bio-inspired Synthesis of Photocatalysts and Electrocatalysts: Exploring Ignored Potentials	NIT Raurkela	Raurkela, Odisha INDIA	Mar 5-7, 2020
5	Dr. Resmi Suresh	Causal Inference – Can computers catch up to humans?	RBCDSAI, IIT Madras	Chennai	Dec 20, 2019
6	Dr. Resmi Suresh	Electric Vehicles: State of the Art	TEQIP Short-term course on recent trends in renewable energy utilization technologies IITG	Guwahati	May 09, 2019
7	Prof. Tamal Banerjee	Molecular Modeling Studies involving the Dissolution of Lignocellulosic Biomass with Ionic Liquids and Deep Eutectic Solvents	BARC Mumbai	Mumbai	Nov 7, 2019
8	Prof. Tamal Banerjee	Multiscale Modeling Strategies for the Solvation of Cellulose in Ionic Liquids.	Universidad Politécnica de Madrid	Madrid	June 29, 2019
9	Prof. G. Pugazhenth	Novel biorefinery approach for Polyhydroxybutyrate (PHB) production	Annamalai University	Annamalai Nagar, Chidambaram	Sep 12, 2019
10	Prof. G. Pugazhenth	Novel polymeric nanocomposites for drug delivery applications	NIT Tiruchirappalli	Tiruchirappalli	Sep 10, 2019
11	Prof. G. Pugazhenth	Novel strategies for production of biopolymer with antimicrobial performance	Avinashilingam Institute for Home Science and Higher Education for Women	Coimbatore	Feb 20, 2019
12	Prof. Tamal Banerjee	Reactive Force Field Simulations on the Degradation of Quinoline	IIT Kanpur	Kanpur	Feb 22, 2020

13	Prof. Chandan Das	Recent advances in food, energy and wastewater treatment in Chemical Engineering	35th National Convention of Chemical Engineers on the theme "The food-energy-water (FEW) nexus-challenges for Chemical Engineers	The Institution of Engineers (India), Assam State Centre, Guwahati	Sep 6, 2019
14	Prof. Chandan Das	Use of plastic in daily life	Indian Railway, Rangiya Division/ N.F. Railway	Rangiya	Sep 16, 2019

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Boytsova Alexandra, Saint Petersburg Mining University	Crudes as dispersed systems	Nov 2019	
2	Dr. Amol A. Kulkarni, NCL Pune	Exothermic reactions in Continuous Flow Reactors: Role of relative rates of various physicochemical phenomena	May 31, 2019	
3	Prof. Rochish Thaokar, IIT Bombay	Pattern formation, dynamics and breakup of sub-Rayleigh and Rayleigh charged droplets	May 29, 2019	
4	University of Strathclyde, Glasgow, Scotland	Peptoid and Polyphenol Coatings for Enzyme Immobilization, Antibacterial and Antifouling Applications	Feb 12-13, 2020	Dr. K. H. Aaron Lau
5	Dr. Chirag Kalelkar, Department of Mechanical Engineering, Indian Institute of Technology Kharagpur	Stress banding in compressed quasi-two-dimensional aqueous foams	Apr 16, 2019	
6	Prof. W. J. Lau, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia	Surface Modification of Membranes by Nanomaterials for Water Applications	June 10, 2019	
7	University of Strathclyde, Glasgow, Scotland	Visible Light Active Photocatalytic Nanomaterials for Water Remediation	Feb 12-13, 2020	Dr. Aruna Ivaturi

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. Prabir Kumar Saha	ASPEN Workshop	IChE GRC	Apr 7, 2019	National	25

2	Prof. Animes K Golder and Dr. Lalit M Pandey	Bio-inspired Nano-materials for Environmental Applications	DST-UKIERI	Feb 12-13, 2020	International	46
3	Dr. Raghvendra Gupta	CFD Workshop/STC	IICHE GRC	Dec-19	National	25
4	Prof. Ashok Kumar Dasmahapatra	International Symposium on Sustainable Polymers & National Symposium on Chemistry Education for Sustainable Engineering	DeitY, Government of India	Aug23 – 25, 2019	National	150
5	Prof. Vimal Katiyar	Symposium Chair, International Symposium on Sustainable Polymers		Aug 23-25, 2019	International	
6	Dr. R. Anandalakshmi	Theory and demonstration session on thermal analysis (DSC and TGA) of materials	IICHE GRC	May 31, 2019	National	50

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Sanjay Kumar Gauba, Pradeep Kumar Dubey, Amol Suresh Musale, Senthilmurugan Subbiah, Rashmi Dutta Baruah, Senthil Selvaraju, Viswanth Ramba, Achyut Mani Tripathi, Bala-kumara Vignesh Muppidathi	A System and Method for Activity Identification and Problem Prediction During Oil and Gas Well Drilling	Oct 7, 2019	201911040595	Filed
2	Abhilasha Maheshwari, Shamik Misra, Ravindra Gudi, Senthilmurugan Subbiah	A system and method for vehicle based distribution of water	2019	201921031020	Filed
3	Ashok Kumar Dasmahapatra, Harshal B. Nemade and Shatrudhan Palsaniya	PA6/RGO/PANI Ternary nanocomposites and fabrication of symmetric supercapacitors for electrochemical energy storage applications	Dec 23, 2019	201931053416	Filed
4	Vishal Kumar Verma, Senthilmurugan S., S K Sankar	System and method for producing Sericin coated membranes	Apr 5, 2019	201922013927	Filed
5	Ashok Kumar Dasmahapatra, Harshal B. Nemade and Shatrudhan Palsaniya	Ternary composites comprising hierarchical nanostructures and system thereof	Nov 27, 2019	201931048629	Filed

AWARDS AND HONOURS

- ◆ Prof. T Banerjee has been elected as Editorial Board Member of Fluid Phase Equilibria

STUDENTS' ACHIEVEMENTS

Jenasree Hazarika (Research Scholar working under the supervision of Dr. V. Prasanna) has been received the best paper award in IMME19 which was held at NIT Tiruchirappalli during Dec 27 -28, 2019

FACULTY MEMBERS

Sl. No.	Name	Name of the University/ Institute /Org PhD degree received from	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 optimization, Statistical thermodynamics
4	Das Chandan	IIT Kharagpur	Professor	Wastewater Treatment, Bioremediation, Membrane based Separation Process
5	Dasmahapatra Ashok Kumar	IIT Bombay	Professor	Complex fluids, Phase transition in polymers (Nucleation, crystallization, collapse transition, etc.), Structure-property relations, Molecular simulations, Biological physics
6	De Mahuya	IIT Kanpur	Professor	Catalysis and reaction engineering, adsorption, hydrocarbon processing
7	Deshmukh Omkar Suresh	University of Twente, Netherlands	Assistant Professor	Colloids & Interfaces, Flow of Complex fluids, Polymer Dynamics, Glassy systems, Food oral processing, Food Physics, Bio-materials, Biophysics.
8	Ghosh Pallab	IIT Bombay	Professor	Interfacial phenomena, Interfacial reactions, Membrane separation, Randomised algorithms
9	Ghoshal Alope Kumar	IIT Kharagpur	Professor	Advanced Separation Technology, Modelling & Simulation, Environmental Pollution Control, Pyrolysis of waste plastics
10	Gooh Pattader Partho Sarathi	Lehigh University	Assistant Professor	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter

11	Golder Animes Kr.	IIT Kharagpur	Professor	Electroremediation of water/wastewater, Physiochemical water/wastewater treatment techniques, Bioremediation, Electro-
12	Goud Vaibhav V.	IIT Kharagpur	Professor	Heterogeneous Reactions, Bioenergy and Green Engineering, Biolubricant, Utilisation of Lignocellulosic Biomass for Fuel/Chemicals, Supercritical Fluids
13	Gupta Raghvendra	The University of Sydney, Australia	Associate Professor	Biofluid Mechanics, Multiphase Flows, Microfluidics, Experimental and computational 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	Biofuels, Computational Fluid Flow and Heat/Mass Transfer, Density Functional Theory, Non-Newtonian Fluids
17	Kotecha Prakash	IIT Bombay	Associate Professor	Optimization, Process Control, Artificial Intelligence, Planning and Scheduling
18	Kumar Amit	University of Delaware, 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, Modelling 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	Petroleum Science & Technology, Multiphase flow and reactor development, Hydrodynamics in multiphase flow, Mineral processing, Process intensifications, Micro-nano bubble science and technology and its applications, Waste water treatment, Microchannel-based extraction, Jet driven gas-aided extraction
22	Mohanty Kaustubha	IIT Kharagpur	Professor	Biofuels, Biomass pyrolysis, Biological wastewater treatment, Heterogeneous catalysis, Microalgae bio refinery, Membrane based separations, Ionic liquid based separa-

23	Moholkar Vijay S.	University of Twente, Netherlands	Professor	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
24	Peela Nageswara Rao	IIT Kanpur	Associate Professor	Heterogeneous Catalysis and reaction engineering, Biomass conversion to value added chemicals, Bio-oil up-gradation to transportation fuels, Carbon dioxide activation to valuable 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
27	Purkait Mihir Kumar.	IIT Kharagpur	Professor	Membrane technology; Effluent treatment and waste management; Advanced separation processes; Catalysis; Nanoparticles and nano-composites; Bio-diesel; Bio-products, vegetable and fruit juice processing; CO ₂ to products and liquid fuels.
28	Saha Prabirkumar	IIT Madras	Professor	Process Modelling, Optimisation and control, Membrane Based separation Process
29	Senthilmurugan S	IIT Delhi	Associate Professor	Modelling 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/Nanofluidic, 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, Kinet-
33	Upadhyay Rajesh Kr. (On Lien)	IIT Delhi	Associate Professor	Multiphase Flow Reactor, Multiphase Flow Measurements, Computational Fluid Dynamics, Residence Time Distribution, Novel Re-

34	Uppaluri Ramgopal V. S.	UMIST, Man- chester, 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

LABORATORY FACILITIES

Sl No.	Details of Laboratory	Number	Approx. Floor space (m ²)	Availability of facilities like board, LCD, PC/Laptop, AC, internet
Laboratories for B. Tech and M. Sc program				
01	Chemistry Laboratory (B. Tech, 1 st 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
Research Laboratories:				
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 (Millipore) water Lab	01	50	AC

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- ◆ Cryostream low temperature device with accessories for Single Crystal XRD, Make: Oxford, Model: 800 Series (Status: Order placed)
- ◆ Refrigerated Centrifuge (02 Nos.), Make: Eppendorf Model: 5910R (Status: Functioning)
- ◆ Quaternary Gradient High-Performance Liquid Chromatography, Make: Agilent Model: 1260 Infinity II (Status: Order to be placed)
- ◆ ICE FLAKER MACHINE, Make: SIMAG Model: SPR200 (Status: Functioning)

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 and newspapers recently in various fields of chemistry as mentioned below,

- ◆ Electro-kinetic streaming potential" to harvest energy from flowing tap water and "contrasting inter-facial activities" entailing different types of semiconducting materials to generate power from stagnant water
- ◆ Water-repelling cotton for sustained drug release
- ◆ Development of a low-cost, hand-held device for rapid detection of bacteria, bringing portable bacterial detection kits closer to reality etc

Conferences/Workshops/Symposia Attended: International, National

Name of Faculty	Name of Conf./ Workshop	Place	Date	International/ National
S. Paul	CECAM50 (Molecular and materials simulation at the turn of the decade: Celebrating 50 years of CECAM)	EPFL, Lausanne, Switzerland	9-12 September, 2019	International
	DAE Computational Chemistry Symposium (DAE-CCS-2019)	BARC, Mumbai, India	7-9 November, 2019	National
C. V. Sastri	DST DAAD Program	Heidelberg University	Feb, 2020	International
C. Mukherjee	19 th International Conference on Biological Inorganic Chemistry	Switzerland	11-16 August, 2019	International

A. S. Achalkumar	Advances in Chemical and Materials Science (ICMM-2019)	Mangalore University	17-19 October 2019	International
	Emerging Trends in Liquid Crystal Research	CeNS, Bangalore	15 October 2019	International
	ICANN 2019	IIT Guwahati, Guwahati-39	18-21 December 2019	International
D. Das	NATCOSEB XIX	Kolkata	17 October 2019	National
	TSRP-2020	BARC	08 January 2020	International
S. C. Pan	International Conference on Chemistry for Human Development	Kolkata	9-11 Jan, 2020	International
	International Conference on Organometallics and Catalysis	Goa	7-10 March, 2020	International
M. Sarma	Mechanistic Processes in Organometallic Chemistry Faraday Discussion	University of York, United Kingdom	September 02 – 04, 2019	International
	Spectroscopy and Dynamics of Molecules and Clusters (SDMC) 2020	Kumbhalgarh, Rajasthan, India	February 20 – 23, 2020	National
	International Conference on Spectroscopy and Dynamics of Molecular and Condensed Matter Systems (ICSD) 2020	Puri, Odisha, India	March 01 – 04, 2020	International
U. Manna	INT Seminar	Karlsruhe Institute of Technology, Germany	July, 2019	International
	Recent Advances in Chemistry (RAC)	NIT Meghalaya	October 14-15, 2019	National
	Chemical Science in India: Leaders in the Field Symposium	IISER Kolkata	October 18-20, 2019	International
U. Manna	International Conference on Advanced Nanomaterials and Nanotechnology	IIT Guwahati	December 18-21, 2019	International
	International Conference on Functional Materials	IIT Kharagpur	January 06-08, 2020	International
Akshai Kumar A S	ICANN 2019	IIT Guwahati	December 2019	International
	MTIC XVIII	IIT Guwahati	December 2019	International
	19 th National Workshop on Catalysis-2019	IIT Delhi	May 2019	National
	International Conference on Advances in Chemical and Materials Science (ICCM-2019)	Mangalore University, Mangalore, INDIA	October 2019	International
	RSC Roadshow	IIT Guwahati	November 2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
T. Punniyamurthy	Stereoselective Carbon-Carbon and Carbon-Heteroatom Bond Formation: Application to Medicinally Important Heterocyclic Scaffolds	University of Kolkata Conference: IC-CHD-2020	Kolkata, India	January 9-10, 2020
	Regioselective Carbon-Carbon and Carbon-Heteroatom Bond Formation: Synthesis of Medicinally Important Heterocyclic Scaffolds	Indian Science Congress, Agricultural University	Bangalore, India	January 5-7, 2020
	Regioselective C-H Bond Functionalization: A Roadmap to Heterocycle Synthesis	BITS	Pilani, India	December 15, 2019
	150 th Year of Periodic Table	Bhattadev University	Bajali, India	October 26, 2019
	Carbon-Carbon and Carbon-Heteroatom Bond Formation	Organic Chemistry Symposium	Lucknow, India	September 15, 2019
	Regioselective Carbon-Heteroatom Bond Formation	National Conference OMSRI, IIT Roorkee	Roorkee, India	February 10, 2019
	Regioselective Carbon-Carbon and Carbon-Heteroatom Bond Formation	Emerging Trends in Chemistry, IIT Indore	Indore, India	July 12-15, 2019
A. K. Saikia	Stereoselective Synthesis of Heterocyclic Compounds	Indian Chemical Society, Kolkata	Pt. Ravishankar Shukla University, Raipur, Chhattisgarh	15 November, 2019
	Stereoselective Synthesis of Heterocyclic Compounds with Special Emphasis on Bioactive Molecules	Gauhati University	Gauhati University Guwahati	15 February, 2020
B. Mandal	Engineered peptides for total degradation of Amyloid	University of Miami	Miami, USA	18-20 December, 2019
	Controlling amyloid aggregation by engineered peptides	BSBE, IIT Kanpur	Kanpur	6-8 December, 2019
	Drug discovery and design	Chemistry Department, North Bengal University	West Bengal	28 August, 2019
	Solid phase peptide synthesis			29 August, 2019

C. K. Jana	C-H Functionalization Enabled Multicomponent Reactions (CH-MCR) Anilines	Kaleidoscope	Goa	July, 2019
	Nature-Inspired Development of Unnatural Meroterpenoids as Promising Anti-colon Cancer Agents	INCD	IIT Guwahati	September, 2019
	Iminium- Activated C-H Functionalization of Amines	NOST OCC	Udaipur	December, 2019
S. C. Pan	Metal Free Synthesis of Cyclic Molecules	NISER	Bhubaneswar	12 July, 2019
M. Sarma	Invited Lecture at Department of Chemical Sciences, Tezpur University, Assam, India	Tezpur University, Assam, India	Tezpur, Assam, India	June 08, 2019
	Invited cum Popular Lecture at Saraighat College, Changsari, Assam, India	Saraighat College, Assam, India	Changsari, Assam, India	July 26, 2019
	Invited cum Popular Lecture at Science Camp for Higher Secondary Students, IIT Guwahati, Guwahati,	IIT Guwahati, Guwahati, Assam, India	Guwahati, Assam, India	August 13, 2019
	Invited Lecture at Recent Advances in Chemistry (RAC) 2019	National Institute of Technology Meghalaya, Shillong, India	Shillong, Meghalaya, India	October 14 – 15, 2019
M. Sarma	Invited cum Popular Lecture at Science Camp for Higher Secondary Students, IIT Guwahati, Guwahati,	IIT Guwahati, Guwahati, Assam, India	Guwahati, Assam, India	November 08, 2019
	Invited Lecture at Emerging Trends in Chemical Sciences (ETCS) 2020	Gauhati University, Guwahati, India	Guwahati, Assam, India	February 13 – 15, 2020
D. Srimani	Application of Acceptorless Dehydrogenation and Hydrogen Auto-transfer in Sustainable Synthesis	St Gregorios College, Kottarakara <i>Conference name:</i> "Green Approaches towards Chemical Synthesis" GACS2019	Kerala	November 8, 2019
S. Chatterjee	Rational Design of Small Antimicrobial Peptides and their Mechanism of Action	Madurai Kamraj University, Indian Peptide society	Madurai	February 19-20, 2020

Akshai Kumar A S	"Pincer Complexes in Catalytic Conversions: Synthesis of Fuel and Value-Added Chemicals "	ICANN 2019	IIT Guwahati, Guwahati, IN- DIA	December 2019
	"Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals"	Modern Trends in Inorganic Chemistry MTIC-XVIII,		
	"Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals"	IPC Department	IISc, Bangalore, INDIA	October 2019
	"Efficient Pincer-Ruthenium Catalytic Systems for Dehydrogenation and Related Reactions"	International Conference on Advances in Chemical and Materials Science (ICCM-2019)	Mangalore University, Mangalore, INDIA	October 2019
	"Metal Carbonyls"	St. Aloysius College	Mangalore, INDIA	October 2019

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof Uttam Tambar	UT Southwestern, USA	Stereoselective Functionalization of Unsaturated Hydrocarbons	5 th -7 th March 2020
Prof Stellios Arseniyadis	Queen Mary University, London, UK	From organometallic catalysis to bio-hybrid catalysis: Some recent results from the group	do
Prof. Uday Maitra	IISc Bangalore	Bile Salt derived Metallohydrogels and their Applications	03/03/2020
Prof. Sundarababu Baskaran	IIT Madras	Novel Oxidative Cyclization of Carbanion: Stereoselective Synthesis of Heterocyclic Ring Systems	21/02/2020
Prof. Tushar Kanti Chakraborty	IISc Bangalore	Radical cyclization as a key step in the synthesis of terpenoid natural products	12/05/2020
Prof. Michael Schmittel	University of Siegen, Germany	Communicating Systems (Molecular Cybernetics): Networking Molecular Devices for Catalysis and Information Handling	10/12/2019
Dr Nabanita Deb	Weizmann Institute of Science, Israel	Cold Chemistry with Cold Atoms/ Molecules	25/10/2019
Prof. Suresh Valiyaveeti	National University of Singapore	Optical properties of perylene encapsulated silica and polymer nanoparticles	21/10/2019
Dr Arjun Saha	University of California Los Angeles, USA	Development and Application of QM Methods for Large Molecular Systems and its Future in Drug Discovery	21/10/2019
Prof. Hirtz	KIT, Germany	Departmental Talk	28/10/2019
Prof. Vinod K Tiwari	Banaras Hindu University	Click Inspired Facile Synthesis of Diverse Glycodendrimers and their Therapeutic Potential	17/10/2019
Dr. Pawan Kumar	University of Alberta, Canada	Bandgap tuned 2D graphenic semiconductors for photoreduction of CO ₂ to solar fuels and energy applications	15/10/2019
Prof. Priyadarsi De	IISER-Kolkata	Sequence Controlled Alternating Copolymers	22/08/2019

Dr. Srinivas Dhara-vath	McMaster University, Hamilton, Canada	Synthesis of New Green High Energy Density Materials With Fine-tuned Properties	19/07/2019
Prof. Patrick Y. S. Lam	Baruch S. Blumberg Institute	Departmental Talk	30/05/2019
Prof. Peter Comba	Heidelberg University	Part of SPARC and DST DAAD program	Aug-Sep 2019
Prof. Kallol Ray	Humboldt University	Part of SPARC (MHRD) program	Oct-Nov 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	G. Das	Modern Trends In Chemistry (MTIC)	RSC, ACS, Bruker, Metrohm, Orbit technologies pvt. Ltd., TechRVL, Labguard, Inkarp, General Electric, AB chemical & Instruments etc.	11- 14 December, 2019	International	650
2	A. Kumar A.S.	RSC Road-show 2019	RSC	6 November 2019	International	400

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.	Remarks
1	B. Mandal and T. Mondal	Design and Development of Functional Mimics of α -Secretase and their Application in Drug Design against Amyloidoses	23 Jan, 2019	20193100277	Applied
2	B. Mandal and J. Chandra	A method for preparation of sulphonates of alcohol, oxime-o-sulphonates and their derivatives	31 Jul, 2019	317283	Granted
3	C. K. Jana and S. Ghosh	A one step process for synthesis of cinnamides and piper amides	20 September, 2019	201931038052	Applied
4	U. Manna, V. Nandakumar, Karthick R, A. Das, K. Maji, A. Shome	A process for preparation of a super hydrophobic membrane	7 February, 2020	202041005525	Applied

AWARDS AND HONOURS

- ◆ Prof. A. Chattopadhyaya was awarded (a) J. C. Bose Fellowship 2020 (SERB), (b) Invited to join the Editorial Advisory Board of the Journal of Materials Chemistry A (Royal Society of Chemistry), (c) Elected to be the Fellow of the Indian National Science Academy (2020)
- ◆ Prof. S. C. Pan selected as Fellow of the Indian Chemical Society
- ◆ Dr. M. Sarma selected as Member of the Royal Society of Chemistry (MRSC), April 2019
- ◆ Dr. U. Manna received (i) Bilateral Exchange of Academics Award by DAAD (2019), (ii) INSA-Young Scientist Award (2019), (iii) Merck Young Scientist Award (Runner-up) in Chemical Science (2019) and (iv) Emerging Investigators by Chemical Communication (2020)
- ◆ Dr. Akshai Kumar A. S. selected as Member-American Chemical Society in 2019

STUDENTS' ACHIEVEMENTS

- ◆ Dr. Rumi Khandelia (Supervisor – A. Chattopadhyaya) selected for Marie Curie Fellowship
- ◆ Dr. Srestha Basu (Supervisor – A. Paul) selected for JSPS Fellowship
- ◆ Ms. Srijita Paul (Supervisor – S. Paul) received the best poster award in Research Conclave 2019
- ◆ Ms. Dibyangana (Supervisor – U. Manna) Parbat got best poster presentation in REFLUX 7.0 conference-2019, IIT Guwahati
- ◆ Ms. Arpita Shome (Supervisor – U. Manna) got best oral presentation in REFLUX 7.0 conference -2019, IIT Guwahati
- ◆ Ms. Supriya Das (Supervisor – U. Manna) got best poster award in RAC 2019 conference, NIT Meghalaya

- ◆ Ms. Arpita Shome got best poster in International Conference on Advanced Nanomaterials and Nanotechnology, 2019, IIT Guwahati
- ◆ Ms. Arpita Shome got best oral presentation in National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment (WATER 2020) organized by Centre for the Environment, IIT Guwahati
- ◆ Ms. Arpita Shome has been selected for the AWSAR-DST BEST stories Award 2019 for her science story "Cotton-the Trivialized Treasure"
- ◆ Mr. Kanu Das (Supervisor- Akshai Kumar A.S.) received Special poster award during 19th National Workshop on Catalysis-2019, IIT Delhi, May 2019
- ◆ Mr. Chandrakanta Parida (Supervisor – S. C. Pan) got best poster award in ICCHD 2020 held in Kolkata 9-11 Jan, 2020
- ◆ Mr. Gourab Mukherjee (Supervisor - C. V. Sastri) visited to Manchester University during July-September 2019 as a part of DST UKIERI
- ◆ Mr. Sayanta Sekhar Nag (Supervisor - C. V. Sastri) to Heidelberg university Aug-Oct 2019 as a part of DST DAAD and SPARC

SPECIAL MENTION

Some research work has been highlighted/ reported in different news papers,

<https://www.thehindu.com/news/national/other-states/iit-g-offers-new-tech-to-tap-energy-from-water/article30435707.ece>

<https://thenortheasttoday.com/iit-guwahati-builds-hand-held-device-to-detect-bacteria/>
<https://www.thehindu.com/sci-tech/science/iit->

FACULTY MEMBERS

Sl. No.	Name	Name of the University/ Institute/Org PhD degree received from	Designation	Areas of Interest
01	Achalkumar A.S.	Ph.D. (CSMR, Bangalore)	Professor	Liquid crystals, Functional Materials, Molecular Electronics, Self Assembly, Green Chemistry
02	Akshai Kumar A. S.	Ph.D. (IISc Bangalore)	Assistant Professor	Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation
03	Bag Subhendu Sekhar	Ph.D. (IIT Kharagpur)	Professor	Bioorganic Chemistry and Chemistry of Unnatural Nucleic Acid and Peptides

04	Baruah, Jubaraj B.	Ph.D. (IISc Bangalore)	Professor	Homogeneous Catalysis, Supramolecular chemistry and material design
05	Bhabak, Krishna Pada	Ph.D. (IISc Bangalore)	Assistant Professor	Organic and Bio-organic Chemistry
06	Biswas, Shyam Prosad	Ph.D. (Ulm University, Germany)	Associate Professor	Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks
07	Chattopadhyay, Arun	Ph.D. (Columbia University)	Professor	Nanoscale Science and Technology
08	Chatterjee Sunanda	Ph.D. (IISc Bangalore)	Assistant Professor	Peptide Chemistry, Supramolecular Chemistry, Antimicrobial peptide research, Peptidomimetic chemistry
09	Das, Animesh	Ph.D. (University of Goettingen, Germany)	Assistant Professor	Organometallic chemistry and catalysis
10	Das, Debapratim	Ph.D. (IACS, Kolkata)	Professor	Supramolecular dynamic aggregates, peptides, lipids
11	Das, Gopal	Ph.D. (IIT Kanpur)	Professor	Supramolecular, Bioorganic chemistry and Biomineralization
12	Dutta, Sumana	Ph.D. (IACS, Kolkata)	Associate Professor	Experimental & Theoretical Physical Chemistry / Self-organization and Nonlinear dynamics
13	Gupta, Ashish K.	Ph.D. (Univ. of California, Los Angeles)	Professor	Quantum Molecular Dynamics
14	Iyer, Parasmeswar K.	Ph.D. (CSMCRI, Bhavnagar)	Professor	Polymer synthesis, Organic / Organometallic Chemistry & Device fabrication, Sensors
15	Jana, Chandan K.	Ph.D. (WWU Muenster, Germany)	Professor	Total Synthesis/ Natural Product Based Drug Discovery/ Synthetic Methodology/ Development of New Reaction
16	Kancharla, Pavan K.	Ph.D. (IIT Kanpur)	Assistant Professor	Organic Chemistry, Carbohydrate Chemistry, Development of Synthetic Methodology, Organocatalysis.
17	Khan, Abu Taleb	Ph.D. (Kalyani University, W.B)	Professor	Synthesis of Natural Products, Heterocycles and Carbohydrate Chemistry, Newer Methodologies
18	Krishnamoorthy, G.	Ph.D. (IIT Kanpur)	Professor	Organic Photochemistry & Spectroscopy
19	Kundu, Lal Mohan	Ph.D. (LMU Munich, Germany)	Associate Professor	Nucleic Acid / Peptide Chemistry, DNA / RNA Damage and Repair, DNA Hybrid Materials
20	Mahata Kingsuk	Ph.D (University of Siegen, Germany)	Associate Professor	Solar Fuel from Water, Supramolecular Catalysis, Theranostic Nano-Medicine
21	Manivannan, V.	Ph.D. (IACS, Calcutta)	Professor	Coordination Chemistry

22	Mandal, Bhubaneswar	Ph.D. (EPFL, Lausanne, Switzerland)	Professor	Peptide Chemistry and Amyloid Research
23	Manna, Debasis	Ph.D. (University of Illinois at Chicago)	Professor	Lipid-Protein Interaction, Lipid Synthesis
24	Manna, Uttam	Ph.D. (IISc, Bangalore)	Associate Professor	Bio-Inspired Polymeric Materials.
25	Mondal, Biplab	Ph.D. (IIT Bombay)	Professor	Coordination and Bioinorganic Chemistry
26	Mukherjee, Chandan	Ph.D. (Max-Planck Institute of Bioinorganic Chemistry, Muelheim, Germany)	Professor	Oxidation Catalysis / Molecular Magnetism / Synthesis of Single-Molecule Magnets (SMMs) / MRI Contrast agents / Water Oxidation Chemistry
27	Pan, Subhas Chandra	Ph.D. (Max-Planck-Institut fuer Kohlenforschung, Muelheim an der Ruhr, Germany)	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.	Ph.D. (IIT Kanpur)	Professor	Dynamics of bimolecular scattering processes
29	Patel, Bhisma K.	Ph. D. (IIT Kanpur)	Professor	Bio-Organic Chemistry and Newer Methodologies
30	Paul, Anumita	Ph.D. (Columbia University)	Professor	Surface Science, Catalysis, Thin Films
31	Paul, Sandip	Ph.D. (IIT Kanpur)	Professor	Computational Biophysics and Chemistry
32	Punniyamurthy, T.	Ph.D. (IIT Kanpur)	Professor	Synthetic Organic Chemistry
33	Qureshi, Mohd	Ph.D. (IIT Kanpur)	Professor	Materials Chemistry
34	Ray, Manabendra	Ph.D. (IIT Kanpur)	Professor	Bioinorganic and Coordination chemistry
35	Raidongia, Kalyan	Ph.D. (JNCASR)	Associate Professor	Physical Chemistry
36	Sahu, Kalyanasis	Ph.D. (IACS, Kolkata)	Associate Professor	Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS
37	Saikia, Anil Kr.	Ph.D. (RRL Jorhat)	Professor	New Synthetic Methodology & Natural Product Synthesis
38	Sastri, Chivukula V	Ph.D. (University of Hyderabad)	Professor	Biomimetic Chemistry and Chemical Biology
39	Sarma, Manabendra	Ph.D. (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	Ph.D (IACS, Jadavpur)	Associate Professor	Organic, Organonometallic Chemistry

DEPARTMENT OF CIVIL ENGINEERING

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 analytes 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 micro-biology 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 include

- ◆ 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), Gyrotory 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 software 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

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 modelling in urban transport and industrial environment, Pavement Evaluation and Management, Road Safety, Traffic Flow and Travel Behaviour Modelling

CONFERENCES /WORKSHOPS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Saha, B., Khwairakpam, M.,Kalamdhad, A.S	International Conference on Solid Waste (ICSW 2019)	Hangzhou, China.	13-16 Nov	International
Kausar, H., Khwairakpam, M., Kalamdhad, A.S	International Conference on Solid Waste (ICSW 2019)	Hangzhou, China.	13-16 Nov	International
Chejarla, V.R., Kalamdhad, A.S	Proc., International Conference on Solid Waste (ICSW 2019)	Hangzhou, China.	13-16 Nov	International
Chakma, R., Pottipati, S., Kalamdhad, A.S.	Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)	National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)	27-29 Nov.	International
Chejarla, V., Rao, D. S., Kalamdhad, A.S.	Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)	National Environmental Engineering Research Institute (NEERI), Nagpur, India.	27-29 Nov.	International
Dalasingh, B., Choudhury, S.P., Kalamdhad, A.S.,	Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)	National Environmental Engineering Research Institute (NEERI), Nagpur, India.	27-29 Nov.	International
Sathyan, A., Kumar, A., Kalamdhad, A.S.	Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019),	National Environmental Engineering Research Institute (NEERI), Nagpur, India.	27-29 Nov.,	International

Sathyan, A., Koley, S., Kalamdhad, A.S.,	. Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)	National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)	27-29 Nov	International
Singh, P., Kumar, A., Kalamdhad, A.S.	Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)	National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)	27-29 Nov	International
Suresh Nama, Gourab Sil, Akhilesh Kumar Maurya, Avijit Maji	Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020)	Kolkata	March 02-04, 2020	International
Arunabha Banerjee, Akhilesh Kumar Maurya	Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020)	Kolkata	March 02-04, 2020	International
Sanhita Das and Akhilesh Kumar Maurya	99th Annual Meeting of Transportation Research Board (TRB)	Washington DC	January 12-16, 2019	International
Anuj Budhkar and Akhilesh Kumar Maurya	99th Annual Meeting of Transportation Research Board (TRB)	Washington DC	January 12-16, 2020,.	International
Anuj Budhkar and Akhilesh Kumar Maurya	99th Annual Meeting of Transportation Research Board (TRB)	Washington DC	January 12-16, 2020,.	International
Arunabha Banerjee and Akhilesh Kumar Maurya,	Presented 13th Eastern Asia Society for Transportation Studies (EASTS 2019)	Colombo, Sri Lanka	September 9-12, 2019	International
P. S. Bokare, Akhilesh Kumar Maurya and Sharad Gokhale	15th World Conference on Transport Research	Mumbai, India	26-31 May 2019	International
Gourab Sil, Suresh Nama, Avijit Maji and Akhilesh Kumar Maurya	15th World Conference on Transport Research	Mumbai, India	26-31 May 2019	International
Kuldeep Kalita and Akhilesh Kumar Maurya	15th World Conference on Transport Research	Mumbai, India	26-31 May 2019	International
Alice Boruah and Akhilesh Kumar Maurya	15th World Conference on Transport Research	Mumbai, India	26-31 May 2019	International
Arunabha Banerjee and Akhilesh Kumar Maurya	15th World Conference on Transport Research	Mumbai, India	26-31 May 2019	International
Thuyet V. Ngo, Sajal K. Deb and Anjan Dutta	The Seventh International Conference on Structural Engineering, Mechanics and Computation	Cape Town, South Africa.	, 2-4 September, 2019	International

Arpita Ghosh and Anjan Dutta	7th International Congress on Computational Mechanics and Simulation	IIT Mandi	11-13 December, 2019	International
Ballari Syed Omar, Kar Pranab, Mallikarjuna Ch.	15th World Conference on Transport Research	Mumbai	2019	International
Suvin P. Venthuruthiyil, Sapan Tiwari, Pratiksha J. Choudhury, Jerifa Zaman, Mallikarjuna Ch.	15th World Conference on Transport Research	Mumbai	2019	International
Suvin P. Venthuruthiyil, Ankita R. Karmakar, Sabina Y. Islam, Mallikarjuna Ch.,	15th World Conference on Transport Research	Mumbai	2019	International
Choudhury, T., and Kaushik, H.B.,	13th North American Masonry Conference	Salt Lake City, Utah	2019 TMS (16-19 June)	International
Choudhary, R., Kumar, A., and Rahman, G.	15th World Conference on Transport Research (WCTR-2019)	IIT Bombay	26-31 May 2019	
Pathak, S., Choudhary, R., and Kumar, A.	15th World Conference on Transport Research (WCTR-2019)	IIT Bombay	26-31 May 2019	
Kumar, A., Choudhary, R., Kataki, R., Kumar, A., Narzari, R.	International Conference on Smart Materials for Sustainable Technology (SMST-2020)	Bogmallo Beach Resort, Goa [Paper received the Best Oral Presentation Award].	February 23-25, 2020	International
Kumar, A., Choudhary, R., and Kumar, A.	International Conference on Engineering Sciences and Technologies for Environmental Care (ESTEC-2020),	CSIR-NEIST, Jorhat. [Paper received the Best Oral Presentation Award].	February 20-22, 2020,	International
Kumar, A., Choudhary, R., and Kumar, A.	RECYCLE-2020: 3rd International Conference on Waste Management	IIT Guwahati, Assam.	February 13-14, 2020	International
Amarnath, R.V.S., Choudhary, R., and Kumar, A.	RECYCLE-2020: 3rd International Conference on Waste Management	IIT Guwahati, Assam.	February 13-14, 2020	International
Pathak, S., and Choudhary, R.	RECYCLE-2020: 3rd International Conference on Waste Management	IIT Guwahati, Assam.	February 13-14, 2020	International
Choudhary, R., Verma, A., Kumar, A., and Kumar, A.	RECYCLE-2020: 3rd International Conference on Waste Management	IIT Guwahati, Assam.	February 13-14, 2020	International
Choudhary, R., Kumar, R., Pathak, S	RECYCLE-2020: 3rd International Conference on Waste Management	IIT Guwahati, Assam.	February 13-14, 2020	International

Kumar, A., Choudhary, R., and Kumar, A.	3rd International Conference on Innovative Technologies for Clean and Sustainable Development (ITCSD-2020)	NITTR Chandigarh	February 19-21, 2020.	International
Kumar, A., Choudhary, R., and Kumar, A.	3rd International Conference on Innovative Technologies for Clean and Sustainable Development (ITCSD-2020),	NITTR Chandigarh	February 19-21, 2020	International
Suman Haldar, Joy Kumar Mondal, Abhishek Kumar	7th International Conference of Earthquake Geotechnical Engineering (7ICEGE),	Roma, Italy	17-20 June, 2019	International
Naik, A. P. and Sreeja P.	16 th Annual Meeting on Asian Oceania Geosciences Society (AOGS)	Singapore.	2019	International
Amrutha S., and Sreeja P.	16 th Annual Meeting on Asian Oceania Geosciences Society (AOGS)	Singapore	2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Kaustubh Dasgupta	Structural Design of Elevated Service Reservoir	Public Health Engineering Dept., Govt. of Assam	WSO PHED, Guwahati	28 Nov 2019
Arun Ch Borsaikia	Structural Design of Elevated Service Reservoir	Public Health Engineering Dept., Govt. of Assam	WSO PHED, Guwahati	28 Nov 2019
Arun Ch Borsaikia	Faculty Development Programme on Recent Advances in Concrete Technology	Assam Engineering College, Assam	AEC, Jalukbari	15th-19th July, 2019
Kaustubh Dasgupta	Importance of Soil-Structure Interaction in Earthquake Engineering	Girijananda Institute of Management and Technology, Guwahati	GIMT, Guwahati	20 Nov 2019
Rajib Kumar Bhattacharjya	Research Related to Water Sector at IIT Guwahati and Potential Collaboration	Curtin University, Malaysia	Malaysia	11/10/2019
Rajib Kumar Bhattacharjya	Scope of collaborative research with the Department of Civil Engineering, IIT Guwahati	Universiti Teknologi Mara	Malaysia	19/10/2019
Abhishek Kumar	Importance of local soil from seismic aspect	Invited Talk at Indian Conference on Geotechnical and Geo Environmental Engineering,	NIT Allahabad.	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
Rajib Kumar Bhattacharjya	Advances in Integrated Water Resources Management	TEQIP III	16-18 Dec. 2019	National	55
Archana M Nair	Organising first group monitoring workshop cum the second meeting of the Expert Committee EC of Earth and Atmospheric Science	SERB	20-05-2019 to 20-06-2019		
Chandan Mahanta and Arun Ch Borsaikia	Sustainable & Good Construction Practices for Single Dwelling Units"	TATA Group	22 nd -23 rd , 29 th Feb-1 st March and 7 th - 8 th March 2020.	National	33

AWARDS AND HONOURS

◆ Prof. Baleshwar Singh: Indian Geotechnical Society-Shri B.N. Gupta Biennial Award for the best paper on "Shallow Foundations" titled "Numerical modelling of bucket foundations in dense sand supporting offshore wind turbines" by Tanmoy Deb and Baleshwar Singh, which

was presented during the Inaugural Session of IGC-2019 on 19th December, 2019 at SVNIT, Surat

◆ Prof. Kaustubh Dasgupta: Outstanding Reviewer Award for 2019, Journal of Architectural Engineering, American Society of Civil Engineers (ASCE)

FACULTY MEMBERS

Sl. No.	Name	Name of the University/ Institute/Org PhD degree received from	Designation	Areas of Interest
01	Barua, Gautam	Ph. D. from Indian Institute of Technology, Kharagpur	Professor	*Flow through porous media
02	Bharat, T. Venkata	Ph. D. Indian Institute of Science, Bangalore, India	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 & geoenvironmental engineering problems
03	Bharti, Rishikesh	Ph.D. Indian Institute of Technology Bombay, Mumbai.	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.

04	Bhattacharjya, Rajib K.	Phd., Indian Institute of Technology Kanpur,	Professor	*Water Resources System Management *Genetic Algorithms *Artificial Neural Networks
05	Buragohain, Dharendra Nath.	PhD, IIT Bombay	Emeritus Professor	*Structural Mechanics * Finite Element Methods *Numerical Methods *Computer aided analysis *Design and drafting *Development of software
06	Chakraborty, Arunasis	PhD - Trinity College, Dublin, Ireland	Associate Professor	• Random Vibration & Wavelet Analysis • System Identification & Damage Detection • Uncertainty Quantification & Reliability Based Design
07	Chakraborty, Saswati	PhD IIT Bombay.	Professor	Heavy metal removal by polymers Aerobic granular reactors Sequential treatment of industrial wastewater Constructed wetland for wastewater treatment
08	Choudhary, Rajan	Ph.D Indian Institute of Technology Roorkee	Professor	*Pavement Analysis and Design *Highway Construction and Quality Control *Pavement Material Characterization *Pavement Evaluation and Maintenance *Traffic Engineering
09	Das, Sandip	Ph.D – Indian Institute of Technology Kanpur	Assistant Professor	*Earthquake Engineering *Structural Dynamics *Random Vibration
10	Dasgupta, Kaustubh	Ph.D. Indian Institute of Technology Kanpur, India	Associate Professor	*Earthquake Engineering *Design of Reinforced Concrete Structures *Retrofitting of Structures
11	Dashora, Ajay	Ph. D, 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	Ph. D. IIT Roorkee	Professor	*Passive and semi-active control *Performance based seismic design *System identification & structural health monitoring *Seismic damage assessment

13	Dey, Arindam	Ph. D. IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> *Geosynthetic Reinforced Foundation Beds *Geotechnical Lumped Parameter and Continuum Mechanics Modeling *Parameter Estimation of Geotechnical Models *Optimization, GA, ANN and Soft Computing in Geotechnical Engineering *Ground Modification and Improvement Practices *Soil-Structure-Foundation Interaction *Reinforced Soil Structures *Landslides and Slope Stability Analysis *Seismic and Ambient Health Monitoring of Geotechnical Structures *Reliability and Uncertainty Analysis in Geotechnical Engineering *Forensic Investigation in Geotechnical Engineering *Subsurface Profiling and Soil Investigation *Soil Dynamics and Earthquake Engineering
14	Dutta, Anjan	Ph.D – Indian Institute of Technology Delhi	Professor	<ul style="list-style-type: none"> *Finite Element Mesh Generation *Optimization *Control, Health Monitoring and Retrofitting of structures
15	Dutta, Subashisa	Ph.D. Indian Institute of Technology Kharagpur	Professor	<ul style="list-style-type: none"> *Meso-Scale Distributed hydrological modeling *Satellite Remote Sensing and GIS for Water resources Management *Computational river hydraulics and its applications *Watershed and Irrigation Management
16	Ghosh, Pranab Kumar	Ph.D – Indian Institute of Technology Kharagpur	Professor	<ul style="list-style-type: none"> *Water treatment for domestic and industrial use *Domestic and Industrial wastewater treatment *Sludge treatment by physicochemical and biological process
17	Gokhale, Sharad B.	Ph.D. Indian Institute of Technology Delhi.	Professor	<ul style="list-style-type: none"> *Air Pollution and Environmental Noise
18	Hazra, Budhaditya	PhD - University of Waterloo, Canada	Associate Professor	<ul style="list-style-type: none"> *Deterministic and Stochastic Structural Dynamics *System Identification *Blind source separation *Time-frequency analysis *Vibration based condition monitoring
19	Jawed, Mohammad	• Ph D Indian Institute of Technology Kanpur	Professor	<ul style="list-style-type: none"> *Biological Wastewater Treatment Processes *Anaerobic Wastewater Treatment *Heavy Metal Removal and Recovery *Water Treatment and Supply *Domestic & Industrial Wastewater Treatment
20	K., Ravi	Ph.D – Indian Institute of Science (IISc) Bangalore	Assistant Professor	<ul style="list-style-type: none"> *Geo-environmental engineering *Geo-energy systems *Engineering behaviour of unsaturated soils *Research on hazardous waste management
21	Kalamdhar, Ajay	Ph.D. Indian Institute of Technology Roorkee, India	Professor	<ul style="list-style-type: none"> *Solid waste management *Mechanical composting and vermicomposting *Analysis of solid wastes

22	Kartha, Suresh A.	Ph.D from Indian Institute of Technology Kanpur	Associate Professor	*Flow and transport through porous media *Heap leaching *Hydrology *Numerical modeling
23	Kaushik, Hemant B.	Ph.D Indian Institute of Technology Kanpur, India	Professor	*Earthquake Resistant Design *Nonlinear Behaviour of Structures *Retrofitting of Structures *Finite Element Modeling
24	Kumar, Abhishek	PhD Indian Institute of Science, Bangalore, India	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
25	Kumar, Bimlesh	PhD (Indian Institute of Science, Bangalore)	Professor	*Small scale studies of mixing tanks *Experimental Studies of Aeration Systems *Sediment Transport analysis *Pipeline analysis *CFD simulation *Surge analysis
26	Mahanta, Chandan (Head)	PhD (Jawaharlal Nehru University, New Delhi)	Professor	*Water Quality *Sediment Dynamics in Fluvial Systems *Environmental Impact, Risk Assessment and Management *Environmental Geo-informatics *Engineering Geology
27	Mallikarjuna, Chunchu	Ph.D – Indian Institute of Technology Delhi	Professor	*Traffic flow theory and Modeling *Traffic data collection and analysis *Travel demand modeling
28	Maurya, Akhilesh K.	Ph.D. Indian Institute of Technology (IIT) Kanpur.	Associate Professor	*Driver behaviour *Traffic flow theory and modeling *Traffic engineering
29	Mishra, Anil Kumar	Ph. D. - Kyushu University, Fukuoka, Japan	Associate Professor	*Chemical compatibility studies of soil-bentonite mixtures *Waste (municipal, industrial and hazardous) management and disposal *Unsaturated soil mechanics
30	Nair, Archana M.	Ph.D. 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
31	Pradhan, Bulu	Ph.D (Indian Institute of Technology Delhi, India)	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

32	Rajani, G. Indu Siva	Ph.D – Indian Institute of Technology 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
33	Ryntathiang, Teiborlang. Lyngdoh	Ph.D – Indian Institute of Technology, Kharagpur	Professor	*Pavement Materials *Precast Concrete Block Pavement *Cast In-Situ Concrete Block Pavement
34	Sreeja, Pekkat	Ph. D. Indian Institute of Technology Bombay	Associate Professor	*Urban Flood Modeling *Modeling and Control of Open Channel Flows *Infiltration and artificial recharge *Stochastic Hydrology *River Mechanics
35	Sarma, Arup Kumar	Ph.D. – Guwahati University	Professor	*Modeling & simulation in Free Surface Flow *Heuristic Method in Reservoir Optimization *GIS based Watershed Modeling
36	Sharma, Hrishikesh	Ph.D Zachry Department of Civil Engineering, Texas A&M University,	Assistant Professor	*Impact and Blast Resistant Design *Reliability Analysis and Performance Based Engineering *Design and Optimization of Protection Measures
37	Shelke, Amit Balasaheb.	Ph.D (The University of Arizona)	Associate Professor	*Ultrasonic wave propagation *Acoustic-Impact detection *Non-destructive testing
38	Singh, Arbind K.	Ph.D (IISc Bangalore)	Professor	*Information Technology in Construction Engineering *Object-Oriented Programming *Constitutive modeling
39	Singh, Bareshwar	Ph.D. Indian Institute of Technology Delhi	Professor	*Marine Geotechnology *Modelling of Onshore & Offshore Foundations *Soil Stabilization & Ground Modification *Pavement Subgrade & Site Characterization
40	Singh, K. Da- runkumar	PhD Southampton University	Professor	*Structural Analysis and Design *Finite Element Method *Fracture and Fatigue Mechanics
41	Singh, Laish- ram Boeing.	Ph.D, Indian Institute of Technology Madras)	Professor	*Public Private Partnerships *Risk Management *Construction Management
42	Sitharam T. G. (Director of the Insti- tute)	Ph.D. University of Waterloo, Waterloo, Ontario - Canada.	Professor	Rock mechanics and Rock engineering Geotechnical Earthquake Engineering Microzonation and site response studies Micromechanics of Granular materials Numerical Methods in Geomechanics Earth dams and Tailing ponds Reinforced earth structures Instrumentation in Geotechnical Engineering Engineering Education: web based education

43	Sreedeeep, Sekharan.	Ph. D. – IIT Bom- bay	Professor	<ul style="list-style-type: none"> *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
44	Siddagangaiah, Anjan Kumar	Ph.D (Indian Insti- tute of Technolo- gy Madras)	Assistant Professor	<ul style="list-style-type: none"> *Analysis and Design of Pavement Struc- tures *Pavement Material Characterization *Pavement Construction and Recycling *Pavement Management Systems *Pavement Evaluation using NDT *Forensic Investigations of Pavement Fail- ures
45	Talukdar, Sudip	Ph.D – Indian In- stitute of Technol- ogy Kanpur	Professor	<ul style="list-style-type: none"> *Structural Dynamics *Bridge Engineering *Wind induced vibration & control *Non destructive techniques

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

LABORATORY FACILITIES

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.

Robotics Lab

Robotics Lab. has developed in-house, an open source Multi-Agent emulator, nicknamed Tartarus. The same has been written in SWI-Prolog. Tartarus, facilitates users to create a network of nodes comprising either a single PC/laptop/embedded systems (such as Raspberry Pi) or several such devices connected as a LAN (wired/wireless). It facilitates programming 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 made to migrate to others autonomously 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 either Prolog or Python and executed at desired nodes. One could try out using other languages as well. Agents can communicate amongst each other and also with programs resident at a node. As of now, Tartarus can be run on Windows, Ubuntu and Raspbian operating systems. Tartarus can run on the Raspberry Pi too. It can be used to sense the sensors on-board and also control the actuators (motors, relays, etc.) connected on-board. Robotics Lab is equipped with NXT Mindstrom LEGO sets Education Based (v.LEGO 9797) with Resource kit associated with education NXT Softwares,NI WSN Starter kit,NXT sensors and Raspberry Pi 3.New Fire Bird V ATMEGA2560 Robot Research Platform has also been acquired which is a standard AVR micro-controller based Fire Bird V which is fitted with Raspberry-Pi SBC (Single Board Computer) and higher resolution encoders.

Open Source Intelligence Group

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.

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.

User-centric Computing and Networking

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 DigilentNetBest viewed in Internet Explorer 9.0 & above or Mozilla Firefox Ver 3 & above with a resolution of 1024 X 76800.FPGA Cards).

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. Embedded System Development Software, Chip Scope-Pro Software, Virtex-II Pro based Proto-board with FPGA, Virtex-5 Development Board

with device XC5VLX50 and VIDEO ADC–DAC Add On Card, Universal Multi-vendor Kit with on board device XC3S400 PQ208C, Simics-4.0.61, Xilinx- ISE Design Suite, Embedded System Development Software (UEFi_EDK) & Chip Scope-Pro Software (UEF-CSP-PRO), ISE Design Suit,Basys3 FPGA BOARD etc. Under the VLSI laboratory in our department to inculcate student interest in VLSI design, test and verification and facilitating students to build prototype designs and test them.

Hardware 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 Micro-controller kits are used to provide hands on experience to students about basic hardware. This Lab also provide space for various research cum major/minor project to be carried out. New PIC based micro-controllers 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, various Software tools like Xilinx evaluation kits, various Architectural Tools and Simulators, Development kits with DE1-SOCMLT2 etc.

Samsung Innovation Lab

This Lab facility was set-up under MOU with SIEL - Samsung India Electronics Private Limited. This facility emphasis on academic collaboration by way of special industry oriented courses, jointly by IITG & SIEL, technical talks & industry expert lectures/demonstrations, minor/major student projects & student technical contests, Research activity mainly engrossed with IoT & Networking. The Lab is equipped with RASP-PI-3 Motherboard , Wifi Router, High end GPU Servers, Quad Store QS_URPI Ultra Kit for Raspberry Pi 3, 2, LoraWan Gateway, Lora modules Arduino Shields , Sensing module kit for measuring Temp, Humidity, etc., Smart Display etc.

MARS Research Lab

This Lab designated with research in the area of Multi-core Architecture and Systems like Optimizing Network On Chip Architecture, Network On Chip Architecture Optimization, Performance Enhancement in Wireless Network On Chips etc. This Lab Facilitated with Server, Workstations, High-end Desktops, Xilinx evaluation kits, various Architectural Tools and Simulators, Development kits with DE1-SOCMLT2 etc.

3 Nos. UG Soft Lab; 2 Nos. PG Soft Lab; 3 Nos. Research Scholar Labs

These Labs are designated computing Facility for B.Tech., M.Tech. Students & Research Scholars. These are 24x7 Lab facilities; one workspace

allocated to each student. Major activates of these Labs are Soft Project, Tutorials, BTP, MTP, Individual research works by Ph.D. Students etc . All workspace are equipped with Network &Wifi facilities, high-end Desktop and 24x7 connectivity to Server computing Facilities.

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Area	Faculty Involved
Algorithms	Sukanta Bhattacharjee, Pradip Kr. Das, R. Inkulu, Benny George K, Sushanta Karmakar, Pinaki Mitra, Shivashankar B. Nair, S. V. Rao, G. Sajith
Computational Geometry	Pinaki Mitra, Amal Dev Parakkat
Computational Biology	Ashish Anand
Cyber-physical Systems	Purandar Bhaduri, Shivashankar B. Nair
Human-Computer Interaction	Samit Bhattacharya
Speech Processing	Pradip Kr. Das
Multimedia, Image and Video Processing	Arijit Sur
Machine Learning	Ashish Anand, Amit Awekar, Rashmi Dutta Baruah, V. VijayaSaradhi
Information Retrieval	Sanasam Ranbir Singh
Data Mining	Amit Awekar, Jatindra Kumar Deka, V. VijayaSaradhi
Formal Verification	PurandarBhaduri, ChandanKarfa
Embedded Systems	Santosh Biswas, Jatindra Kumar Deka, ChandanKarfa
Multi-processor Computer Architecture	Hemangee K. Kapoor
Computer Security	Sukanta Bhattacharjee, ManasKhatua, Sukumar Nandi, ChandanKarfa
Electronic Design Automation	Chandan Karfa, Jatindra Kumar Deka
Networks	Sushanta Karmakar, ManasKhatua, Shivashankar B. Nair, Sukumar Nandi, MoumitaPatra, S. V. Rao, T. Venkatesh
Distributed Systems	Diganta Goswami
Design Automation and Security of Microfluidic Lab-on-a-Chip	Sukanta Bhattacharjee

Conferences/Workshops/Symposia Attended: International, National

Sl. No.	Name of Faculty/Student	Name of Conf./Workshop	Place	Date	International/National
1	Dr. SushantaKarmakar	HALG 2019	Copenhagen, Denmark	Jun 14, 2019	International
2	Dr. SushantaKarmakar	CANDAR 2019	Nagasaki, Japan	Nov 26, 2019	International
3	Dr. Samit Bhattacharya	INTERACT	Paphos, Cyprus	2019	International
4	Sukumar Nandi	19th International Conference on Innovations for Community Services	Wolfsburg, Germany	2019	International
5	Sukumar Nandi	IEEE International Symposium on Personal, Indoor and Mobile Radio Communications	Istanbul, Turkey	2019	International

Invited Lectures of Faculty: In India, Abroad

Sl. No.	Name of Faculty/Staff/Student	Name of Lecture	Name of Inst./Org.	Place	Year
1	Dr. ChandanKarfa	High-level Synthesis for Security	VDNT 2020, ECE Department, IIT Guwahati	IIT Guwahati	2020
2	Dr. SushantaKarmakar	Invited talk at Tripura University	Dept. of CSE, Tripura University	Tripura	
3	Dr. Samit Bhattacharya	Smart classrooms for improved teaching and learning environment	Center for Education Technology, IIT Guwahati	IIT Guwahati	2020
4	Dr. Samit Bhattacharya	ICT for Education	Center for Education Technology, IIT Guwahati	IIT Guwahati	2020
5	Dr. Samit Bhattacharya	Virtual Prototyping	FDP under TEQIP, IIT Guwahati	IIT Guwahati	2020
6	Dr. Samit Bhattacharya	ICT for Education	FDP under TEQIP, National Institute of Technology Arunachal Pradesh	NIT Arunachal Pradesh	2019
7	Dr. Samit Bhattacharya	User-Centric Computing: Keeping Humans in the Loop	NetACT conference, Trivundrum, Kerala	Trivundrum, Kerala	2019
8	Dr. Samit Bhattacharya	Use of ICT in education	FDP under TEQIP, Center for Education Technology, IIT Guwahati	IIT Guwahati	2019
9	Dr. Ashish Anand	Information Extraction: Coarse-grained to Fine-grained	FDP under TEQIP, Assam Engg College	Assam Engg College	2019
10	Dr. Ashish Anand	Inference and Information Extraction from Text Corpus	National Workshop on Data Science and Artificial Intelligence, IIT Bhilai	IIT Bhilai	2019
11	Dr. Ashish Anand	NLP: Industrial Application	Dept of Mechanical Engg, IIT Guwahati	IIT Guwahati	2019
12	Dr. Ashish Anand	NLP: Adding cognition to IoT applications in manufacturing	CMERI Durgapur	Durgapur	2020
13	Prof. Shivashankar B. Nair	Nature-Inspired Artificial Intelligence coupled with a hands-on on Tartarus	Indian Institute of Information Technology, Design & Management, IIITDM, Jabalpur	Jabalpur	2019

14	Prof. Shivashankar B. Nair	ATAL Workshop on IoT and Cyber Security	IIT Guwahati	Guwahati	2019
15	Prof. Shivashankar B. Nair	TEQIP-III workshop on Recent Trends in Embedded System for IoT and Mechatronics (RTESTM-2019) at NIT, Arunachal Pradesh	NIT Arunachal Pradesh	NIT Arunachal Pradesh	2019

Seminars/Workshops/Conferences/Short-Term Courses Organized

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Funded By	Year	International/ National	No. of participants
1	Chandan Karfa	C-Based VLSI Design: Synthesis, Optimization and Verification	TEQIP	April 1-5, 2019	National	21
2	Ashish Anand, Amit Awekar	Deep Learning for NLP	TEQIP	Nov 11, 2019	National	28
3	Rashmi Dutta Baruah	Special Session on Intelligent and Contextual Systems at 12th	Asian Conference on Intelligent Information and Database Systems	March 23-26, 2020	Asian (Phuket, Thailand.)	30

Patents

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.	Remarks	Whether Applied / Granted?
1	DrSamit Bhattacharya, Subrata Tikadar	System and Method for Providing A Sensitive Classroom	Jul 04, 2019	201831024866		Applied
2	Senthilmurugan Subbiah, Rashmi Dutta Baruah, et al.	A System and Method for Activity Identification and Problem Prediction During Oil and Gas Well Drilling	Jul 10, 2019	201911040595	Indian patent	Applied

Awards and honours

Sl. No.	Title of Award/Recognition	Name of Awardee	Date	Whether Award/ Recognition?
1	Visited NYU Tandon School of Engineering as Visiting Research Scholar in the Department .of Electrical and Computer Engineering.	Dr. ChandanKarfa	May 15-Jul 19, 2019	Recognition
2	Special Session Award at 12th Asian Conference on Intelligent Information and Database Systems, Phuket, Thailand.	Rashmi Dutta Baruah	Mar 23-26, 2020	Special Session Award

Students' Achievements

Sl. No.	Title of Achievement	Name	Year
1	Best paper award at CANDAR 2019	ParikshitSaikia	Nov 26, 2019
2	Best graduate forum presenter award at COMSNETS 2020	MoustafaNajm	Jan, 2020

Special Mention

- ◆ Member of EATCS (European association of TCS) for Dr. Sushanta Karmakar
- ◆ Member of ACM for Dr. Sushanta Karmakar

Faculty Members

Sl. No.	Name	Designation	Areas of Interest
1	Ashish Anand	Associate Professor	NLP, Clinical Text Mining, Machine Learning and its application in computational biology, Deep Learning
2	Amit Awekar	Assistant Professor	Data Mining, Machine Learning
3	Rashmi Dutta Baruah	Assistant Professor	Evolving Intelligent Systems, Computational Intelligence, Online Machine Learning, Learning from Data streams
4	PurandarBhaduri	Professor	Formal Verification and Analysis of Embedded and Cyber-Physical Systems, Controller Synthesis, Compositional Verification, Interface and Contract Theories for Component-based Design
5	Sukanta Bhattacharjee	Assistant Professor	Design Automation Algorithms, Microfluidics, Security
6	Samit Bhattacharya	Associate Professor	Human Computer Interaction, User Modeling, Model Based Evaluation of Interactive Systems, Rehabilitation Engineering
7	Santosh Biswas	Associate Professor	Networking, Fault Tolerance, VLSI Testing, Embedded Systems
8	Pradip Kr. Das	Professor	Speech Processing, Man-Machine Intelligence Systems, Algorithms, Software Engineering, Smart Devices, Mobile Robotics
9	Jatindra Kumar Deka	Professor	Formal Modelling and Verification, CAD for VLSI and Embedded Systems (Design, Testing and Verification), Data Mining
10	Diganta Goswami	Professor	Distributed Systems, Software Engineering
11	R. Inkulu	Associate Professor	Algorithms
12	John Jose	Assistant Professor	Computer Architecture, Network on Chips (NoC), Memory system design for multicore processors
13	Benny George K	Assistant Professor	Word combinatorics, algorithms and combinatorics
14	Hemangee K. Kapoor	Professor	Multiprocessor Computer Architecture, Formal Methods, Network-on-Chip design, Asynchronous systems
15	Chandan Karfa	Assistant Professor	Formal Verification, Electronic Design Automation with special interest in High-level Synthesis, Embedded System Verification, Verification of Compiler Optimizations
16	Sushanta Karmakar	Associate Professor	Distributed algorithms, fault-tolerance, distributed algorithms for ad hoc and sensor networks
17	Deepanjan Kesh	Assistant Professor	Commutative Algebra, Data Streaming
18	Manas Khatua	Assistant Professor	Wireless Networks, Sensor Networks, Internet of Things, Network Security, Smart Grid, Mobile Cloud Computing
19	Pinaki Mitra	Associate Professor	Computational Geometry, Parallel Algorithms, Randomized Algorithms, Optimization

20	Shivashankar B. Nair	Professor	Artificial Intelligence, Intelligent and Nature-Inspired & Emotional Robots, Mobile Agent based systems, Artificial Immune Systems, Intelligent Internet of Things, Cyber-Physical Systems, Natural Language Processing, Genetic Algorithms, Fuzzy Systems & Neural Networks
21	Sukumar Nandi	Professor	Networks (Specially: QoS, Wireless Networks), Computer and Network Security, VLSI, Computational Intelligence
22	Amal Dev Parakkat	Assistant Professor	Computational Geometry, Computer Graphics
23	Moumita Patra	Assistant Professor	Ad hoc wireless networks, Internet of vehicles, IoT, Network performance analysis
24	S. V. Rao	Professor and Head	Wireless Networks, Software Defined Networking, Algorithms
25	Aryabartta Sahu	Associate Professor	Multicore (Architecture, Scheduling and Programming) and Computational Social Systems
26	G. Sajith	Professor	External Memory Algorithms, Algorithmic Game Theory, Parallel and Distributed Algorithms, Complexity Theory
27	V. Vijaya Saradhi	Associate Professor	Machine Learning, Kernel Methods, Data Mining and their applications
28	Sanasam Ranbir Singh	Associate Professor	Open Source Intelligence (Social Media/Social Network Analysis), Information Retrieval, NLP
29	Arijit Sur	Associate Professor	Computer Vision, Image and Video Processing, Media Forensics: Image and Video Watermarking, Steganography, Steganalysis, Multimedia Streaming
30	T. Venkatesh	Associate Professor	Computer Networks

DEPARTMENT OF DESIGN

LABORATORY FACILITIES

Ergonomics Laboratory

Ergonomics laboratory at Department of Design, IIT Guwahati was set-up in 1999 under leadership Prof. Debkumar Chakrabarti. 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.)

Photographic Lab

Computer Lab

Workshop/Design Lab

Media Lab

Material Lab

Embedded Interaction Lab

E-Kalpa Lab

Usability Engineering and HCI Lab

Product Design & Development Studio

Animation Research Lab

Visualization Lab

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.

The Vision of the Lab is to promote and contextualize sustainability through R&D along the three pillars of sustainability: social, economic and environmental.

The objective of the lab is, 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.

Visual Communication Studio

3 D Printing Lab

Master Craftsman Lab

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, Information Communication Technology for Development (ICTD), Input Interactions for Flexible and Deformable Devices

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- ◆ Development of anthropometric and range of motion database of male Indian motorbike riders (n= 120)
- ◆ Design and development of hand-operated floor-polishing machine to ameliorate exposure to vibration and health hazards
- ◆ Development of innovative hand-tools and screw for roof-top solar panel installation
- ◆ Design and development of innovative mounting device for positioning mobile phone on hub of steering to facilitate use of mobile phone as navigation device with reduced driver distraction

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Sharmistha Banerjee	Session on Pedagogy, Industry & Social responsibility	National Institute of Design Madhya Pradesh	Bhopal	Dec 19, 2019
Sharmistha Banerjee	Design for Sustainability	Avantika University	Ujjain	Sep 9– 14, 2019

Sharmistha Banerjee	Cognitive Skills, Design Thinking and Critical Thinking	St. Mary's College	Shillong	June 24, 2019
Sharmistha Banerjee	Ergonomics and The Social Dimensions of Design for Sustainability	IIT Guwahati (TEQIP - Ergonomics In Design And Engineering Education)	Guwahati	Jan 11, 2020

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.
01	Gurdeep Singh, Sougata Karmakar, Abhishek Singh, Amandeep Verma, Sangeeta Bhanja Chaudhuri	Indian Patent - Design of safety-enriched standing-position oriented mechanized apparatus for damaged pouch and sachet cutting for re-work in FMCG industries	Applied on Mar 17, 2020	Application No. 202011011369
02	Gurdeep Singh, Sougata Karmakar, Abhishek Singh, Amandeep Verma, Sangeeta Bhanja Chaudhuri	Indian Patent - Design of safety-enriched sitting-position oriented handheld apparatus for damaged pouch and sachet cutting for re-work in FMCG industries.	Applied on Mar 17, 2020	Application No. 202011011370

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Shakuntala Acharya	IISC Bangalore	Assistant Professor	Environmental Design, Sustainability, Creativity & innovation, Design Pedagogy, Built - Environment
02	Sharmistha Banerjee	--	Assistant Professor	Design for sustainability, Bio-inspired design, Medical product Design
03	Utpal Barua	IIT Guwahati	Professor	Graphic Design, Design drawing and Visualization, Visual design Principles and applications, Indian Symbology
04	Debkumar Chakrabarti	University Colleges of Science, Calcutta	Professor	Ergonomics Research, Human Compatibility Factor, Design ergonomics, product Environment Interface Design, Occupational Health
05	Amarendra Kumar Das	IIT Guwahati	Professor	Industrial Design, Rapid Prototyping and tooling, space Design, Environment Graphics, Design for Disabled
06	Supradip Das	--	Assistant Professor	Origami Inspired Product Development, Toy for tomorrow, Paper Craft, Transformable furniture, Structural packaging design.
07	Debayan Dhar	IIT Guwahati	Assistant Professor	Human Computer Interaction (HCI) Design, Instructional Design, User Experience Design, Psychological Studies in Design, Usability Engineering
08	D.Udaya Kumar	IIT Bombay	Associate Professor	Topography, Type Design, Information Graphics, Motion Graphics, design Research, Exhibition Design, architecture

09	Sheetal M.Gokhale	--	Assistant Professor	Film & Video, Animation Graphic Design
10	Shareka Iqbal	--	Assistant Professor	Adaptive Resue ,Solar Passive Architecture
11	Pratul Chandra Kalita	IIT Guwahati	Associate Professor	Design Management.Design Method,Design for Development
12	Sougata Karmakar	Bharathiar University	Associate Professor	Ergonomics,Human Factor,Design and work Environment, Design and Occupational health
13	Mriganka Madhukailya	--	Assistant Professor	Short Film,New Media theory,Video Art,Documentary Film,Participatory Theory
14	Manoj Majhi	IIT Guwahati	Associate Professor	Animation,,Special Effects,Cartooning
15	Charu Monga	--	Assistant professor	Visual communication,Design Research, Visual Ethnography,Film Making, Animation,Game design,Edutainment.
16	Swati Pal	University of Gujarat	Assistant Professor	Ergo Design& Innovation,physical Ergonomics,Design 7 biomechanism,Occupational Health.
17	Ravi Mokashi Punekar	IIT Guwahati	Professor	Industrial Design,Space Design,Facility Design,Environmental Graphics,Design for disabled
18	Urmi Ravindra salve	University of Calcutta	Assistant Professor	Human factor engineering,occupational Ergonomics,Research Methology
19	Avinash Shinde	IIT Guwahati	Associate Professor	Product Design,Furniture Design,Lighting design
20	Abhishek Srivastava	IIT Bombay	Assistant Professor	Interection Design,Design for Development,New Media,graphic Design & cartooning.
21	Abhishek Singh	--	Assistant Professor	Automative design,Product Design, Graphic Design,Design Researce.
22	Keyur Sorathia	IIT Guwahati	Associate Professor	Interection Design,Gesture controlled User Interfaces,Design for development
23	Pankaj Upadhyay	--	Assistant Professor	Product design,Industrial Design,Design for Manufacture, Consumer product Design,Industrial Equipment design.
24	Pradeep Yammiyavar	Indian Institute of Science ,Bangalore	Professor	Human Computer interaction Design
25	Nikhileswar Baruah	--	Visiting Faculty	Art and Aesthetics, Representation Techniques, Culture and Society

DEPARTMENT OF ELECTRONICS AND ELECTRICAL ENGINEERING

LABORATORY FACILITIES

The Department of EEE has 30 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

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 available in this laboratory are: OptiSystem, OptiSPICE, OptiGrating, OptiFDTD, OptiFiber, Silvaco TCAD 3D

B.Tech Project Lab

The lab has started functioning from August 2016. This lab is specially designated for B.Tech students to perform experiments related to their bachelors' projects

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

Communication Lab-I (R&D)

Communication Lab-II (R&D)

Communication Lab-II (R&D)

Research Scholars working in different areas related to communication engineering use these labs

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

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

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

Electro-Medical & Speech Lab (R&D)

The Lab was set up in the year 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

Electronic Circuit Lab- I (Instructional)

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

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

EML: e-mobility Lab

This is a new initiative for developing state of the art technologies for electric vehicles (EVs). The major research interests of this lab include:

- Electric motor design
- Power electronics converters of EVs
- Inductive charging systems

Grid to vehicle interaction (G2V)

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

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.

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

M.Tech Project Lab

The lab has started functioning from August 2016. This lab is specially designated for M.Tech students to perform experiments related to their masters' projects

Multimedia Analytics Lab (R&D)

This Laboratory was set up in 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

Power & Control Lab-I (R&D)

Power & Control Lab-II (R&D)

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

Power Electronics for Energy Sustainability (PEES) Lab

operation and control of power electronics converters for integration of renewable energy into electric grid. The major research interests of this lab include:

- C and DC distribution grid
- Microgrid
- Power quality improvement
- HVDC and FACTS
- Electric Vehicles

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

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 equipment 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 Software: PSS/E, PSCAD, DigSilent, OptiFDTD, OptiFiber, NI Multisim

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. A separate cubicle has been created for housing the EEG signal recording facility

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

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

VLSI Lab-I (R&D)

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(M.Tech) 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

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 Hyperception Inc. The Department has also received a donation from Analog Devices Inc. consisting of hardware kits and Visual DSP software

Major Equipment and Facilities Acquired

- ◆ D0193ZX: IBM Watson Subscription for IBM Cloud / D1U2ILL: IBM Cloud Advanced Support
- ◆ Field probe 5 KHz 9.25 GHz
- ◆ NAS Storage for GPU Facility, Make & Model: HPE Store Easy 1860 Storage
- ◆ Differential drive wheeled robot with controller and sensors hardware
- ◆ Desktop PC, Make: HP, Model: 600 G4 Micro tower PC - 50 Nos.
- ◆ Monochrome Multifunction Unit, Make: Canon, Model: iR Adv6555i
- ◆ 4 Channel Digital Storage Oscilloscope with Accessories, Make: DSOX2024A, Model: Keysight 2 Nos.
- ◆ 30 KVA Online UPS Systems 2 Nis.
- ◆ GPU Server, Make: HPE, Model: ProLiant DL380 Gen10
- ◆ Programmable DC Regulated Multi-Output Power Supply, Make: APLAB, Model: LQ6324P - 20 Nos.
- ◆ GPU Workstation, Make: Dell, Model: Precision 7920T
- ◆ One Channel 25 MHz Arbitrary Function Generator, Make: Tektronix- AFG31021—25 Nos.

Major Areas of Research and Development

Image Processing, Computer Vision, Speech Processing, Biomedical Signal and Image Processing, Multimedia Signal Processing; Microwave, Antenna Design, Wireless Communication, Error Control Coding; Analog and Digital Design, MEMS, VLSI CAD, Photonics, Semiconductor Devices; Electrical Converters, Electric Drives, Smart Grids, Wind Energy, Solar Energy, Solar Photovoltaic, Power Electronics and Power Systems; Control Systems, Stochastic Systems, Relay Based Identification and Auto tuning, Control Systems, Control Theory Applications, Electrical machine design, contactless charging system for EVs, Pattern Recognition, Machine Learning, Multimedia Analytics, Silicon Photonics

Major initiatives and breakthrough in Research and Development

Major initiatives

- ◆ A prototype for contactless charging system for EVs
- ◆ Development of a smart urban transportation system

Conferences/Workshops/Symposia Attended: International, National

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Chayan Bhawal	IEEE Conference on Decision and Control (CDC)	Nice, France	Dec 11-13, 2019	International
Sanjib Ganguly	IEEE PowerTech, 2019	Milan, Italy	Jun 23-27, 2019	International
N. Nallam	IEEE International Microwave Symposium (IMS)	Boston, USA	Jun 02-07, 2019	International
N. Nallam	33rd International Conference on VLSI Design	Bangalore, India	Jan 04-08, 2020	International
Roy Paily	International Conference on Electronic Systems and Intelligent Computing (ESIC 2020)	NIT Arunachal Pradesh	Mar 02-04, 2020	International
Roy Paily	"MOS Transistors - History, Technology, and Prospects"	ECE Department IIT Manipur	Feb 14, 2020	National, FDP on VLSI & MEMS Design
Salil Kashyap	Proc. of IEEE Wireless Communications and Networking Conference (WCNC)	Marrakech, Morocco	Apr 15-19, 2019	International
Somanath Majhi	American Control Conference-2019	Philadelphia, USA	Jul 08-12, 2019	International
Gaurav Trivedi	MAREW 2019 and COMIT 2019	Pardubice, Czech Republic	Apr 16-18, 2019	International
Gaurav Trivedi	VLSI Design 2020	Bangalore	Jan 04-08, 2020	International
Ratnajit Bhattacharjee	20 th International Vacuum Electronics Conference (IVEC 2019)	Busan, South Korea	Apr 29-May 01, 2019	International
Ramesh Kumar Sonkar	13 th European Conference on Antenna and Propagation (EuCAP) 2019	Krakow, Poland	Mar 31-Apr 05, 2019	International
Ramesh Kumar Sonkar	41 st Photonics & Electromagnetics Research Symposium (PIERS) 2019	Rome, Italy	Jun 17-20, 2019	International
Ramesh Kumar Sonkar	Asia Communications and Photonics Conference ACP-2019	Chengdu, China	Nov 02-05, 2019	International
Ramesh Kumar Sonkar	Asia-Pacific Microwave Conference (APMC) 2019	Sands Expo & Convention Centre, Level 4 & 5, Marina Bay Sands Singapore	Dec 10-13, 2019	International
Sonali Chouhan	27 th International Conference on Software, Telecommunications and Computer Networks (SoftCOM)	Split, Croatia,	Sept 2019	International

Sonali Chouhan	25 th Workshop on Information and Communications Technologies	Split, Croatia,	Sept 2019	International
Sonali Chouhan	Springer International Conference on Computing, Power and Communication Technologies (GUCON),	Greater Noida, India	Sept 2019	International
Ribhu	National Conference on Communications (NCC) 2020	Kharagpur	Feb 21-23, 2020	National
P.K. Bora	the 8 th International Conference on Pattern Recognition and Machine Intelligence, PReMI 2019	Tezpur	Dec 17-19, 2019	International
M. K. Bhuyan	6 th IEEE Asian Conference on Defence Technology 2019 (ACDT 2019)	Bali, Indonesia	Nov 13-15, 2019	International
M. K. Bhuyan	2 nd IEEE International Conference on Advances in Electrical, Electronic and System Engineering, (ICAESE 2019),	Gauhati University, Assam	Nov 02-03, 2019	International
Arun Tej Mallajosyula	6 th International Conference on Advanced Nanomaterials and Nanotechnology	Guwahati	Dec 8-21, 2019	International
Hanumant Singh Shekhawat	31 st TENCON Conference	Kochi, Kerala	Oct 17-20, 2019	International

Invited Lectures of Faculty: In India, Abroad

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
N. Nallam	Integrated Circuits (ICs) for Information and Communications Technology (ICT)	Pridi Banomyong International College (PBIC), Thammasat University	Bangkok	Nov 25, 2019
Harshal B. Nemade	Sensor basics	ATAL Workshop on IoT and Cyber Security, IIT Guwahati	Guwahati	Aug 22, 2019
Harshal B. Nemade	Acoustic wave based MEMS devices	Faculty Development Program on VLSI & MEMS Design, IIIT Senapati	Manipur	Feb 14, 2020
Rishikesh Kulkarni	Digital Optical Signal Analysis: An Overview	SPIE student chapter: International Day of Light 2019	IIT Guwahati	May 16, 2019
Rishikesh Kulkarni	Challenges in Digital Holographic Data Coding for 3D imaging	World Standards day 2019	BIS Guwahati	Nov 26, 2019

Rishikesh Kulkarni	Introduction to Smart Sensors and Actuators - the 'Things' in IoT	Short course on 'Fabrication and Application of Micro Devices in Thermo-fluidic Engineering'	IIT Guwahati	Feb 26, 2020
Salil Kashyap	Role Of Channel State Information in Adaptation and Resource Allocation in Next Generation Wireless Systems (Workshop on Recent Trends in Learning & Optimization for Communications, Control &	IIIT Guwahati	Guwahati	Jan 17, 2020
Sudarshan Mukherjee	5 day short term course on "Recent Advancements in 5G Wireless Communications: Physical and Higher Layer Perspectives" under TEQIP-III program (Lecture on Day-2 of the 5 Day Short Term Course: Part-1: Signal Processing and Wireless Communications in Massive MIMO Part-2: Timing Advance Estimation and Random Access Response Beamforming in Crowded Massive MIMO Systems)	Barak Valley Engineering College/ TEQIP-III program of Assam Science and Technology University (ASTU)	Nirala, Karimganj	Mar 12, 2020
Ratnajit Bhattacharjee	Matched Feed Design for Offset Reflector Antennas	Microwave and Radio Electronics Week 2019 Pardubice, Czech Republic https://www.marew.cz/speakers	Pardubice Czech Republic	Apr 16, 2019
Ratnajit Bhattacharjee	An overview of application of chirps for communication and radar	7th International Conference on Computers and Devices for Communication CO-DEC 2019 (organized by the Department of Radio Physics and Electronics, Calcutta University)	Hotel Taj Vivanta Kolkata	Dec 19, 2019
Ratnajit Bhattacharjee	An Overview of Magnetron & Its Applications	One-week Workshop on "Recent Advancement in Microwave Engineering (RAME-2019)	NIT Silchar	Apr 02, 2019
Sonali Chouhan	The Power of IoT: Examples and Applications How an IoT System Works	TEQIP-III, RGPV, Acropolis Technical Campus Institute	Indore, MP	Oct 14, 2019
Sonali Chouhan	IoT: Its enablers, impact, and challenges Components of IoT System	TEQIP-III, RGPV, Mahakal Institute of Technology	Ujjain, MP	Aug 19, 2019

Sonali Chouhan	Hardware Platforms for IoT IoT Development Platforms	TEQIP-III, RGPV, Mahakal Institute of Technology	Ujjain, MP	Aug 20, 2019
Sonali Chouhan	Data Handling in IoT IoT Network and Protocols	TEQIP-III, RGPV, Mahakal Institute of Technology	Ujjain, MP	Aug 21, 2019
Ribhu	Performance Analysis of massive MIMO systems under CSI impairments	IIIT Guwahati	Guwahati	Sept. 24, 2019
P.K. Bora	Introduction to Machine learning	Jorhat Engineering College	Jorhat, Assam	Nov 02, 2019
P.K. Bora	Image Forensics: From Machine learning to Deep Learning	Tezpur University	Tezpur, Assam	Dec 18, 2019
P.K. Bora	From Statistical Signal Processing to Machine learning	Assam Engineering College	Guwahati, Assam	Feb 12, 2020
P.K. Bora	Mathematics of Machine learning	Gauhati University	Guwahati, Assam	Mar 12, 2020
Gaurav Trivedi	Academic Collaboration	University of Pardubice	Czech Republic	May 11, 2019 – Jul 05, 2019
M.K. Bhuyan	Two lectures on "Machine Learning and its Applications in Computer Vision", in FDP on "Computational Intelligence, Robotics and Real-World Applications (CIRRA 2020)	Gauhati University	Guwahati, Assam	Mar 13, 2020
M.K. Bhuyan	"Robotic Vision", in TEQIP-III course on "Robotics and Automation" organized by Department of Mechanical Engineering in association with Center for Educational Technology (CET), IIT Guwahati	IIT Guwahati	Guwahati, Assam	Mar 11, 2020
M.K. Bhuyan	Two lectures on "Computer Vision & Machine Learning for Refresher Course on Machine Learning (IDC)	Gauhati University	Guwahati, Assam	Feb 10, 2020
M.K. Bhuyan	"Detection of Intoxicated Person Using Thermal Infrared Images"	6th IEEE Asian Conference on Defence Technology 2019	Bali, Indonesia	Nov 13-15, 2019
M.K. Bhuyan	Computer Vision and Its Applications	Institute of Advanced Study in Science & Technology (IASST)	Guwahati, Assam	Aug 09, 2019
M.K. Bhuyan	Machine Learning and Deep Learning using Python Programming	NIT Mehalaya	Meghalaya	Jul 22-26, 2019
M.K. Bhuyan	Deep Learning using Python Programming	Manipal University	Jaipur	Jul 08-12, 2019
M.K. Bhuyan	Machine Learning using Python Programming	Sastra Deemed University	Tamil Nadu	Apr 22-27, 2019
Praveen Tripathy	Wind Energy Conversion System and Storage Technologies for AC Microgrid	NIT, Agartala	NIT Agartala	Dec 02-06, 2019
Praveen Tripathy	Wind Energy Conversion System and Storage Technologies for AC Microgrid	MMMUT, Gorakhpur	MMMUT Gorakhpur	Dec 17-22, 2019
Praveen Tripathy	Synchrophasor Measurement Technology for smart grid	MMMUT, Gorakhpur	MMMUT Gorakhpur	Dec 17-22, 2019

Visitors From Other Institutes/Universities/Organisations / Invited Lectures

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Mr. R. Suresh	Assistant Director & Scientist 'C' (Ballistics), Central Forensic Science Laboratory, Guwahati, Assam	Invited talk on "Forensic sciences"	Apr 26, 2019
Prof. Chouribrata Chatterjee	Professor, Dept. of EE, IIT Delhi	Invited talk on "Power management circuits for energy harvesting"	Jun 13, 2019
Prof. B. Sundar Rajan	Professor, Dept. of ECE, IISc Bangalore	Invited talk on "Information, Communication and Computing"	Jul 25, 2019
Prof. Yashowanta N. Mohapatra,	Professor, Dept. of Physics, IIT Kanpur	Invited talk on "Flexible Electronics"	Jul 25, 2019
Prof. Anil M. Kulkarni	Professor, Dept. of EE, IIT Bombay	Invited talk on "Understanding Power System Dynamics through Local and Wide Area Measurements"	Jul 25, 2019
Prof. Ioana Voiculescu	City University of New York	Invited talk on "Innovative MEMS Sensors for Biological Applications"	Nov 18, 2019
Dr. Ravi Todi	Vice President of IEEE Electron Devices Society, Senior Technologist at Western Digital	Invited talk on "The Industry That Changed the World"	Feb 11, 2020
Mr. Ruchir Dixit	Siemens Mentor-Graphics	Research Collaboration	Feb 26, 2020

Seminars/Workshops/Conferences/Short-Term Courses Organized

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Funded By	Date	International/ National	No. of participants
1	Prof. R. Sinha and Prof. Samudra Vijaya	3 rd Summer School on Automatic Speech Recognition Jointly organized by Dept of EEE and Center of LST	Registration fee	Jun 02-07, 2019	National	50

Patents Applied

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.	Remarks
1	Goswami N, Paily R. P., Bose B	Surface Acoustic Wave Based System for detection of HBsAg	Applied, 2019	201931054349	Indian Patent
2	M.K. Joshi, R. Bhattacharjee, S.K Vyas, T. Tiwari	High-power coaxial magnetron using stacked anode resonators with dual cathode arrangement	Dec 06, 2019	201931050517	Indian Patent

3	Dr. Sisir Kumar Nayak, Amit Kumar Baghel, Shashank Satish Kulkarni, D. Senthil Kumar	Aperture matched parabolic pyramidal horn antenna	Published on Jul 12, 2019	201931023910	Indian patent. Under examination
4	Dr. Sisir Kumar Nayak, Shashank Satish Kulkarni Amit Kumar Baghel, D. Senthil Kumar	Far field wireless power/energy transfer/harvesting to/for manned and/or unmanned systems using metamaterial"	Published on Jul 12, 2019	201931023905	Indian patent. Under examination
5	M. K. Bhuyan	An automated method for detection of intoxicated persons	Applied, 2020	E-2/28/2020-KOL	Indian Patent

Patents Granted

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Harshal B. Nemade and Sai Krishna Santosh G.	Edge reflection type surface acoustic wave devices on silicon substrate	Sept. 17, 2019	633/KOL/2015 Patent Grant No.: 320640	Indian patent granted
2	Harshal B. Nemade and Ashish Kumar Namdeo	Electrostatically coupled surface acoustic wave devices using external bond pads	Feb 28, 2020	1085/KOL/2011 Patent Grant No.: 333471	Indian patent granted

Awards and Honours

- ◆ Chandan Kumar has been invited to serve IEEE Access as an Associate Editor from August 2019 for three years

Students' Achievements

- ◆ Mr. Prateek Kumar, Ph.D. student has won the best poster award in 33rd International Conference on VLSI Design, Bangalore, 4-8 Jan 2020
- ◆ Mr. Bikram Paul, PhD Student, received 3rd Prize in the BEST Student Paper Category IEEE Czechoslovakia Section for his paper entitled "Efficient PRNG Design and Implementation for Various High Throughput Cryptographic and Low Power Security Application" in IEEE 29th International Conference Radioelektronika (RADIOELEKTRONIKA), Czech Republic
- ◆ Mr. Arijit Bhattacharjee, Research Scholar, received the prestigious Qualcomm Innovation Fellowship 2019 for innovation title "MAC layer

methods for low latency handover and blockage-mitigation in mmWave indoor networks (Recommenders: Prof. S. K. Bose and Prof. R. Bhattacharjee) <https://www.qualcomm.com/invention/research/university-relations/innovation-fellowship/winners>

- ◆ Amit Kumar Baghel, Shashank Satish Kulkarni, D. Senthil Kumar, and Sisir Kumar Nayak received the third prize and cash award of 50,000 INR in the Aero India 2019 (One of the Asia biggest air show display) organized by MHRD, and Defense Production Government of India
- ◆ International Travel Support (ITS)-2019 given by SERB to the Ph.D. student, Amit Kumar Baghel, for presenting the paper in IEEE International Conference on Microwaves, Communications, Antennas & Electronic Systems, 4-6 November, 2019, Tel Aviv, Israel
- ◆ International Travel Support (ITS)-2019 given by SERB to the Ph.D. student, Niharika Baruah, for presenting the paper in IEEE Conference on

Electrical Insulation and Dielectric Phenomena (CEIDP), 20-23 October, 2019, Richland, Washington, USA

- ◆ B Venkatesh, N B S Krishna, BTech (EEE) 2015-2019, won Best Paper Award for the paper, "B Venkatesh, N B S Krishna, Sonali Chouhan, Distributed Optimal Power Allocation using Game Theory in Underlay Cognitive Radios" presented at Springer International Conference on Computing, Power and Communication Technologies (GUCON), Greater Noida, India, Sept 2019

Special Mention

- ◆ Prof. Ratnajit Bhattachajree has developed NPTEL MOOCs course on Microwave Engineering . <https://nptel.ac.in/courses/108/103/108103141/>
- ◆ Prof. Ratnajit Bhattacharjee served as a member of the Conference Organizing Committee (as India Liaison) for the 14th European Conference on Antennas and Propagation, EuCAP 2020 . <https://www.eucap.org/conference/organising-committee-tex>

Faculty Members

Sl. No.	Name	Name of the University/ Institute/Org PhDdegree received from	Designation	Areas of Interest
1	Adda Ravindranath	IIT Kanpur	Assistant Professor	Power Electronics, Distributed Generation and Power Quality
2	Ahamed Shaik Rafi	IIT Kharagpur	Professor	Adaptive Signal Processing, Mobile Communications, VLSI Signal Processing, Biomedical Signal Processing
3	Arrawatia Mahima	IIT Bombay	Assistant Professor	Energy Harvesting, RF Circuit Design, Microstrip Antennas
4	Bhattacharjee Ratnajit	Jadavpur University	Professor	Electromagnetics, Microstrip Antennas, Microwave Engineering, Wireless Communication
5	Bhawal Chayan	IIT Bombay	Assistant Professor	Optimal Control, DAE systems, Model Order reduction, Multi-agent systems
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	Guha Prithwijiit	IIT Kanpur	Assistant Professor	Computer Vision, Machine Learning, Robotics
15	Jacob Tony	IIT Kanpur	Associate Professor	Statistical Signal Processing and Information Theory
16	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
17	Karthik Kannan	University of Toronto, Canada	Associate Professor	Biometric Counter-spoofing; Privacy Preserving Analysis; Image and Data Forensics; Secure Key management and Exchange in Wireless Networks;
18	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
19	Krishnaswamy Srinivasan	IIT Bombay	Assistant Professor	Control Systems, Cryptography
20	Kshetrimayum Rakesh Singh	NTU Singapore	Professor	Electromagnetic Band Gap, Filters, Metamaterials, Computational Electromagnetics and Periodic Structures
21	Kulkarni Rishikesh Dilip	EPFL, Switzerland	Assistant Professor	Optical Metrology, Digital Optical Signal Processing, Digital Holography, Speckle Interferometry, Fringe Projection Profilometry
22	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
23	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
24	Mahanta Chitralekha	IIT Delhi	Professor	Control System Theory and Applications, Control of Nonlinear Uncertain Systems, Artificial Intelligence based Control, Identification and Control of Nonlinear Systems
25	Majhi Somanath	University of Sussex, Brighton, UK	Professor	Relay Based Identification and Auto tuning, Control Systems, Control Theory Applications
26	Mallajosyula Arun Tej	IIT Kanpur	Assistant Professor	Photovoltaics, Large Area Electronics, Organic and Organic-Inorganic Hybrid Semiconductor Devices and Layered 2D Materials
27	Sudarshan Mukherjee	Indian Institute of Technology Delhi (IIT Delhi)	Assistant Professor	Wireless Communications and signal processing for large scale antenna systems, ultra-dense networks, mobile edge computing etc.
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
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	Silicon Photonics, Integrated Photonics, Fiber lasers Optoelectronics Device Characterization and Fabrication, Microelectronics and III-V Compound Semiconductors, Photonics Integrated Circuits, Fiber Optics Communication, Non-invasive measurement of physiological parameters of human blood, Structural health monitoring, Antennas, Vacuum Electron Devices
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	VLSI, HPC, Embedded Systems, IoT, Computer Architecture, Electronic System Design and Manufacturing (ESDM), Quantum Computing, Hardware Security

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

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 undergraduate courses in Psychology

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

Colour Printer - 01; Desktop - 70; Laptop - 01; Projector - 01; Printer - 01; Video Conferencing System - 01; Language Lab Software - 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

Research Clusters

Development, Governance and Public Policy: This cluster brings together those who work largely in the fields of development economics, governance, food security, public health, climate, migration, socioeconomic development, agriculture, water security, urbanization, education, conflict, gender, urban geography, constitutionalism, microeconomics, macroeconomics, India's political history, sex trafficking and law & violence and law, ethics and justice

Language, Literature and Textualities: This cluster is aggregation of research areas: phonology, phonetics, cognitive and social linguistics, language processing, digital humanities, literary history, Indian languages and literatures, translation, film studies, art history, phenomenology and hermeneutical studies, aesthetics

Culture, Identity and Social Hierarchy: This cluster is aggregation of research areas: social inequality: caste, class, race, gender; social anthropology, philosophical reflections on religion, religious history, ethnicity, nationalism, citizenship, language politics, violence, law, literature and culture, archaeology, cultural transformation

International Studies and Security: This cluster is aggregation of research areas: inter-State Relations, foreign Policy, diplomacy: politics, economy, business history & cultural relations, security & peace building: international conflict, war and

crisis; borders, military and strategic studies; trans-boundary issues

Behavioral Sciences: This cluster is aggregation of research areas: social psychology, organizational behaviour, human resource management, human memory, sleep and information processing, trauma and well-being

Nature and Culture: This cluster is aggregation of research areas: ecology, environment, environmental ethics, environmental history and policy, sustainability, cognitive and social dimensions of science and technology

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conference/ Workshop/Symposium	Place	From	To	International/ National
Rohini Mokashi-Punekar	Bakhtin in India: Exploring the Dialogic Potential in Self, Culture and History	India	8/13/2019	8/13/2021	International
Debapriya Basu	Renaissance Man - Re-Appraisal and Re-Invention	Kolkata	11/14/2019	11/16/2019	International
Bidisha Som	conference on Multilingualism	The Netherlands	9/1/2019	9/3/2019	International
Bidisha Som	Conference on Multilingualism	The Netherlands	9/1/2019	9/3/2019	International
Bidisha Som	25th Architectures and Mechanism of Language Processing conference	Moscow, Russia	9/5/2019	9/8/2019	International
Bidisha Som	25th Architectures and Mechanism of Language Processing conference	Moscow, Russia	9/5/2019	9/8/2019	International
Bidisha Som	ISMBS	Chania, Crete, Greece	8/27/2019	8/30/2019	International
Bidisha Som	Capturing and Quantifying Individual Differences in Bilingualism	Tromso, Norway	9/2/2019	9/3/2019	International
Bidisha Som	Third Annual Meeting of the Society for Cognitive Science of Culture	Goa	2/3/2020	2/7/2020	International
Bidisha Som	Third Annual Meeting of the Society for Cognitive Science of Culture	Goa	2/3/2020	2/7/2020	International
Prabhu Venkataraman	24th International Congress on Vedanta	New Delhi	10/01/2020	12/01/2020	International

S. Mallick	2 nd International Conference of Global Science, Technology and Society	Makassar, Indonesia	24/07/2019	27/07/2019	International
Priyankoo Sarmah	Language Technology for All (LT4All) UNESCO Headquarters	Paris, France	4/12/ 2019	6/12/2019	International
Priyankoo Sarmah	Interspeech 2019	Graz, Austria	15/09/2019	19/09/2019	International
Priyankoo Sarmah	Pluricentric Languages in Speech Technology	Graz, Austria	14/09/2019	14/09/2019	International
Priyankoo Sarmah	Hanyang International Symposium on Phonetics & Cognitive Sciences of Language	Seoul, South Korea	24/05/2019	25/05/2019	International
Priyankoo Sarmah	29th Meeting of the South-east Asian Linguistics Society	Tokyo, Japan	19/05/2019	27/05/2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Title of Talk	Name of Organizer/Institution	Place	Date	International /National
John Thomas	Changes and Continuities in the Religious Landscape of Northeast India	From the Tree to the Temple: Recasting Religion as Identity in North-East India	North Eastern Social Research Centre, Guwahati & Department of Estonian and Comparative Folklore, Un	Guwahati	7/20/2021	International
Mrinal Kanti Dutta	National Conference on Issues in North East India and the Role of ODI and OER in Higher Education	Spectra of Jobless Growth – Myth, Reality & the way forward	Gauhati University Institute of Distance and Open Learning	Gauhati University	3/19/2020	National
Debapriya Basu	The Arts, Knowledge, and Critique in the Digital Age in India	Through the page, darkly: the data in the text	IIT Hyderabad	Hyderabad	11/29/2019	International
Debapriya Basu	TEQIP-III Sponsored Short Term Course on Deep Learning for Natural Language Processing (NLP)	Talking across the Abyss: Humanities concerns and NLP	Dept. of CSE, IIT Guwahati	Guwahati	11/22/2019	National
Debapriya Basu	Digital Humanities and Cultural Informatics PG Diploma Course		School of Cultural Texts and Records, Jadavpur University	Kolkata	12/10/2019	National

Bidisha Som	Linguistics and Language Sciences: A Quantifying Approach	Linguistics Today: Languages and beyond	Central University of Rajasthan	Ajmer, Rajasthan	2/19/2020	National
Bidisha Som	Cognitive Neuroscience Lab	Cognitive Neurolinguistics	BITS Pilani	Goa	3/24/2020	National
S. Mallick	IPR Conclave	Intellectual Property Rights Regime in India: From Canons to Critiques	University of Science and Technology, Meghalaya	University of Science and Technology, Meghalaya	16/08/2019	National
S. Mallick	Regional Workshop on Intellectual Property Rights	Trademark and Copyright	KC Das Commerce College, Guwahati	KC Das Commerce College, Guwahati	25/10/2019	National
S. Mallick	DST-NIAS Training Programme on Science and Technology: Global Developments and Perspectives	Reframing the Social: Science, Technology and Agriculture	National Institute of Advanced Studies, Bengaluru	National Institute of Advanced Studies, Bengaluru	18/12/2019	National

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof. Udaya Kumar	Centre for English Studies, JNU	Death, Life Narration, and Political Existence	2019-04-24
Amit Ranjan Baishya	Department of English, University of Oklahoma	The Ethics and Politics of Postcolonial Animalities: Manto, Fanon and Pontecorvo	2019-08-08
Prof. Carol Burke	Department of English, University of California Irvine	Military Culture	2019-09-24
Prof. Sukanta Chaudhuri	Dept. of English, Jadavpur University	GANDHI AND TAGORE: A SYNERGY OF MINDS	2019-09-30
Mahesh Rangarajan	Ashoka University	Nature's Future: Engaging Democracy as if Ecology Mattered	2019-10-30
Arnab Dey	State University of New York (SUNY) at Binghamton	Development Regimes™ in Colonial India: A Commodity Critique	2019-12-20

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Type	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./ Wor./Con.	Funded By	Date	International/ National	No. of Participants
Seminar	Pahi Saikia	Rise of Asia	Centre for South East Asian Studies, Gauhati University	5/2/2019	National	30
Workshop	Kiran Kesha-vamurthy	Digital Humanities	CET	28-29 May 2019	National	20
Short-term Course	Debapriya Basu	Introduction to the Digital Humanities	TEQIP-III	27-28 May 2019	National	25
Short-term Course	Debapriya Basu	Introduction to the Digital Humanities	TEQIP-III	27-28 May 2019	National	25

STUDENTS' ACHIEVEMENT

Charles Wallace India Trust (CWIT) Travel Grant

Biswajit Sarmah, a PhD scholar in the Department of HSS, IIT Guwahati has received Charles Wallace India Trust (CWIT) travel grant 2019-20. The British Council will grant him 1400 pounds to conduct archival research in British Library, London

Fulbright Nehru Doctoral Fellowship

Biswajit Sarmah, a PhD scholar in the Department of HSS, IIT Guwahati has been awarded Fulbright Nehru Doctoral Fellowship 2019-20. He will conduct his research at the State University of New York, Binghamton from August 2019 to May 2020

International Speech Communication Association (ISCA) Travel Grant

Wendy Lalhminghlu, Research Scholar has received the International Speech Communication Association (ISCA) Travel Grant of EUR 650 to attend Interspeech 2019 in Graz, Austria. The support was for presenting her joint work with Viyazonuo Terhijja titled "Tone Vowel Interaction in Two Tibeto-Burman Languages"

Microsoft Research India Travel Grant

Wendy Lalhminghlu, Research Scholar has received the 1. Microsoft Research India Travel Grant of Rupees 75,000 to attend Interspeech 2019 in Graz, Austria. The support was for presenting her joint work with Viyazonuo Terhijja titled "Tone Vowel Interaction in Two Tibeto-Burman Languages"

International Travel Grant

Prerona Baruah, PhD student, Economics is one of the three recipients of travel grants to present her work "Seasonality in commodity prices across India: Extent and implications" at the Annual Conference of Agricultural Economics Society, 2020 at KU Leuven, Belgium, during April 15-17, 2020

Best Paper Award

Jith J.R. PhD Scholar in Development Studies received the Best Paper Award for paper titled "Overall Burden of Malnutrition in India: Using a Composite Index of Anthropometric Failure (CIAF) to Understand the Scale of Nutrition Problem in India" at Northeastern Economic Association Conference, Imphal

SPECIAL MENTION

- ◆ S. Mallick, Referee: Sociological Bulletin, Sage; Indian Journal of Gender Studies, Sage; Social Change and Development, OKDISCD
- ◆ S. Mallick, Special Invitee, Board of Studies, Royal School of Humanities and Social Sciences, Royal Global University, Guwahati, 10 May 2019
- ◆ S. Mallick, Resource Person, Centre for Sociology and Social Anthropology, Tata Institute of Social Sciences, Guwahati Campus, July-November 2019
- ◆ S. Mallick, MA External Examiner, Department of Sociology, University of Science and Technology, Meghalaya, 2019
- ◆ S. Mallick, M.Phil. External Examiner: Department of Social Work, Krishna Kanta Handiqui

State Open University, Guwahati, 2019; Department of Sociology, Mahapurusha Srimanta Sankaradeva Viswavidyalaya, Nagaon, 2020

- ◆ S. Mallick, Chair, Session on Development of Scientific Institutions and Scientific Practices, 2nd International Conference of Global Science, Technology and Society, Makassar, Indonesia, 24-27 July 2019
- ◆ S. Mallick, PhD External Examiner: Department of Sociology, Gauhati University, Guwahati, 2019, 2020; Centre for Knowledge, Culture and Innovation Studies, University of Hyderabad, 2020
- ◆ Ranu Roychoudhuri, Postdoctoral Fellowship, Institute of Sacred Music, Yale University 2019-20
- ◆ S. Mallick, Referee: Sociological Bulletin, Sage;

Indian Journal of Gender Studies, Sage; Social Change and Development, OKDISCD

- ◆ S. Mallick, Subject Expert, Faculty Selection Committee, Department of Sociology, Mahapurusha Srimanta Sankaradeva Viswavidyalaya, 7 January 2020
- ◆ Amarjyoti Mahanta, International Collaborations: I am working along with Dr.Ragupathy Venkatachalam of Goldsmiths College, University of London on stability of political coalitions
- ◆ John Thomas, Charles Wallace India Trust Visiting Fellow at the Centre of South Asian Studies, University of Cambridge, January to June 2020, towards my research on: 'Protestant Missionaries and Agrestic Slavery in Central Travancore, 1848-1870'

FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Barua Anamika	University of Leeds, UK	Professor	Climate Change and Water security, Ecological Footprint, Virtual Water flows through trade, Water governance including transboundary water governance
2	Barua Archana		Professor	Phenomenology and Continental Philosophy : Husserl, Heidegger, Sartre, Merleau Ponty, Ricoeur, Levinas and Gadamer included ; Philosophy of Value: Ethics and Aesthetics, Feminist Philosophy, Indian Philosophy, Gandhian Philosophy, Philosophy of Religion. Special expertise in Philosophy of Culture and religions of North East India with special research interest in the Vaishnavism of the Medieval Bhakta Saints and Mahapurush Sankaradeva in particular ; Designed web materials on select areas of Science, Technology and Society from a philosophical perspective.
3	Basu Debapriya	Jadavpur University	Assistant Professor	English and European Renaissance literature, early modern English women's writing, women's literary history, gender and genre, poetics and gender, theatre, textual editing and bibliographical studies, translation, digital humanities theory and practice (text technologies, TEI-XML, hypertextualities, digital archives, the digital early modern)
4	Bedamatta Rajshree	University of Calcutta	Associate Professor	Food security, Nutrition, and Public Health
5	Das Debarshi	Jawaharlal Nehru University	Associate Professor	Development Economics, Political Economy, Macroeconomics
6	Das Liza	NULL	Professor	Cultural Studies
7	Dutta Mrinal Kanti	Gauhati University	Professor & Head	Agricultural Economics, Environmental Economics, Regional Economic Development
8	Dutta Vipul	Kings College London	Assistant Professor	South Asian Diplomatic & Military History ; Indian Business History
9	Hussain Dilwar	IIT Kanpur	Associate Professor	Psychology of Trauma, Psychology of Well-being

10	Jairath Vasundhara	University of Delhi	Assistant Professor	Social Movements, Development and Displacement, Indigenous Politics, Latin America, Decolonisation of Knowledge
11	Jha Mithilesh Kumar	University of Delhi	Assistant Professor	Political theory, Political thought in comparative perspectives particularly Indian and western political thought, Indian politics especially language and related issues of state formation in modern
12	Kashyap Naveen	IIT Bombay	Associate Professor	Sleep and Information Processing, Human Memory
13	Keshavamurthy Kiran	University of California, Berkeley	Assistant Professor	Modern Indian Literatures
14	Khanolkar Prasad	University 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.
15	Kipgen Ngamjahao	Indian Institute of Technology Delhi	Associate Professor	Environmental sociology, political sociology, religion and cultural politics
16	Mahanta Amarjyoti	Jawaharlal Nehru University, Centre for Economic S...	Assistant Professor	Game Theory, Auction Theory, Industrial Organization
17	Mahanta Shakuntala	Utrecht University, The Netherlands	Professor	Theoretical Phonology, Acoustic Phonetics and perception, Information Structure, Tone and intonation
18	Mallick Sambit	University of Hyderabad	Associate Professor	Sociology of Science and Technology; Historical Sociology; Philosophy of the Social Sciences
19	Parmar Daksha	Jawaharlal Nehru University, New Delhi	Assistant Professor	Public Health and Development, Health Systems in India, Global Public Health, Women's Health, Health Policy and Politics.
20	Prabhu Venkataraman		Professor	
21	Punekar Rohini Mokashi	Gujarat University	Professor	Translation, Postcolonial Studies, Culture Studies, Indian Writing in English and Modern British Literature.
22	Ranjan Ritwik	Princeton University	Assistant Professor	Philosophy of History, Historiography, History of Ideas
23	Ray Sawmya	University of Hyderabad (Hyderabad Central University...	Associate Professor	Gender Violence and Law, Sex Trafficking and Sex Work, Gender and Legal Pluralism, Caste in Urban Spaces.
24	Roychoudhuri Ranu	The University of Chicago	Assistant Professor	History of Photography, History of Art, Visual Culture, Print History, Postcolonial Studies, South Asia, Twentieth-Century India
25	Saikia Arupjyoti	University of Delhi	Professor	Economic, environmental and political history of modern Assam
26	Saikia Pahi	McGill University, Canada	Associate Professor	International Relations; Foreign Policy between India and neighbouring countries; Ethnic identity politics, tribes and indigenous people in Northeast India; Governance & political development in developing areas; Security issues in borderlands Asia; Social movements and conflict prevention.

27	Sarkar Agnirup	Durham University	Assistant Professor	Macroeconomics, Monetary Economics, Finance
28	Sarmah Priyankoo	University of Florida	Associate Professor	-----Phonetics and phonology of vowels and tones, Tibeto-Burman languages, language technology development, speech perception, speech recognition
29	Saundariya Borbora	Gauhati University	Professor	Development Economics, Regional Development
30	Sengupta Bodhisattva	McGill University	Associate Professor	Public Economics and Policy, Dynamic Economic Theory
31	Sharma Sukanya	Deccan College PG & Research Institute, Poona	Associate Professor	Archaeology
32	Som Bidisha	Jawaharlal Nehru University, New Delhi	Associate Professor	language processing, culture and cognition, social linguistics.
33	Thomas John	Centre for Historical Studies, 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 19th Century Travancore; History of Missionary Encounter in South Asia.
34	Tripathi Nachiketa	IIT Kanpur, India	Professor	Organizational Behaviour, HRM and Social Psychology

DEPARTMENT OF MATHEMATICS

LABORATORY FACILITIES

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

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

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

Desktop PC (Make Dell; Model Optiplex 5050 (90 Nos); 3 TR Industrial AC (Make Liebert Intellesplit)

(02 Nos.); Upgradation of ACER Veriton Desktop to Dell Optiplex 5060 Desktop PC (15 Nos.) + New Desktop PC (Make Dell; Model Optiplex 5060) (15 Nos.); 60 KVA/KW Modular UPS System (1 no.) + 30 KVA/KW Modular UPS System (01 No.); 64 Channel NVR & 2 MP IR Camera with accessories; Digital Interactive Board (Make LG; Model 65TC3D) (01 No.)

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

Rafikul Alam	International Conference on Mathematical Modelling and Scientific Computing	IIT Indore	19-21 July 2018	International
Anupam Saikia	50 th year Celebration of CIC-MA	Montreal, Canada	2-6 July, 2018	International
Anupam Saikia	Canadian Number Theory Association	Quebec City, Canada	9-13 July, 2018	International
Arup Chattopadhyay	29 th International Workshop on Operator Theory and its applications (IWOTA-2018)	East China Normal University, China	23-27 July, 2018	International
K.V. Krishna	23 rd International Conference on Implementation and Applications of Automata : CIAA 2018	Charlottetown, Canada	30 July-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 October, 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 January, 2019	National
Partha S. Mandal	20 th International Conference of Distributed Computing and Networking (ICDCN 2019)	IISc, Bangalore	4-7 January, 2019	International
Ashok Singh Sairam	2 nd ISEA International Conference on Security & Privacy, 2019	MNIT, Jaipur	9-11 January, 2019	International
Jiten Ch. Kalita	Taiwan-India Joint Conference: recent progress of flow simulation and stability analysis	Taipei, Taiwan	15-17 March, 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 June, 2018
R. Barman	Colloquium talk titled Values of finite field hypergeometric series	IIT Delhi	New Delhi	15 May, 2018
Siddhartha P. Chakrabarty	Optimal Harvesting for a Deterministic and Stochastic Model of Renewable Resource	Indian Institute of Science Bangalore	Bangalore	28 July, 2018

R. Barman	Colloquium talk titled Hypergeometric series in Arithmetic Geometry	ISI Kolkata	Kolkata	24 Sept., 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 October, 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	Oct. 9, 2018
Durga C Dalal	A Mathematical Study of Tissue Electroporation to Drug Delivery	IIT Indore	Indore	01-03 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 March, 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 March, 2019
Rajen K. Sinha	Finite element approximations for elliptic optimal control problem with measure data	KIIT University, Bhubaneswar	Odisha	6 March 2019
Sudarshan Kumar K.	Lectures on Partial differential equations	Cochin University of Science and Technology, Kochi	Kerala	9 March, 2019
Jiten Ch. Kalita	Transformation-free ψ -v formulations of the Navier-Stokes equations in compact nonuniform grids	National Taiwan University, Taipei	Taiwan	15 March, 2019
Jiten Ch. Kalita	ψ -v computation of flow past sharp edges in uniform and accelerated flow	National Taiwan University, Taipei	Taiwan	17 March, 2019

Durga C. Dalal	Trends in applied mathematics : Present & Future	Gauhati University	Assam	29 March, 2019
B. Deka	Delivered a talk on Finite Vibrating String Problem and Fourier Series	Tezpur University	Tezpur	30 March, 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	April 6, 2018
Dr. Sutanu Roy	NISER, Bhubaneswar	Semi-direct Product of Groups and Beyond	May23, 2018
Dr. Kartick Adhikari	Indian Statistical Institute, Kolkata	Brown Measure and Asymptotic Freeness of Elliptic and Related Matrices	Aug 2, 2018
Prof. Anatharam Raghuram	Indian Institute of Science Education and Research, Pune	From Calculus to Number Theory	Aug 17, 2018
Dr. Gangotryi Sorcar	Ohio State University, USA	Topological vs. smooth structures and exotic diffeomorphisms	Sept. 4, 2018
Dr. Samya Kumar Ray	IIT Kanpur	Lp-Von Neumann inequalities, from commutative to non-commutative	Oct. 10, 2018
Prof. G. D. Veerappa Gowda	TIFR, CAM, Bangalore	Conservative and non-conservative upwind schemes for weakly hyperbolic systems in gas dynamics	Dec. 10, 2018
Prof. G.P. Raja Sekhar	IIT Kharagpur	Mathematical modeling of the lubrication process inside a human knee joint	Dec. 13, 2018
Dr. Punit Sharma	Indian Institute of Technology Delhi	Nearest stable matrix : from bad problem to good problem	Dec. 28, 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	Jan. 16, 2019
Prof. Soumyendu Raha	Indian Institute of Science, Bangalore	Constrained Dynamical System: Rough Paths and Simulation	Feb. 6, 2019
Prof. Andrew Tonge	Kent State University Ohio, USA	When averages are extreme: Probabilistic techniques in functional and harmonic analysis	Feb. 11, 2019
Prof. Pedro A. Guil Asensio	University of Murcia, Spain	Phantom morphisms and purity	Feb. 19, 2019
Prof. A. K. Nandakumaran	Indian Institute of Science, Bangalore	Optimal Control Problems in Domains with Oscillating Boundary and Homogenization	Feb. 25, 2019
Prof. M. Sohel Rahman	BUET, Bangladesh	String Inference and (non) Lexicographic Ordering	March 4, 2019
Prof. A. Adimurthi	TIFR CAM, Bangalore	Structure of solutions for scalar conservation laws in space dimension	March 5, 2019

Prof. G. D. Veerappa Gowda	TIFR CAM Bangalore	Applications of Hamilton-Jacobi equations in Shape from Shading	March 6, 2019
Prof. Michael Karow	TU Berlin, Germany	Projection Lemma and the Cyclic Decomposition Theorem	March 20, 2019
Dr. Soumen Sarkar	IIT Chennai	On integral homology of orbifolds	March 22, 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 June, 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 June, 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	Feb 27-Mar 02, 2019.	International	69

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	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1	R. Alam	IIT Bombay	Professor	Numerical Functional Analysis, Numerical Linear Algebra
2	S. Bandopadhyay	ISI Delhi	Assistant Professor	Linear Algebra, Matrices
3	Rupam Barman	IIT Guwahati	Associate Professor	Number Theory
4	B. Bhattacharjya	IIT Kanpur	Associate Professor	Graph Theory

5	S. Bora	IIT Guwahati	Professor	Numerical Linear Algebra
6	S. N. Bora	Dalhousie University, Canada	Professor	Water Wave Mechanics, River Mechanics, Sloshing Dynamics, Flow through Porous Media, Differential Equation, Fractional Differential Equation
7	S. P. Chakrabarty	University of Illinois, Chicago, USA	Associate Professor	Mathematical Biology, Mathematical Finance, Optimal Control Theory
8	A. K. Chakrabarty	IIT Kanpur	Assistant Professor	Functional Analysis
9	Arup Chattopadhyay	JNCASR Bangalore	Assistant Professor	Functional Analysis and Operator Theory
10	D. C. Dalal	IIT Kharagpur	Professor	Computational Fluid Dynamics, Two-phase Flows
11	G. K. Das	ISI Kolkata	Associate Professor	Computational Geometry, Approximation Algorithms, Wireless Networks
12	B. Deka	IIT Guwahati	Associate Professor	Numerical Analysis, Finite Element Method, Interface Problems
13	A. K. Dey	IIT Kanpur	Associate Professor	Distributions models and its applications, Survival Analysis
14	S. Dutta	IIT Kanpur	Assistant Professor	Quantam Computing, Complexity Theory
15	Ayon Ganguly	IIT Kanpur	Assistant Professor	Life Time Data Analysis
16	J. C. Kalita	IIT Guwahati	Professor	Computational and Topological Fluid Dynamics, Numerical methods for Partial Differential Equations, Mathematical Biology
17	S. Kamal	TIFR, Mumbai	Assistant Professor	Probability, Random graphs
18	K. Kapoor	London South Bank University, UK	Professor	Combinatorics, Algorithms
19	K. V. Krishna	IIT Delhi	Professor	General Algebra, Theoretical Computer Science
20	P.A.S. Sree Krishna	SUNY, Buffalo	Assistant Professor	Hyperbolic 3-manifolds, Low-dimensional topology
21	P. Kumar	IIT Kanpur	Assistant Professor	Harmonic Analysis
22	Sudarshan Kumar K.	TIFR, Centre for Applicable Mathematics, Bengaluru	Assistant Professor	Numerical analysis, Hyperbolic conservation laws
23	P. S. Mandal	Jadavpur University	Associate Professor	Wireless Sensor Networks, Distributed Computing
24	S. Natesan	Bharathidasan University, Thiruchirappalli	Professor	Numerical solution to Differential Equations, Numerical Homogenization
25	Chandan Pal	IIT Bombay	Assistant Professor	Stochastic Control Theory and Mathematical Finance
26	S. Pati	ISI Delhi	Professor	Matrices & Graphs

27	M. G. P. Prasad	IIT Kanpur	Professor	Complex Dynamics and Fractals
28	H. Ramesh	IIT Madras	Assistant Professor	Formal Languages and Automata Theory, Membrane Computing
29	A. Saikia	University of Cambridge, U.K.	Professor	Number Theory
30	Subhamay Saha	IISc Bangalore	Assistant Professor	Probability and Stochastic Process
31	B. K. Sarma	Delhi University	Professor	Spectral Graph Theory, Combinatorial Matrix Theory
32	N. Selvaraju	IIT Madras	Professor & Head	Queueing Theory, Financial Mathematics, Stochastic Modelling, Operations Research
33	R. K. Sinha	IIT Bombay	Professor	Numerical Analysis
34	Ashok Singh Sairam	IIT Guwahati	Associate Professor	Computer Networks and Network Security
35	K. V. Srikanth	SUNY, Buffalo	Assistant Professor	Low Dimensional Topology
36	R. Srivastava	IIT Kanpur	Assistant Professor	Harmonic Analysis
37	J. Swain	IIT Madras	Associate Professor	Harmonic Analysis
38	Sweta Tiwari	IIT Delhi	Assistant Professor	Differential Equation
39	S. Upadhyay	CMI, Chennai	Assistant Professor	Algebraic Combinatorics
40	V. V. Wagh	University of Pune	Associate Professor	Algebraic Geometry

DEPARTMENT OF MECHANICAL ENGINEERING

LABORATORY FACILITIES

Advanced Manufacturing Laboratory: Equipped with advanced equipments for manufacturing including micro-fabrication facility using CO₂ 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 undergraduate 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

Fracture Mechanics and Composites Structures Lab: Caters to the development of composite laminates and enables NDT through ultrasonic scanning of the composite structures

In addition, 14 new laboratories have been built:

- ◆ Micro-machining Lab
- ◆ Aerodynamics Lab
- ◆ Electromechanics 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

Conferences/Workshops/Symposia Attended: International, National

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Amaresh Dalal	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference	IIT Roorkee	Dec 28-31, 2019	National
Amaresh Dalal	International Conference on Sustainable Energy and Green Technology	Ho Chi Minh City, Bangkok	Dec 13-16, 2019	International
Poonam Kumari	10th International Conference on Material for Advanced Technologies, 23 to 28 June, 2019, Marina Bay Sands, Singapore	Marina Bay Sands, Singapore	Jun 23-28, 2019	International
P Muthukumar	Urjavarani 2020	IIT Guwahati	Feb 9, 2020	National
Deepak Sharma	Edge Computing, Process Automation thru Robotics, Industry 4.0 & Cognitive Technology	Visakhapatnam	Feb 20-21, 2020	National
Niranjan Sahoo	ASME 2019 Gas Turbine India Conference	IIT Madras	Dec 05-06, 2019	International
Pranab K Mondal	International Conference on Recent Developments in Mechanical Engineering	NIT Silchar	Feb 07-09, 2020	International
Sachin S. Gautam	7th International Congress on Computational Mechanics and Simulation (ICCMS 2019)	IIT Mandi	Dec 11-13, 2019	International
U.S. Dixit	6th International Conference on Production & Industrial Engineering (CPIE 2019)	NITJalandhar	Jun 8-10, 2019	International
Sajan Kapil	Autodesk Moldflow/PowerMILL Summit 2019	Pune	May 28, 2019	National
U. K. Saha	ASME 2019 Gas Turbine India Conference	IIT Madras	Dec 05-06, 2019	International
Atul K Soti	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference	IIT Roorkee	Dec 28-31, 2019	International
Shrikrishna N. Joshi	International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering - (AFTMME 2019)	IIT Ropar	Dec 5-7, 2019	International

Invited Lectures of Faculty: In India, Abroad

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Poonam Kumari	Invited Talk on "Future Reserach Directions for Engineers"	BRCM Collage of Engineering and Technology, Bahal, Bhiwani, Haryana	Bahal, Bhiwani, Haryana.	Oct 5, 2019
Shyamanta M Hazarika	Tutorial Speaker: EEG Characterization of Motor Imagery-Induced Mental Fatigue	PREMI-2019: 8th International Conference on Pattern Recognition and Machine Intelligence	Tezpur University	Dec 17-20, 2019
P Muthukumar	Thermal Management issues in metal hydride based thermal machines	International workshop on Hydrogen storage	IIT Bombay	Dec 8-9, 2019
P Muthukumar	Energy Efficient and Environmental friendly Porous Radiant burners	International Conference on Innovations in Thermo-Fluid Engineering and Sciences [ICITFES-2020]	NIT Rourkela	Feb 10-12, 2020
P Muthukumar	Design and tesing of metal hydride based hydrogen storage devices	National workshop on hydrogen energy	IISER, TVM	Feb 27-28, 2020
P Muthukumar	Energy saving in HVAC System	ISHRAE workshop, Guwahati	Guwahati	Nov 11, 2019
Deepak Sharma	Data-Driven Smart Manufacturing	Edge Computing, Process Automation thru Robotics, Industry 4.0 & Cognitive Technology	Visakhapatnam	Feb 21, 2020
Niranjan Sahoo	Session Organizer for Renewable Energy	ASME 2019 Gas Turbine India Conference	IIT Madras	Dec 05-06, 2019
Niranjan Sahoo	Energy technologies for study of biofuels in internal combustion engines	National Conference on Mechanical, Materials and Renewable Energy Technology (NCMMRET 2020)	Einstein Academy of Technology and Management, Bhubaneswar	Jan 10-11, 2020
Niranjan Sahoo	Waste heat management and usage for refrigeration and air-conditioning applications	International Conference on Recent Advancement in Air-conditioning and Refrigeration (RAAR-2019)	C. V. Raman College of Engineering, Bhubaneswar	Nov 28-30, 2019
Niranjan Sahoo	Green energy technology for study of biofuels in internal combustion engines	International Joint Meeting and Symposium	Gifu University, Japan	Oct 07-10, 2019
Niranjan Sahoo	Clean and green energy efficient technologies for internal combustion engines	National Seminar on Recent Scopes and Technologies in Mechanical Engineering	Government College of Engineering, Bhawanipatna, Odisha	Sept 20-21, 2019
Niranjan Sahoo	Calibration methods of high frequency thermal sensors for localized temperature and heat flux measurements in gas turbine and internal combustion engine applications	GTMAP-Project, AR&DB-DRDO workshop	IISc Bangalore	Jul 19, 2019

Pranab K Mondal	Control in Capillary Filling Dynamics: The role of Contact Line Motion	Recent Advances in Interdisciplinary Trends in Engineering & Applications, Institute of Engineering & Science	IPSA Indore (India)	Feb 14-16, 2019
Pranab K Mondal	Flow dynamics inside a ferrofluid droplet and its evaporation characteristics under the influence of external magnetic field	Expert Talk at NIT Manipur	NIT Manipur	Aug 30, 2019
Pranab K Mondal	Microscale Transport of Heat	TEQIP-III STTP, SISTec, Gandhinagar	SISTec, Gandhinagar	Sept. 13-20, 2019
Pranab K Mondal	Forward Osmosis (FO) Process for Sea Water Desalination: A Molecular Dynamics Study	Department of Mechanical Engineering, National Institute of Technology Tiruchirappalli	NIT Tiruchirappalli, India	Nov 29-Dec 1, 2019
Sachin S Gautam	Gecko Spatula Peeling – Numerical Findings Using Nonlinear Finite Element Based Study	Department of Mechanical Engineering, National Institute of Technology Warangal	Warangal, Telangana India	May 2- 4, 2019
Sachin S Gautam	Introduction to Nonlinear Finite Element Methods	Department of Mechanical Engineering, National Institute of Technology Jalandhar	Jalandhar, Punjab, India	Dec 25–26, 2019
Uday S. Dixit	Writing of TEQIP Proposals	Jorhat Engineering College, Assam	Jorhat, Assam	May 7, 2019
Uday S. Dixit	modelling of manufacturing processes	NIT Jamshedpur	Jamshedpur, Jharkhand	May 20, 2019
Uday S. Dixit	Art of teaching	Assam Engineering College	Guwhati, Assam	May 30, 2019
Uday S. Dixit	Some research problems of manufacturing	NIT Jalandhar	Jalandhar, Punjab, India	Jun 10, 2019
Uday S. Dixit	Basics of FEM	Department of Mechanical Engineering, National Institute of Technology Jalandhar	Jalandhar, Punjab, India	Dec 24, 2019
Pankaj Biswas	Introduction to TIG, MIG welding,	4 days training program at central workshop	IIT Guwahati	Jul 15-20, 2019
Pankaj Biswas	Basics of welding	4 days training program at central workshop	IIT Guwahati	Jul 15-20, 2019
Pankaj Biswas	Advances in manufacturing engineering	One week faculty development programme on Advances in Mechanical Engineering (under TEQIP-III)	GIMT Guwahati,	Sept. 23-27, 2019.
Pankaj Biswas	Overview of welding	ONE DAY WORKSHOP ON WELDING at Tool Room and Training Centre, Guwahati Association with Indian Institute of Technology (IIT) Guwahati & Indian Welding Society (IWS) – North East	MSME Guwahati	Nov 4, 2019.
Pankaj Biswas	Basics of Welding Technology	TEQIP STC on 3-D Printing and allied processes,	IIT Guwahati	Jan 06-10, 2020
Pankaj Biswas	CAE/FEM in Robotics	TEQIP STC on Robotics and Automation	IIT Guwahati	Mar 03-13, 2020
Sajan Kapil	PowerMill & PowerShape for 3D Printing	Moldflow Summit 2019	Autodesk, Pune	May 28, 2019

Sajan Kapil	Additive Manufacturing: Can it change future?	Advanced Pedagogies: Active Learning and Digital Tools	IIT Guwahati	Jul 03, 2019
Sajan Kapil	CNC Tool Path Planning using a CAM Package	4 days training program at central workshop	IIT Guwahati	Jul 18, 2019
Sajan Kapil	Operations on Lathe Machine	4 days training program at central workshop	IIT Guwahati	Jul 18, 2019
Sajan Kapil	Introduction to Solidworks	Mechanical Engineering Student Association	IIT Guwahati	Aug 10-11, 2019
Sajan Kapil	Introduction to Solidworks	Mechanical Engineering Student Association	IIT Guwahati	Sept.7-8, 2019
Sajan Kapil	Introduction to 3D Printing Technologies	Faculty Development Program	Assam Engineering College	Nov 27, 2019
Sajan Kapil	3D Printing and Allied Technologies	Short Term Course on Education Technology by Guwahati University	IIT Guwahati	Jan 29, 2020
Sajan Kapil	Micro-Additive Manufacturing of Non-Metallic Objects	TEQIP- Workshop Fabrication and Application of Micro Devices in Thermo-fluidic Engineering	IIT Guwahati	Feb 25, 2020
Sajan Kapil	Micro-Additive Manufacturing of Metallic Objects	TEQIP- Workshop Fabrication and Application of Micro Devices in Thermo-fluidic Engineering	IIT Guwahati	Feb 26, 2020
Sajan Kapil	Trajectory Planning for Robots	TEQIP STC on Robotics and Automation	IIT Guwahati	Mar 04, 2020
U K Saha	Wind Tunnel Research	Expert Lecture at NERIST, Itanagar	NERIST, Itanagar	Apr 03, 2019
U K Saha	Rockets, Missiles and Launch Vehicles	Expert Lecture at Dibrugarh University	Dibrugarh University	Feb 24, 2020
U K Saha	Overview on Wind Tunnels and Their Applications	5th National Workshop on Research Methodology in Fluid Mechanics	IIT Guwahati	Jun 22-23, 2019
U K Saha	Wind Turbine Aerodynamics	AICTE-TEQIP sponsored STC on Recent Trends in Renewable Energy Utilization Technologies	IIT Guwahati	May 9-12, 2019
S K Kakoty	Fundamentals of Friction, Wear and Lubrication	TEQIP III STC on Material Characterization and Tribology	Assam Science & Technology University, Guwahati	Mar 02, 2020
S K Kakoty	Strategies for Effective Engineering Education: Empowering the Students	Faculty Development Program	Bineswar Brahma Engineering College	Jan 09, 2020
B. Sandeep Reddy	Robot Control	TEQIP on Robotics and Automation, IITG, March 2020	IIT Guwahati	Mar 3-13 2020
Nelson Muthu	Connecting Doctors, Researchers and Entrepreneurs for Indigenous Medical Device Innovation	TEQIP National workshop on Biomaterials: Design, Development and Biomedical applications	NIT Manipur	Sept.11-15, 2019
Nelson Muthu	MEDICAL DEVICES Regulations	TEQIP National workshop on Biomaterials: Design, Development and Biomedical applications	NIT Manipur	Sept.11-15, 2019
Nelson Muthu	FE modelling of Composite Laminates	TEQIP-III Short Term Course on Active/Passive Damping Composites for Structural Vibration Control	IIT Guwahati	Jan 6-10, 2020

Shrikrishna N Joshi	Micro-manufacturing Technologies	International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering - (AFTMME 2019)	IIT Ropar	Dec 5-7, 2019
Shrikrishna N Joshi	Big Data in Manufacturing	AICTE-ISTE approved one week refresher course on "Cognizance of Industry-4.0 towards Implementation and Security (Webinar)	K. J. Somaiya College of Engineering, Vidyavihar, Mumbai	Dec 30, 2019 – Jan 04, 2020
Shrikrishna N Joshi	Laser based manufacturing: fundamentals and research opportunities	International Workshop on Smart Manufacturing and Metrology	IIT Madras	Jul 25-26, 2019
Shrikrishna N Joshi	How to handle Big Data in manufacturing process simulations?	International Workshop on Smart Manufacturing and Metrology	IIT Madras	Jul 25-26, 2020
Shrikrishna N Joshi	A note on mechatronics for 3D printing in perspective of SMART manufacturing	Five days workshop on "3D Printing and Allied Technologies"	IIT Guwahati	Jan 6-10, 2020

Visitors From Other Institutes/Universities/Organisations / Invited Lectures

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
Dr. Justin A Weibel	Purdue University, USA	Research Directions and Emerging Strategies for High-Power-Density Thermal Management	Feb 25, 2020	
Prof Y D Goswami	University of South Florida, USA	Fulbright Expert - Delivering lectures	Mar 4-14, 2020	
Prof. Arunachalam Raj Rajendran	Chair and Professor Mechanical Engineering, University of Mississippi, USA	Computational modelling and damage mechanisms in mineralized biological tissue	Sept.08-11, 2018	MESA
Prof Roger A Sauer	AICES, RWTH Aachen University	Visiting Researcher and Lecture	Mar 07-15, 2020	
Prof. Sunil Pandey	IIT Delhi	A one-day ICCMM preconference workshop on Welding Research and Technology	Mar 07, 2019	A one-day ICCMM preconference workshop on Welding Research and Technology at , IIT Guwahati (Coordinators: Pankaj Biswas and R. Ganesh Narayanan)
Dr. Sourav Ghosh	Loughborough University, UK	Invited Lecture	Aug 5, 2019	Organized by: Pankaj Biswas
Prof. Amitabha Ghosh	Former Professor, IIT Kanpur, INSA Senior Scientist and Distinguished Professor Aerospace and Applied Mechanics Department Bengal Engineering & Science University Shibpur	Concepts of Engineering and Technology in Ancient India	Apr 03, 2019	Invited by: Prof. U. S. Dixit, Organized by: Sajjan Kapil

Prof. Amitabha Ghosh	Former Professor, IIT Kanpur, INSA Senior Scientist and Distinguished Professor Aerospace and Applied Mechanics Department Bengal Engineering & Science University Shibpur	The Bicycle: Engineering Marvel and the Prime Mover for Women's Liberation	Apr 04, 2019	Invited by: Prof. U. S. Dixit, Organized by: Sajjan Kapil
Mr. Subhodh Sarangi	Geo Delivery Executive at IBM India Pvt Ltd	Application of Digital Transformation in Manufacturing	May 09, 2019	Invited by: Prof. S. K. Dwivedy, Organized by: Sajjan Kapil
Prof. Raghu Echempati	Professor Kettering University USA, Visiting Prof. IIT Gandhinagar	lightweighting technology with automotive applications	Jul 04, 2019	Invited by: Prof. U. S. Dixit, Organized by: Sajjan Kapil
Prof. P. K. Mishra	Former Professor, IIT Kharagpur, Former Emeritus Professor & Adjunct Professor CoEPune, Ex, Emeritus Professor/Visiting Professor, IIT Bhubaneswar	Innovations in 3D Printing	Jul 18, 2019	Invited by: Prof. U. S. Dixit, Organized by: Sajjan Kapil
Prof. P. K. Mishra	Former Professor, IIT Kharagpur, Former Emeritus Professor & Adjunct Professor CoEPune, Ex, Emeritus Professor/Visiting Professor, IIT Bhubaneswar	Laser Processing of Materials	Aug 27, 2019	Invited by: Prof. U. S. Dixit, Organized by: Sajjan Kapil
Dr. Siddharth Ghosh	Research Associate at St John's College, University of Cambridge, Cambridge, UK. Visiting researcher in Leiden Institute of Physics, Leiden; High Field Magnet Laboratory, EMFL, Nijmegen; Centre for Misfolding Diseases & Maxwell Centre, Cambridge	Decomposing complex-systems using continuum and quantum mechanics	Nov 26, 2019,	Invited by: Dr. Arup Nandy, Organized by: Sajjan Kapil
Prof. Debi Prasad Mishra	Professor, Department of Aerospace Engineering, IIT Kanpur	Relevance of Traditional Indian Technology in Modern India	Feb 23, 2020	Invited by: Prof. U. S. Dixit, Organized by: Sajjan Kapil

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	Amaresh Dalal	Computational Fluid Dynamics for Incompressible Flows	TEQIP	Jun 17-21, 2019	National	28
2	Amaresh Dalal, Dipankar N Basu, Ujjwal K Saha	5th National Workshop on "Research Methodology in Fluid Mechanics"		Jun 22-23, 2019	National	35
3	Poonam Kumari and Nelson Muthu	Mechanics of composites for engineering applications	TEQIP	May 17-21, 2019	National	22
4	P Muthukumar	Recent Trends in Renewable Energy Utilization Technologies,	TEQIP	May 8-12, 2019	National	

5	Pranab K Mondal and Pankaj Biswas	Fabrication and Application of Micro Devices in Thermo-fluidic Engineering	TEQIP-III	Feb 24-28, 2019	National	30
6	Uday S Dixit	Isothermal Near-Net Shape Forging of Aluminum Alloys: Advances and Inventions	GIAN course, MHRD	Jul 8-12, 2019	National	22
7	Pankaj Biswas and R Ganesh Narayan	ONE DAY WORKSHOP ON WELDING	MSME & IWS	Nov 4, 2019	National	20
8	Pankaj Biswas and R Ganesh Narayan	A one-day ICCMM preconference workshop on Welding Research and Technology	IITG	Mar 7, 2019	National	30
9	Sajan Kapil	Five days workshop on "3D Printing and Allied Technologies"	TEQIP-III	Jan 6-10, 2020	National	65
10	Satyajit Panda	Active/Passive Damping Composites for Structural Vibration Control	TEQIP-III	Jan 6-10, 2020	National	
11	R Ganesh Narayanan, Nelson Muthu and S. Kanagaraj	Healthcare Hackathon	IEDC	Sept. 5-7, 2019	National	20
12	Shrikrishna N. Joshi, G L Samuel (IIT Madras), and Satish Bukapatanam (Texas A&M Uni, USA)	International Workshop on Smart Manufacturing and Metrology	Private sector	Jul 25-26, 2019		
13	Shrikrishna N. Joshi	Faculty Training on Future Skill Technologies of IT-ITes Two-weeks training program on Robotics and Automation	TEQIP-III	Mar 03-13, 2020		

Patents

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
1	P Kishore Kumar and S Kanagaraj,	Switchable Assisted Deep Squat Hinge with Friction Control Mechanism for Polycentric Knee Joints	Apr 09, 2019	201931014318
2	Heta Jigar Panchal, P. Kishore Kumar, Ajaikumar B. Kunnumakkara and S. Kanagaraj	In-Situ Beat to Beat Blood Pressure Monitoring and Recording using Cardiovascular Implantable Electronic Devices	Apr 09, 2019	201931014319
3	Ashirbad Jana, S. Senthilvelan and S. Kanagaraj.	A novel processing technique for the development of machining free acetabular cup from UHMWPE powder to be used in total hip replacement surgeries	Aug 6, 2019	201931031886
4	Ashirbad Jana, S. Senthilvelan and S. Kanagaraj.	Orbital bearing machine (OBM) simulator attachable to pin-on-disc device for pre-clinical testing of prosthetic hip joints	Mar 13, 2020	202031010845
5	Muthukumar P, L K Kaushik, Sangjukta Devi, Arun Kumar M.	Biogas Operated Domestic Cook Stove with Naturally Aspirated Porous Radiant Burner.	Dec 14, 2019	201931051927
6	Muthukumar P, L K Kaushik, Arun Kumar M	Eco-Friendly and Energy-Efficient LPG Cooking Stove With Naturally-Aspirated Porous Radiant Burner For Commercial Kitchens.	Mar 4, 2020	202031009304

7	Muthukumar P, L K Kaushik	Energy Efficient and Eco-Friendly Domestic LPG Cooking Stove with A Two-Layer Porous Radiant Burner,	Mar 4, 2020	202031009356
8	Maharana M., Nayak S. K. and Sahoo N	Nonedible vegetable oil based dielectric liquid and use thereof in power and distribution transformer	2018	201831013006 A
9	Maharana M., Nanda A., Nayak S. K. and Sahoo N	Natural and force convection imposed accelerated thermal ageing simulator to predict the life of the insulating oil before using in transformer	2017	201731045816 A
10	Bordeori M. M., Maharana M., Baruah N., Nayak S. K. and Sahoo N	Design and development of an automated open beaker oxidative ageing assessment apparatus	2017	201731047043 A
11	HARISH PANDURANGA JEEVAJI, U.S. Dixit, Amit Raj and Shashikant Soren	RIDER OPERATABLE AND RETRACTABLE STABILIZER WHEELS SYSTEM IN BICYCLE	2019	201941018075 A, Patent Office Journal No. 23/2019 Dated 07/06/2019,
12	K. P. Karunakaran, Sajjan Kapil, Seema Negi, and Prathamesh Shreekant Joshi	Method and System for Manufacturing a Near Net-Shape of an Object Using Feature-Based Conformal Slicing	May 21, 2019	201921053660
13	K. P. Karunakaran, Seema Negi, Sajjan Kapil, Prathamesh Shreekant Joshi, and Arun Athul	Energy Beam Laminated Manufacturing	Feb 06, 2020	202021005274
14	A.N. Reddy, Saruav Kumar Dutta, B. Sandeep Reddy, S.K. Dwivedy	Bistable Compliant Gripper for Pipe Climbing Robot	Jan 30, 2020	20200123200001 01

Awards and Honours

Name of Faculty	Name of Award
Dr. Poonam Kumari	DUO-India Professor Fellowship, 2020
Dr. Poonam Kumari	Naaz Hai Betiyon Par-Danik Jagran, Bhiwani, Dec 31, 2019
P Muthukumar	Eminent Engineer 2019 from "The Institution of Engineers (India)", Assam State Centre, Sept. 15, 2019.
Pranab K Mondal	Outstanding Reviewer, Science Direct, Elsevier, 2019

Students' Achievements

Name of Student/ Faculty	Name of Award	Name of Institute/ Organization/ Foundation bestowing the	Reason for award (Name of Paper, if applicable)	Form of Award (Citation/ Medal/ Cash etc)
Prof P Muthukumar	Globalink Research Award	Mitacs Canada	to visit Simon Fraser University from May 2019 to Dec 2019	

Shukla, Shiv Sahaya K. S. R. K. Murthy	Best Paper Award	First International Conference on Manufacturing, Material Science and Engineering 2019 (ICMMSE 2019), CMR, Hyderabad.	Numerical analysis of a semi-elliptical surface cracked plate under tension.	
Mr. Mohamed Abbas, Mr. Jyotindra Narayan Dr. S. K. Dwivedy	Best Paper award	5th IEEE International Conference on Computing Communication, Control, and Automation (ICCUBEA) 2019, at PCCOE-Pune		Citation
Mr. S. S. Rangavajhala, Dr. R. Tiwari	Best paper presentation award	National Symposium on Rotor Dynamics (NSRD-2019) at NAL Bangalore		
Mr. P.V.S.S Sridhar Dr. P. Biswas	Best Paper award	2nd International Conference on Computational Methods in Manufacturing, IIT Guwahati.2020		
Mr. Enni Krishna, Dr. M. Das	Best Paper award	11th International Conference on Precision, Meso, Micro & Nano Engineering (COPEN 11) 2020 , IIT Indore.		
Mr. Nitesh Kumar, Dr. D. N. Basu	Best Paper award	International conference on Sustainable Energy and Green Technology (SEGT 2019), Bangkok.		

Faculty Members

Sl. No.	Name	Name of the University/ Institute/Org PhD degree received from	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, Sandeep Reddy	IISc Bangalore	Assistant Professor	Nonlinear Dynamics of Mechanical Systems, Robotics and Control, Applied Dynamics
5	Basu, Dipankar Narayan	IIT Kharagpur	Associate 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, Debabrata	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	Associate 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.	IIT Kharagpur	Professor & HOD	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	Hazarika, Shyamanta M.	University of Leeds, England	Professor	Robotics, Cognitive Systems, Knowledge Representation and Reasoning
17	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
18	Kakoty, Sashindra K.	IIT Kharagpur	Professor & Dean, Infrastructure, Planning and Management	Tribology, Duct Acoustics, Mechanical System Design, Rural Technology
19	Kalita, Karuna	University of Nottingham	Associate Professor	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
20	Kanagaraj, S.	IIT Kharagpur	Professor	Biomaterials, Carbon nanotubes based nanocomposites, Nanofluids, Materials characterization
21	Kapil, Sajan	IIT Bombay	Assistant Professor	Rapid Manufacturing (3D Printing), Welding/Cladding Processes, CNC, Manufacturing Automation

22	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
23	Kulkarni, Vinayak	IISc Bangalore	Associate Professor	High enthalpy flows, scramjet engine, experimental, aerodynamics, measurement science, CFD simulations
24	Kumar, Bhaskar	IIT Kanpur	Assistant Professor	Hydrodynamic Stability, Bluff Body Flows, Computational Fluid Dynamics
25	Kumari, Poonam	IIT Delhi	Associate Professor	Theory of plates and shells, Computational mechanics, Smart structures
26	Madhusudhana, Gavara	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
27	Mahanta, Pinakeswar	IIT Guwahati	Professor	Thermal Radiation with Participating Media, Fluidization, Energy Conservation and Renewable Energy
28	Mandal, Shubhadeep	IIT Kharagpur	Assistant Professor	Microswimmers, Complex Fluids, Droplet Microfluidics, Electrohydrodynamics
29	Mankodi, Tapan Krishnakumar	IIT Bombay	Assistant Professor	Rarefied Gas Dynamics, Computational Gas Dynamics, Hypersonic Aerothermodynamics, Non-equilibrium Flows, Galerkin Methods
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	IIT Bombay and 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
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	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, Biranchi	NTU Singapore	Assistant Professor	Advanced manufacturing and design, 3D/4D printing, Modelling and Characterization, Energy and sustainable environmental technologies
39	Panda, Satyajit	IIT Kharagpur	Associate Professor	Composite materials, Nonlinear vibrations, Smart materials and structures, FEM, Functionally Graded materials and structures, Micromechanics.

40	Pandey, Manmohan	IIT Kanpur	Professor	Dynamics and Control of Fluid-Thermal Systems, Nuclear Reactor Thermal-Hydraulics
41	Robi, P. S.	IIT Bombay	Professor	Coating, Fracture Mechanics, Materials Processing, Metal Matrix composite, Metal Casting, P/M Processing
42	Saha, Ujjwal K.	IIT Bombay	Professor	Propulsion, Turbomachinery, Wind Energy Conversion, Internal Combustion Engines
43	Sahasrabudhe, Anil D.	IISc Bangalore	Professor (On deputation as Chairman of the All India Council for Technical Education)	Vibration and Noise, Condition Monitoring, CAD/CAM
44	Sahoo, Niranjan	IISc Bangalore	Professor	Fluid and Thermal Engineering, Aerodynamics, Gas Dynamics, Instrumentation, Measurements and Experiments in Fluid
45	Senthilvelan, S.	IIT Madras	Professor	Composites, Fatigue, Wear and Failure Analysis
46	Soti, Atul	Monash University and IIT Bombay	Assistant Professor	Computational Fluid Dynamics and Heat Transfer, Fluid-Structure Interaction, Renewable energy, High Performance Computing, Immersed-Boundary Method, Spectral-element Method
47	Sharma, Deepak	IIT Kanpur	Associate Professor	Optimal Design: Modeling and Computation, Engineering Design and Optimization, Genetic Algorithms, Multi-objective Optimization
48	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

LABORATORY FACILITIES

Teaching Labs

- ◆ Advanced Physics Lab
- ◆ B. Tech 1st year
- ◆ Electronics Lab
- ◆ M. Sc Lab
- ◆ Numerical Lab

Research labs

- ◆ Advanced Nanomaterials Lab
- ◆ Cold and Ultra-Cold Atomic Physics Lab
- ◆ Computational Lab
- ◆ Computer Generated Holography and Optical Imaging Lab
- ◆ Electro-ceramics Lab
- ◆ Fiber Optics Lab
- ◆ Furnace Lab
- ◆ High Energy Physics Lab
- ◆ Laser and Photonics Lab
- ◆ Low Temperature Physics Lab
- ◆ Magnetism Lab
- ◆ Materials Science Lab
- ◆ Nonlinear Optics Lab
- ◆ Semiconductor Labs (02)
- ◆ Solid State Physics Lab
- ◆ Spectroscopy Lab
- ◆ Terahertz Photonics and Plasmonics Lab
- ◆ Thin Film Physics Lab
- ◆ XRD Labs (02)

Major Equipment and Facilities Acquired

- ◆ Lambda 950 UV-Vis-NIR Spectrometer, Make: Perkin Elmer, Singapore
- ◆ High Speed Printing System, Make: RISO; FW 1230
- ◆ High Temperature (1500°C) Sintering Furnace; Make: Nabertherm, Model: HTCT 03/15
- ◆ Electrical Probe Station with accessories, EPS4
- ◆ Fiber Femtosecond Laser from Menlo Systems

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:

Condensed Matter Physics (Theory and Experiments)

- ◆ Solar Photovoltaics
- ◆ 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

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

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

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

Conferences/Workshops/Symposia Attended: International, National

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Pratima Agarwal	3 rd International Conference on Solar Energy Photovoltaic	KIIT, Bhubaneswar, India	Dec. 19- 21, 2019	International
Bipul Bhuyan	35 th Belle II Collaboration Meeting	KEK, Japan	Feb. 02 – 08, 2020	International

Bipul Bhuyan	XVI Workshop on High Energy Physics Phenomenology (WHEPP2019)	IIT Guwahati	Dec. 1-10, 2019	International
D. Borah	The Mysterious Universe, Dark Matter-Dark Energy-Cosmic Magnetic Fields	Mainz, Germany	May 20-Jun. 07, 2019	International
D. Borah	Anomalies 2019	Hyderabad	Jul. 18-20, 2019	International
D. Borah	TokyoTech and IIT Guwahati Joint Workshop on Condensed Matter and High Energy Physics	Tokyo	Nov. 11-12, 2019	International
D. Borah	16 th Workshop on High Energy Physics Phenomenology	Guwahati	Dec. 01-10, 2019	International
Sayan Chakrabarti	WHEPP 2019	IIT Guwahati	Dec. 01 – 10, 2019	International
Sayan Chakrabarti	Visiting guest Scientist in the High energy, Cosmology and Astroparticle Physics section of the ICTP as well as attended a workshop on Gravity and Geometry	The Abdus Salam ICTP, Trieste, Italy	Jul. 10 -23, 2019	International
Sovan Chakraborty	SN neutrinos at the crossroads:astrophysics, oscillation and detection	Trento, Italy	May 13-17, 2019	International
Sovan Chakraborty	NEMA V	Tezpur, Assam	Sept. 11-13, 2019	National
Sovan Chakraborty	WHEPP XVI 2019	IIT Guwahati, Assam	Dec. 01-10, 2019	International
Sovan Chakraborty	ZIGSAW 2020	TIFR, Mumbai	Jan. 19-24, 2020	-
Santabrata Das	Recent Trends in the Study of Compact Objects: Theory and Observation (RETCO-IV)	IUCAA, Pune	Apr. 17-20, 2019	National
Santabrata Das	North East Meet of Astronomers (NEMA-V)	Tezpur University	Sept. 11-23, 2019	National
Santabrata Das	Introductory Workshop on Physical Perspectives of Astronomy (IWPPA 2019)	Department of Physics, ICFAI University, Tripura	Oct. 30-31, 2019	National
Santabrata Das	TokyoTech-IIT Guwahati Joint Workshop-Condensed Matter and High-Energy Physics	Tokyo Institute of Technology, Japan	Nov. 11-12, 2019	International
Subhradip Ghosh	International Conference on Ferromagnetic Shape Memory Alloys 2019	Prague, Czech Republic	Jun. 2-7, 2019	International
Subhradip Ghosh	Tokyo Tech-IIT Guwahati Joint Conference on Condensed Matter & High Energy Physics	Tokyo, Japan	Nov. 12-13, 2019	International
Subhradip Ghosh	Current Trends in Functional Materials	NIT Surathkal, Surathkal, Karnataka	Jan. 15-17, 2020	International
Subhradip Ghosh	Dynamics of Functional Materials	Goa	Feb. 12-14, 2020	International
P. K. Giri	International Conference on Nano Science and Technology (ICONSAT-2020), Kolkata	Kolkata	Mar. 05-07, 2020	International
P. K. Giri	2 nd Indian Materials Conclave and 31 st AGM of MRSI	Kolkata	Feb. 11-14, 2020	National
P. K. Giri	International Conference on Functional Materials (ICFM-2020)	Kharagpur	Jan. 06-09, 2020	International

P. K. Giri	XX th International Workshop on Physics of Semiconductor Devices (IWPSD-2019)	Kolkata	Dec. 17-20, 2019	International
P. K. Giri	National Conference on Light Matter Interaction at Nanoscale (LMIN-2019)	Kalpakkam	Jul. 15-17, 2019	National
M.C. Kumar	TokyoTech and IIT Guwahati Joint Workshop on Condensed Matter and High Energy Physics	Tokyo Tech, Tokyo, Japan	Nov. 11-12, 2019	International
M.C. Kumar	16 th Workshop on High Energy Physics Phenomenology	IIT Guwahati	Dec. 01-10, 2019	International
M.C. Kumar	International workshop on Precision QCD@LHC	IIT Hyderabad	Jan. 28-31, 2020	International
D. Maity	TokyoTech and IIT Guwahati Joint Workshop on Condensed Matter and High Energy Physics	Tokyo	Nov. 11-12, 2019	International
D. Maity	16 th Workshop on High Energy Physics Phenomenology	Guwahati	Dec. 01-10, 2019	International
D. Maity	Rencontres du Vietnam: Cosmology, 2019	Quinon, Vietnam	Aug. 11-17, 2019	International
Bibhas Ranjan Majhi	International Conference on Gravitation & Cosmology	IISER, Mohali	Dec. 10 – 13, 2019	International
Pankaj Kumar Mishra	Tokyo Tech-IIT Guwahati Joint Workshop-Condensed Matter and High-Energy Physics	Tokyo Institute of Technology, Tokyo, Japan	Nov. 11-12, 2019	International
Soumitra Nandi	International conference on Neutrino and Dark-Matter	Hurghada	Jan. 11-14, 2020	International
Soumitra Nandi	XVI Workshop on High Energy Physics Phenomenology	Guwahati	Dec., 2019	International
D. Pamu	ISAF-ICE-FEM-IWPM-PFM Joint Conference - f2cπ2	Switzerland	Jul.14,2019	International
D. Pamu	NEAR 2019	IIT Guwahati	Sept. 08, 2019	National
D. Pamu	ICANN 2019	IIT Guwahati	Dec.18, 2019	International
D. Pamu	ADMAT 2019	Hyderabad	Sept. 23, 2019	International
Perumal Alagarsamy	National Conference on Functional Materials and Applications-2019	Aizawl	Nov. 22-23, 2019	National
Ashwini K. Sharma	10 th International Conference on Materials for Advanced Technologies (ICMAT 2019)	Singapore	Jun.23-28, 2019	International
Arunansu Sil	Indo-US workshop 'ANOMALIES-2019'	IIT Hyderabad, India	Jul., 2019	International
Arunansu Sil	International Conference on Neutrinos and Dark Matter (NDM 2020)	Hurghada, Egypt	Jan., 2020	International
Arunansu Sil	16 th Workshop on High Energy Physics Phenomenology (WHEPP 2019)	IIT Guwahati, India	Dec. 01-10, 2019	International

Invited Lectures of Faculty: In India, Abroad

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Pratima Agarwal	Tuning the optoelectronic properties of nanocrystalline Silicon based superlattice structures	Faculty Development Program on Nanoscience and Nanotechnology, Department of Electronic Sciences, Kurukshetra University	Kurukshetra	Aug. 23, 2019
Pratima Agarwal	Tuning the optoelectronic properties of nanocrystalline Silicon based superlattice structures	NIT Kurukshetra	Kurukshetra	Aug. 23, 2019
Bipul Bhuyan	Fundamental Physics: Uncovering the mysteries of the Universe	Dibrugarh University	Dibrugarh	Aug.10, 2019
Bipul Bhuyan	STT: Indian Interest in SAND	TIFR	Mumbai	Feb. 29, 2020
Bosanta R Boruah	Optical tweezer: pressing light to work	Professor Hira Lal Das memorial lecture, Dibrugarh University	Dibrugarh, Assam	Apr. 24, 2019
Bosanta R Boruah	Development of a Modal Wavefront Sensor of Light Beams with an Enhanced Linear Response Range	International Conference on Optics & Electro-Optics XLIII Symposium of Optical Society of India (Oct. 19-22, 2019)	IRDE, Dehradun	Oct. 2019
Bosanta R Boruah	Light as Information Carrier	One Day Workshop on Emerging Areas in Science & Technology	Assam Engineering College	Mar. 14, 2020
D. Borah	ANITA anomalous events and connection to dark matter	Tezpur University	Tezpur, Assam	Sept. 13, 2019
D. Borah	Physical Cosmology and Search for Exoplanets	USTM Meghalaya	Khanapara, Assam	Oct. 19, 2019
D. Borah	Physics Nobel Prize 2019	SPIE-IIT Guwahati Chapter	Kokrajhar, Assam	Nov. 15, 2019
Sayan Chakrabarti	Guest lecturer on General Relativity in SERB-Preparatory school in "Theoretical High Energy Physics"	SERB/Tezpur University	Tezpur	Oct. 28-Nov. 09, 2019
Santabrata Das	Nobel prize lecture: Contribution of Michel Mayor and Didier Queloz to Discovery of Exoplanets	Department of Physics, IIT Guwahati.	IIT Guwahati.	Oct. 29, 2019
Santabrata Das	Dissipative advective accretion flow around a rotating black holes	Chiba University	Chiba University, Japan	Nov. 14, 2019
Santabrata Das	Two-temperature advective accretion flow around black hole	S. N. Bose National Centre for Basic Sciences	Saltlake, Kolkata	Mar. 11, 2020
Santabrata Das	Exploration of exoplanet	Ranaghat College	Ranaghat, Nadia, West bengal	Mar. 12, 2020
Santabrata Das	Exploration of exoplanet	Santipur College	Santipur, Nadia, West bengal	Mar. 13, 2020

M.C. Kumar	Precise QCD predictions and uncertainties	International workshop on QCD with Electron Ion Collider held at IIT Bombay	Mumbai, India	Jan. 06, 2020
Tarak N Dey	Lecture series on Dynamics for Nonlinear & Quantum Optics	SERB School on Nonlinear Dynamics	IIT Patna	Dec. 03-28, 2019
Subhradip Ghosh	Computational modeling of new materials for magneto-caloric applications	IISER Kolkata	Kolkata, India	Nov. 28, 2019
Alika Khare	8 th Topical conference (TC-2020) on Atomic and Molecular Collisions for Plasma Applications	I. I .T Roorkee	Roorkee	Mar. 03-05, 2020
Alika Khare	Progress in Material Science Research, Dibrugarh University Feb 04-06, 2020	Dibrugarh University	Dibrugarh	Feb. 04-06, 2020
Alika Khare	Advanced Experimental Techniques, TEQIP III, DUIET	Dibrugarh University	Dibrugarh	May 28, 2020
Alika Khare	Invited lecture, Physics Department	Sikkim Manipal Institute of Technology (SMIT), Sikkim Manipal University	Sikkim	May 17, 2019
D. Maity	Understanding NUT parameter and naked singularity through accretion	Tezpur University	Tezpur, Assam	Sept. 13, 2019
D. Maity	Conneting CMB and dark matter phenomenology via reheating	SINP, Kolkata	Kolkata	Nov. 21, 2019
D. Maity	Conneting CMB and dark matter phenomenology via reheating	IMSc, Kolkata	Kolkata	Mar. 06, 2020
Tapan Mishra	Spontaneous quantum walk reversal of Mott insulator defects	Tokyo Institute of Technology	Tokyo	Nov. 11, 2019
Tapan Mishra	Spontaneous quantum walk reversal of Mott insulator defects	Bhabha Atomic Research Centre	Mumbai	Mar. 06, 2020
Perumal Alagarsamy	Is Mn_2CoAl spin gapless semiconductor: Reality versus Issues??	Indian Institute of Technology Madras	Chennai	Jul. 19, 2019
Perumal Alagarsamy	Role of nanoscale on magnetism	Srimad Andavan Arts & Science College	Tiruchirappalli	Nov. 09, 2019
Perumal Alagarsamy	Magnet (ism): Understanding from Nature to Technology Adaption	Srimad Andavan Arts & Science College	Tiruchirappalli	Nov. 09, 2019
Perumal Alagarsamy	Microscopy techniques	Tezpur University	Tezpur	Jan. 25, 2020
P. Poullose	Erwin Schroedinger and Quantum Wavemechanics	Symposium on Schroedinger Picture 2019 (SSP 2019)	Assam Don Bosco University, Guwahati	Aug. 13, 2019
P. Poullose	Elementary Particle Dynamics and the Cosmos	Dept of Physics Colloquium Series – Winter 2020	Concordia University, Montreal, Canada	Mar. 11, 2020
S. Ravi	Experimental Techniques in Material Synthesis and Characterization	International Conference On Advances in Physics, Electronics & Chemical Sciences – 2020 held at Sir C. R. Reddy College (Aided and Autonomous), Eluru, A.P	Eluru, AP	Feb. 27-28, 2020

S. Ravi	Study of Magnetization Switching and Exchange Bias Behavior for Spintronic Applications	National Conference on Novel Materials Synthesis and Characterization Techniques for Future World held in "Sri Paramakalyani College"	Alwarkurichi, Tamil Nadu	Aug. 16-17, 2019
Amarendra K. Sarma	Quantum Technology: Dawn of a New Era!	Cotton University	Guwahati	Jun. 28, 2019
Amarendra K. Sarma	Slowing down of Entanglement: Sudden-Death at Higher-order Exceptional Points	University of Malaya	Kuala Lumpur, Malaysia	Jul. 24, 2019
Amarendra K. Sarma	Non-Hermitian Quantum Mechanics to Non-hermitian Optics	BITS, Ranchi	Ranchi	Sept. 02, 2019
Amarendra K. Sarma	Optical Soliton: The Jewel of Nonlinear Optics	Pandu College	Guwahati	Oct. 26, 2019
Amarendra K. Sarma	Quantum Technology Revolution: the role of Quantum Optics	Arya Vidyapeeth College	Guwahati	Feb. 29, 2020
D. Pamu	Development of lead free bismuth sodium titanate piezoelectric ceramics and thin films for energy harvesting	Sir C. R. R. College	Eluru	Mar. 27-28, 2020
Kanhaiya Pandey	Laser cooling and Trapping of Rb at narrow blue transition	Indian Institute of Technology Roorkee	Roorkee	Mar. 04, 2020
Kanhaiya Pandey	Laser cooling and Trapping of Rb at narrow blue transition and Quantum sensing of MW	Bhabha Atomic Research Center	Mumbai	Mar. 06, 2020
Arunansu Sil	Guest lecturer on Standard Model in SERB-Preparatory school in "Theoretical High Energy Physics	SERB, held at Tezpur University, India	Tezpur University, India	Oct. 28-Nov. 09, 2019
S. Thota	Unusual Magnetic Behaviour of Pyrochlore Cobalt-Orthogermannate	2 nd International Conference on Nanoscience and Nanotechnology (ICNAN 2019)	VIT Vellore, Vellore	Nov. 29 - Dec. 01, 2019
S. Thota	Magnetic Superlattices for On-chip Cooling Applications in Microelectronics	2 nd International Conference on Non-Conventional Energy Nanotechnology & Nanomaterials for Energy and Environment (ICNNEE2019)	JIS College of Engineering, Kalyni, Naida, West Bengal	Oct. 18-19, 2019

Visitors From Other Institutes/Universities/Organisations / Invited Lectures

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
Prof. Venu Gopal Achanta	TIFR, Mumbai	Metamaterial based single photon emitters	Mar. 05, 2020	
Prof. Minakshi Devi	Department of Physics, Gauhati University	EM techniques in search of precursors of Natural Hazards	Feb. 28, 2020	As a part of NSD celebration, 2020
Dr. Rajshree Bedamatta	Dept. of Humanities and Social Sciences, IIT Guwahati	The 'Missing' Women of 'Hard' and 'Soft' Sciences: Let's Dialogue	Feb. 28, 2020	As a part of NSD celebration, 2020
Prof. Angom D.K. Singh	Physical research laboratory	Berry phase and quantum Hall effect	Feb. 27, 2020	

Sujit Jha	Engineering Management at Applied Materials India	Next Gen Process Diagnostics in Semiconductor Manufacturing	Feb. 26, 2020	
Dr. H. Sreehari	IISC, URSC, ISRO	Observational aspects of Black Hole Binaries	Feb. 18, 2020	
Prof. N. D. Haridass	IMSc, Chennai	Lecture series on Theoretical Physics	Feb. 10-14, 2020	
Prof. P. K. Pathak	School of Basic Sciences, IIT Mandi, Himachal Pradesh	Cavity quantum electrodynamics using semiconductors	Feb. 06, 2020	
Dipankar Das	Co-founders of Spectral Insights Pvt Ltd	Hyperspectral Imaging - A Unique Combination for Multipurpose Application	Jan. 30, 2020	
Dr. Tanmoy Paul	Chandernagor College, West Bengal	Inflationary Universe in F(R) Gravity with Asymmetric tensor fields and their suppression during its evolution	Jan. 29, 2020	
Prof. Cosimo Bambi	Fudan University, China	Astrophysical Black Holes: A Review	Jan. 20, 2020	
Dr. Atanu Nath	INFN - Istituto Nazionale Di Fisica Nucleare - sezione di Napoli	Fermilab Muon g-2 Experiment: A Magnetic Moment in History	Jan. 10, 2020	
Dr. Kishalay Choudhury	IUCAA	X-ray Relativistic Reflection & Testing Strong Gravity	Jan. 09, 2020	
Sudhakantha Girmohanta	Stony Brook University, USA	Baryon Number Violating Nucleon and Dinucleon Decays	Jan. 07, 2020	
Dr. Chandan K. Mishra	University of Pennsylvania	Seeing is Believing: Experimental Insights about Supercooled Liquids, Glasses and Controlled Crystallization	Jan. 06, 2020	
Prof. Shyama Rath	Department of Physics and Astrophysics, University of Delhi	Spectroscopic Ellipsometry of Metal Oxide thin films	Dec. 18, 2019	
Prof. E. J. Chun	Korean Institute for Advanced Studies (KIAS)	Two-Higgs-Doublet-Model and Muon g-2	Dec. 12, 2019	
Dr. Bheema Linagm Chittari	Univ. of Seoul	Gate-Tunable Flatbands in Graphene Moiré Superlattices	Dec. 09, 2019	
Prof. Augustine Kshetrimayum	University of Berlin	Tensor network description of quantum many-body systems: applications to real materials and quantum simulators	Dec. 02, 2019	
Dr. Sanjoy Biswas	RKMVERI, Belur	Exploring Dark-ALP portals at future e+e- colliders	Nov. 29, 2019	
Prof. T. R. Govindarajan	Institute of Mathematical sciences, Chennai	What if photon has a mass	Nov. 08, 2019	
Prof. B. Ananthnarayan	IISC Bangalore	Murray Gell-Mann -- A Brief Introduction to his Life and Work	Nov. 04, 2019	
Prof. Rabin Banerjee	S. N. Bose National Center for Basic Sciences, Kolkata	Satyendra Nath Bose and the development of Quantum mechanics	Nov. 01, 2019	
Prof. Reji Philip	Raman Research Institute, Bangalore	Ultrafast Laser Produced Plasmas: Generation, Characterization and Applications	Nov. 01, 2019	

Prof. K. C. James Raju	University of Hyderabad	Dielectrics and ferroelectrics for microwave applications	Oct. 10, 2019	
Dr. Soumya Rao	Former postdoc at National Centre for Nuclear Research, Poland	Minimal Sub-GeV Dark Matter Scenarios	Sept. 26, 2019	
Dr. Rajiv Kumar	ARIES, Nainital	The study of disk structures around the black holes	Sept. 26, 2019	
Dr. Newton Nath	IHEP, Beijing	Recent Developments in $\mu - \tau$ Symmetry	Sept. 02, 2019	
Dr. Alestin Mawrie	IIT Bombay	Semi-Dirac Materials: Their directional dependent optical conductivity and optimal power/efficiency as a quantum thermoelectrics	Aug. 27, 2019	
Hrshikesh Chakrabarty	Graduate student, Fudan University, Shanghai	Gravitational collapse and baby universe	Aug. 21, 2019	
Ganesh C. Paul	Institute of Physics (IOP), Bhubaneswar	Majorana nanowire with unconventional superconductivity and RKKY interaction in Borophene	Aug. 20, 2019	
Dr. Soumyajyoti Haldar	University of Kiel, Germany	First Principles Study of Skyrmion Formation at 3d/4d Transition Metal Interfaces	July 31, 2019	
Dibyashree Sengupta	Oklahoma University, USA	Gravity safe electroweak natural axionic solution to strong CP and SUSY μ problem in the LHC era with determination of the PQ scale	July 22, 2019	
Dr. Arka Chatterjee	S. N. Bose National Centre for Basic Sciences, Kolkata	Black Hole Images: Past, Present, and Future Aspects	July 03, 2019	
Prof. Pankaj Jain	IIT Kanpur	The dipole anisotropy in large scale structures	June 17, 2019	
Dr. Najimuddin Khan	IISC Bangalore	Sensitivity of TeV scale new physics on the electroweak metastability	May 20, 2019	
Dr. Frederik P GR Gorlitz	Imperial College London	Super resolution microscopy at Imperial	May 16, 2019	
Prof. Sayan Kar	IIT Kharagpur	The ubiquitous Raychaudhuri equations	May 14, 2019	
Dr. Vanamali Shastri	Guest faculty in University of Mangalore, Karnataka	Low Energy Lepton-Proton Scattering - An EFT Approach	Apr. 30, 2019	
Dr. Biplob Sarkar	The ICFAL University, Tripura	Investigation of magnetized accretion flow properties around a black hole and prospects with Astrosat	Apr. 22, 2019	
Prof. Biswarup Mukhopadhyaya	HRI, Allahabad	Likely lurking lights?	Apr. 05, 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.	B. Bhuyan (Convener) and D. Borah (Co-convener)	XVI Workshop on High Energy Physics Phenomenology (WHEPP 2019)	DAE-BRNS, TIFR, IMSc	Dec. 1-10, 2019	International	250
2.	Gagan Kumar (Convener) and Ashiwini K. Sharma (Co-convener)	IEEE Workshop on Recent Advances in Photonics (WRAP), 2019	IEEE Photonics Society USA, SERB India, IIT Guwahati, MELSS, Horiba, FOSS	Dec. 13 - 14, 2019.	International	170
3.	Department of Physics	National Science Day, 2020	Department of Physics, IIT Guwahati	Feb. 28, 2020	National	-
4.	Arunansu Sil (convener of Neutrino session)	International Conference on Neutrinos and Dark Matter (NDM 2020)	Andromeda Press; CFP of Zewail City of Science and Technology, Cairo and ICTP, Trieste	Jan. 11-14, 2020	International	76

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	Professor Bipul Bhuyan (Convener) and Dr. Debasish Borah (Co-Convener)	XVI Workshop on High Energy Physics Phenomenology (WHEPP2019)		December 1-10, 2019	International	
2		IIT Guwahati-Tokyo Institute of Technology joint conference on Condensed Matter Physics & High Energy Physics 2019		November 11-12, 2019	International	
3		IEEE Workshop on Recent Advances in Photonics 2019		December 13 - 14, 2019		

Patents

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.	Remarks
1	Satya S G Buddha, R Kalita and Bosanta R Boruah	A system and method for determining point Spread function of an imaging system	Mar. 31, 2020	202031014419	-

Awards and honours

- ◆ Prof. Bipul Bhuyan elected as the General Secretary of Physics Academy of Northeast (PANE) for the duration of 2019-2021
- ◆ Prof. Tarak N Dey has been selected as committee member for SERB sponsored schools on Laser, Fiber Optics and Optoelectronics
- ◆ Prof. P. K. Giri is awarded with MRSI Medal 2020, Materials Research Society of India
- ◆ Dr. Debasish Borah has been awarded National Academy of Sciences, India (NASI) - Young Scientist Platinum Jubilee Award in Physical Sciences 2019
- ◆ Dr. Gagan Kumar has been selected as senior member of Optical Society of America (OSA)
- ◆ Dr. Gagan Kumar has been selected as senior member of IEEE
- ◆ Prof. Perumal Alagarsamy received National Institute for Materials Science (NIMS) Global Collaboration Fellowship Program 2019 to visit Research Center for Magnetic and Spintronic

Materials, NIMS, Japan during April – July 2019

Students' Achievements

- ◆ Mr. Gobinda Pradhan, a PhD student, has won the best poster award in the recently concluded conference "2nd National Conference on Recent Advances in Science and Technology" (NCRAS 2019)
- ◆ Mr. Jyotirmoi Borah working under the supervision of Prof. Bipul Bhuyan won the best poster award in the conference "International Workshop on Frontiers in High Energy Physics" held during Oct. 14 -17, 2019
- ◆ Ms. Madurima Chakraborty has been awarded full fellowship to attend Invisibles, School and Workshop, Spain

SPECIAL MENTION

- ◆ Prof. Bipul Bhuyan is being elected as a member of both Belle II experiment Finance Board and Governance Committee

Faculty Members

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1	Agarwal, Pratima	IIT Kanpur	Professor	Thin films and hetero junction solar cells, nanocrystalline Semiconductors, nanomaterials, optoelectronic properties.
2	Basu, Saurabh	IIT Kanpur	Professor	Condensed Matter Physics (Theory); High T C superconductors, Optical lattices, Transport in Magnetic semiconductors.
3	Bhuyan, Bipul	Delhi University	Professor	High Energy Physics (Experiment); CP violation, Rare K and B meson decays, ILC R & D.
4	Bhattacharya, Subhaditya	HRI, Allahabad	Associate Professor	High Energy Physics (Theory), Phenomenology of Standard Model and Beyond, Supersymmetry, Dark Matter, LHC.
5	Boruah, Bosanta Ranjan	Imperial College London	Professor	Lasers and Optics (Experiment & Theory); Programmable Diffractive Optics, Confocal Microscopy, Phase Stepping Interferometry, Vectorial Diffraction Theory.
6	Borah, Debasish	IIT Bombay	Assistant Professor	Particle Physics Model Building, Astroparticle Physics and Cosmology.
7	Chakrabarti, Sayan Kumar	SINP, Kolkata	Assistant Professor	High Energy Physics (Theory), General relativity, Black hole perturbations, Gravitational waves, Cosmology.
8	Chakraborty, Sovan	SINP, Kolkata	Assistant Professor	Astroparticle Physics, High Energy Astrophysics, Neutrino Oscillations, Supernovae Neutrinos, Ultra High Energy Neutrinos & Dark Matter.
9	Das, Santabrata	SNBNCBS, Kolkata	Associate Professor	Astrophysics (Theory); Astrophysical flows around compact objects, Ultra high energy cosmic rays.

10	Dey, Tarak Nath	PRL, Ahmedabad	Professor	Quantum Optics (Theory); Coherent control of pulse propagation, Nonlinear optics, Optical solitons, Negative index media, Bose-Einstein condensates.
11	Ghosh, Subhradip	SNBNCBS, Kolkata	Professor	Condensed Matter Physics (Theory); Electronic Structure theory, Ordering and Phase stability of disordered alloys, Vibrational properties of metallic alloys.
12	Giri, Pravat Kumar	IIT Kanpur	Professor	Condensed Matter Physics (Experimental); Semiconductor nanostructures, Ion-solid interactions, Optoelectronic materials & devices, Nanotechnology.
13	Kadolkar, Charudatt Y.	IIT Bombay	Associate Professor	Condensed Matter Physics (Theory); Magnetism, Defects in Ionic Materials, Group Theoretical approaches to Molecular Problems.
14	Khare, Alike	IIT Kanpur	Professor	Laser and Photonics (Experiment and Theory)
15	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.
16	Kumar, Gagan	IIT, Delhi	Associate Professor	Terahertz Plasmonics and metamaterials, Guided Wave Devices, Ultrafast Spectroscopy.
17	Kumar, Meduri Chakravartula	Univ. of Hyderabad	Assistant Professor	High Energy Physics (Theory); Particle Physics, Higher order QCD corrections for LHC and Tevatron, Standard Model and beyond.
18	Maity, Debaprasad	IACS, Kolkata	Associate Professor	High Energy (Theory); Cosmology, Ads/CMT.
19	Maiti, Uday Narayan	Jadavpur University, Kolkata	Assistant Professor	Nanomaterials based energy storage and conversion.
20	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.
21	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.
22	Mishra, Tapan	IIA, Bangalore	Assistant Professor	Condensed Matter Physics (Theory); Quantum Phase Transitions, Many-body physics with strongly correlated quantum gases in optical lattice.
23	Nandy, Malay Kumar	IIT Kanpur	Associate Professor	Theoretical Physics, Statistical Physics, Condensed Matter Physics, Turbulence Field Theory, Plasma Physics, Quantum Computation.
24	Nandi, Soumitra	Univ. of Calcutta	Associate 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.
25	Padmanabhan, Padma Kumar	IISc, Bangalore	Professor	Condensed matter (Theory); Atomistic Modeling and Simulation of Condensed States of Matter.

26	Pal, Dilip	TIFR, Mumbai	Professor	Low Temperature Physics and Material Science (Experimental); Strongly Correlated Electron Systems, Vortex states in superconductors, Superconductivity and Magnetism.
27	Pamu, Dobbidi	Univ. of Hyderabad	Associate Professor	Condensed Matter Physics; High-k and low loss materials, Ferroelectrics Ceramics, Oxide thin films Nanomaterials.
28	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.
29	Alagarsamy, Perumal	IIT Kharagpur	Professor	Condensed Matter Physics (Experimental); Magnetism, Nanostructured Materials, Nanocrystalline Materials, Magnetic Thin Films, Metallic Glasses.
30	Poulose, Poulose	PRL, Ahmedabad	Professor	Theoretical Physics; High energy physics phenomenology, CP violation, Mass Generation mechanism, Low energy Gravity.
31	Raha, Udit	University of Bonn, Germany	Assistant Professor	Quantum Chromodynamics and Nuclear Effective Field Theories.
32	Ravi, Seenipandian	Univ. of Hyderabad	Professor	Condensed Matter Physics (Experimental); Magnetism, Superconductivity, Low temperature Physics.
33	Santra, Sitangshu Bikas	Bose Institute, Kolkata	Professor	Condensed Matter Physics (Theory); Condensed Matter Physics, Statistical Physics.
34	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.
35	Sharma, Ashwini Kumar	IIT Kanpur	Associate Professor	Pulsed laser ablation and plasma spectroscopy, Deposition and characterization of nanostructures, Plasmonics.
36	Setlur, Girish Sampath	Univ. of Illinois	Professor	Theoretical Physics; Optoelectronic properties of graphene, Nonchiral bosonization of fermions in one and higher dimensions.
37	Sil, Arunansu	Univ. 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.
38	Srinivasan, Anantha-krishnan	IISc, Bangalore	Professor	Condensed Matter Physics (Experimental); Glasses and Disordered Materials, Thin Films, Metallic Alloys, Nanophase materials, Shape Memory Alloys.
39	Thota, Subhash	IIT Kanpur	Associate Professor	Material Science and Engineering; Magnetic Nanostructures, Oxide Heterostructures, Superlattices, Magnetocaloric effects, Semi-magnetic semiconductors, Bandgap Engineering.

CENTRE FOR ENERGY

LABORATORY FACILITIES

- 1. 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.
- 2. 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 by-products. The various types of facilities available in this laboratory are: Development of thermochemical 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.
- 3. 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.
- 4. 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.
- 5. 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 setup etc.
- 6. 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 micro-propagation 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.

7. **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.

8. **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.

9. **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).

10. **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.

11. **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.

12. **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

UV-Vis Spectrophotometer, semi-automatic Aniline point apparatus, Cloud/Pour point apparatus, Refrigerated table-top centrifuge, Pensky-Martens Flash point apparatus, two zone Tube Furnace, Thermal cyclers.

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, Energy Conservation and Renewable Energy, Solar energy conversion, Microgrid Power Management system, Energy storage and Printed Electronic devices, Wind energy for localized power generation, Biofuel performance in internal combustion engines, Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes, other industrially important microbial enzymes and biofuel production from lignocellulosic agriculture wastes

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL, NATIONAL

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Pratima Agarwal	3 rd International Conference on Solar Energy Photovoltaic	KIIT, Bhubaneswar, India	19 th - 21 st Dec 2019	International
Dr. Pankaj Kalita	Sustainable Energy and Environmental Protection	Sharjah	18-21 Nov 2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. Pratima Agarwal	Tuning the optoelectronic properties of nanocrystalline Silicon based superlattice structures	Faculty Development Program on Nanoscience and Nanotechnology, Department of Electronic Sciences, Kurukshetra University	Kurukshetra	Aug 23, 2019
Prof. Pratima Agarwal	Tuning the optoelectronic properties of nanocrystalline Silicon based superlattice structures	NIT Kurukshetra	Kurukshetra	Aug 23, 2019
Prof. Niranjana Sahoo	Energy technologies for study of biofuels in internal combustion engines	Einstein Academy of Technology and Management	Bhubaneswar	Jan 10, 2020
Prof. Niranjana Sahoo	Waste heat management and usage for refrigeration and air-conditioning applications	C. V. Raman College of Engineering	Bhubaneswar	Nov 28, 2019
Prof. Niranjana Sahoo	Green energy technology for study of biofuels in internal combustion engines	Gifu University	Gifu, Japan	Oct 08, 2019
Prof. Niranjana Sahoo	Clean and green energy efficient technologies for internal combustion engines	Government College of Engineering	Bhawani-patna, Odisha	Sept 20, 2019
Prof. Niranjana Sahoo	Calibration methods of high frequency thermal sensors for localized temperature and heat flux measurements in gas turbine and internal combustion engine applications	Indian Institute of Science	Bangalore	Jul 19, 2019
Dr. Pankaj Kalita	Fundamentals of solar energy conversion & its recent developments	TEQIP sponsored one week interdisciplinary faculty development program on "Recent Trends in Green Energy Utilization", Assam Engineering College	Guwahati, Assam	Feb 11, 2020
Dr. Pankaj Kalita	Biomass Energy	TEQIP sponsored one week interdisciplinary faculty development program on "Recent Trends in Green Energy Utilization", Assam Engineering College	Guwahati, Assam	Feb 12, 2020
Dr. Pankaj Kalita	Fundamentals of Solar Energy Conversion and its Recent Advancement	2-weeks Faculty Development Program (FDP) on "Developing teaching and learning techniques on engineering education", Bineswar Brahma Engineering College	Kokrajhar, Assam	Jan 4, 2020
Dr. Pankaj Kalita	Advances in bioenergy and solar energy research	International conference on future aspects of sustainable technologies, CIT Kokrajhar	Kokrajhar, Assam	Nov 11-12, 2019
Dr. Pankaj Kalita	A novel biomaterial for thermal energy storage applications	DST-Industry Academia Conclave on Energy Storage, MNIT Jaipur	Jaipur, Rajasthan	Nov 30, 2019
Dr. Pankaj Kalita	Solar energy	TEQIP sponsored faculty development programme in Advancements in Mechanical Engineering organized by GIMT, Guwahati in collaboration with ASTU	Guwahati, Assam	Sept 2-6, 2019

Prof. U. K. Saha	Wind Tunnel Research	NERIST	Itanagar, Arunachal Pradesh	Apr 03, 2019
Prof. U. K. Saha	Rockets, Missiles and Launch Vehicles	Dibrugarh University	Dibrugarh, Assam	Feb 24, 2020
Prof. P. Goswami	Key note lecture on "Developing 3G Bio-Electrode for Biosensor and Biofuel cell Applications"	International Conference on Nanoscience and Nanotechnology (ICNAN) Organized by VIT, Vellore-632014	Tamil Nadu, India	Nov 29, 2019
Prof. P. Goswami	Plenary lecture on "Biosensor and biofuel cell: Smart devices for next generation healthcare and analytical science"	2nd International Conference on Advances in Bioprocess Engineering and Technology (ICABET-2020)" in Heritage Institute of Technology, Kolkata	West Bengal, India	Jan 20, 2020
Prof. P. Goswami	BIOFUELCELL: Smart devices for next generation healthcare and analytical science in a	Seminar on Analytical Methods in Chemical Sciences, Tezpur University	Tezpur, Assam	Jan 23, 2020
Prof. Muthukumar	Design and development of metal hydride based thermal machines	IIT Bombay	Mumbai, India	Dec 8, 2019
Prof. Muthukumar	Energy efficient and environment friendly porous radiant burners	International Conference on Innovations in Thermo-Fluid Engineering and Sciences [ICITFES-2020] at National Institute of Technology, Rourkela, Odisha, India	National Institute of Technology, Rourkela	Feb 10-12, 2020
Prof. Muthukumar	Design and development of latent heat storage systems	International Conference on Polygeneration (ICP-2019),	Kyushu University, Japan	May 15-17, 2019
Prof. Vaibhav V Goud	Biofuels and bio-based chemicals	Department of Energy, Tezpur University	Tezpur University, Tezpur	Mar 12, 2020
Prof. Vaibhav V Goud	Biodiesel production using high FFA feedstock	International conference on future aspects of sustainable technologies	CIT Kokrajhar, Kokrajhar, Assam	Nov 11-12, 2019
Prof. Vaibhav V Goud	Biodiesel production using high FFA feedstock	Department of Chemical Engineering, IIT Dhanbad	Dhanbad	Sept 9, 2019

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANISATIONS / INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Prof Y D Goswami	University of south florida, USA	Under Fulbright to deliver lecture	Mar 11-12, 2020

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Seminar/ Workshop/Conference	Funded By	Date	International/ National	No. of participants
01	Dr. Pankaj Kalita	Short Term course on Clean Energy Technology during, IIT Guwahati	TEQIP	Jun 10 – 14, 2019	National	50 (approx.)

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
1	Pranab Goswami*, Priyanki Das, Lepakshi Bar-bora, Arup Dutta,	Alcohol Fueled Enzyme Based Bio- Battery Cum Biofuel Cell	Applied (2019)	2019310463 54

AWARDS AND HONOURS

- ◆ Prof. Arun Goyal invited to Judge Best Poster award at International Carbohydrate Conference on Emerging Frontiers in Carbohydrate Chemistry and Glycobiology, Dec. 5-7, 2019, University of Lucknow, UP, India.
- ◆ Prof. Arun Goyal invited as External Examiner, Doctoral thesis, Department of Biotechnology, IIT Madras, Oct 18, 2019.
- ◆ Prof. Arun Goyal invited as Member, for First Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for B.Tech) Sep 30, 2019.
- ◆ Prof. Arun Goyal invited as Member, for First Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for B.Tech) July 8, 2019.
- ◆ Prof. Arun Goyal invited as Member, Technical Expert Committee for DBT-NER by DBT in the area Energy, Environment and Biodiversity to review new proposals and project progress, June 19, 2019.
- ◆ Prof. Arun Goyal nominated by Chairperson, Governing Body, CIAB and Secretary, DBT as a Member of Scientific Advisory Committee (SAC) of Center of Innovative and Applied Bioprocessing (CIAB), Mohali, Punjab, for period of 3 years till April 2022. June 2019.
- ◆ Prof. Arun Goyal invited by Department of Microbiology, Sikkim University to give feedback for course syllabus for MPhil and PhD in Industrial Microbiology. June 2019.
- ◆ Prof. Arun Goyal invited as a member, Board of Studies, for approval of syllabi of B.Tech and M.Tech (Biotechnology) at Department Biotechnology, College of Engineering and Technology (CET), Bhubaneswar, Odisha. May 2019.
- ◆ Prof. Arun Goyal invited as Member, for First Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for B.Tech) Feb 18, 2020.
- ◆ Prof. Arun Goyal invited as an Expert member committee for selection of Professor and Associate Professor, Department of Bioengineering, BIT Mersa, Ranchi, Jan 19, 2020.
- ◆ Prof. Arun Goyal invited as Member, Technical Expert Committee for DBT-NER by DBT in the area of Energy, Environment and Biodiversity to review new proposals and project progress, Jan 17, 2020.
- ◆ Dr. Ankita Gaur invited as Member (Renewable Energy) by French Embassy, for Indo-French Knowledge Summit dedicated to Higher Education, Research and Innovation at University of Lyon, Lyon, France; Oct 17-18 2019.
- ◆ Dr. Ankita Gaur invited by French Embassy for "Thematic Visit of Renewable Energy technology hub, Eco-Energy & Renewable Energy; CEA/ INES Chambéry, CEA Grenoble, France: Solar PV, Smart cities & smart grids CEA-LITEN: Oct 16 2019.
- ◆ Prof P Muthukumar, received Eminent Engineer 2019 from "The Institution of Engineers (India)", Assam State Centre, Sept 15 2019.
- ◆ Prof. Vaibhav V Goud invited as External Examiner, Doctoral thesis, School of Graduate Studies, Universiti Putra Malaysia, Selangor, Malaysia. 28 February 2020 (via Skype).
- ◆ Prof. Vaibhav V Goud invited as Expert member for syllabus framing committee of S. E. Chemical Engineering, University Institute of Chemical Technology, K. B. C. North Maharashtra University, Jalgaon, India., 2019.

STUDENTS' ACHIEVEMENTS

- ◆ O. Siram and N. Sahoo, Characterizing the helical vortex frequency of HAWT, Proceedings of 7TH International Conference on Advances in Energy Research, IIT Bombay, Mumbai, India, 10-12 December 2019 (ICAER2019-150) – Best Paper Award.
- ◆ Dudul Das received Best Paper Award at International Conference on Sustainable Energy and Green Technology 2019 (SEGT 2019) held in Bangkok, Thailand. Paper title: Experimental study and performance evaluation of PV/T's with novel absorber designs.
- ◆ Priyanki Das received: Best Poster Award in SECONE 2020, (Synergy for Energy, Challenges and opportunities in North East India), held at NEDFI Convention Centre, Guwahati, organized by SECONE Society,

AWARDS AND HONOURS

- Guwahati, Assam, for the paper: Priyanki Das, Lepakshi Barbora, Arup Dutta, Pranab Goswami* "Enzymatic Alcohol Biofuel Cell for powering small scale electronic appliances" on February 1, 2020.
- ◆ Puja Hazarika received Best post award for the paper on "Bioinspired strategies for building envelope: Using nature for climate adaption" authored by P. Hazarika, A. Gaur and P.Kalita; International symposium on "Bio-inspired Nanomaterials for Environmental Applications" supported by DST-UKIERI, 12th Feb. 2020 -13th Feb. 2020 at the Centre for the Environment, Indian Institute of Technology.
 - ◆ Alok Kumar received best paper award for his paper entitled" Parametric Studies on MmNi_{4.7}Fe_{0.3} based Reactor with Embedded Cooling Tubes for Hydrogen Storage and Cooling Application" Presented at International Conference on Innovations in Thermo-Fluid Engineering and Sciences [ICITFES-2020], February 10-12, 2020 at National Institute of Technology,
 - ◆ Samar Das received best poster award at International conference on future aspects of sustainable technology (FAST- 2019), Central Institute of Technology Kokrajhar, 10th -11th November 2020. Paper file: response surface methodology based optimization of a bio-diesel run variable compression diesel engine.
 - ◆ 2nd Best Poster Award conferred to C. R. Barik, S. Purohit, E. Yanase, S. Nagaoka, L. Sahoo, V. V. Goud, for their research work presented in 3rd International Conference of Seabuckthorn Association of India, 19-20th December, 2019, University of Delhi, India

SPECIAL MENTION

- ◆ Product developed in Prof. Goswami's lab: A prototype of ALCOHOL FUELED ENZYMATIC BIO-BATTERY CUM BIOFUEL CELL. The biofuel cell with a series connection of six unit cells produce 3.1 V power.
- ◆ An elective course: EN675 entitled "Photovoltaic devices and system" Developed by Dr. Ankita Gaur . The course has been started in current semester.

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.
1	Pranab Goswami, Priyanki Das, Lepakshi Barbora, Arup Dutta,	Alcohol Fueled Enzyme Based Bio- Battery Cum Biofuel Cell	Applied (2019)	201931046354

FACULTY ASSOCIATED WITH THIS CENTRE

1	Kaustubha Mohanty	Professor, Department of Chemical Engineering
2	P. Agarwal	Professor, Department of Physics
3	Harsh Chaturvedi	Assistant Professor, Centre For Energy
4	Debasish Das	Associate Professor, Department of Bioscience and Bioengineering
5	Mahuya De	Associate Professor , Department of Chemical Engineering
6	A. K. Ghoshal	Professor, Department of Chemical Engineering
7	Pranab Goswami	Professor, Department of Bioscience and Bioengineering
8	Vaibhav V. Goud	Professor, Department of Chemical Engineering
9	Karuna Kalita	Associate Professor, Department of Mechanical Engineering
10	Pankaj Kalita	Assistant Professor, Centre for Energy
11	Vinayak Kulkarni	Associate Professor, Department of Mechanical Engineering,

12	P. Mahanta	Professor, Department of Mechanical Engineering
13	V. S. Moholkar	Professor, Department of Chemical Engineering
14	P. Muthukumar	Professor, Department of Mechanical Engineering
15	S. K. Nayak	Associate Professor, Department of Electronics and Electrical Engi-
16	H. B. Nemade	Professor, Department of Electronics and Electrical Engineering
17	U. K. Saha	Professor, Department of Mechanical Engineering
18	L. Sahoo	Professor, Department of Biosciences and Bioengineering
19	N. Sahoo	Professor, Department of Mechanical Engineering
20	S. Senthilmurugan	Associate Professor, Department of Chemical Engineering,
21	R. Uppaluri	Professor, Department of Chemical Engineering
22	Ankita Gaur	Ramanujan Fellow, SERB/DST Govt. of India, Centre for Energy

CENTRE FOR THE ENVIRONMENT

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

Fluorescence Spectrophotometer, Microplate Spectrophotometer, Ion Chromatography , pH

Meter, centrifuge, Refrigerator, Autoclave, laminar flow and miscellaneous items.

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

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS / INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose (Talk / research visit etc)	Date	Remarks (if any)
Prof. Arup Kr. Sengupta	Deptt of Chemical Engineering, Lehigh University, USA	Development of global application of hybrid ion exchange nanotechnology: from decontamination to desalination	23.01.2020	*Invited speaker in three day conference on "Issues and Challenges in water treatment and allied research for sustainable environment" organized by Centre for the Environment, IITG.
Dr. S. Sridhar	Sr. Principal Scientist, CSIR-IICT Hyderabad	Innovative membrane technology for the development of Indian industry and society	24.01.2020	
Prof. Sirsendu De	Department of chemical Engineering, IIT Kharagpur	Water and Wastewater Treatment	23.01.2020	
Prof. Chiranjeev Bhattacharjee	Jadavpur University	Water and Wastewater treatment	25.01.2020	
Dr. Sanat K. Saha	Eminent scientist, West Bengal State council of higher education	Energy and environment wellness- an Indian perspective	16.04.2019	

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.	Dr. Deepmoni Deka Barman and Prof. Mihir Kr. Purkait	National Conference on Issues and Challenges in water treatment and allied research for sustainable environment	NEC, Shillong and DST-SERB	Jan 23-25, 2020	National	200
2.	Prof. Lalit M. Pandey and Prof. Animes K. Golder	Workshop cum symposium on Bio-inspired Nanomaterials for Environmental Applications	DST-UKIERI	Feb 12-13 2020	National	50
3.	Prof. Mihir Kumar Purkait	Rise of Arsenicosis and Fluorosis like diseases in the North-Eastern states of India-Technologies and techniques for mitigation. "	TEQIP-III	Jan 23-24, 2020	National	30

STUDENTS' ACHIEVEMENTS

Name of student	Category	Name of conference/workshop / seminar	Title of presentation	Prize	Date
Aquib Jawed	Scholarship			Commonwealth Split-Site Scholarship-2019/ Host Institute: University of Strathclyde, Glasgow, Scotland	Jan 3, 2020- Jan 3, 2021
Sayanti Ghosh	Best paper	9th Icon-SWM-CE, organized by ISWMAW at KIIT, Bhubaneswar, Odisha, from November 27-30, 2019.	Pollutant removal kinetics of aerobic granular reactors operated with different inoculums and hydraulic retention times during diesel wastewater treatment	Certificate , IconSWM Excellence award 2019	Nov 27-30, 2019
Sayanti Ghosh	DST-SERB International Travel Support	Engineering Sustainable Development Conference 2019, at Seoul South Korea	Aerobic Granulation of Micrococcus al-oeverae Strain SG002 and its Application in Oil Remediation and Polyhydroxyalkanoates (PHA) Production	Travel Grant	De 12-13 , 2019
Sayanti Ghosh	Best oral presentation, 2nd position	WATER 2020, IITG	Role of seed sludge and oil degrading microorganisms in aerobic granular treatment of hydrocarbon-rich wastewater with phyto-toxicity analysis	Certificate	Jan 23-25 , 2020
Smruti Ranjan Dash	Scholarship			Commonwealth Split-Site Scholarship-2019/ Host: University of Strathclyde, Glasgow, Scotland	Oct 1, 2019- Sept 30, 2020

Somnath Chanda	Secpnd position award	Organized by: Assam Science & Technology University (ASTU), Guwahati, Assam.	Proposal name: 3D-Printing & Artificial Neural Networks Based Platforms for Customized Nutrition & Charcoal Products from Green Tea (Jointly submitted with Dr. Suramita Chanda from SMCH, Assam)	2nd position (Rs.75,000/- as Ignition grant for startup) North East Hackathon-2019,.	Sept 5, 2019
Tanushree Paul	Best Paper (Poster Presentation)	Nutraceuticals and Chronic Diseases (INCD - 2019), IIT Guwahati	Eco-toxicity analysis of biologically treated refinery wastewater following cell recycle with tubular membrane	Award Certificate	Sept 23-25, 2019
Arnab Ghosh	Best poster	International Conference on Functional Materials (ICFM 2020), IIT Kharagpur	Facile Synthesis of Sn(II) MOF using Waste PET Bottles as Source of Organic Linker: Trace Arsenate Remediation from Aqueous Medium	Certificate & Rs. 3000	Jan 06-08 , 2020
Arnab Ghosh	Best poster (3rd position)	National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment (Water 2020), IIT Guwahati	Sorption of Carbon Dioxide on Sn (II)-TMA Metal-Organic Framework	Certificate	Jan 23-25, 2020
Rajneesh Kumar	Second Prize for Poster	WATER 2020	Changes in Aerobic Biomass Sludge of Sequencing Batch Reactor Fed with Piggery Wastewater.	Certificate	Jan 23-25, 2020
Tanushree Paul	Best oral presentation, 1st position	National Conference On "Issues & Challenges in Water Treatment and allied research for Sustainable environment" (WATER 2020)	Valorization of Rhodococcus opacus biomass cultivated using refinery wastewater by hydrothermal liquefaction	Certificate	Jan 23-25, 2020
Jinat Aktar	Third prize in Poster Presentation	WATER 2020, IIT Guwahati	Efficient dye removal property of materials synthesized from plant polyphenols and iron in an insoluble powder form.	Certificate	Jan 23-25, 2020
Jayakrishnan U	Best poster (3rd position, shared)	WATER 2020, IIT Guwahati	Enhancing PHB potential of activated sludge by altering nutrient availability	Certificate	Jan 23-25, 2020

Jinat Aktar	Best Poster presentation.	DST-UKIERI supported workshop cum symposium on "Bio-inspired Nanomaterials for Environmental Applications	Efficient pollutants removal property of materials synthesized from plant polyphenols and iron.	Certificate and pen-drive	Feb 12 -13, 2020
Poulami Datta	Best oral presentation, 1st position	WORKSHOP CUM SYMPOSIUM ON Bio-inspired Nanomaterials for Environmental Applications, IIT Guwahati	Evaluation of Oil Washing Efficiency of the Biosurfactant Produced by <i>Bacillus tequilensis</i> from Assam Reservoir Soil	Certificate and pen-drive	Feb 12 -13, 2020
Poulami Datta	Best poster, 1st position	National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment (Water 2020), IIT Guwahati	Investigating the Potential of Biosurfactants for MEOR Application	Certificate	Jan 23-25, 2020

SPECIAL MENTION

NATIONAL CONFERENCE ON ISSUES AND CHALLENGES IN WATER TREATMENT AND ALLIED RESEARCH FOR SUSTAINABLE ENVIRONMENT

A national conference on "Issues and challenges in water treatment and allied research for sustainable environment" (WATER 2020) was successfully held at the conference centre of IIT Guwahati from 23rd Jan to 25th Jan, 2020. The conference was hosted and organized by Centre for the Environment, Indian Institute of Technology Guwahati. This Conference has been organized with a view to address some of the key issues, their inherent challenges and possible opportunities in the water sector in general and with specific reference to water treatment, water quality and allied areas. Environmental issues in recent times such as water and waste water treatment; environmental pollution, solid waste management; environmental impact on society, green chemistry, environmental health and toxicology, microbial biochemistry are discussed. Thematic experts from different parts of the country, along with young researchers, students participated to present their work in the conference. At the very onset, convener of the conference Dr. Deepmoni Deka welcomed all the delegates and briefed about the objective of the conference and overview of the technical sessions. Honorable Director, Prof. Dr. T.G.Sitharam inaugurated the conference and released the abstract book. In his welcome address he spoke on different approaches to address water conservation and preservation and explore possible solutions for water security, safety and sustainability. Chief guest, Prof. Arup K. Sengupta, from Lehigh university, USA gave the plenary lecture on "Development of global application of hybrid ion exchange nanotechnology (HIX-Nano): From decontamination to desalination".

Guest of Honour Prof. Sirsendu De, IIT Kharagpur highlighted the importance for water conservation and treatment. Head in-charge of Centre for the Environment and Chairman of the conference, Prof Mihir Kumar Purkait highlighted the current research activities of the Centre and addressed the gathering on recent technologies for the treatment of contaminated drinking water and also highlighted current environmental issues. Dr. S.Sridhar from IICT Hyderabad delivered the keynote address entitled "Innovative membrane technology for the development of Indian industry and society". Six parallel technical sessions on different themes were held followed by two poster sessions. Around 120 participants have registered for the conference among which 50 papers were selected for oral and 51 were selected for poster presentation.

Two prizes were awarded for each of the sessions. A conference proceeding consisting of 100 abstracts was also published and circulated among all the participants. Eminent scientist from all over India to mention : Dr.Nivedita Sahu, *Principal scientist, IICT, Hyderabad*; Dr. Surya Singh, *Scientist, ICMR-National Institute for Research in Environmental Health, Bhopal*, Dr. Manjusha Chakraborty, *Jadavpur University*, Dr. Deepesh Singh, *Harcourt Butler Technical University* were some of the notable speakers in the conference. The conference was funded by North Eastern Council, Shillong and DST (SERB), New Delhi. Prof. Gopal Das, Dean R&D, IIT Guwahati` was guest of honor in the valedictory function and gave away the award of certificate and prize to best poster and oral presentations. The organizing secretary of the conference Mr. Partha Protim Bakal summarized the meeting with the formal "vote of thanks" to all the dignitaries, participants and the people associated (Mr. Kaustubh Rakshit, Mr.Rajiv Gogoi, Mr. Mridul Das and all the centre's

research scholars) in the success of the event. In a nutshell, this three days conference was a grand success providing a platform for interaction with fellow researchers on water sector and environment based research.

WORKSHOP CUM SYMPOSIUM ON “BIO-INSPIRED NANOMATERIALS FOR ENVIRONMENTAL APPLICATIONS

During February 12-13, 2020, two days DST-UKIERI supported Workshop Cum Symposium on “Bio-inspired Nanomaterials for Environmental Applications” was organized by Prof. Lalit M. Pandey and Prof. Animes K. Golder at the Centre for the Environment, Indian Institute of Technology Guwahati with the aim to discuss various challenges related to environment and nano-technological interventions via bringing together the experts from various backgrounds working in environmental science and technology. The symposium was the successor of the workshop held on Dec 18, 2019 on “Recent Advances on Bio-inspired Nanomaterials

for Environmental Applications”. The symposium was inaugurated by Prof. Gopal Das, the Dean, Research and Development, IIT Guwahati in the presence of Prof. Mihir K. Purkait, the Head, Centre for the Environment, IIT Guwahati.

The symposium comprised of six technical sessions on Bioinspired nanomaterials, Water and wastewater treatment, Bioremediation, Biosorption, and Photocatalysis in environment applications. The main highpoints of the symposium were the invited lectures by Prof. Aaron Lau and Prof. Aruna Ivaturi, the international collaborators of the project from the University of Strathclyde, Glasgow (UK). There were 08 national and 03 international invited speakers who are the experts in various fields such as Chemical engineering, Biotechnology, Nano-biotechnology, Chemistry and Civil engineering along with 16 oral presentations by the selected young researchers. Nevertheless, a poster session on day two followed by a hands-on training on “Dye degradation using Photocatalyst” by Prof. Ivaturi were the major attractions. Two best oral and three best poster presentations were recognized.

FACULTY ASSOCIATED WITH THIS CENTRE

Sl. No.	Name	Designation
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
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	Dubey Vikash Kumar	Professor, Department of Biosciences and Bioengineering
11	Dutta M. K.	Professor, Department of Biosciences and Bioengineering
12	Dutta Subashisa	Professor, Department of Civil Engineering
13	Ghosh Pranab Kumar	Professor, Department of Civil Engineering
14	Ghosal Alope Kumar	Professor, Department of Chemical Engineering
15	Gokhale Sharad	Professor, Department of Civil Engineering
16	Golder K. Animes	Associate Professor, Department of Chemical Engineering
17	Goud Vaibhav V.	Associate Professor, Department of Chemical Engineering
18	Goyal Arun	Professor, Department of Biosciences and Bioengineering
19	Jawed Mohammad	Professor, Department of Civil Engineering
20	Kalamdhad Ajay	Associate Professor, Department of Civil Engineering

21	Kundu Lal Mohan	Associate Professor, Department of Chemistry
22	Mahanta Chandan	Professor, Department of Civil Engineering
23	Mandal Bishnupada	Professor, Department of Chemical Engineering
24	Mandal Tapas Kumar	Associate Professor, Department of Chemical Engineering
25	Mohanty Kaustubha	Professor, Department of Chemical Engineering
26	Moholkar S. Vijay	Professor, Department of Chemical Engineering
27	Mukherjee Chandan	Associate Professor, Department of Chemistry
28	Pakshirajan Kannan	Professor, Professor, Department of Biosciences and Bioengineering
29	Pandey M. Lalit	Assistant Professor, Department of Biosciences and Bioengineering
30	Patra Sanjukta	Associate Professor, Department of Biosciences and Bioengineering
31	Patel K. Bhisma	Professor, Department of Chemistry
32	<u>Pugazhenth</u> i. G	Professor, Department of Chemical Engineering
33	Purkait M. K.	Professor, Department of Chemical Engineering
34	Ramesh A.	Professor, Department of Biosciences and Bioengineering
35	Ray Manabendra	Professor, Department of Chemistry
36	Saini K. Gurvinder	Professor, Department of Biosciences and Bioengineering
37	Sarma Arup Kumar	Professor, Department of Civil Engineering
38	Sastri V. Chivukula	Associate Professor, Department of Chemistry
39	Senthilmurugan S	Assistant professor, Department of Chemical Engineering
40	Sivaprakasam K. Senthil	Assistant professor, Department of Biosciences and Bioengineering
41	Tamal Banerjee	Associate Professor, Department of Chemical Engineering
42	Tamuli Ranjan	Associate Professor, Department of Biosciences and Bioengineering
43	Tiwari Pankaj	Assistant Professor, Department of Chemical Engineering
44	Uppaluri Ramagopal	Professor, Department of Chemical Engineering

CENTRE FOR LINGUISTIC SCIENCE AND TECHNOLOGY

LABORATORY FACILITIES

One Laboratory Equipped with (a) GPU cluster for spoken language processing, (b) EEG system for cognition and language studies.

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Spoken language technology development, Text Processing and Analytics, Brain, Cognition and Language.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL, NATIONAL

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Samudravijaya K	The 22nd Conference of the Oriental COCODA,	Cebu Philippines	25-27 October, 2019	International
Priyankoo Sarmah	Language Technology for All (LT4All) UNESCO Headquarters	Paris, France	4-6 December, 2019	International
Priyankoo Sarmah	Interspeech 2019	Graz, Austria	15-19 September, 2019	International
Priyankoo Sarmah	Pluricentric Languages in Speech Technology	Graz, Austria	14 September, 2019	International
Priyankoo Sarmah	Hanyang International Symposium on Phonetics & Cognitive Sciences of Language	Seoul, South Korea	24-25 May, 2019	International
Priyankoo Sarmah	29th Meeting of the Southeast Asian Linguistics Society	Tokyo, Japan	27-19 May, 2019	International
Shakuntala Mahanta	International Congress of Phonetic Sciences	Melbourne, Australia	5-9 August, 2019	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Samudravijaya K	Machine learning for speech forensics	IITG	Guwahati	11/10/19
Samudravijaya K	Resources for Speech Technology for Indian Languages	Indira Gandhi Delhi Technical University for Women	New Delhi	15/11/19
Samudravijaya K	Speech signal processing and applications	Ramrao Adhik Institute of Technology	Navi Mumbai	17/12/19
Priyankoo Sarmah	Speech Rhythm in Three North East Indian Languages	Jadavpur University	Kolkata	17/01/2020
Priyankoo Sarmah	How technology can preserve endangered language of India	The symposium for Indian language technology industry, FICCI	New Delhi	18/11/19
Priyankoo Sarmah	Acoustics Phonetics for Indian Languages	Mumbai University	Mumbai	25/02/20-01/03/20
Shakuntala Mahanta	Tone and Intonation in Tibeto-Burman languages	Jadavpur University	Kolkata	17/1/2020
Shakuntala Mahanta	Focus and Intonation in Dimasa	Melbourne University, Australia Intonation Satellite Workshop	Melbourne	04/08/2019

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANISATIONS / INVITED LECTURES

Name	Name of Inst./Univ./ Org.	Purpose/ Name of Lecture	Date
Prof.Takayuki Arai	Sofia University, Tokyo	Introduction to Speech Science with Vocal-tract models	Aug 22, 2019
Dr. Caroline Wiltshire	Univ. of Florida, USA	Joint research on Indian English	Oct 19– Nov 02, 2019

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./ Con.	Date	International/ National	No. of participants
1	Rohit Sinha and Priyankoo Sarmah	Summer school on "Automatic Speech Recognition"	02:07/06/19	National	50
2	Priyankoo Sarmah, Samudravijaya K and Bijenkumar Singh	Workshop on "Spoken Language and Speech Analysis	17:20/06/19	National	30

FACULTY ASSOCIATED WITH THIS CENTRE

Sl. No	Name	Designation
1	Bhattacharya Samit	Associate Professor, Department of Computer Science and Engineering
2	Dandapat Samarendra	Professor , Department of Electronics and Electrical Engineering
3	Das Pradip Kumar	Professor, Department of Computer Science and Engineering
4	Guha Prithwjit	Assistant Professor, Department of Electronics and Electrical Engineering
5	Gupta Navin	Assistant Professor, Department of Bioscience and Bioengineering
6	Hazarika S M	Professor, department of Mechanical Engineering
7	K. Samudravijaya	Visiting Faculty, Centre for Linguistic Science and Technology
8	Kumar D Udaya	Associate Professor. Department of Design
9	Mahanta Shakuntala	Professor, Department of Humanities and Social Sciences
10	Monga Charu	Assistant Professor, Department of Design
11	Nandi Sukumar	Professor, Department of Computer Science and Engineering and Head of Center
12	Prasanna S R Mahadeva	Professor, Department of Electronics and Electrical Engineering

13	Saikia Arupjyoti	Professor, Department of Humanities and Social Sciences
14	Sarmah Priyankoo	Associate Professor, Department of Humanities and Social Sciences
15	Sharma Sukanya	Professor, Department of Humanities and Social Sciences
16	Shrivastava Abhishek	Assistant Professor, Department of Design
17	Singh Sanasan Ranbir	Associate Professor, Department of Computer Science and Engineering
18	Sinha Rohit	Professor, Department of Electronics and Electrical Engineering
19	Som Bidisha	Associate Professor, Department of Humanities and Social Sciences
20	Sundaram Suresh	Associate Professor, Department of Electronics and Electrical Engineering

CENTRE FOR NANOTECHNOLOGY

01 LABORATORY FACILITIES

The basic instruments/ equipment facilities available in each laboratory are listed below:

◆ Material Res. Lab

- Laminar air flow - 01
- Ultra-low temperature freezer (-80 °C) - 01
- UV spectrophotometer - 02
- Microwave oven - 01
- Agarose gel documentation system, Gel logic - 01
- Regulated DC Power Supply - 01
- Electromagnet - 01
- Digital Gauss meter - 01
- Digital Weighing balance - 01
- Inverted Microscope - 01
- Nanovoltmeter - 01
- Source Meter - 01
- Refrigerated Centrifuge - 01
- Magnetic stirrer - 01

◆ XRD Lab

- Bruker D8 Advance X-Ray Diffractometer - 01
- Ultrasonic Processor - 01
- Ultrasonic Bath - 02
- Bench Top Incubator cum orbital Shaker - 01
- Magnetic stirrer with hot plate digital - 04
- Digital pH Meter - 01
- Refrigerated Centrifuge - 01
- Electrochemical Potentiostat - 01
- Analytical Balance - 02

◆ TEM Lab

- Transmission electron microscope Jeol - 01

◆ Optoelectronic Device Fabrication Lab

- This lab has been set up in the CIF and it deals with the fabrication of π -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.

◆ Nanobiotech Lab

- BD FACS Calibur - 01
- UV-Vis Spectrophotometer - 01
- Fluorescence spectrophotometer - 01
- FluoroLog-3 - 01
- Water purification system Milli Q / Elix - 01
- Dynamic Light Scattering (DLS), Malvern Zetasizer Nano - 01
- Micro plate reader - 01
- Real Time PCR (Applied Bio system) 01

- Vortex - 01
- Deep Freeze (-20 °C) - 01
- Shaking Incubator - 01
- Rocker - 01
- Refrigerator - 01

◆ Cell culture Lab

- CO₂ incubator - 01
- Epi fluorescence microscope (Nikon eclipse) - 01
- Water bath - 01
- Digital Weighing Balance - 01
- Horizontal Laminar hood - 01

◆ Synthesis Lab

- Horizontal Laminar Air Flow Work Station - 01
- Hot air oven - 01
- Refrigerated Bath Circulator - 01
- Portable autoclave - 02
- Digital Weighing Balance - 03
- pH meter - 03
- Microwave oven - 01
- Cooling centrifuge (Sigma) - 02
- Agarose gel electrophoresis set up - 01
- Rotary Vacuum - 01
- UV Transilluminator - 01
- Magnetic stirrer - 05
- Mini water bath - 01
- Dessicator - 03
- Spin coater - 02
- Bacteriostatic incubator - 01

◆ Nano Fabrication Lab

- Laboratory developed (assembled) Chemical Vapour Deposition (CVD) - 01
- Thermal Evaporation coating system - 01
- Electron Beam deposition system - 01
- RF Co-Sputtering deposition system - 01
- Rapid Thermal Annealing system - 01
- Spin coating system - 01
- Bath and Tip Sonication - 02
- Laboratory developed (assembled) Probe station for I-V and Photo conductivity measurements - 01
- Heating woven - 01
- KBR pallet maker for FTIR measurement - 01
- Gas Sensor System - 01
- PVD Chamber - 01
- Autoclave - 01
- Dessicator - 03
- Depth Coater - 01
- Ball Milling System - 01

◆ MEMS & NEMS Lab

- Analog Digital Scope (ADS) HM507, HAMEG Instruments, 50 MHz 100MS/s - 01
- Digital Oscilloscope (Yokogawa) DL9040 5GS/s 500 MHz - 01
- Function Generator (Agilent) 33120A 15MHz - 01
- Universal Counter (Agilent) 53131A 225 MHz - 01
- Multifunction Generator (Caddo) 4080 20 MHz - 01
- Triple Power Supply (Scientech) ST4071 5V/30V - 01
- Multiple Power Supply (Scientech) ST4077 - 01
- Dessicator - 01
- Refrigerator - 01
- Signal generator (Agilent), 3GHz N9310A - 01
- Hot plate - 01

◆ SPM Lab

- Scanning Probe Microscope: Veeco (Model) - 01
- Gas Chromatograph (Centurian Scientific) - 01
- Ultimaker 3FDM 3D printer - 01

◆ Thin Film and Micro Fluidics Lab

- High end upright microscope - 01
- Thermal stage - 01
- High speed camera - 01
- UV-Ozone cleaning unit - 01
- Spin coater - 02
- Fume chamber - 01
- Clean bench - 01
- Ultrasonic cleaning bath - 01
- Millipore water supply unit - 01
- AC/DC power supply units - 03
- Electromagnet with Gaussmeter - 01
- Microbalance - 01
- High speed centrifuge - 01
- Air furnace - 01
- High resolution camera - 01
- Vacuum furnace - 01
- High Speed computational servers loaded with software, which includes Ansys Fluent, Mathematica and Material Studio - 01

◆ Thin Film and Micro Fluidics Lab

- FESEM-Electron Beam Lithography - 01
- Thermal and E-Beam Evaporator - 01
- Lase Micro Machining - 01
- DC probe Station - 01
- RF Sputtering - 01
- Electro Spinning Device - 01
- Mask writer - 01

- Double Sided Mask Aligner - 01
- Upright Optical microscope - 01
- Plasma cleaner - 01
- AC/DC Probe Station - 01 (DC Probe Station, IV CV Pulse parametric analyser, Impedance Analyser, Chemical Impedance Analyzer, Oscilloscope, Function Generator, Digital multimeter, DC Power supplies)

◆ Micro-Nano Characterization Lab

- AFM-TERS - 01
- Raman spectroscopy
- High End Confocal Microscope - 01
- Material Printing System - 01
- Fume Hood - 01
- Glove Box - 01
- UV-Visible Spectrophotometer - 01

◆ Micro-Nanoelectronic Characterization Lab

- Oxidation Diffusion Furnace - 01
- Wire Bonder - 01
- Wet Bench - 01
- DI water system - 01
- Weighing machine - 01
- Ultra filtration unit - 01
- UV Ozone - 01
- Hot plate - 01
- Sonicator - 01

◆ Wet Lab

- Rotavapor - 01
- Lyophilizer - 01
- Refrigerated High Speed Centrifuge - 01

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

Equipment:

- ◆ MACRO-CH, UV-Vis-NIR macro cuvette cell holder, lens of 40mm focal length
- ◆ QTZ-Cell Quartz
- ◆ Full set of optical alignment including power meter for Dilase 250
- ◆ Ultimaker 3FDM 3D printer, Multi-Filament pack, Modified 3D Tool Kit, UTM Cleaning Filament
- ◆ PSU, Zeta Board for ZEN 3600, DSP board, Micro-processor board
- ◆ Programmable Spin Coating System with accessories
- ◆ Spectrometer, Fibre optic cable
- ◆ Power meter and Detector, Display Monitor
- ◆ Basic Plasma Cleaner, PYREX SAMPLE TRAY for the PDC, Thermocouple Vacuum Gauge Assembly

Facilities:

- ◆ 3KVA and 6KVA True Online Double Conversion UPS System

- Desktop PC, Model: OptiPlex 5060, Make: DELL
- 20KVA True Online Double Conversion UPS System, 3Phase Input and 1 Phase Output
- Low Noise Triax Cable

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 major research project from ICMR (Rs. 20.00 Crore) entitled 'Centre for Excellence in Disruptive Innovations & Product Development for Affordable Rural Healthcare', three DST-SERB (A total of Rs.1.6 Crore) and one STARS-MHRD (Rs. 0.49 Crore) is sanctioned at the centre during this financial year 2019-2020. 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 seven major research projects sanctioned from DAE BRNS, SERB, DST, MHRD and DBT is also being implemented at Centre for Nanotechnology.

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 and developed a device 'Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor for Detection of Cancer' and 'Surface Acoustic Wave Based System for detection of HBsAg' in collaboration with Nanobiotechnology group.

Nanoscale science and technology group have designed and developed a device for 'Visual detection of bilirubin'; A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/Protein array based analyses; '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 device 'Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor device for Detection of Cancer'. Apart from our ongoing work on cancer therapeutics they have worked on flow dynamics of EMT cells during migration in constricted microchannel. Our studies helped in understanding drug resistant behaviour of triple negative breast

cancer EMT cells during deformation. In addition, we have investigated several signaling events in EMT related to cancer therapeutics. Further, membrane expressed TNF-alpha coated nanoparticles showed effect anti-cancer activities. In device front, our collaborative work led to development of FET based POC device. The transfer of technology (TOT) for the sensor device was also completed.

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 CO₂-sequestration Device to Produce Essential Organic Products Emulating Photosynthesis'; 'MEMS-POCT Device for Quantitative Estimation of the Biomarker α -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'; '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'; 'Portable and modular POCT device for rapid multiple diagnostic tests'; 'Microfluidic POC-immunosensor for Non-invasive Plasmonic Detection of Tear Biomarkers'; 'Point-Of-Care Detection of Ethanol in Human Breath and Other Analytes'.

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, Multilayer Dielectric System Comprising n-Type Organic Field Effect Transistors'; 'Fabrication of Solution Process, Ultra-low Operating Voltage, Stable Organic Field Effect Transistor'; 'Ultra-low Voltage Operated Organic Field Effect Transistor (OFET) based Biosensing 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'; 'Spontaneously Self-Assembled Nanosheets for the Detection of Organic Volatile Contaminants in Water'; 'Highly Fluorescence 'J-shaped' Multifunctional Thermally Activated Delayed Fluorescence (TADF) and Stimuli Responsive Organic Luminogens (SROL) for Lighting Applications and a method for attaining said TADF from an Inaccessible Near-IR Room Temperature Phosphorescence (NIR-RTP)'; 'A High Efficiency Polymer Solar Cell and a Process for fabricating the same'; 'Functional Group Engineering in Naphthalimides to Fine-Tune the Supramolecular Self-Assembly and Condensed State Luminescence' and 'PTB7-Th donor polymer based Donor-acceptor (D-A) conducting polymer (CPs) suitable for polymer solar cells (PSC) and devices thereof'.

Organometallics and Catalysis group focuses on Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation.

Another **research group working on organic Solar Cells, photovoltaics, Biosensors, Solid state Devices** have developed device of 'Ternary composites comprising hierarchical nanostructures and system thereof' and 'PA6/RGO/PANI ternary nanocomposites and fabrication of symmetric supercapacitors for electrochemical energy storage applications'.

A group of faculty members are working on 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

Startups under incubation at Centre for Nanotechnology

Primary Healthtech Pvt. Ltd.

JSV Innovations Pvt. Ltd.: Inauguration of School for Skill: Healthcare and Technology.

Design and Development of

'Ternary composites comprising hierarchical nanostructures and system thereof'.

'PA6/RGO/PANI ternary nanocomposites and fabrication of symmetric supercapacitors for electrochemical energy storage applications'.

'Portable and modular POCT device for rapid multiple diagnostic tests'.

'Microfluidic POC-immunosensor for Non-invasive Plasmonic Detection of Tear Biomarkers'.

'Point-Of-Care Detection of Ethanol in Human Breath and Other Analytes'.

'Surface Acoustic Wave Based System for detection of HBsAg'.

'Highly Fluorescence 'J-shaped' Multifunctional Thermally Activated Delayed Fluorescence (TADF) and Stimuli Responsive Organic Luminogens (SROL) for Lighting Applications and a method for attaining said TADF from an Inaccessible Near-IR Room Temperature Phosphorescence (NIR-RTP)'.

'A High Efficiency Polymer Solar Cell and a Process for fabricating the same'.

'Functional Group Engineering in Naphthalimides to Fine-Tune the Supramolecular Self-Assembly and Condensed State Luminescence'.

'PTB7-Th donor polymer based Donor- acceptor (D-A) conducting polymer (CPs) suitable for polymer solar cells (PSC) and devices thereof'.

CONFERENCES /WORKSHOPS/SYMPOSIA ATTENDED

Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
Prof. Roy Paily	"Developing Electronics Devices for Biological Applications", International Conference on Electronic Systems and Intelligent Computing (ESIC 2020)	NIT Arunachal Pradesh	2nd - 4th March 2020	Keynote Lecture at International Conference
Prof. Roy Paily	"MOS Transistors - History, Technology, and Prospects"	ECE Department IIIT Manipur	14 Feb 2020	National, FDP on VLSI & MEMS Design
Dr. Ashok Kumar Dasmahapatra	SM-YIM- 2019	Shillong	May 12 - 14, 2019	National

Dr.Ashok Kumar Dasmahapatra	COMPFLU – 2019	IISER Bhopal	Dec 05 – 07, 2019	International
Dr.Ashok Kumar Dasmahapatra	Conference on Recent Topics in Statistical Mechanics	NISER Bhubaneswar	Dec 11 – 13, 2019	National
Dr.Akshai Kumar A S	ICANN 2019	IIT Guwahati	Dec 2019	International
Dr.Akshai Kumar A S	MTIC XVIII	IIT Guwahati	Dec 2019	International
Dr.Akshai Kumar A S	19th National Workshop on Catalysis-2019	IIT Delhi	May 2019	National
Dr.Akshai Kumar A S	International Conference on Advances in Chemical and Materials Science (ICCM-2019)	Mangalore University, Mangalore, INDIA	Oct 2019	International
Dr.Akshai Kumar A S	RSC Roadshow	IIT Guwahati	Nov 2019	International
Dr D Pamu	International conference on advanced materials and processes	Hyderabad	23-25 Sep 2019	International
Dr. Partho S G Pat-tader	Nanotech France 2019	France	26-28 June, 2019	International
Dr. Vivek Borse	12th Young Investigators Meeting (YIM) 2020, organized by IndiaBioscience and IIT Madras	Mahabalipuram, Tamil Nadu	Feb 14-16, 2020	International
Dr. Vivek Borse	Conducted a Workshop for Design Innovation Centre Add-on Course in the Department of Biomedical Engineering, School of Technology, on the topic 'Design and Fabrication of Biosensor for Biomedical Applications'	North Eastern Hill University (NEHU), Shillong, Meghalaya	Mar 7, 2020	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Date	Place
Prof. S. S. Ghosh	Indian Institute of Informaton Technology Allahabad (IIIT Allahabad)	Towards Point of Care Nanotheranostic Devices	Mar 7, 2019	International Conference "RDAB-2020"
Prof. D. Bandyopadhyay	Harnack-Haus, Conference Venue of the Max Planck Society, Berlin, Germany	Mixing Separation Reaction in μ -fluidics	Feb 25, 2020	4th Indo-German Workshop on Advances in Materials, Reaction and Separation Processes
Prof. D. Bandyopadhyay	IIT Guwahati	Rheology @ Mesoscale	Dec 2019	ICANN
Prof. D. Bandyopadhyay	IIT Kanpur	Chemical Engineering at Mesoscale	2020	CV Sheshadri Distinguished Lecture
Prof. D. Bandyopadhyay	IIT Kanpur	Genesis of a Dream: Health Care Technologies for a Billion	2020	CV Sheshadri Distinguished Lecture
Prof. D. Bandyopadhyay	IIT Guwahati	Mixing Separation Reaction inside Microfluidics Devices	-	Short term Course on the Fabrication and Application of Micro Devices in Thermo-fluidic Engineering

Prof. D. Bandyopadhyay	IIT Senapati, Manipur	Genesis of a Dream: Health Care Technologies for a Billion	10th Feb 2020	Faculty Development Program on VLSI & MEMS Design
Prof. D. Bandyopadhyay	Calcutta University	Short Story on Strange Queries Unexpected Solutions	Sep 2019	National Symposium on Recent Trends in Chemical and Allied Industries - Technology, Economics and Related Issues
Prof. D. Bandyopadhyay	NIT Agartala	Micro or Nanoscale Soft-Assemblies of Liquid Crystals	Aug 2019	Recent advances in Materials Science & Engineering
Prof. D. Bandyopadhyay	IIT Guwahati	Learning while Doing,	June 2019	Workshop on Advanced Pedagogies: Active Learning and Digital Tools
Prof. D. Bandyopadhyay	IIT Guwahati	Art of Flu-Mech@ Mesoscale	June 2019	5th National Workshop on Research Methodology in Fluid Mechanics
Prof. D. Bandyopadhyay	Mahatma Gandhi University Kottayam	Micro or Nanoscale Soft-Assemblies of Liquid Crystals	April 2019	Nano India
Dr. Akshai Kumar A S	"Pincer Complexes in Catalytic Conversions: Synthesis of Fuel and Value-Added Chemicals "	ICANN 2019	Dec 2019	IIT Guwahati, Guwahati, INDIA
Dr. Akshai Kumar A S	"Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals"	Modern Trends in Inorganic Chemistry MTIC-XVIII,	Dec 2019	IIT Guwahati, Guwahati, INDIA
Dr. Akshai Kumar A S	"Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals"	IPC Department,	Oct 2019	IISc, Bangalore, INDIA
Dr. Akshai Kumar A S	"Efficient Pincer-Ruthenium Catalytic Systems for Dehydrogenation and Related Reactions"	International Conference on Advances in Chemical and Materials Science (ICCM-2019)	Oct 2019	Mangalore University, Mangalore, INDIA
Dr. Akshai Kumar A S	"Metal Carbonyls"	St. Aloysius College	Oct 2019	Mangalore, INDIA

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
Shri Sanjay Dhotre	Hon'ble Minister of State for HRD and Communications and Electronics & IT	Visited the lab facilities of Centre for Nanotechnology	Jan 13, 2020
Prof. Dinesh Kumar	RMIT Australia	"Signal and Image processing for affordable diagnostics"	Dec 31, 2019

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Seminar/Workshop/Conference	Funded By	Date	No. of participants
01	Prof. P. K. Iyer (Convener) Prof. S. S. Ghosh (Joint Convener)	6th International Conference on Advanced Nanomaterials and Nanotechnology (ICANN 2019)	-	18-21 Dec 2019	250
02	Dr. Ashok Kumar Dasmahapatra	International Symposium on Sustainable Polymers & National Symposium on Chemistry Education for Sustainable Engineering	DeitY, Government of India	Aug 23 – 25, 2019	150
03	Dr. Akshai Kumar A S	"Pincer Complexes in Catalytic Conversions: Synthesis of Fuel and Value-Added Chemicals "	ICANN 2019	Dec 2019 IIT Guwahati	
04	Dr. Akshai Kumar A S	"Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals"	Modern Trends in Inorganic Chemistry MTIC-XVIII	Dec 2019 IIT Guwahati	
05	Dr. Akshai Kumar A S	"Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals"	IPC Department	Oct 2019 IISc, Bangalore, INDIA	
06	Dr. Akshai Kumar A S	"Efficient Pincer-Ruthenium Catalytic Systems for Dehydrogenation and Related Reactions"	International Conference on Advances in Chemical and Materials Science (ICCM-2019)	Oct 2019 Mangalore University, Mangalore, INDIA	
07	Dr. Akshai Kumar A S	"Metal Carbonyls"	St. Aloysius College	Oct 2019 Mangalore, INDIA	

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/ Granted	Application No.	Remarks
01	Ashok Kumar Dasmahapatra, Harshal B. Nemade and Shatru-dhan Palsaniya	Ternary composites comprising hierarchical nanostructures and system thereof	Date of Filing November 27, 2019	201931048629	Filed
02	Ashok Kumar Dasmahapatra, Harshal B. Nemade and Shatru-dhan Palsaniya	PA6/RGO/PANI ternary nanocomposites and fabrication of symmetric supercapacitors for electrochemical energy storage applications	Date of Filing December 23, 2019	201931053416	Filed
03	Goswami N, Paily R. P., Bose B	Surface Acoustic Wave Based System for detection of HBsAg	Date of Filing 2019	Indian Patent, 201931054349	Filed
04	Nirmal Roy, Shirsendu Mitra, Dipankar Bandyopadhyay, Harshal B. Nemade, Tapas K. Mandal	Point-of-care detection of ethanol in human breath and other analytes	Date of Filing 03/10/2019	201931040108	Filed
05	Ankit Chowdhury, Mitradip Bhattacharjee, Nilanjan Mandal, Sahil Jagnani, Pankaj Upadhyay, Dipankar Bandyopadhyay	Portable and modular POCT device for rapid multiple diagnostic tests	Date of Filing 27/02/2019	National Patent filed with Application number: TEMP/E-1/8285/2019-KOL, Patent Appl. No. 201931007736.	Filed
06	Surjendu maity, Shubhradip Ghosh, Tanushree Ghoshal, Dipankar Das and Dipankar Bandyopadhyay	Microfluidic POC-immunosensor for Non-invasive Plasmonic Detection of Tear Biomarkers	Date of Filing 12/07/2019	National Patent filed with Application number:TEMP/E-1/29690/2019-KOL, Patent Appl. No. 201931028121	Filed
07	Nirmal Roy, Shirsendu Mitra, Dipankar Bandyopadhyay, Harshal B. Nemade, and Tapas Kumar Mandal	Point-Of-Care Detection of Ethanol in Human Breath and Other Analytes	Date of Filing 03/10/2019	National Patent filed with Application number: TEMP/E-1/42484/2019-KOL, Patent Appl. No. 201931040108	Filed
08	Iyer, P. K.; Barman. D.	Highly Fluorescence 'J-shaped' Multifunctional Thermally Activated Delayed Fluorescence (TADF) and Stimuli Responsive Organic Lumino-gens (SROL) for Lighting Applications and a method for attaining said TADF from an Inaccessible Near-IR Room Temperature Phosphorescence (NIR-RTP)	Date of Filing 2019	Ref. No. 201931020985, Appl. No. TEMP/E-1/22090/2019-KOL	Filed
09	Iyer, P. K.; Gupta, R. K.; Afroz, M. A.; Garai, R.	A High Efficiency Polymer Solar Cell and a Process for Fabricating the same.	Date of Filing 2019	Ref. No. 201931019186 Appl. No. TEMP/E-1/20133/2019-KOL	Filed

10	Iyer, P. K.; Meher, N.	Functional Group Engineering in Naphthalimides to Fine-Tune the Supramolecular Self-Assembly and Condensed State Luminescence	Date of Filing 2019	Ref. No.201931020811, Appl. No. TEMP/E-1/21902/2019-KOL	Filed
11	Iyer, P. K.; Garai, R.; Afroz, M. A.; Gupta, R.	PTB7-Th donor polymer based Donor- acceptor (D-A) conducting polymer (CPs) suitable for polymer solar cells (PSC) and devices thereof	Date of Filing 2019	Ref. No. 201931020744, Appl. No. TEMP/E-1/21812/2019-KOL	Filed

AWARDS AND HONOURS

- ◆ Prof. Arun Chattopadhyay received the prestigious J C Bose Fellowship 2020 (SERB)
- ◆ Prof. Dipankar Bandyopadhyay selected to present a lecture in Prof. C. V. Seshadri Memorial Distinguished Lecture 2020 held at IIT Kanpur
- ◆ Dr. Akshai K.S.A. has been selected as a Member of American Chemical Society
- ◆ Prof. P. K. Giri and Prof. P.K. Iyer won the MRSI Medal 2020 from the Materials Research Society of India (MRSI) for their contribution to the field of materials science and nanotechnology
- ◆ Dr. Uttam Manna received INSA-Young Scientist Award, 2019 and Bilateral Exchange of Academics Award-2019 from DAAD, Germany

STUDENTS' ACHIEVEMENTS

- ◆ Dr. Srestha Basu has been selected for JSPS Fellowship
- ◆ Dr. Rumi Khandelia has been selected for Marie Curie Fellowship
- ◆ Srirupa Bhattacharyya received Best poster presentation award in INCD 2019: 4th International Conference on Nutraceuticals and chronic diseases, Organized by IIT Guwahati, 23rd – 25th September 2019
- ◆ Srirupa Bhattacharyya received Best poster presentation award in World Congress on cancer (WCC), Organized jointly by Mahatma Gandhi University of medical Sciences and Technology (MGUMST, Jaipur and Cancer Institute, Chennai, Ichan School of medicine at Mount Sinai, New York, February 3-5, 2020
- ◆ Das, K.; Kelkar, A.; Srivastava, H. K.; Kumar, A., Judged as the "Special Poster Award" for the poster entitled "Rational Design of Pincer-Metal Complexes for Catalytic Functionalization of Carbon Dioxide" presented during 19th National Workshop on Catalysis-2019, IIT Delhi, May 2019
- ◆ Mr. Shatrudhan Palsaniya received Best Oral Presentation award in Reflux 7.0, IIT Guwahati, India, September 28-29, 2019 for the paper "Graphene-based PANI/MnO₂ Nanocomposites with Enhanced Dielectric Properties for High Energy Density Materials

FACULTY ASSOCIATED WITH THIS CENTRE

Sl. No.	Name	Designation
01	Bandyopadhyay, Dipankar	Head, Centre for Nanotechnology & Professor, Department of Chemical Engineering
02	Bose, Biplab	Associate Professor, Department of Biosciences and Bioengineering
03	Chattopadhyay, Arun	Professor, Department of Chemistry
04	Dasmahapatra Ashok Kumar	Associate Professor, Dept. of Chemical Engineering
05	Ghosh, Siddhartha Sankar	Professor, Department of Biosciences and Bioengineering
06	Giri, Pravat Kumar	Professor, Department of Physics
07	Iyer, Parameswar Krishnan	Professor, Department of Chemistry
08	Mandal, Tapas K	Professor, Department of Chemical Engineering
09	Nemade, Harshal B.	Professor, Department of Electronics and Communication Engineering
10	Palathinkal, Roy Paily	Professor, Department of Electronics and Communication Engineering

12	Pattader, Partho Sarathi Gooh	Assistant Professor, Dept. of Chemical Engineering
13	Pamu, D.	Associate Professor, Department of Physics
14	Paul, Anumita	Professor, Department of Chemistry
15	Peela, Nageswara Rao	Associate Professor, Dept. of Chemical Engineering
16	S. Akshai Kumar A.	Assistant Professor, Department of Chemistry
17	Sahoo, Lingaraj	Professor, Department of Biosciences and Bioengineering
18	Borse, Vivek	DST-Inspire Faculty Fellow, Centre for Nanotechnology

CENTRE FOR RURAL TECHNOLOGY

LABORATORY FACILITIES

Two common laboratories, one wet lab and one for miscellaneous work

- ◆ Agro Biotechnology
- ◆ Natural Resources Management
- ◆ Rural energy

MAJOR EQUIPMENTS AND FACILITIES ACQUIRED

N- analyzer, UV Visible spectrophotometer, Deep freezer (-80 °C), HPLC, TOC Analyzer

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- ◆ Mechanical system design for the rural sector
- ◆ Design and Development of Technology for Rural sector
- ◆ Climate Change: vulnerability and adaption
- ◆ Rural Sanitation
- ◆ Food Processing
- ◆ Waste management

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

CRT is actively involved in the above quoted major research domains in continuity. However, the visible snapshots of the period 1 April 2019 – 31 March 2020 were involvement of RuTAG NE facilitating fabrication and dissemination of an indigenously developed pottery dying chamber to over different locations all over NER. Additionally, some of the research outputs are close to product development of value-added indigenous vegetables and leafy vegetables of North East India

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. S. K. Kakoty	Strategies for Effective Engineering Education: Empowering the Students	Bineswar Brahma Engineering College	Kokrajhar, BTC, Assam	9 January, 2020
Prof. S. K. Kakoty	Rural Development: As an Engine of Economic Growth	B P Chaliha College, Nagarbera	Goalpara, Assam	11 March, 2020
Dr. Siddhartha Singha	Qualitative and Quantitative Tools for Food Product Innovation: A Practitioner Perspective	Harcourt Butler Technical University	Kanpur	August 29, 2019

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Name	Name of Inst./ Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
Dr. Jagdish Mukhi	Governor of Assam	Interaction with students and faculties	10 th August 2019	Visit
Shri Sanjay Shamrao Dhotre	Union Minister of State, HRD	Interaction with students and faculties	13 th January 2020	Visit
Dr Bhaskar Bhowmick	IIT Kharagpur	Interaction with Students and talk about Entrepreneurship	23 rd January 2020	Invited talk

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Seminar/Workshop/Conference	Funded By	Date	International/ National	No. of participants
1	Prof. S K Kakoty & Dr. S Singha	Training on Feed Block machine and Biomass Dryer operation was provided to officials from NRC-Mithun, Nagaland. Venue: IIT Guwahati.	RuTAG, Office of the PSA to Gol	30th January, 2019	National	8

2	Prof. S K. Kakoty & Dr. S Singha	Training on Biomass Dryer operation was provided to NERCoRMP officials. Venue: IIT Guwahati.	NEDFi/ MDoNER	7th February, 2019	National	25
3	Prof. S. K. Kakoty	Project Appraisal Committee Meeting, Venue: IIT Gu-	RuTAG, Office of the PSA to Gol	8th February, 2019	National	12
4	Prof. S K. Kakoty & Dr. S Singha	NGO meeting, Venue: IIT Guwahati.	RuTAG, Office of the PSA to Gol	1st March, 2019.	National	30
5	Prof. S K. Kakoty & Dr. S Singha	Training on potter's wheel operation was provided to artisans from Majuli. Venue: IIT Guwahati.	ICCO India	29th March, 2019		20
6	Prof. S K. Kakoty & Dr. S Singha	Training cum installation of Universal Biomass Dryer was done in Sikkim	NERAMAC/ MDoNER	11th July, 2019.		30
7	Dr Sudip Mitra	Becoming a Plant Doctor Workshop	CABI-MSSRF	15-19 July 2019	National	30
8	Prof. S K. Kakoty & Dr. S Singha	Training cum installation of Hank to Bobbin winding machine was done in Nagaland	NEHHDC/ MDoNER	21st July, 2019.		30
9	Prof. S K. Kakoty & Dr. S Singha	Training cum installation of Hank to Bobbin winding machine was done in Mizoram	NEHHDC/ MDoNER	24th July, 2019.		30
10	Dr. Siddhartha Singha	Capacity Building of Tribal Youth through Agro-Processing" at Kalachand Village, Dima Hasao District	Dima Hasao District Autonomous Council	24th or 25th August, 2019	Regional	50
11	Prof. S K. Kakoty & Dr. S Singha	Training on modified Feed Block Machine operation was provided to officials from Nagaland University Venue: IIT Guwahati	RuTAG/ Office of PSA to Gol	18th September, 2019.		25
12	Dr Sudip Mitra	Scientific Social Responsibility (SSR) consultation	DST-TIFAC	18 Sep 2019	National	70
13	Prof. S K. Kakoty & Dr. S Mitra	4th North East Green Summit	Vibgyor NE Foundation	1-3 November, 2019	National	800
14	Prof. S K Kakoty & Dr. S Singha	NGO meeting,. Venue: Maibang, Dima Hasao.	RuTAG, Office of the PSA to Gol	7th December, 2019	National	40
15	Prof. S K. Kakoty & Dr. S Singha	2nd Rural Dialogue	Innovior and AIILSG	20th & 21st January 2020	National	500
16	Prof. S K. Kakoty Covenor-Ajay Kalamdgad Co-Convenor-Meena Khwairakpam	3rd International conference on Waste Management, "Recycle 2020"	2020	13-14 Feb' 2020	International	276
17	Prof. S K. Kakoty & Dr. S. Singha	NGO meeting,. Venue: Moran, Dibrugarh.	RuTAG, Office of the PSA to Gol	7th March, 2020	National	28

PATENTS

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
1	Prof. S K. Kakoty & Pranay Kr. Sarkar	Welding of Bell metal	16 March, 2020	Not assigned yet

STUDENTS' ACHIEVEMENTS

- ◆ Mr. B. R Bhattacharjya and Prof. S. K. Kakoty received best paper award in the Fore International Conference on Frugal Approach to Innovation, organized by Fore School of Management, New Delhi, December 13-14, 2019
- ◆ Nihal Gujre won second prize in a Travelogue writing competition, held during "Hindi Fortnight-2019" at IIT Guwahati
- ◆ C, Shashi Kumar, Siddhartha Singha, Sudip Mitra secured Third Prize for "Simulation of moisture content inside a packaging system for some food grains" (poster presentation). National Conference on Advances in Food Processing for Sustainable Food Security (AFP-2019). Organized by Department of Food Process Engineering National Institute of Technology Rourkela, Odisha. May 17-18, 2019
- ◆ Bala E, Ali AN, Singha S have received Best Poster award for "Effect of enzymatic hydrolysis of *Marsilea quadrifolia*" on the theme of Food

biotechnology and bio-processing at 27th Indian Convention of Food Scientists and Technologists Conference organized by AFST (I)-HQ and conducted by CSIR-CFTRI Mysuru and Tezpur University

- ◆ Jyoti and Khwairakpam, M., 2019. Analysis of soil applicability of water hyacinth compost by performing phytotoxicity test (Poster), *Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)*, 27-29 November, National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)
- ◆ Singh, P., Kumar, A., Kalamdhad, A.S., 2019. Biogas generation through anaerobic digestion of food waste and its purification (poster), *Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)*, 27-29 November, National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)

CORE FACULTY MEMBERS

Sl. No.	Name	PhD	Designation	Areas of Interest
1	Khwairakpam, Meena	IIT Roorkee	Assistant Professor	Solid Waste Management. Environmental Engineering
2	Mitra, Sudip	IARI, New Delhi	Associate Professor	Environmental Pollution, Climate Change, Vulnerability and Adaptation; Carbon Sequestration, Greenhouse gases management
3	Singha, Siddhartha	IIT 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, Amarendra K	Professor, Department of Design
3	Dutta, Mrinal K	Professor, Humanities and Social Sciences
4	Jawed, Mohammad	Professor, Civil Engineering

5	Kalita, Karuna	Associate Professor, Mechanical Engineering
6	Kalita, Pankaj	Assistant Professor, Centre for Energy
7	Kakoty, Sashindra K, (HOD)	Professor, Mechanical Engineering
8	Kalamdhad, Ajay	Associate Professor, Civil Engineering
9	Monga, Charu	Assistant Professor, Department of Design
10	Patra, Sanjukta	Associate Professor, Biosciences and Bioengineering
11	Rangan, Latha	Professor Biosciences and Bioengineering
12	Sarma, Arup	Professor, Civil Engineering
13	Uppaluri, Ramagopal	Professor, Chemical Engineering

**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 412 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 881 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.

COLLECTION DEVELOPMENT:

◆ The library has a fast growing collection of

books, 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 2019-20. Total collection strength of the Library now stands as follows:

ITEMS	Collection Size (2019-20)
Printed Books and bound volume journals (including NBHM collection)	1,80,878
E- books (including NBHM collection)	2,03,640
Back file electronic journals (including NBHM collection)	2,066
Ph.D. Theses	1,313
Printed Standards	524
Non-Book material (CD, DVD, etc.)	6,735
Current Print Journal Subscription	29
Total Journals (including backfiles & current journals subscribed and access provided by Consortia)	27,557

◆ The growth of the collections since 2011-12 stand as follow:

Sl. No.	F.Y.	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(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	1,80,878
(ii)	E-books	26	7,931	7,931	1,45,770	1,47,463	1,53,089	1,80,559	1,88,516	2,03,640
(ii)	Printed Journals	578	591	151	120	90	84	68	50	29
(iii)	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*	27,557*

* includes backfiles

◆ 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 16,667 journal titles across all academic areas of which 16,638 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'.

◆ Apart from the above, Library has procured some of world's most renowned abstract/full-text database like EBSCO Discovery Service, Scopus, SciFinder Scholar, ACS Web Edition, EBSCO Business Source Complete, eHRAF Database, IEC Standards, ISO Standards, IOP Science Collection, Royal Society of Chemistry Gold Collection etc. and some well-known national database i.e. CMIE ProweesIQ, Economic Outlook, BIS Standards, EPWRF Time Series, etc during the reporting period.

◆ Library has also subscribed Turnitin, a Plagiarism-detection Software, during the reporting period

- ◆ 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.
- ◆ Library has also developed a good number of collection on Braille Books and a special literary collection on Mahatma Gandhi during the reported period.

EXPENDITURE ON BOOKS AND RESEARCH JOURNALS

Expenditure on books and research journal of Lakshminath Bezbaroa Central Library has also increased over last nine financial years, details of which as follows:

Financial Year	Expenditure on Books (Rs. In Lakhs)	Expenditure on Research Journals (Rs. In Lakhs)
2011-12	272.05	301.91
2012-13	108.96	369.99
2013-14	147.57	570.15
2014 -15	190.82	666.84
2015-16	124.91	685.72
2016-17	75.12	746.20
2017-18	149.99	883.89
2018-19	148.87	1,022.56
2019-20	65.58	1,088.22

- ◆ 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.ac.in>. By end of the reporting period, total 1123 full-text theses had been uploaded in the stated repository.
- ◆ To provide sufficient reading facility, Central Library has added 12 more seating capacity during the reporting period. With this, total seating capacity now stands 412.
- ◆ 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.
- ◆ Circulation system is being upgraded with RFID based technology for faster transactions.
- ◆ 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.

- ◆ For safekeeping of personal belongings of library users, token-based property counter has been made available throughout library operation hours

INFRASTRUCTURE AND DEVELOPMENTAL ACTIVITIES

- ◆ 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.
- ◆ A large format display monitor has been installed for intimating the users about recent developments and facilities of library.
- ◆ Interior of entire Library building has been renovated with modern illumination system for creating appropriate ambiance for readers.
- ◆ North East Regional Centre of National Digital Library of India (NDLI) has been setup in the premise of Lakshminath Bezbaroa Central Library and providing training & support to build digital repository in institute level. The Centre developed, deployed and launched Assamese Language interface for NDLI portal on 22nd Feb. 2020.

CENTRE FOR EDUCATIONAL TECHNOLOGY

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	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 PMMMNM TT and IITG MoU with RMSA, Assam

LABORATORIES & STUDIOS AT CET

- ◆ 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.
- ◆ 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 (PMMMNM TT).
- ◆ 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 2nd 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.
 - 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.
 - 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.
 - Virtual Labs for Mechanical Vibrations: This lab is under mechanical engineering department. Ten experiments are developed using Labview software.
 - Speech Signal Processing Lab: This lab is under electrical and electronics engineering department. Nine experiments are developed using Scilab software.
 - 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.
 - 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.
 - 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.
 - 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.
 - Virtual Laboratory Experience in Fluid and Thermal Sciences: This lab is under mechanical engineering department. Twelve experiments are developed using Labview software.

- Digital North East: This lab which is actually a repository of rare periodical archives, ethnographic reports etc is under humanities department.
- 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.
- 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.
- 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.
- Creative design, prototyping and experimental simulation in human computer interaction: This lab is under design department. Sixteen experiments are developed using html5 and php.
- Remote triggered fiber optic communication lab: This is a real time lab under electrical and electronics engineering department. Six experiments are developed using Labview software.
- Remote triggered digital system design lab: This is a real time lab under computer science engineering department. Ten experiments are developed under this lab.
- Virtual robotics lab: This is a real time lab under mechanical engineering lab. Eight experiments are developed under this lab.
- Remote triggered electromechanical conversion lab: This is a real time lab under electrical and electronics engineering lab.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

Sl. No.	Equipment	Qty
1	Workstation with Monitor	1
2	Apple Mac Pro 3.0 GHz 8-core Int. Xeon E5	2
3	Apple Final Cut Pro X	2
4	Lenovo Think station 520c Intel Xeon W2145 Processor 16 GB DDR4 RAM, 2GB Graphic card 1TB SSD, DOS	2
5	Lenovo 24'' wide Screen Led Monitor	2

MAJOR AREAS OF RESEARCH AND DEVELOPMENT/ ACTIVITIES AT CET

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

- ◆ Total 04 nos. of courses were organized under Global Initiative of Academic Networks (GIAN).
- ◆ 34 nos. of video courses were completed under MOOCs.
- ◆ Total 19 courses were conducted under TEQIP III .
- ◆ Total 4 Teachers' Training Camps were conducted under PMMMNMTT.

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANIZATIONS / INVITED LECTURES

Name	Name of Inst./Univ./ Org.	Purpose/ Name of Lecture	Date	Remarks
Prof. Srinivas S. Pulugurtha	North Carolina at Charlotte (UNC Charlotte), USA	Road Safety Engineering	24-28 June 2019	GIAN
Dr. Pavel A. Petrov	Moscow Polytechnic University, Russia	Isothermal Near-Net Shape Forging of Aluminum Alloys: Advances and Inventions	8-12 July 2019	GIAN
Prof. Bernard Carroll	University of Queensland, Australia	RNA interference and Epigenetic Control of Gene Expression in Plants	11-20 November 2019	GIAN
Dr. D. Kacy Cullen	Pennsylvania and the Philadelphia VA Medical Center, USA	Engineering Strategies to Restore the Nervous System	2-13 December 2019	GIAN

Prof. H.C. Verma	IIT Kanpur	Workshop on Innovative Physics Teaching	8 - 11 June 2019	PMMMNMTT
Prof. Arindam Sengupta,	University of Calcutta, Kolkata	Teacher's Enrichment Course in Undergraduate Mathematics Curriculum	01 - 13 July 2019	PMMMNMTT
Prof. Arbind Lal,	IIT Kanpur	Teacher's Enrichment Course in Undergraduate Mathematics Curriculum	01 - 13 July 2019	PMMMNMTT
Dr. Ajit Kumar,	ICT Mumbai	Teacher's Enrichment Course in Undergraduate Mathematics Curriculum	01 - 13 July 2019	PMMMNMTT
Dr. Dhiren Kumar Basnet,	Tezpur University	Teacher's Enrichment Course in Undergraduate Mathematics Curriculum	01 - 13 July 2019	PMMMNMTT

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANIZED

Sl. No.	Faculty	Course Name	Funded by	Date	National/International	No. of participants
Under TEQIP-III						
1	Dr. Prakash Kotecha	Computer Aided Applied Numerical & Optimization Techniques	MHRD	17-21 January, 2020	National	53
2	Prof. Sharad Gokhale	Environmental Air & Noise Pollution-Measurements & Modelling	MHRD	22-26 April, 2019	National	15
3	Dr. Anjan Kumar S	Durable Bituminous Pavements- Theory and Practice	MHRD	9-13 December, 2019	National	24
4	Dr. Rajib Km. Bhattacharjya	Advances in Integrated Water Resources Management	MHRD	16-18 December, 2019	National	12
5	Dr. Chandan Karfa	C- Based VLSI Design: Synthesis, Optimization and Verification	MHRD	01-05 April, 2019	National	11
6	Dr. John Jose	Workshop on Effective Teaching	MHRD	03-07 June, 2019	National	26
7	Dr. Amit Awekar, Dr. Ashish Anand	Deep Learning for Natural Language Processing	MHRD	18-22 November, 2019	National	28
8	Dr. Sougata Karmakar	Ergonomics in design and engineering education	MHRD	07-11 January, 2020	National	6
9	Prof. Umri Salve	Implementation of Ergonomics in Manufacturing Industries	MHRD	24-28 November, 2019	National	58
10	Dr. Debapriya Basu, Dr. Kiran Keshavamurthy	Introduction to the Digital Humanities	MHRD	27-28 May, 2019	National	10
11	Prof. P. Muthukumar	Recent Trends in Renewable Energy Utilization Technologies	MHRD	8-12 May, 2019	National	18

12	Dr. Amaresh Dalal	Computational Fluid Dynamics for Incompressible Flows	MHRD	17-21 June, 2019	National	26
13	Dr. Poonam Kumari, Dr. Nelson Muthu	Mechanics and Composites for engineering applications	MHRD	21-25 May, 2019	National	15
14	Dr Pranab kr. Mondal, Dr. Pankaj Biswas	Fabrication and application of micro Devices in Thermo-fluidic Engineering	MHRD	24-28 February, 2020	National	
15	Prof. Satyajit Panda	Active/Passive Damping Composites for Structural Vibration Control	MHRD	06-10 January, 2020	National	15
16	Dr. Sajan Kapil	3D Printing and Allied Technologies	MHRD	06-10 January, 2020	National	64
17	Dr. Pankaj Kalita	Clean Energy Technologies	MHRD	10-14 June, 2019	National	48
18	Dr. Chandan Das, Dr. Mihir Kumar	Advances in Separation Techniques	MHRD	15 March, 2019	National	8
19	Dr. Mihir Kumar Purkait	Rise of Arsenicosis and Fluorosis-like diseases in the North-Eastern states of India	MHRD	23-24 January, 2020	National	32

Under PMMMNMTT

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
1	Prof. Sunil Khijwania	Focused Intensive Physics Camp for BSc Students :	MHRD	17 - 28 June 2019	National	52
2	Prof. Sunil Khijwania	Workshop on Innovative Physics Teaching :	MHRD	8 - 11 June 2019	National	22
3	Prof. Sunil Khijwania	Mathematics Training Programme for Undergraduate Students : 01 - 13 July 2019	MHRD	01 - 13 July 2019	National	56
4	Prof. Sunil Khijwania	Teacher's Enrichment Course in Undergraduate Mathematics Curriculum	MHRD	01 - 13 July 2019	National	22

Under E&ICT Academy

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	PI, Co-PI Dr. Bijoylaxmi Sarmah Dr. Joyatri Bora	Behavioral Remodeling and Research Methodology at NERIST in association with by Expert organised E&ICT Academy.	MEITY	01-05 April 2019	National	30
2	PI, Co-PI Dr. Bijoylaxmi Sarmah Dr. Joyatri Bora	Behavioral Remodeling and Research Methodology at NERIST in association with by Expert organised E&ICT Academy.	MEITY	01-05 April 2019	National	30

3	PI, Co-PI Dr. Surendra Nath Borah	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers at DKD College in association with by Expert organised E&ICT Academy.	MEITY	22-27 April 2019	National	42
4	PI, Co-PI Dr. Partha Pratim Saikia Mr. Udoy Narayan Gogoi	Use of ICT Tools for Classroom Teaching at NN Saikia College in association n with Mantra Associates.	MEITY	22-27 April 2019	National	60
5	PI, Co-PI Dr. Tapan Talukdar	Information and Communication Technology at KBVSAS College in association in with Mantra	MEITY	21 April 2019	National	37
6	PI, Co-PI Dr. K. R. Manjula	Machine Learning Algorithms and Applications with Python at Sastra Deemed University in association with Probyto.	MEITY	26 April -02 May 2019	National	33
7	PI, Co-PI Dr. Kishor Shah	Use of ICT Tools for Classroom Teaching at ADP College in with Mantra Associates.	MEITY	29 April – 04 May 2019	National	43
8	PI, Co-PI Dr. Dreamse Das Mrs. Suprity Sham	Behavioral Remodeling and use of ICT Tools at Tinsukia Womens College in association with Expert organized by E&ICT Academy	MEITY	29 April-05 May 2019	National	55
9	PI & Co-PI	Training Programme on Cyber Security & Digital Forensic for Assam Police	EICT	04-08 May 2019	National	49
10	PI & Co-PI	Behavioral Remodeling and Research Methodology at Guru Charan in association with Expert organized by E&ICT Academy & Tech Booster.	MEITY	14-18 May 2019	National	43
11	Dr. Srinivasan Krishnaswamy	Network Security	MEITY	20-24 May 2019	National	102
12	PI & Co-PI Dr. Asha Basumata-ry Mr. Hemanta Rabha Mr. Rupan Boro	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers at Tangla College in association with Expert organized by E&ICT Academy	MEITY	21-27 May 2019	National	61
13	Ms. Hema Gogoi, Mr. Pankaj Choudhury & Ms. Parveen Islam	Behavioral Remodeling & Use of ICT Tools For Classroom Delivery of Teachers at NEF Law College in association with Expert organized by E&ICT Academy & Tech Booster.	MEITY	24-29 May 2019	National	46

14	Dr. Dhiraj Kr. Singha, Dr. Sandeep Raj, gaurav Kumar	IOT & Embedded System Design at IIIT Bhagalpur in association with Digital Shark	MEITY	27-31 May 2019	National	18
15	Mr. Trailokya Hazarika	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers at Nowgong Law College in association with Expert organized by E&ICT Academy & Mantra Associates.	MEITY	27 May-01 June 2019	National	30
16	Prof. Rohit Sinha	Deep Learning and Applications**	MEITY	27-31 May 2019	National	151
17	PI & Co-PI Dr. Santosh Biswas (IIT Guwahati)	Workshop on Data Security and Cryptology at IIT Bhilai	MEITY	27-29 May 2019	National	60
18	PI & Co-PI Dr. Smita Sarmah (Assam Royal Global University) Dr. Rumi Ahmed (Assam Royal Global University)	Statistical Analysis, Pedagogy & Stress Management at The Assam Royal Global University in association with Techvictus and Expert organized by E&ICT Academy.	MEITY	03-08 June 2019	National	33
19	PI & Co-PI Ms. M. Tasneem (P B Siddhatha College Vijyawada)	Moodle Open Source Learning Management System at P B Siddhartha College Vijaywada in association with Techvictus.	MEITY	10-14 June 2019	National	40
20	Dr. Hemanta Kumar Saud Mr. Sanjib Kumar Baglari	"Use of ICT Tools for Classroom Teaching" at Karmashree Hiteswar Sakia College, Guwahati in association with Skill Gym.	MEITY	10-15 June 2019	National	61
21	PI & Co-PI Ms. Vani Ranji (PSGK Coimbatore)	Short-term Training Programme on Data Science Application Development for Industry Application at PSGK Coimbatore in association with Probyto	EICT	24-29 June 2019	National	47
22	PI & Co-PI Dr. Ranjan Kumar Bhatta (Karmashree Hiteswar Sakia College, Guwahati)	"Use of ICT Tools for Classroom Teaching" at Karmashree Hiteswar Sakia College, Guwahati in association with Skill Gym	MEITY	24-29 June 2019	National	46
23	PI & Co-PI Dr. Prem Kishan Singha (Rangai College)	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at Rangai College in association with Expert organized by E&ICT	MEITY	24-29 June 2019	National	33
24	PI & Co-PI Dr. Minaram Gogoi (Kherajghat College)	"Use of ICT Tools for Classroom Teaching" at Kherajghat College in association with Techvictus.	MEITY	28 June-03 July 2019	National	47

25	Dr. Ribhu (IIT Guwahati)	Advancements in Signal Processing and Optimization Techniques at IIT Guwahati	MEITY	03-07 June 2019	National	120
26	PI & Co-PI Dr. Alaka Nanda (DHSK College)	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at DHSK College with support from Mantra Associates and Expert organised by E&ICT Academy IIT Guwahati	MEITY	01-06 July 2019	National	64
27	Prof. Ratnajit Bhattacharjee and Dr. Mahima Arawatia	Antenna Trends through NKN	MEITY	01-05 July 2019	National	180
28	PI & Co-PI Ms. Minakshi Borah (Jorhat Kendriya Mahavidyalaya)	Use of ICT Tools for Classroom Delivery of Teachers at Jorhat Kendriya Mahavidyalaya with support from Skill Gym	MEITY	01-06 July 2019	National	67
29	Dr. Gaurav Trivedi	VLSI Chip Design Hands on using open source EDA through NKN	MEITY	08-12 July 2019	National	160
30	PI & Co-PI Dr. Sandeep Chaurasia (Manipal Univeristy Jaipur) Dr. Mahesh Jangid (Manipal Univeristy Jaipur)	Deep Learning using Python Programming at Manipal Univeristy Jaipur with support from Edux-Labs	MEITY	08-12 July 2019	National	39
31	PI & Co-PI Mr. Amitesh Prakash (Bhagalpur College of Engineering) Dr. Rakesh Kumar (Bhagalpur College of Engineering)	Python Programming at Bhagalpur College of Engineering with support from Probyto	MEITY	15-19 July 2019	National	31
32	PI & Co-PI Dr. Bunil Kumar Balabantaray (NIT Meghalaya)	Deep Learning and Machine Learning at NIT Meghalaya with support from Probyto	MEITY	22-26 July 2019	National	36
33	PI & Co-PI Mr. Ajit Kumar Borah (Bahona College) Dr. Mridul Dutta (Bahona College)	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at Bahona College, Jorhat with support from Mantra Associates and Expert organised by E&ICT Academy IIT Guwahati	MEITY	22-27 July 2019	National	48
34	PI & Co-PI Dr. Roselin Basumary (Kokrajhar Govt. College)	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers AND Advanced Concepts of ICT Tools at Kokrajhar Govt. College with support from Mantra associates	MEITY	27-31 July 2019	National	56

35	PI & Co-PI Dr. Roselin Basumata- ry(Kokrajahr Govt. College)	Faculty Development Programme on "Advanced Concepts of ICT Tools" at Kokrajhar Govt. College in associa- tion with Mantra Associ- ates.	MEITY	01-05 Aug 2019	National	56
36	PI & Co-PI Ms. Puja Chow- dhury & Dr. Koushik Pal (Bishnupur Pub- lic Insitute of Engi- neering)	"Faculty Development Programme on "Behavioral Remodeling & useof ICT Tools for Classroom Delivery of Teachers" at Bishnupur Public Insitute of Engi- neering(Polytechnic) is association with Skill Gym & Techbooster.	MEITY	01-05 Aug 2019	National	44
37	PI & Co-PI Dr. Abul Foyes Ma- lik and Dr. Smitarani Saikia(Digboi Col- lege)	Faculty Development Programme on "Behavioral Remodeling & useof ICT Tools for Classroom Delivery of Teachers" at Digboi Ma- havidyalaya in associa- tion with Expert organ- ised by E&ICT academy IIT Guwahati & Tech- booster.	MEITY	03-08 Aug 2019	National	22
38	PI & Co-PI Dr. Rahul Sarania (RadhaMadhav)	Faculty Development Programme on "Use of ICT Tools for Classroom Teaching" at RadhaMa- dhav, Silchar	MEITY	05-10 Aug 2019	National	40
39	PI, Co-PI, Ms. Manjula Kalita (GIMT), Ms. Shrabani Medhi (GIMT)	Faculty Development Programme on"Outcome based Edu- cation & Quality Re- search Paper Writing" at GIMT College in asso- cation with Techvictus	MEITY	19-24 Aug 2019	National	34
40	PI & Co-PI Mrs. Saswati Bhattacharya(SMIT) Mr. Vikash Kumar Singh(SMIT)	Workshop on "IOT & Em- bedded System Design" at SMIT, Sikkim in associa- tion with Digital Shark	MEITY	19-24 Aug 2019	National	42
41	PI & Co-PI Mr. Romen Kalita (Dikhowmukh Col- lege)	Faculty Development Programme Use of ICT Tools for Classroom Teaching (19-24 August, 2019) at Dikhowmukh College in association with Mantra Associates.	MEITY	19-21 Aug 2019	National	33
42	PI & Co-PI Ms. Sujata Ghatak (IEM Kolkatta)	Faculty Development Programme on "Behavioral Remodeling for Enhancing Classroom Delivery of Teachers" at IEM Kolkatta	MEITY	25-30 Aug 2019	National	15

43	PI & Co-PI Mr. Bibungsar Swargiary , Mr. Tony Daimary and Mr. Mukul Das (Koirabari College)	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers at Koirabari College in association with Skill Gym	MEITY	02-06 Sept.2019	National	40
44	PI & Co-PI Mr. Lukendra Kakati (Lanka Mahavidyalaya)	Faculty Development Programme on "Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers" at Lanka Mahavidyalaya in association Expert organised E&ICT and Mantra Associates	MEITY	09-14 Sept 2019	National	52
45	PI and Co-PI, Mr. Rajat Subhra Paul (Karimganj College)	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers at karimganj College in association Expert organised E&ICT and Tech Booster	MEITY	16-21 Sept 2019	National	36
46	PI and Co-PI, Dr. Ashish Ranjan (NIT Manipur) Dr. Bibhu Prasad Swain(NIT Manipur)	Device Modeling using Synopsys Sentaurus at NIT Manipur in association with VLSI System Design	MEITY	16-20 Sept 2019	National	40
47	PI and Co-PI, Dr. Nitali B Konwar (Gargaon College) Dr. Meghali Bora (Gargaon College) Ms. Ratna Das	FDP on "Use of ICT Tools for Classroom Teaching" at Gargaon College, Simaluguri in association with Mantra Associates	MEITY	23-28 Sept 2019	National	50
48	PI and Co-PI, Dr. Manashi Gogoi Borgohain (Nandalal Borgohain City College)	Use of ICT Tools for Classroom Teaching (23 - 28 September, 2019) at Nandalal Borgohain City College in association Tech Booster	MEITY	23-28 Sept 2019	National	44
49	PI and Co-PI	"VLSI System Design using open source EDA"(Online Streaming)	EICT	23-27 Sept 2019	National	193
50	PI & Co-PI Dr. Jayanta Saud (Dibru College) Dr. Maitree (Dibru College) Ms. Mayuree Sharma(Dibru College)	Behavioral Remodeling and Use of ICT Tools at Dibru College, Dibrugarh in association with Skill Gym.	MEITY	14-18 Oct 2019	National	44
51	PI and Co-PI, Dr. K. Shitaljit Singh (Manipur University)	Behavioral Remodeling and use of ICT Tools for Classroom Delivery of Teachers at Manipur University in association with Indian Skill Academy and Tech Booster.	MEITY	14-18 Oct 2019	National	59

52	PI & Co-PI Dr. Saurav Sengupta (Damdama College)	Use of ICT Tools for Classroom Teaching at Damdama College in association with Mantra Associates .	MEITY	14-19 Oct 2019	National	29
53	Online Training Program	"Hands-on Functional Verification using Embedded UVM".	EICT	14-18 Oct 2019	National	42
54	PI & Co-PI Dr. (Mrs.) Dimpri Chakraborty (Tinsukia Commerce College) Dr. Surajit Saikia (Tinsukia Commerce College)	FDP on "Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers" at Tinsukia Commerce College, in association with Indian Skill Academy & Tech Booster.	MEITY	19-25 Oct 2019	National	29
55	PI & Co-PI Dr. Neetu Gupta (Nowgong Girls' College)	Use of ICT Tools for Classroom Teaching at Nowgong Girls' College, Nagaon in association with Mantra Associates.	MEITY	21-26 Oct 2019	National	36
56	PI & Co-PI Dr. Kritanjali Konwar (Sibsagar Commerce College)	Intellectual Property Right in Sibsagar Commerce College in association with Techvictus Pvt. Ltd.	MEITY	21-25 Oct 2019	National	43
57	PI & Co-PI Dr. D.N.Hazarika(B N College) Dr. R.K.Goswami(B N College)	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teacher at B N College, Biswanath Chariali in association with Indian Skill Academy & Mantra Associates.	MEITY	29 Oct-05 Nov 2019	National	42
58	PI & Co-PI Dr. G. S. N. Murty Dr. K. Yogeswara Rao Dr. B. V. Ramana	FDP on "Deep Learning Using Python Programming" at Aditya Institute of Technology and Management, Tekkali in association with Techvictus	MEITY	04-08 Nov 2019	National	41
59	PI & Co-PI Dr. Bhaskar Jyoti Baruah	FDP on Scilab & its Applications at Debraj Roy College, Golaghat in association with Techvictus Pvt Ltd	MEITY	04-08 Nov 2019	National	34
60	PI & Co-PI Mr. Rajib Rudra Tariang, Dr. Jayanta Handique	FDP on Mentoring Pedagogy and Effective Learning Techniques using ICT at Digboi College in association with Expert organised by E&ICT Academy & Mantra Associates	MEITY	04-08 Nov 2019	National	32
61	PI & Co-PI Ms. Mousumi Das	FDP on R Programming at BN College, Dhubri in association with Probyto	MEITY	25-11-2019	National	27

62	PI & Co-PI Ms. Kunjalata Brahma Bathari	FDP on Behavioral Remodeling for Classroom Delivery of Teachers at LCB College in association with Expert organised by E&ICT Academy	MEITY	25-29 Nov 2019	National	45
63	PI and Co-PI, Dr. M Satya Sairam (R.V.R & J.C. College of Engineer-	FDP on Emerging Trends in Wireless Communication in RVR & JC College at Techvictus Pvt Ltd	MEITY	25-29 Nov 2019	National	42
64	PI & Co-PI Dr. Nibedita Gogoi (Kakojan College) Dr. Anita Das (Kakojan College)	FDP on Use of ICT Tools for Classroom Delivery at Kakojan College, Jorhat in association with Mantra Associates.	MEITY	03-08 Dec 2019	National	48
65	Dr. Gaurav Trivedi (IIT Guwahati)	NKN FDP on VLSI Chip Design Hands-on using open source EDA.	MEITY	16-20 Dec 2019	National	156
66	PI & Co-PI Dr. Hemanta Kumar Saud (Birjhora College) Dr. Sanjib Kumar Baglari (Birjhora College)	FDP on IPR & Concepts of Python Programming at Birjhora College in Association with Mantra Associates	MEITY	09-13 Dec 2019	National	20
67	Dr. Dipak Kumar (Dhakuakhana College) PI & Co-PI	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at Dhakuakhana College with support from Tech Booster	MEITY	05-09 Jan 2020	National	57
68	Dr. Aniruddha Bera (Dr. B. C. Roy Polytechnic A Unit of Dr. B. C. Roy Engineering college) PI & Co-PI	Behavioural Remodelling with Mentoring Pedagogy and Need of Mental Health sessions for Classroom Delivery of Teachers at Dr. B. C. Roy Polytechnic (A Unit of Dr. B. C. Roy Engineering college) with Support from Expert organised by E&ICT Academy IIT Guwahati	MEITY	08-12 Jan 2020	National	42
69	Dr. Chitrajit Saikia (Dulajjan College) PI, Co-PI	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at Dulyajan College with support from Tech Booster	MEITY	20-24 Jan 2020	National	35
70	Dr. Binoy Broj Rajkhowa (CKB College Teok) Mr. Jiban Boruah (CKB College Teok) Dr. Junti Boruah (CKB College Teok) PI & Co-PI	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at CKB College Teok with support from Skill Gym.	MEITY	20-24 Jan 2020	National	45

71	Prof. Ratnajit Bhattacharjee Dr. Gaurav Trivedi	ICT Tools and Techniques for Teaching, Learning and Institutes	MEITY	13-17 Jan 2020	National	96
72	Mr. Uptal Deka (Biphuria College) PI & Co-PI	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at Biphuria College with support from Mantra Associates	MEITY	27-31 Jan 2020	National	25
73	Mr. Kunal Ghosh Prof. Ratnajit Bhattacharjee Dr. Gaurav Trivedi	Online training programme on Physical Design Using Synopsys ICC2 tool with support from	MEITY	20-24 Jan 2020	National	44
74	Mr. Tapan Saikia (HPB College Golaghat) PI & Co-PI	Behavioral Remodeling & Use of ICT Tools for Classroom Delivery of Teachers at HPB College Golaghat with support from Skill Gym	MEITY	27-01-2020	National	43
75	Dr. Bhavanishankar K S (RNS College) PI & Co-PI	Artificial Intelligence and Deep Learning at RNS college with support from Digital Shark	MEITY	27 Jan-01 Feb 2020	National	51
76	Dr. Kaylan Dey (Bodaland University) PI & Co-PI	Python Programming & Scilab at Bodaland University with support from Mantra Associates	MEITY	27 Jan-01 Feb 2020	National	47
77	PI and Co-PI, Ms. Antara Bhattacharyya (Lumding College)	Faculty Development Programme on "Behavioral Remodeling and Use of ICT Tools for classroom delivery of teachers." at Lumding College, Assam in association with Mantra Associates	MEITY	03-08 Feb 2020	National	56
78	PI & Co-PI Dr. Pranjal Bhuyan (Tengkahat College)	Faculty Development Programme on "Research Methodology and Use of ICT Tools for classroom delivery of teachers." at Tengkahat College, Assam in association with Mantra Associates	MEITY	03-07 Feb 2020	National	44
79	PI & Co-PI Mr. Biraj Buragohain (Margherita College)	Faculty Development Programme on "Research Methodology and Use of ICT Tools for classroom delivery of teachers." at Margherita College, Assam in association with Skill Gym	MEITY	04-08 Feb 2020	National	39
80	PI and Co-PI, Dr. N. Alivelu Manga (CBIT)	Faculty Development Programme on "IoT for Emerging Applications" at Chaitanya Bharti Institute of Technology, Bengaluru in association with	MEITY	04-08 Feb 2020	National	55

81	PI & Co-PI Mr. Sanjib Kumar Baglari (Birjhora College) Dr. Hemanta Kumar Saud Birjhora	Faculty Development Programme on Matlab & Scilab: Applications at Birjhora College, Assam in association with Mantra Associates	MEITY	17-22 Feb 2020	National	47
82	PI & Co-PI Sudhakar Mande	Workshop on "SoC Design using Open Source EDA Tools" in association with VSD	EICT	19-23 Feb 2020	National	66
83	PI & Co-PI Mr. Anup Kumar Borah and Mr. Uttam Saikia	Faculty Development Programme on "Use of ICT Tools for Classroom teaching at Pub Majuli	MEITY	24-28 Feb 2020	National	29
84	PI & Co-PI Mr. Bhaskar Jyoti Borah	Behavioral Remodeling and Use of ICT Tools for Classroom Delivery of Teachers at Mndhipathar College in association with Expert Organised By E&ICT Academy and Techbooster.	MEITY	16-20 March, 2020	National	44

FACULTY MEMBERS ASSOCIATED WITH THE CENTRE

Sl. No.	Name	Designation	Areas of Interest
1	Prof. Hemant B. Kaushik	HoC, CET	Structural Engineering, Earthquake Engineering; Earthquake Resistant Design; Nonlinear Behaviour of Structures; Retrofitting of Structures; Finite Element Modeling
2	Prof. Sunil Khijwania	PI- PMMMMNMTT Project	Fiber & Integrated Optics, Optical Fiber Sensor, Photonic Crystal Fiber and Applications, Surface Plasmon Resonance based Sensors, Fiber Bragg Gratings/Long Period Gratings and based Devices, Nano/Bio-Photonics, Propagation Characteristics of Specialty Optical Fiber
3	Prof. Ratnajit Bhattacharjee	PI –Virtual Lab Project & E&ICT Academy	Microwave Engineering, Micro strip Antennas, Electromagnetics, Wireless Communication
4	Dr. Gaurav Trivedi	Co- PI, E&ICT Academy Project	VLSI CAD, High Performance Computing, High Power Devices, IOT & Embedded Systems, Renewable Energy, Quantum Computing
5	Dr. Santosh Biswas	Co- PI, Virtual Lab Project	Networking, Fault Tolerance, VLSI Testing, Embedded Systems
6	Prof. Jatin Deka	PI , Pedagogy project	Formal Verification, VLSI Design
7	Prof. R.Mokashi Punekar	PI, E-kalpa Project	Industrial Design, Rapid Prototyping and Tooling, Space Design, Facility Design, Environmental Graphics, Design for Disabled
8	Dr. Keyur Soorathia	Co- PI, E-kalpa Project	Human Computer Interaction (HCI), Virtual Realit, Novel Interaction Methods

CENTRAL INSTRUMENTS FACILITY

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: Edinburg Instruments, Model: Lifespec II & FSP 920
- ◆ Desktop Helium Liquefier, Make: Cryomech, Model: LHEP18
- ◆ Physical Property Measurement System (PPMS), Make: Quantum Design, Model: PPMS-9
- ◆ Nanoindenter Make: CETR, Model: UNMT-1
- ◆ Spectroscopic Ellipsometer Make: SEMILAB, Model: GES5E
- ◆ 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) with Element EDS Detector, Make: Zeiss, Model: Sigma 300
- ◆ Large Molecule Single Crystal X-ray Diffractometer, Make: Rigaku Model: Micromax 007 HF R-axis IV++ Oxford
- ◆ Atomic Force Microscope, Make: Oxford Instruments, Model: Cypher S
- ◆ High Temperature Gel Permeation chromatography (HT-GPC) system, Make: Agilent, Model: G7820A
- ◆ 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
- ◆ Photovoltaic/ Solar Cell/ Photo-Electrochemical Analyser/Workstation, Make: CH Instruments Inc., USA, Model: CHI 604E + Amp i-t

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

Upgradation of Vibrating Sample Magnetometer (VSM) with Cryostat System integrable with our existing 7410 VSM setup (under process)

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

Name of Inst./Univ./Org.	Purpose/Name of Lecture/visit	Date	Remarks
Sherubtse College, Bhutan	Possible collaboration with IIT Guwahati	29/10/2019	The visit was requested by Alumni and External relation, IIT Guwahati

Major National and International Events

Name of Inst./Univ./ Org.	Purpose of visit	Date	Remarks
Workshop on DSC/TGA Faculty coordinator: Dr. R. Anandalakshmi	Visit to CIF DSC/TGA Laboratory	24/05/2019 & 31/05/2019	Number of Participants: 41
Presentation by Shimadzu on XPS/ESCA system	Seminar on promotion of their product SUPRA-XPS system	11/07/2019	Number of participants: 22
Visit of students from Pub Kamrup College, Baihata Chariali, ASSAM	Educational Visit	22/10/2019	Number of participants: 26
Visit of Students from B.P. Chaliha College, Nagarbera	Educational Visit	21/11/2019	Number of participants: 28

FACULTY MEMBERS ASSOCIATED WITH THE CENTRE

Sl. No.	Name	Department
1	Prof. M. Qureshi	Professor, Department of Chemistry

PART III

RESEARCH PUBLICATIONS

Research Publication

Books

Book Chapters

DETAILS OF RESEARCH AND DEVELOPMENT

Sl. No.	Authors	Title	Year	Source title	Volume	Issue	Page start	Page end
1	Jia, S., Shen, C.P., Yuan, C.Z., Wang, X.L., Adachi, I., Aihara, H., Asner, D.M., Atmacan, H.,	Observation of a vector charmoniumlike state in $e+e\rightarrow Ds+ Ds1$ (2536) \rightarrow c. c.	2019	Physical Review D	100	11		
2	Li, Y., Li, Y.B., Shen, C.P., Adachi, I., Aihara, H., Asner, D.M., Atmacan, H., Aulchenko, V., Ayad, R., Babu, V., et al	Measurements of the branching fractions $B(B\rightarrow\Lambda^+ c\bar{c}0)$, $B(B\rightarrow\Lambda^+ c\bar{c}(2645)0)$ and $B(B\rightarrow\Lambda^+ c\bar{c}(2790)0)$	2019	Physical Review D	100	11		
3	Yoganand, K.N., Muralidharan, M., Nimkar, S., Anand, B.	Fidelity of prespacer capture and processing is governed by the PAM-mediated interactions of Cas1-2 adaptation complex in CRISPR-Cas type I-Esystem	2019	Journal of Biological Chemistry	294	52	20039	20053
4	Chakraborty, S., Sarma, A.K.	Delayed sudden death of entanglement at ex-	2019	Physical Review A	100	6		
5	Areda, G.T., Kore, S.D.	Mechanical interlock made by electromagnetic crimping for axial load resistance using aluminum tube and steel rod	2019	Journal of Testing and Evaluation	48	3		
6	Deka, J., Saha, K., Kumar, S., Srivastava, H.K., Raidongia, K.	Electrical Power Generation from the Con- trasting Interfacial Activities of Boron- and Nitro- gen-Doped Reduced Graphene Oxide Mem- branes	2019	ACS Applied Nano Materials	2	12	7997	8004
7	Mahanta, U., Kundu, D., Venkatesh, R.P., Sujatha, S., Ilango- ovan, S.A., Banerjee, T.	Electrochemical Performance and Molecular Structure of Diluted 1-Alkyl-3-methylimidazolium Tetrafluoroborate Ionic Liquids and Their Mixture as Electrolytes for Double-Layer Capacitors: An Integrated Approach by Electrochemical Char- acterization and Molecular Dynamics Simulation	2019	Industrial and Engi- neering Chemistry Re- search	58	51	22741	22753
8	Ghosh, S., Jena, S.K., Mishra, P.K., Seehra, M.S., Thota, S.	???	2019	Journal of Applied Physics	126	23		
9	Shukla, S.S., Murthy, K.S.R.K.	Numerical analysis of a semi-elliptical surface cracked plate under tension	2019	AIP Conference Pro- ceedings	2200			
10	Sajith, S., Murthy, K.S.R.K., Robi, P.S.	Mixed mode fatigue crack growth studies of crack emanating from circular hole	2019	AIP Conference Pro- ceedings	2200			

11	Hussain, M.K., Murthy, K.S.R.K.	NSIFs of 2D elastic bodies with straight and curved sharp V-notches	2019	AIP Conference Proceedings	2200	
12	Shah, T.A., De, P.B., Pradhan, S., Banerjee, S., Punniyamurthy, T.	Cp*Co(III)-Catalyzed Regioselective C2 Amidation of Indoles Using Acyl Azides	2019	Journal of Organic Chemistry	84	16285
13	Pradhan, S., De, P.B., Punniyamurthy, T.	Weak Coordination-Guided Regioselective Direct Redox-Neutral C4 Allylation of Indoles with Morita-Baylis-Hillman Adducts	2019	Organic Letters	21	9903
14	Bhowal, A., Sapre, A.S., Lalani, R., Kshetrimayum, R.S.	Advanced spatial modulation for efficient MIMO-based B2B communications in sporting activities	2019	IET Communications	13	3536
15	Aziziha, M., Akbarshahi, S., Ghosh, S., Pramanik, P., Lewis, J.P., Romero, A.H., Thota, S., Seehra, M.S., Johnson, M.B.	Phonon Dynamics in Anisotropic Dilute CuAl _{1-x} Fe _x Delafossite Alloys by a Weighted Dynamical Matrix Approach	2019	Journal of Physical Chemistry C	123	30612
16	Biswas, M., Majhi, S., Nemade, H.	Two-phase high efficiency interleaved buck converter with improved step-down conversion ratio and low voltage stress	2019	IET Power Electronics	12	3952
17	Malviya, N., Sonkar, C., Ganguly, R., Bhattacharjee, D., Bhabak, K.P., Mukhopadhyay, S.	Novel Approach to Generate a Self-Deliverable Ru(II)-Based Anticancer Agent in the Self-Reacting Confined Gel Space	2019	ACS Applied Materials and Interfaces	11	47618
18	Sarmah, B.K., Konwar, M., Bhattacharyya, D., Adhikari, P., Das, A.	Regioselective Cyanation of Six-Membered N-Heteroaromatic Compounds Under Metal-, Activator-, Base- and Solvent-Free Conditions	2019	Advanced Synthesis and Catalysis	361	5625
19	Janani, G., Kumar, M., Chouhan, D., Moses, J.C., Gangrade, A., Bhattacharjee, S., Mandal, B.B.	Insight into Silk-Based Biomaterials: From Physicochemical Attributes to Recent Biomedical Applications	2019	ACS Applied Bio Materials	2	5491
20	Mondal, S., Kumar, V., Roy Chowdhury, S., Shah, M., Gaur, A., Kumar, S., Iyer, P.K.	Template-Mediated Detoxification of Low-Molecular-Weight Amyloid Oligomers and Regulation of Their Nucleation Pathway	2019	ACS Applied Bio Materials	2	5312

21	Iyer, P.K., Chatterjee, K.	Biomaterials Research in India - An ACS Applied Bio Materials Forum	2019	ACS Applied Bio Materials	2	12	5216	5217
22	Mohan, M., Akula, D., Dhillon, A., Goyal, A., Anindya, R.	Human RAD51 paralogue RAD51C fosters repair of alkylated DNA by interacting with the ALKBH3 demethylase	2019	Nucleic Acids Research	47	22	11729	11745
23	Das, A., Anbu, N., Reinsch, H., Dhakshinamoorthy, A., Biswas, S.	A Thiophene-2-carboxamide-Functionalized Zr (IV) Organic Framework as a Prolific and Recyclable Heterogeneous Catalyst for Regioselective Ring Opening of Epoxides	2019	Inorganic Chemistry	58	24	16581	16591
24	Das, M., Goswami, U., Kandimalla, R., Kalita, S., Ghosh, S.S., Chattopadhyay, A.	Iron-Copper Bimetallic Nanocomposite Reinforced Dressing Materials for Infection Control and Healing of Diabetic Wound	2019	ACS Applied Bio Materials	2	12	5434	5445
25	Sailapu, S.K., Dutta, D., Simon, A.T., Ghosh, S.S., Chattopadhyay, A.	Smartphone controlled interactive portable device for theranostics in vitro	2019	Biosensors and Bioelectronics	146			
26	Mohapatra, P.P., Pattipaka, S., Dobbidi, P.	The effect of Sr substitution on the electrical, dielectric and magnetic behavior of lithium ferrite	2019	Ceramics International	45	18	25010	25019
27	Yogeswari, M.K., Dharmalingam, K., Mullai, P.	Implementation of artificial neural network model for continuous hydrogen production using confectionery wastewater	2019	Journal of Environmental Management	252			
28	Mahapatro, A., Mahanta, P., Jana, K.	Hydrodynamic study of low-grade Indian coal and sawdust as bed inventory in a pressurized circulating fluidized bed	2019	Energy	189			
29	Mohan, N., Pavan, S.S., Achar, A., Swaminathan, N., Sivaprakasam, S.	Calorespirometric investigation of Streptococcus zooepidemicus metabolism: Thermodynamics of anabolic payload contribution by growth and hyaluronic acid synthesis	2019	Biochemical Engineering Journal	152			
30	Goswami, G., Sinha, A., Kumar, R., Chandra Dutta, B., Singh, H., Das, D.	Process engineering strategy for cultivation of high density microalgal biomass with improved productivity as a feedstock for production of bio-crude oil via hydrothermal liquefaction	2019	Energy	189			

- 31 Khatun, M.N., Tanwar, A.S., Meher, N., Iyer, P.K. An Unprecedented Blueshifted Naphthalimide AIEEgen for Ultrasensitive Detection of 4-Nitroaniline in Water via "Receptor-Free" IFE Mechanism 2019 Chemistry - An Asian Journal 14 24 4725 4731
- 32 Dahiya, A., Sahoo, A.K., Alam, T., Patel, B.K. tert-Butyl Nitrite (TBN), a Multitasking Reagent in Organic Synthesis 2019 Chemistry - An Asian Journal 14 24 4454 4492
- 33 Shah, T.A., De, P.B., Pradhan, S., Banerjee, S., Punniyamurthy, T. Exploiting Strained Rings in Chelation Guided C-H Functionalization: Integration of C-H Activation with Ring 2019 Chemistry - An Asian Journal 14 24 4520 4533
- 34 Shome, A., Maji, K., Rather, A.M., Yashwanth, A., Patel, D.K., Manna, U. A Scalable Chemical Approach for the Synthesis of a Highly Tolerant and Efficient Oil Absorbent 2019 Chemistry - An Asian Journal 14 24 4732 4740
- 35 Singh, R., Das, G. A Luminescent Probe for Ratiometric Optical Detection of Hg²⁺ and Turn-On Fluorescent Sensing of Cu²⁺ 2019 Chemistry - An Asian Journal 14 24 4625 4630
- 36 Gogoi, G., Moi, C.T., Patra, A.S., Gogoi, D., Rao, P.N., Qureshi, M. A Z-Scheme Strategy that Utilizes ZnIn₂S₄ and Hierarchical VS₂ Microflowers with Improved Charge-Carrier Dynamics for Superior Photoelectrochemical Water Oxidation 2019 Chemistry - An Asian Journal 14 24 4607 4615
- 37 Alam, S., Ansari, M.S., Banik, A., Ali, R., Verma, S., Qureshi, M. Ultrasensitive NO_x Detection in Simulated Exhaled Air: Enhanced Sensing via Alumina Modification of In-Situ Grown WO₃ Nanoblocks 2019 Chemistry - An Asian Journal 14 24 4673 4680
- 38 Saha, G., Khamar, B.M., Prema, K., Kumar, M., Dubey, V.K. BLIMP-1 Plays Important Role in the Regulation of Macrophage Pyroptosis for the Growth and Multiplication of Leishmania donovani 2019 ACS Infectious Diseases 5 12 2087 2095
- 39 Chattaraj, K.G., Paul, S. Inclusion of Theobromine Modifies Uric Acid Aggregation with Possible Changes in Melamine-Uric Acid Clusters Responsible for Kidney Stones 2019 Journal of Physical Chemistry B 123 49 10483 10504
- 40 Rohman, M.A., Saha, K., Mitra, S. Fluorescence modulation of excited state intramolecular proton transfer (ESIPT) probe 3-formyl-4-hydroxy benzoic acid encapsulated in the protein binding domain of serum albumins: a combined spectroscopic and molecular 2019 Journal of Biomolecular Structure and Dynamics 37 18 4737 4746

Cen Dhamodharan, K., Varma, V.S., Velu- chamy, C., Pugazhendhi, A., Rajendran, K.	Emission of volatile organic compounds from composting: A review on assessment, treatment and perspectives	2019	Science of the Total Environment	695	
42 Panda, S.K., Bandoopathy, D.	Hydrodynamic Characterization and Per- formance Evaluation of Polypyrrole Actua- tor Propulsor	2019	IOP Conference Series: Materials Science and Engineering	577	1
43 Gayen, D., Chakraborty, D., Tiwari, R.	FE approach for dynamic response of a functionally graded spinning shaft system containing a transverse fully open crack	2019	IOP Conference Series: Materials Science and Engineering	577	1
44 Sarkar, P., Nandi, S.	A class of key-node indexed hash chains based key predistribution (KPS): Signed weighted graphs	2019	Computer Networks	164	
45 Ghosh, T., Mukherji, A., Kancharla, P.K.	Open-Close Strategy toward the Organo- catalytic Generation of 2-Deoxyribose Ox- ocarbenium Ions: Pyrrolidine-Salt-Catalyzed Synthesis of 2-Deoxyribofuranosides	2019	European Journal of Organic Chemistry	2019	45 7488 7498
46 Vivek Kumar, S., Banerjee, S., Punniya- murthy, T.	Rh-Catalyzed C-C/C-N bond formation: Via C-H activation: Synthesis of 2 H-indazol- 2-yl-benzo [a] carbazoles	2019	Organic Chemistry Frontiers	6	23 3885 3890
47 Lees, J.P., Poireau, V., Tisserand, V., Grauges, E., Palano, A., Eigen, G., Brown, D.N., Kolomensky, Y.G., Fritsch, M., Koch, H., P. et al.	Search for B \rightarrow Λ p v v with the B a B ar ex- periment SEARCH for B \rightarrow Λ p v v ... LEES J.	2019	Physical Review D	100	11
48 Das, S., Das, A.K.	Tool for Teaching Physical Model Making in Product Design	2019	IOP Conference Series: Materials Science and Engineering	686	1
49 Barman, B., Borah, D., Mukherjee, L., Nandi, S.	Correlating the anomalous results in b \rightarrow s decays with inert Higgs doublet dark mat- ter and the muon g-2	2019	Physical Review D	100	11
50 Sharma, H., Anand, B.	Ribosome assembly defects subvert initia- tion Factor3 mediated scrutiny of bona fide start signal	2019	Nucleic acids research	47	21 11368 11386

51	Talukdar, P., Dey, A.	Hydraulic failures of earthen dams and embankments	2019	Innovative Infrastructure Solutions	4	1
52	Mog, S., Kshetri-mayum, R.S.	Performance Analysis of SM-based Hybrid MIMO FSO/RF System	2019	International Symposium on Advanced Networks and Telecommunication Systems, ANTS	2019-	De-cembe
53	Bhale, P., Biswas, S., Nandi, S.	LORD: LOW Rate DDoS Attack Detection and Mitigation Using Lightweight Distributed Packet Inspection Agent in IoT Ecosystem	2019	International Symposium on Advanced Networks and Telecommunication Systems, ANTS	2019-	De-cembe
54	Neelkamal, Yadav, S., Kapoor, H.K.	Lightweight Message Encoding of Power-Gating Controller for On-Time Wakeup of Gated Router in Network-on-Chip	2019	Proceedings of the 2019 International Symposium on Embedded Computing and System Design, ISED 2019	130	
55	Sarma, U., Gangu-ly, S.	Modelling of the PEM fuel cell and design of a peak current control based DC-DC boost converter for locomotive application	2019	2019 IEEE Transportation Electrification Conference, ITEC-India 2019		
56	Nayak, G., Nath, S.	Small Signal Model for Current Mode Control of Coupled Inductor SIDO Buck Converter	2019	2019 IEEE Transportation Electrification Conference, ITEC-India 2019		
57	Manojkumar, R., Hirshikeshan, V.M., Kumar, C., Gangu-ly, S.	Voltage Control Using Smart Transformer for Increasing Photovoltaic Penetration in a Distribution Grid	2019	2019 20th International Conference on Intelligent System Application to Power Systems, ISAP 2019		
58	Dutta, A., Gangu-ly, S., Kumar, C.	Voltage Control in Active Distribution Networks and an Approach based on Model Predictive Control	2019	2019 8th International Conference on Power Systems: Transition towards Sustainable, Smart and Flexible Grids, ICPS 2019		
59	Sarma, U., Gangu-ly, S., Dutta, A.	Determination of the component sizes and analysis of the operational cost of PEM Fuel Cell-Battery Hybrid Energy System to Retrofit the Diesel Locomotives of Indian Railway	2019	2019 8th International Conference on Power Systems: Transition towards Sustainable, Smart and Flexible Grids, ICPS 2019		
60	Nayak, G., Nath, S.	Small Signal Modeling and Analysis of Single Input Three Output Buck Converter Using Coupled Inductor	2019	2019 National Power Electronics Conference, NPEC 2019		

- 61 Joshi, A., Nath, S. Estimation of Core Loss of High Frequency Nanocrystalline Transformer for Non-sinusoidal Excitation 2019 2019 National Power Electronics Conference, NPEC 2019
- 62 Dey, R., Nath, S. Architecture and Power Converter for Multifrequency Microgrid 2019 2019 National Power Electronics Conference, NPEC 2019
- 63 Nayak, G., Nath, S. Unaffected Dynamic Performance of Coupled SIDO Converters Due to Phase Shift 2019 2019 National Power Electronics Conference, NPEC 2019
- 64 Nupur, Nath, S. Effect of Shifting Gate Pulse on CCM/DCM Boundary in Coupled SIDO Boost Converter 2019 2019 National Power Electronics Conference, NPEC 2019
- 65 Inala, K.P., Kumar Bose, S., Kumar, P. Performance evaluation of EVs mobility using SU-MO and ns² in a Real-Time V2G Scenario 2019 2019 IEEE 16th India Council International Conference, INDICON 2019 - Symposium Proceedings
- 66 Inala, K.P., Kumar Bose, S., Kumar, P. Impact of communication network on V2G system in a smart grid scenario 2019 2019 IEEE 16th India Council International Conference, INDICON 2019 - Symposium Proceedings
- 67 Bhargava, R.A., Dhriti, K.M., Bhattacharyya, A., Kumar, G. Refractive Index sensing using plasmonic mode in a periodically corrugated waveguide at terahertz frequencies 2019 2019 Workshop on Recent Advances in Photonics, WRAP 2019
- 68 Devi, K.M., Sarkar, R., Sarma, A.K., Kumar, G. Exploring polarization independent plasmon induced transparency in a planar terahertz metamaterial 2019 2019 Workshop on Recent Advances in Photonics, WRAP 2019
- 69 Manish, Sumanth, V., Chanu, S.A., Kumar Sonkar, R. Modal Analysis of Silicon Photonic Waveguides at Mid-IR Wavelengths 2019 2019 Workshop on Recent Advances in Photonics, WRAP 2019
- 70 Bhattacharya, A., Devi, K.M., Kumar, G. Toroidal Resonances in Graphene Metamaterials 2019 2019 Workshop on Recent Advances in Photonics, WRAP 2019

71	Goutam Buddha, S.S., Kalita, R., Boruah, B.R.	Optical sectioning microscopy with both mechanical and non-mechanical beam scanning mechanisms	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019	2078
72	Dhriti, K.M., Kumar, G.	Study of resonant modes for sensing in a multimode planar plasmonic terahertz waveguide	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019	154
73	Goswami, S., Sharma, A.K.	Ambient condition dependent surface plasmon resonance properties of pulsed laser deposited ITO thin films	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019	148
74	Chowdhary, A.K., Sikdar, D.	Ultra-broadband Wide-Angle Metallo-Dielectric Metamaterial Absorber for Solar Energy Harvesting	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019	80
75	Behera, S., Khare, A.	Tuning of optical properties of Cu doped BTO thin films fabricated by PLD Technique	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019	2067
76	Goutam Buddha, S.S., Boruah, B.R.	Signal to noise ratio enhancement in confocal microscope with an array detector	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019	2078
77	Jawed, A., Pandey, L.M.	Application of bimetallic Al-doped ZnO nano-assembly for heavy metal removal and decontamination of wastewater	2019	Water Science and Technology	11
78	Kotoky, N., Saradhi, V.	Learning to propose amendments: Identifying patterns in the right to information query log	2019	Proceedings - 18th IEEE International Conference on Machine Learning and Applications, ICMMLA 2019	148
79	Maharana, M., Baruah, N., Nayak, S.K., Meher, N., Iyer, P.K.	Condition Assessment of Aged Ester-Based Nanofluid through Physicochemical and Spectroscopic Measurement	2019	IEEE Transactions on Instrumentation and Measurement	68
80	Mawlong, L.P.L., Bora, A., Giri, P.K.	Coupled Charge Transfer Dynamics and Photoluminescence Quenching in Monolayer MoS ₂ Decorated with WS ₂ Quantum Dots	2019	Scientific Reports	9

81	Bhowal, A., Kshetrimayum, R.S.	Transmit Laser Selection for Two Hop Decode and Forward FSO Communication with Pointing Errors	2019	IEEE Communications Letters	23	12	2301	2305
82	Inkulu, R., Kapoor, S.	Approximate euclidean shortest paths in polygonal domains	2019	Leibniz International Proceedings in Informatics, LIPIcs	149			
83	Bag, R., Sarkar, T., Kumar, S.V., Talukdar, K., Punniamurthy, T.	BINOL accelerated Ru(II)-catalyzed regioselective C-H functionalization of arenes with disulfides and diselenides	2019	Journal of Chemical Sciences	131	12		
84	Shukla, G., Dahiya, A., Alam, T., Patel, B.K.	Visible Light-Mediated C2-Quaternarization of N-Alkyl Indoles through Oxidative Dearomatization using Ir(III) Catalyst	2019	Asian Journal of Organic Chemistry	8	12	2243	2248
85	Kumar, R., Kore, S.D.	Experimental Studies on the Effect of Different Field Shaper Geometries on Magnetic Pulse Crimping in Cylindrical Configuration	2019	International Journal of Advanced Manufacturing Technology	105	11	4677	4690
86	Tamang, S., Kipgen, N.	Rethinking Hill-Valley Binary: Methodological Nationalism and the Trends of Writing Sociology in India	2019	Sociological Bulletin	63	3	325	341
87	Basavaraju, S., Sur, A.	Multiple instance learning based deep CNN for image memorability prediction	2019	Multimedia Tools and Applications	78	24	35511	35535
88	Debbarma, K., Bhattacharjee, R.	Microstrip patch antenna feed for offset reflector antenna for dual band application	2019	International Journal of RF and Microwave Computer-Aided Engineering	29	12		
89	Pradhan, G., Sharma, A.K.	Linear and nonlinear optical response of sulfur-deficient nanocrystallite WS ₂ thin films	2019	Journal of Materials Science	54	24	14809	14824
90	Roy, M., Mohanty, K.	A comprehensive review on microalgal harvesting strategies: Current status and future prospects	2019	Algal Research	44			

91	Das, D., Gopikrishna, P., Barman, D., Yathirajula, R.B., Iyer, P.K.	White light emitting diode based on purely organic fluorescent to modern thermally activated delayed fluorescence (TADF) and perovskite materials	2019	Nano Convergence	6	1
92	Goswami, G., Makut, B.B., Das, D.	Sustainable production of bio-crude oil via hydrothermal liquefaction of symbiotically grown biomass of microalgae-bacteria coupled with effective wastewater treatment	2019	Scientific Reports	9	1
93	Basumatary, P., Agarwal, P.	Two-step fabrication of MAPbI ₃ perovskite thin films with improved stability	2019	Bulletin of Materials Science	42	6
94	Shreyas, S.K., Dey, A.	Application of soft computing techniques in tunnelling and underground excavations: state of the art and future prospects	2019	Innovative Infrastructure Solutions	4	1
95	Sinharoy, A., Saikia, S., Pakshirajan, K.	Biological removal of selenite from wastewater and recovery as selenium nanoparticles using inverse fluidized bed bioreactor	2019	Journal of Water Process Engineering	32	
96	Dehury, P., Upadhyay, A.K., Banerjee, T.	Evaluation and conceptual design of triphenylphosphonium bromide-based deep eutectic solvent as novel thermal nanofluid for concentrated solar power	2019	Bulletin of Materials Science	42	6
97	Ghosh, B., Pekkatt, S.	Effect of Initial Compaction State on Near-Saturated Hydraulic Conductivity	2019	Journal of Irrigation and Drainage Engineering	145	12
98	Kanchi, P.K., Dasmahapatra, A.K.	Polyproline chains destabilize the Alzheimer's amyloid- β protofibrils: A molecular dynamics simulation study	2019	Journal of Molecular Graphics and Modeling	93	
99	Singh, P.K., Gowtham, S.N., S. T., Nandi, S.	CPESP: Cooperative Pseudonym Exchange and Scheme Permutation to preserve location privacy in VANETs	2019	Vehicular Communications	20	
100	Monika, Mulchandani, N., Katiyar, V.	Generalized kinetics for thermal degradation and melt rheology for poly (lactic acid)/poly (butylene succinate)/functionalized chitosan based reactive nanobiocomposite	2019	International Journal of Biological Macromolecules	141	842

101	Ghosh, S., Ghosh, S.	Site dependent substitution and half-metallic behaviour in Heusler compounds: A case study for $Mn_2CoRhMnSi$ and $Co_2RhMnSi$	2019	Computational Condensed Matter	21
102	Verma, V.K., Subbiah, S., Kota, S.H.	Sericin-coated polyester based air-filter for removal of particulate matter and volatile organic compounds	2019	Chemosphere	237
103	Narendra, P.V.R., Singh, K.D.	Equivalent-Resistance-Capacity-Method (ERCM) for the design of steel Elliptical-Hollow-Sections (EHSs) under	2019	Structures	22 28 42
104	Rapur, J.S., Tiwari, R.	Experimental fault diagnosis for known and unseen operating conditions of centrifugal pumps using MSVM and WPT based analyses	2019	Measurement: Journal of the International Measurement Confederation	147
105	Morla, S., Kumar, A., Kumar, S.	Newcastle disease virus mediated apoptosis and migration inhibition of human oral cancer cells: A probable role of β -catenin and matrix metalloproteinase-7	2019	Scientific Reports	9 1
106	Das, B., Mohanty, K.	A review on advances in sustainable energy production through various catalytic processes by using catalysts	2019	Renewable Energy	143 1791 1811
107	Dhar, S., Dasgupta, K.	Seismic Soil Structure Interaction for Integral Abutment Bridges: a Review	2019	Transportation Infrastructure Geotechnology	6 4 249 267
108	Bhowmik, M., Muthukumar, P., Anandalakshmi, R.	Experimental based multilayer perceptron approach for prediction of evacuated solar collector performance in	2019	Renewable Energy	143 1566 1580
109	Shelke, R.G., Rangan, L.	Isolation and characterisation of Ty1-copia retrotransposons from <i>Pongamia pinnata</i>	2019	Trees - Structure and Function	33 6 1559 1570
110	Chatterjee, D., Murali Krishna, A.	Effect of Slope Angle on the Stability of a Slope Under Rainfall Infiltration	2019	Indian Geotechnical Journal	49 6 708 717

111	Acharyya, R., Dey, A.	Suitability of the Typology of Shallow Foundations on Hill-Slopes	2019	Indian Geotechnical Journal	49	6	635	649
112	Mali, S., Singh, B.	Behavior of large piled raft foundation on different soil profiles for different loadings and different pile raft configurations	2019	Innovative Infrastructure Solutions	4	1		
113	Dabi, M., Saha, U.K.	Application potential of vegetable oils as alternative to diesel fuels in compression ignition engines: A review	2019	Journal of the Energy Institute	92	6	1710	1726
114	Barnwal, S., Choi, Y.-S., Kim, D.	Stochastic Optimization of Throughput of Cognitive Radio Network with Multiple Primary Users	2019	4th International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques, ICEECCOT 2019			354	358
115	Mathur, P., Arrawatia, M.	Linear microstrip antenna array with reduced patch size using I-shaped probe for electrically thick substrates	2019	2019 IEEE Indian Conference on Antennas and Propagation, InCAP 2019				
116	Gupta, N., Das, M.L., Nandi, S.	LandLedger: Blockchain-powered Land Property Administration System	2019	International Symposium on Advanced Networks and Telecommunication Systems, ANTS	2019-	December		
117	Raveendran, A., Patra, M.	A Judicious Spectrum Sensing Technique in Cognitive Radio Assisted Internet of Vehicles	2019	International Symposium on Advanced Networks and Telecommunication Systems, ANTS	2019-	December		
118	Nayek, N., Sonkar, R., Joshi, M.K., Tiwari, T., Bhattacharjee, R.	H-plane loaded sine waveguide TWT in G-band	2019	Asia-Pacific Microwave Conference Proceedings, APMC	2019-	December	1250	1252
119	Baruah, P.K., Sharma, A.K., Khare, A.	Shadowgraphic Imaging of Cavitation Bubble Dynamics in Pulsed Laser Ablation of a Solid in Liquid	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019				
120	Sarkar, R., Ghindani, D., Devi, K.M., Jagan Mohan Rao, S., Prabhu, S.S., Kumar, G.	Modulating dual-band electromagnetically induced transparency effect via near field coupling in planar terahertz metamaterials	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019				

121	Behera, S.R., Agrawal, P., Awekar, A., Mining strengths and weaknesses of cricket players using short text commentary Vedula, V.S.	2019	Proceedings - 18th IEEE International Conference on Machine Learning and Applications, ICMLA 2019	673	679
122	Farooq, R., Vij, S. Does Market Orientation Mediate between Knowledge Management Orientation and Business Performance?	2019	Journal of Information and Knowledge Management	18	4
123	Pawar, S., Kore, S.D. Electromagnetic forming and perforation of Al tubes	2019	Journal of Mechanical Science and Technology	33	12 5999 6007
124	Chen, Y., Rishi, S., Sharma, A., Shin, H. How training data influence the recognition performance?	2019	International Journal of Scientific and Technology Research	8	12 1340 1344
125	Thirumalaisamy, R., Dalal, A., Natarajan, G. Comment on "modifications to the gradient schemes on unstructured cell centered grids for the accurate determination of gradients near conductivity changes" [Phys. Fluids 31, 047104]	2019	Physics of Fluids	31	12
126	Mohanty, S.K., Sajith, G. An Input/Output Efficient Algorithm for Hessian Reduction	2019	International Journal of Computer Science	30	8 1279 1300
127	Biswas, A., Borah, D., Nanda, D. Type III seesaw for neutrino masses in U(1)	2019	Journal of High Energy Physics	2019	12
128	Dubey, A.K., Prasanna, S.R.M., Dandapat, S. Detection and assessment of hypernasality in repaired cleft palate speech using vocal tract and residual features	2019	Journal of the Acoustical Society of America	146	6 4211 4223
129	Panda, S., Pradhan, N., Chatterjee, S., Morla, S., Saha, A., Roy, A., Kumar, S., Bhattacharyya, A., Manna, D. 4,5-Disubstituted 1,2,3-triazoles: Effective Inhibition of Indoleamine 2,3-Dioxygenase 1 Enzyme Regulates T cell Activity and Mitigates Tumor Growth	2019	Scientific Reports	9	1
130	Chakraborty, S., Gautam, S.P., Das, P.P., Hazarika, M.K. Instant Controlled Pressure Drop (DIC) Treatment for Improving Process Performance and Milled Rice Quality	2019	Journal of The Institution of Engineers (India): Series A	100	4 683 695

131	Mishra, K.A., Almas, Kumar, U.	Band Tuning of a Phosphorene Semiconductor via Floquet Theory	2019	Journal of Electronic Materials	48	12	8193	8205
132	Sharma, D., Shukla, P.K.	Line-prioritized environmental selection and normalization scheme for many-objective optimization using reference-line-based framework	2019	Swarm and Evolutionary Computation	51			
133	Akhtar, M.N., Guru Prem Prasad, M., Navascués, M.A.	More General Fractal Functions on the Sphere	2019	Mediterranean Journal of Mathematics	16	6		
134	Jain, M.S., Paul, S., Kalamdhad, A.S.	Recalcitrant carbon for composting of fibrous aquatic waste: Degradation kinetics, spectroscopic study and effect on physico-chemical and nutritional properties	2019	Journal of Environmental Management	251			
135	Gaur, S.S., Dhar, P., Sakurai, S., Kumar, A., Katiyar, V.	Cellulose nanocrystal/clay based macroion nanogel as support for stable platinum catalyst for electrochemical oxidation of methanol in alkaline medium	2019	Applied Clay Science	182			
136	Lade, A.D., Mihailović, A., Mihailović, D.T., Kumar, B.	Randomness in flow turbulence around a bridge pier in a sand mined channel	2019	Physica A: Statistical Mechanics and its Applications	535			
137	Kumar, A., Purohit, B., Mahato, K., Mandal, R., Srivastava, A., Chandra, P.	Gold-Iron Bimetallic Nanoparticles Impregnated Reduced Graphene Oxide Based Nanosensor for Label-free Detection of Biomarker Related to Non-alcoholic Fatty Liver Disease	2019	Electroanalysis	31	12	2417	2428
138	Shukla, A., Shukla, R.S., Das, C., Goud, V.V.	Gingerols infusion and multi-step process optimization for enhancement of color, sensory and functional profiles of candied mango	2019	Food Chemistry	300			
139	Mayank, J., Mandal, A., Sarkar, A.	Control-schedule co-design for fast stabilization in real time systems facing repeated reconfigurations	2019	Design Automation for Embedded Systems	23	03-79		101
140	Patel, S.K., Singh, B.	A parametric study on the vertical pullout capacity of suction caisson foundation in cohesive soil	2019	Innovative Infrastructure Solutions	4	1		

141	Issa, S.A., Chakravarty, A., Kar, I.	Adaptive Control of a Networked Mobile Robot Subject to Parameter Uncertainties and Limited Communications	2019	2019 6th Indian Control Conference, ICC 2019 - Proceedings	308	313
142	Saija, K., Sangeetha, S., Shah, V.	WordNet based sign language machine translation: From english voice to ISL gloss	2019	2019 IEEE 16th India Council International Conference, INDICON 2019 - Symposium Proceedings		
143	Pathak, N., Agarwal, P.C., Dhriti, K.M., Kaur, S., Gill, T.S.	Self-Focusing of Quadruple Gaussian Laser Beam in Relativistic Plasma using Moment Theory Approach	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019		
144	Deb, P., Baruah, P.K., Khare, A., Nath, A.	Laser Induced Cavitation Bubble Dynamics from Twin Breakdown Sites	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019		
145	Nath, S.B., Chattopadhyay, S., Karmakar, R., Addya, S.K., Chakraborty, S., Ghosh, S.K.	PTC: Pick-test-choose to place containerized micro-services in IoT	2019	2019 IEEE Global Communications Conference, GLOBECOM 2019 - Proceedings		
146	Balaji, S.N., Ahsan, M.J., Jadav, S.S., Trivedi, V.	Molecular modelling, synthesis, and antimicrobial potentials of curcumin analogues containing heterocyclic ring	2019	Arabian Journal of Chemistry	12	2492 2500
147	Sarkar, R., Ghindani, D., Devi, K.M., Prabh, S.S., Ahmad, A., Kumar, G.	Independently tunable electromagnetically induced transparency effect and dispersion in a multi-band terahertz metamaterial	2019	Scientific Reports	9	1
148	Mawrie, D., Bhattacharjee, K., Sharma, A., Sharma, R., Bhattacharyya, J., Bhattacharjee, H., Deori, N., Kumar, A., Jaganathan, B.G.	Human orbital adipose tissue-derived mesenchymal stem cells possess neuroectodermal differentiation and repair ability	2019	Cell and Tissue Research	378	3 531 542
149	Chakraborty, P., Maurya, A.K., Vikram, D.	Understanding and Modelling Disorderly Traffic Streams	2019	Journal of the Indian Institute of Science	99	4 553 565
150	Buragohain, P., Lin, P., Garg, A., Sreedeeep, S., Hui, D.	Influence of Soil Type on Single and Competitive Retention Behavior of Inorganic Macro Cations in Binary as well as Ternary Solution	2019	KSCSE Journal of Civil Engineering	23	12 5012 5020

151	Raj, S., Saha, G., Sasidharan, S., Dubey, V.K., Saudagar, P.	Biochemical characterization and chemical validation of Leishmania MAP Kinase-3 as a potential drug target	2019	Scientific Reports	9	1
152	Yamsani, S.K., Dey, A., Sekharan, S., Rakesh, R.R.	Vulnerable Interface Diagram for Translational Stability Analysis of Multilayered Cover System	2019	International Journal of Geomechanics	19	12
153	Barua, E., Das, A., Pamu, D., Deoghare, A.B., Deb, P., Lala, S.D., Chatterjee, S.	Effect of thermal treatment on the physico-chemical properties of bioactive hydroxyapatite derived from caprine bone bio-waste	2019	Ceramics International	45	17
154	Verma, K., Kundu, D., Kundu, L.M., Singh, A.K., Dubey, V.K.	Folding and stability of recombinant azoreductase enzyme from Chromobacterium violaceum	2019	Enzyme and Microbial Technology	131	
155	Paul, A., Deka, J., Gujre, N., Rangan, L., Mitra, S.	Does nature of livelihood regulate the urban community's vulnerability to climate change? Guwahati city, a case study from North East India	2019	Journal of Environmental Management	251	
156	Machale, J., Majumder, S.K., Ghosh, P., Sen, T.K.	Development of a novel biosurfactant for enhanced oil recovery and its influence on the rheological properties of polymer	2019	Fuel	257	
157	Hussain, R., Aakansha, Brahma, B., Basumatary, R.K., Brahma, R., Ravi, S., Srivastava, S.K.	Sperimagnetism in Perpendicularly Magnetized Co-Tb Alloy-Based Thin Films	2019	Journal of Superconductivity and Novel Magnetism	32	12
158	Samal, P., Ganguly, S., Mohanty, S.	A fuzzy pragmatic DE-CSA hybrid approach for unbalanced radial distribution system planning with distributed generation	2019	Soft Computing	23	23
159	Shinde, H., Sapkal, A.M., Phatak, A., Vikram, C.M., Prasanna, S.R.M.	Quality evaluation of combined temporal and spectral processing for hearing impaired	2019	2019 IEEE 16th India Council International Conference, INDICON 2019 - Symposium Proceedings		
160	Dwivedi, K.M., Khijwania, S.K., Trivedi, G., Osuch, T.	Theoretical Analysis of pi-Phase-Shifted Fiber Bragg Grating for Longitudinal Ultrasonic Acoustic Wave	2019	2019 Workshop on Recent Advances in Photonics, WRAP 2019		

- 161 Barua, A., Deka, A., Gulati, V., Viji, S., Liao, X., Qaddumi, H.M. Re-Interpreting cooperation in transboundary waters: Bringing experiences from the Brahmaputra basin 2019 Water (Switzerland) 11 12
- 162 Buhrmann, C., Popper, B., Kunnumakara, A.B., Aggarwal, B.B., Shakibaei, M. Evidence that calebin A, a component of *Curcuma longa*, suppresses NF- κ B mediated proliferation, invasion and metastasis of human colorectal cancer induced by TNF- β 2019 Nutrients 11 12
- 163 Bordoloi, D., Banik, K., Padmavathi, G., Vikkurthi, R., Harsha, C., Kishor Roy, N., Kumar Singh, A., Monisha, J., Wang, H., Prem Kumar, A., Kunnumakkara, A.B. TIPE2 induced the proliferation, survival, and migration of lung cancer cells through modulation of AKT/mTOR/NF- κ B signaling cascade 2019 Biomolecules 9 12
- 164 Sahu, P.K., Vasudevan, N.P., Das, B., Pal, S. Assessment of self-reacting bobbin tool friction stir welding for joining AZ31 magnesium alloy at inert gas environment 2019 Journal of Magnesium and Alloys 7 4 661 671
- 165 Ghosh, K.K., Prakash, A., Dhara, A., Sad-Role of supramolecule ErPY-like lipoprotein of *Leptospira* in thrombin-catalyzed fibrin clot inhibition and binding to complement factors H and I, and its diagnostic potential 2019 Infection and Immunity 87 12
- 166 Kumar, R., Kumar, V., Kekungu, P., Barman, N.N., Kumar, S. Evaluation of surface glycoproteins of classical swine fever virus as immunogens and reagents for serological diagnosis of infections in pigs: a recombinant Newcastle disease virus applying selective local heating on metal solidification during selective laser melting for additive manufacturing 2019 Archives of Virology 164 12 3007 3017
- 167 Kim, B.S., Lee, N., Thota, S., Gemming, T., Cho, H.H. Effects of radiative local heating on metal solidification during selective laser melting for additive manufacturing 2019 Applied Surface Science 496
- 168 Aneesh, T.D., Srinivas, R., Singh, A.T., Resmi, T.R., Nair, A.M., Redkar, B.L. Stable water isotope signatures of dual monsoon precipitation: A case study of Greater Cochin region, south-west coast of India 2019 Journal of Earth System Science 128 8
- 169 Saikia, L., Mahanta, C., Mukherjee, A., Borah, S.B. Erosion-deposition and land use/land cover of the Brahmaputra river in Assam, India 2019 Journal of Earth System Science 128 8
- 170 Puranik, N.V., Srivastava, P., Bhatt, G., John Mary, D.J.S., Limaye, A.M., Sivaraman, J. Determination and analysis of agonist and antagonist potential of naturally occurring flavonoids for estrogen receptor (ER α) by various parameters and molecular modelling ap-

- 171 Ali, A., Shah, K., Jarad, F., Gupta, V., Existence and stability analysis to a coupled system of implicit type impulsive boundary value problems of fractional-order differential equations 2019 Advances in Difference Equations 2019 1
- 172 Kaur, R., Kaur, M., Agarwal, P.C., Kaur, S., Kumar, G. Simulation of Terahertz Propagation by TE Mode in Metal Dielectric Metal Waveguide 2019 2019 Workshop on Recent Advances in Photonics, WRAP 2019 9 3031 3044
- 173 Gupta, C.N., Turner, J.A., Calhoun, V.D. Source-based morphometry: a decade of covarying structural brain patterns 2019 Brain Structure and Function 224 9 3031 3044
- 174 Singh, J., Juneja, S., Palsaniya, S., Manna, A.K., Soni, R.K., Bhattacharya, J. Evidence of oxygen defects mediated enhanced photocatalytic and antibacterial performance of ZnO nanorods 2019 Colloids and Surfaces B: Bio-interfaces 184
- 175 Srivastava, S.K., Ravi, S. Crystal Structure and Magnetic Properties of Cu-Substituted $\text{La}_{0.90}\text{Ag}_{0.10}\text{MnO}_3$ Compounds 2019 Journal of Superconductivity and Novel Magnetism 32 12 3995 4003
- 176 de Melo, B.A.G., Jodat, Y.A., Mehrotra, S., Calabrese, M.A., Kamperman, T., Mandal, B.B., Santana, M.H.A., Alsborg, E., Leijten, J., Shin, M., Bigi, I.I., Bishara, F., Blanke, M., Bobeth, C., *et al* 3D Printed Cartilage-Like Tissue Constructs with Spatially Controlled Mechanical Properties 2019 Advanced Functional Materials 29 51
- 177 Kou, E., Urquijo, P., Altmannshofer, W., Beaujean, F., Bell, G., Beneke, M., Bigi, I.I., Bishara, F., Blanke, M., Bobeth, C., *et al* The Belle II physics book 2019 Progress of Theoretical and Experimental Physics 2019 12
- 178 Goswami, S., Sharma, A.K. Investigation of the optical behavior of indium oxide thin films with the aid of spectroscopic ellipsometry technique 2019 Applied Surface Science 495
- 179 Srivastava, S.K., Brahma, R., Datta, S., Guha, S., Aakansha, Baro, S.S., Narzary, B., Basumatary, D.R., Kar, Thermal Hydrogenation and Degradation of Quinoline from Reactive Force Field Simulations 2019 Materials Research Express 6 12
- 180 Naik, P.K., Paul, S., Banerjee, T. Thermal Hydrogenation and Degradation of Quinoline from Reactive Force Field Simulations 2019 ChemistrySelect 4 44 12996 13005

181	Li, H., Vossen, A., Aihara, H., Asner, D.M., Aulchenko, V., Aushev, T., Babu, V., Baidhrees, I., Bakich, A.M., Bennett, J., <i>et al</i>	Azimuthal asymmetries of back-to-back $\pi\pi$ (π^0, η, π^\pm) pairs in e^+e^- annihilation	2019	Physical Review D	100	9		
182	Lee, J., Manoharan, V., Cheung, L., Lee, S., Cha, B.-H., Newman, P., Farzad, R., Mehrotra, S., Zhang, K., Khan, F., <i>et al</i>	Nanoparticle-Based Hybrid Scaffolds for Deciphering the Role of Multimodal Cues in Cardiac Tissue Engineering	2019	ACS Nano	13	11	12525	12539
183	Barman, N., Gokhale, S.	Urban black carbon - source apportionment, emissions and long-range transport over the Brahmaputra River Valley	2019	Science of the Total Environment	693			
184	Kipgen, N.	Why are farmers in Manipur cultivating poppy?	2019	Economic and Political Weekly	54	46	1	8
185	Kumar, H., Sinha, S.K., Goud, V.V., Das, S.	Removal of Cr(VI) by magnetic iron oxide nanoparticles synthesized from extracellular polymeric substances of chromium resistant acid-tolerant bacterium <i>Lysinibacillus sphaericus</i> RTA-01	2019	Journal of Environmental Health Science and Engineering	17	2	1001	1016
186	Negi, S., Nambolan, A.A., Kapil, S., Joshi, P.S., R, M., Karunakaran, K.P., Bhargava, P.	Review on electron beam based additive manufacturing	2019	Rapid Prototyping Journal	26	3	485	498
187	Dolla, T., Laishram, B.	Bundling in public-private partnership projects – a conceptual framework	2019	International Journal of Productivity and Performance Management	69	6	1177	1203
188	Kumar, S., Narayanasamy, S., Venkatesh, R.P.	Removal of Cr(VI) from synthetic solutions using water caltrop shell as a low-cost biosorbent	2019	Separation Science and Technology (Philadelphia)	54	17	2783	2799
189	Manoj, K.M., Parashar, A., David Jacob, V., Ramasamy, S.	Aerobic respiration: proof of concept for the oxygen-centric murburn perspective	2019	Journal of Biomolecular Structure and Dynamics	37	17	4542	4556
190	Chandrasekaran, A., Subbiah, S., Ramachandran, S., Narayanasamy, S., Bartocci, P., Fantozzi, F.	Natural Draft-Improved Carbonization Retort System for Biocarbon Production from <i>Prosopis juliflora</i> Biomass	2019	Energy and Fuels	33	11	11113	11124

191	Philip, J.T., Kumar, D., Joshi, S.N., Mathew, J., Kuriachen, B.	Monitoring of EDM parameters to develop tribo-adaptive Ti6Al4V surfaces through accretion of alloyed matrix	2019	Industrial Lubrication and Tribology	72	3	291	297
192	Dhiman, B., Kumar, T., Rituraj, G., Bhalla, K., Chakrabarti, D.	Study of small scale photovoltaic applications in rural Indian household context	2019	Journal of Physics: Conference Series	1343	1		
193	Rudra, S., Chakraborty, R., Maji, P.K., Koley, S., Nayak, A.K., Paul, D., Pradhan, M.	Intercalation pseudocapacitance in chemically stable Au- α -Fe O composite nanorod: Towards highly efficient solid-state symmetric supercapacitor device	2019	Electrochimica Acta	324			
194	Rajeev, A., Meena, N.K., Pallav, K.	Comparative study of seismic design and performance of omf building using indian, british, and european codes	2019	Infrastructures	4	4		
195	Jadhav, G.S., Arunachalam, M., Salve, U.R.	Ergonomics design and evaluation of the stitching workstation for the hand-crafted Kolhapuri footwear using a digital human modeling approach	2019	Journal of Industrial and Production Engineering	36	8	563	575
196	Padhee, S.K., Dutta, S.	Spatio-Temporal Reconstruction of MODIS NDVI by Regional Land Surface Phenology and Harmonic Analysis of Time-Series	2019	GIScience and Remote Sensing	56	8	1261	1288
197	Panda, S.K., Maiti, S.K.	An approach for simultaneous detoxification and increment of cellulase enzyme production by <i>Trichoderma reesei</i> using rice straw	2019	Energy Sources, Part A: Recovery, Utilization and Environmental Effects	41	22	2691	2703
198	Tawalare, A., Laishram, B.	Factors hindering effective partnering in Indian public sector construction organizations	2019	Journal of Financial Management of Property and Construction	25	1	83	105
199	Arun, S., Manikandan, N.A., Pakshiranjan, K., Pugazhenthii, G.	Novel shortcut biological nitrogen removal method using an algae-bacterial consortium in a photo-sequencing batch reactor: Process optimization and kinetic modelling	2019	Journal of Environmental Management	250			
200	Das, R., Laishram, B., Jawed, M.	Public participation in urban water supply projects – The case of South-West Guwahati, India	2019	Water Research	165			

201	Baskaran, D., Rajamanickam, R., Pakshirajan, K.	Experimental studies and neural network modeling of the removal of trichloroethylene vapor in a biofilter	2019	Journal of Environmental Management	250
202	Sunku Prasad, J., Muthukumar, P., Desai, F., Basu, D.N., Rahman, M.M.	A critical review of high-temperature reversible thermochemical energy storage systems	2019	Applied Energy	254
203	Tippa, M., Subbiah, S., Prathap, C.	Impact of chamber volume on the measurement of laminar burning velocity using constant volume spherical flame method	2019	Fuel	256
204	Manoj, K.M., Soman, V., David Jacob, V., Parashar, A., Gideon, D.A., Kumar, M., Manekthodi, A., Ramasamy, S., Pakshirajan, K., Bazhin, N.M.	Chemiosmotic and murburn explanations for aerobic respiration: Predictive capabilities, structure-function correlations and chemico-physical logic	2019	Archives of Biochemistry and Biophysics	676
205	Rao, C.R.C., Vigneshwaran, K., Niyas, H., Muthukumar, P.	Performance investigation of lab-scale sensible heat storage prototypes	2019	International Journal of Green Energy	16 14 1363 1378
206	Borgohain, R., Mandal, B.	PH Responsive Carboxymethyl Chitosan/Poly (amidoamine) Molecular Gate Membrane for CO ₂ Separation	2019	ACS Applied Materials and Interfaces	11 45 42616 42628
207	Rathi, A.K., Sharma, P.V.S., Chakraborty, A.	Sequential stochastic response surface method using moving least squares-based sparse grid scheme for efficient reliability analysis	2019	International Journal of Computational Methods	16 5
208	Colomban, C., Tobing, A.H., Mukherjee, G., Sastri, C.V., Sorokin, A.B., de Visser, S.P.	Mechanism of Oxidative Activation of Fluorinated Aromatic Compounds by N-Bridged Diiron-Phthalocyanine: What Determines the Reactivity?	2019	Chemistry - A European Journal	25 63 14320 14331
209	Bhandari, S., Roy, S., Pramanik, S., Chattopadhyay, A.	Chemical Reactions Involving the Surface of Metal Chalcogenide Quantum Dots	2019	Langmuir	35 45 14399 14413
210	Janani, G., Kumar, S., Mandal, B.B.	Fiber-Reinforced Silk Composite for Enhanced Urokinase Production Using High-Density Perfusion Culture and Bioactive Molecule Supplementation	2019	ACS Biomaterials Science and Engineering	5 11 6137 6151

211	Killi, B.P.R., Rao, S.V.	Controller placement in software defined networks: A Comprehensive survey	2019 Computer Networks	163	
212	Hossen, T., Sahu, K.	Effect of Photoacid Strength on Fluorescence Modulation of 2-Naphthol Derivatives inside β -Cyclodextrin Cavity: Insights from Fluorescence, Isothermal Calorimetry, and Molecular Dynamics Simulations	2019 Journal of Physical Chemistry B	123	44 9291 9301
213	Inala, K.P., Kumar, P., Bose, S.K.	Impact of communication systems on grid node voltage and operation of a vehicle-to-grid controller in a smart-grid scenario	2019 IET Power Electronics	12	13 3499 3509
214	Nath, J., Tarai, A., Baruah, J.B.	Copper(II), Zinc (II), and Cadmium(II) Formylbenzoate Complexes: Reactivity and Emission Properties	2019 ACS Omega	4	19 18444 18455
215	Saikia, K., Belwal, V.K., Datta, D., Chaudhary, N.	Aromatic-rich C-terminal region of LCI is a potent antimicrobial peptide in itself	2019 Biochemical and Biophysical Research Communications	519	2 372 377
216	Borah, D., Dasgupta, A., Kang, S.K.	Two-component dark matter with cogenesis of the baryon asymmetry of the Universe	2019 Physical Review D	100	10
217	Roy, S., Pramanik, S., Mandal, P., Manana, M., Bhandari, S.	Hue- and Chromaticity-Based Exploration of Surface Complexation-Induced Tunable Emission from Non-Luminescent Quantum Dots	2019 Chemistry - An Asian Journal	14	21 3823 3829
218	Kumar, V., Yadav, K., Kumar, R., Chaudhary, N., Kumar, S.	Glycoprotein D peptide-based diagnostic approach for the detection of avian infectious laryngotracheitis antibodies	2019 Avian Pathology	48	6 602 609
219	Kalo, L., Kamalanathan, P., Pant, H.J., Cassanello, M.C., Upadhyay, R.K.	Mixing and regime transition analysis of liquid-solid conical fluidized bed through RPT technique	2019 Chemical Engineering Science	207	702 712
220	Javed, W., Iakovides, M., Garaga, R., Stephanou, E.G., Kota, S.H., Ying, Q., Wolfson, J.M., Koutrakis, P., Guo, B.	Source apportionment of organic pollutants in fine and coarse atmospheric particles in Doha, Qatar	2019 Journal of the Air and Waste Management Association	69	11 1277 1292

221	Phukan, S., Mahanta, C.	Position Synchronization Control of a 3DoF Dual Arm Robotic Manipulator System using Integral Sliding Mode	2019	Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems and Robotics, Automation and Mechatronics, CIS and RAM 2019	439	444
222	Atif, N., Bhuyan, M., Ahamed, S.	A Review on Semantic Segmentation from a Modern Perspective	2019	Proceedings - 2019 International Conference on Electrical, Electronics and Computer Engineering, UPCON 2019		
223	Minz, M., Mishra, D., Sonkar, R.K.	Design of a hybrid mode and polarization division multiplexer	2019	Asia Communications and Photonics Conference, ACP	2019-	Novem-
224	Saikia, P., Karmakar, S.	$2(1-1/l)$ -Factor Steiner Tree Approximation in $\tilde{O}(n^{1/3})$ Rounds in the CONGESTED CLIQUE	2019	Proceedings - 2019 7th International Symposium on Computing and Networking, CANDAR 2019	82	91
225	Kulkarni, S.S., Baghel, A.K., Nayak, S.K.	Square Slotted Patch Antenna for 2.45 GHz Far-field Wireless Power Transfer	2019	2019 IEEE International Conference on Microwaves, Antennas, Communications and Electronic Systems, COMCAS 2019		
226	Baghel, A.K., Kulkarni, S.S., Nayak, S.K.	Efficient Modeling of DC-RF module of Space Solar Power Satellite with Improved Antenna design and Metasurface	2019	2019 IEEE International Conference on Microwaves, Antennas, Communications and Electronic Systems, COMCAS 2019		
227	Raj, A., Borsaikia, A.C., Dixit, U.S.	Compressive and shear bond strengths of grooved AAC blocks and masonry	2019	Materials and Structures/Materiaux et Constructions	52	6
228	Mondal, I.H., Rangan, L., Uppaluri, R.V.S.	Effect of oven and intermittent airflow assisted tray drying methods on nutritional parameters of few leafy and	2019	Heliyon	5	11
229	Chand, K., Sharma, M., Vishnu, V.T., De, A.K.	Statistics of coherent structures in two-dimensional turbulent Rayleigh-Bénard convection	2019	Physics of Fluids	31	11
230	Borah, P.P., Sorathia, K.	Direct observation of tactile geometric drawing by visually impaired and blind students	2019	ACM International Conference Proceeding Series		

231	Dhar, A.	Retrieve: A system which analyzes and recommends ways to optimise attention	2019	ACM International Conference Proceeding Series	13	9	1245	1253
232	Trivedi, S., Nemade, H.B.	ZnO nanorod-based Love wave delay line for high mass sensitivity: A finite element analysis	2019	IET Science, Measurement and Technology	12	6	664	673
233	Pathak, S., Choudhary, R., Kumar, A., Damena, D.T.	Feasibility assessment of the use of basic oxygen furnace slag in open graded asphalt courses	2019	International Journal of Pavement Research and Technology	100			
234	Manohar, S.S., Kapoor, H.K.	Dynamic reconfiguration of embedded-DRAM caches employing zero data detection based refresh optimisation	2019	Journal of Systems Architecture	34	6	4784	4795
235	Lakshmi, S., Ganguly, S.	An On-Line Operational Optimization Approach for Open Unified Power Quality Conditioner for Energy Loss Minimization of Distribution Networks	2019	IEEE Transactions on Power Systems	13	6	481	492
236	Rani, K., Kapoor, H.K.	Write-variation aware alternatives to replace SRAM buffers with non-volatile buffers in on-chip interconnects	2019	IET Computers and Digital Techniques	13	6	461	469
237	Hazarika, J., Mohd, T.K., Ahamed, S.R., Nemade, H.B.	Energy efficient VLSI architecture of real-valued serial pipeline FFT	2019	IET Computers and Digital Techniques	8	11	1970	1984
238	Mukhopadhyay, S., Gharui, C., Pan, S.C.	Applications of Bifunctional Organocatalysts on ortho-Quinone Methides	2019	Asian Journal of Organic Chemistry	26	31	32137	32150
239	Ajmani, A., Shahnaz, T., Subbiah, S., Narayanasamy, S.	Hexavalent chromium adsorption on virgin, biochar, and chemically modified carbons prepared from Phanera vahlii fruit biomass: equilibrium, kinetics, and thermodynamics approach	2019	Environmental Science and Pollution Research	48	7	3214	3229
240	Ramteke, R.R., Kishore, N.	Forced convective heat transfer between assemblages of spherical particles and power-law non-Newtonian liquids with velocity slip at the interface	2019	Heat Transfer - Asian Research				

241	Mukherjee, K., Mishra, A.K.	Hydro-Mechanical Properties of Sand-Bentonite-Glass Fiber Composite for Landfill Application	2019 KSCE Journal of Civil Engineering	23	11	4631	4640
242	Chembolu, V., Kakati, R., Dutta, S.	A laboratory study of flow characteristics in natural heterogeneous vegetation patches under submerged conditions	2019 Advances in Water Resources	133			
243	Singh, R., Paily, R.	Adsorption of Urea over Transition Metal-Doped Graphene: A DFT Study	2019 Journal of Electronic Materials	48	11	6940	6948
244	Dineshbabu, G., Goswami, G., Kumar, R., Sinha, A., Das, D.	Microalgae–nutritious, sustainable aqua- and animal feed source	2019 Journal of Functional Foods	62			
245	Verma, V.K., Subbiah, S.	Sericin-coated polymeric microfiltration membrane for removal of drug-based micropollutants	2019 Journal of Chemical Technology and Biotechnology	94	11	3625	3636
246	Verma, V.K., Subbiah, S.	Fouling resistant sericin-coated polymeric microfiltration membrane	2019 Journal of Chemical Technology and Biotechnology	94	11	3637	3649
247	Mishra, S., Roy, M., Mohanty, K.	Microalgal bioenergy production under zero-waste biorefinery approach: Recent advances and future perspectives	2019 Bioresource Technology	292			
248	Pamwani, L., Shelke, A.	Damage quantification in moment resisting frame using phase space reconstructed from independent component sources	2019 Structural Control and Health Monitoring	26	11		
249	Devi, S.V., Singh, T.G., Singh, K.D.	Cold-formed steel square hollow members with circular perforations subjected to torsion	2019 Journal of Constructional Steel Research	162			
250	Debbarma, K., Bhattacharjee, R.	Matched feeds for offset reflector antenna using circular microstrip patch antenna	2019 International Journal of RF and Microwave Computer-Aided Engineering	29	11		

251	Kannao, R., Guha, P.	Segmenting with style: detecting program and story boundaries in TV news broadcast videos	2019	Multimedia Tools and Applications	78	22	3192	31957
							5	
252	Deka, B., Roy, P.	A least-squares-based weak Galerkin finite element method for elliptic interface problems	2019	Proceedings of the Indian Academy of Sciences: Mathematical Sciences	129	5		
253	Singh, N., Roy, K., Goyal, A., Moholkar, V.S.	Investigations in ultrasonic enhancement of β -carotene production by isolated microalgal strain <i>Tetradesmus obliquus</i> SGM19	2019	Ultrasonics Sonochemistry	58			
254	Afroz, M.A., Gupta, R.K., Garai, R., Hossain, M., Tripathi, S.P., Iyer, P.K.	Crystallization and grain growth regulation through Lewis acid-base adduct formation in hot cast perovskite-based solar cells	2019	Organic Electronics	74	172	178	
255	Mondal, P., Purkait, M.K.	Preparation and characterization of novel green synthesized iron–aluminum nanocomposite and studying its efficiency in fluoride removal	2019	Chemosphere	235	391	402	
256	Kumar, B., Bag, S.	Phase transformation effect in distortion and residual stress of thin-sheet laser welded Ti-alloy	2019	Optics and Lasers in Engineering	122	209	224	
257	Dash, S., Borah, S.S., Kalamdhad, A.	A modified indexing approach for assessment of heavy metal contamination in Deepor Beel, India	2019	Ecological Indicators	106			
258	Chaudhari, A.J., Hotta, S.K., Sahoo, N., Kulkarni, V.	Effect of vertical location of the spark plug on the performance of a raw biogas-fueled variable compression ratio spark ignition engine	2019	Energy and Environment	30	7	1313	1338
259	Kainthola, J., Shariq, M., Kalamdhad, A.S., Goud, V.V.	Electrohydrolysis pretreatment methods to enhance the methane production from anaerobic digestion of rice straw using graphite electrode	2019	Renewable Energy	142	1	10	
260	Acharyya, R., Dey, A.	Assessment of bearing capacity for strip footing located near sloping surface considering ANN model	2019	Neural Computing and Applications	31	11	8087	8100

261	Bhuyan, M.K., Bora, K., Koukiou, G.	Detection of Intoxicated Person using Thermal Infrared Images	2019 Proceedings of the 2019 IEEE 6th Asian Conference on Defence Technology, ACDT 2019	59	64
262	Baghel, A.K., Kulkarni, S.S., Nayak, S.K.	Simple way of Frequency Tuning using Pin Diode of Transmission type Digital Metasurface	2019 IEEE International Conference on Microwave, Antennas, Communications and Electronic Systems, COMCAS 2019		
263	Shrivastava, A., Joshi, A.	Directedness and Persistence in Audio-Visual Interface for Emergent users	2019 ACM International Conference Proceeding Series		
264	Choudhary, R., Kumar, A., Rahman, G.	Rheological and mechanical properties of bauxite residue as hot mix asphalt filler	2019 International Journal of Pavement Research and Technology	12	6 623 631
265	Deb, D., Jose, J., Palesi, M.	ECAP: Energy-efficient caching for prefetch blocks in tiled chip multiprocessors	2019 IET Computers and Digital Techniques	13	6 417 428
266	Moulik, S., Devaraj, R., Sarkar, A.	Healers: A heterogeneous energy-aware low-overhead real-time scheduler	2019 IET Computers and Digital Techniques	13	6 470 480
267	Goswami, R., Veeranki, V.D., Mishra, V.K.	Optimization of process conditions and evaluation of pH & thermal stability of recombinant L-Asparaginase II of <i>Erwinia carotovora</i> subsp. <i>atroseptica</i> SCRI	2019 Biocatalysis and Agricultural Biotechnology	22	
268	Mondal, D.K., Borgohain, C., Paul, N., Borah, J.P.	Tuning hyperthermia efficiency of MnFe ₂ O ₄ /ZnS nanocomposites by controlled ZnS concentration	2019 Journal of Materials Research and Technology	8	6 5659 5670
269	Kumar, R., Kore, S.D.	Effect of the field shaper geometries in electromagnetic crimping of tubes on rods	2019 Journal of Manufacturing Science and Engineering, Transactions of the ASME	141	11
270	Agarwal, M., Mondal, T., Bose, B.	Peptides derived from a short stretch of diphtheria toxin bind to heparin-binding epidermal growth factor-like growth fac-	2019 Toxicon	169	109 116

271	Nandi, S., Mondal, A., Reinsch, H., Biswas, S.	An ultra-robust luminescent CAU-10 MOF acting as a fluorescent "turn-off" sensor for Cr ³⁺ in aqueous medium	2019	Inorganica Chimica Acta	497
272	Sinharoy, A., Baskaran, D., Pakshiranjan, K.	A novel carbon monoxide fed moving bed biofilm reactor for sulfate rich wastewater treatment	2019	Journal of Environmental Management	249
273	Desai, S., Brahmachary, S., Gadgil, H., Kulkarni, V.	Probing Real Gas and Leading-Edge Bluntness Effects on Shock Wave Boundary-Layer Interaction at Hypersonic Speeds	2019	Journal of Aerospace Engineering	32 6
274	Choudhury, T., Kaushik, H.B.	Treatment of uncertainties in seismic fragility assessment of RC frames with masonry infill walls	2019	Soil Dynamics and Earthquake Engineering	126
275	Pankaj, P., Tiwari, A., Bhadra, R., Biswas, P.	Experimental investigation on CO ₂ laser butt welding of AISI 304 stainless steel and mild steel thin sheets	2019	Optics and Laser Technology	119
276	Pandey, A.K., Katiyar, V., Sasaki, S., Sakurai, S.	Accelerated crystallization of poly(l-lactic acid) by silk fibroin nanodisc	2019	Polymer Journal	51 11 1173 1180
277	Kulkarni, R., Rastogi, P.	Two-step phase shifting interferometry based on orientation selective monogenic filtering	2019	Optics Communications	450 208 215
278	Agrawal, M.S., Gaikwad, H.S., Mondal, P.K., Biswas, G.	Analysis and experiments on the spreading dynamics of a viscoelastic drop	2019	Applied Mathematical Modelling	75 201 209
279	Nanda, S.R., Kulkarni, V., Sahoo, N., Menezes, V.	A comparison of accelerometer and piezofilm-based force balances for hypersonic shock tunnels	2019	Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering	233 14 5310 5320
280	Sarmah, S.B., Kalita, P., Garg, A., Niu, X.-D., Zhang, X.-W., Peng, X., Bhattacharjee, D.	A Review of State of Health Estimation of Energy Storage Systems: Challenges and Possible Solutions for Futuristic Applications of Li-Ion Battery Packs in Electric Vehicles	2019	Journal of Electrochemical Energy Conversion and Storage	16 4

281	Tang, F., Bose, S.K., Klinkowski, M., Shen, G.	Minimizing inter-core crosstalk jointly in spatial, frequency, and time domains for scheduled lightpath demands in a multi-core fiber optical network	2019 Asia Communications and Photonics Conference, ACP	2019- November	63	6	1583	1591
282	DiGiovanni, C., Bag, S., Mehling, C., Choi, K.W., Macwan, A., Biro, E.,	Reduction in liquid metal embrittlement cracking using weld current ramping	2019 Welding in the World		63	6	1583	1591
283	Rajak, A.K., Kumar, R., Kore, S.D.	Designing of field shaper for the electro-magnetic crimping process	2019 Journal of Mechanical Science and Technology		33	11	5407	5413
284	Balchandani, S., Mandal, B., Dharaskar, S., Kumar, A., Bandyopadhyay, S.	Thermally induced characterization and modeling of physicochemical, acoustic, rheological, and thermodynamic properties of novel blends of (HEF + AEP) and (HEF + AMP) for CO ₂ absorption	2019 Environmental Science and Pollution Research		26	31	32209	32223
285	Majumder, S., De, K., Kumar, P., Rayudu, R.	A green public transportation system using E-buses: A technical and commercial feasibility study	2019 Sustainable Cities and Society		51			
286	Tiwari, A., Ahuja, A., Vishwakarma, B.D., Jain, K.	Groundwater Potential Zone (GWPZ) for Urban Development Site Suitability Analysis in Bhopal, India	2019 Journal of the Indian Society of Remote Sensing		47	11	1793	1815
287	Agrawal, M., Nandy, A., Jog, C.S.	A hybrid finite element formulation for large-deformation contact mechanics	2019 Computer Methods in Applied Mechanics and Engineering		356		407	434
288	Upadhyay, R.K., Pant, H.J., Roy, S.	Experimental validation of design and performance parameters of radioactive particle tracking (RPT) experimentation	2019 Applied Radiation and Isotopes		153			
289	Bhukya, R.K., Prasanna, S.R.M., Sarma, B.D.	Robust Methods for Text-Dependent Speaker Verification	2019 Circuits, Systems, and Signal Processing		38	11	5253	5288
290	Karthik, V., Saravanan, K., Patra, C., Ushadevi, B., Vairam, S., Selvaraju, N.	Biosorption of Acid Yellow 12 from simulated wastewater by non-viable <i>T. harzianum</i> : kinetics, isotherm and thermodynamic studies	2019 International Journal of Environmental Science and Technology		16	11	6895	6906

291	Sevakula, R.K., Singh, V., Verma, N.K., Kumar, C., Cui, Y.	Transfer Learning for Molecular Cancer Classification Using Deep Neural Networks	2019	IEEE/ACM Transactions on Computational Biology and Bioinformatics	16	6	2089	2100
292	Goyal, D., Kumar, K., Centeno, M.S.J., Thakur, A., Pires, V.M.R., Bule, P., Fontes, C.M.G.A., Goyal, A.	Molecular Cloning, Expression and Biochemical Characterization of a Family 5 Glycoside Hydrolase First Endo-Mannanase (RfGH5_7) from <i>Ruminococcus flavefaciens</i> FD-1 v3	2019	Molecular Biotechnology	61	11	826	835
293	Kumar, A., Meena, N.K., Singh, A.R., Deng, Y., He, X., Bansal, R.C., Kumar, P.	Strategic integration of battery energy storage systems with the provision of distributed ancillary services in active distribution systems	2019	Applied Energy	253			
294	Coomar, P., Mukherjee, A., Bhattacharya, P., Bundschuh, J., Verma, S., Fryar, A.E., Ramos Ramos, O.E., Muñoz, M.O., Gupta, S., Mahanta, C., Quino, I., Thunvik, R.	Contrasting controls on hydrogeochemistry of arsenic-enriched groundwater in the homologous tectonic settings of Andean and Himalayan basin aquifers, Latin America and South Asia	2019	Science of the Total Environment	689		1370	1387
295	Das, K., Nandi, P.G., Islam, K., Srivastava, H.K., Kumar, A.	N-Alkylation of Amines Catalyzed by a Ruthenium-Pincer Complex in the Presence of in situ Generated Sodium Alkoxide	2019	European Journal of Organic Chemistry	2019	40	6855	6866
296	Singha, T., Nandy, M.K.	Reynolds number dependence of velocity gradient skewness in a renormalized scheme of fluid turbulence	2019	Journal of Physics A: Mathematical and Theoretical	52	47		
297	Dehury, P., Chaudhary, R.K., Banerjee, T., Datal, A.	Evaluation of Thermophysical Properties of Menthol-Based Deep Eutectic Solvent as a Thermal Fluid: Forced Convection and Numerical	2019	Industrial and Engineering Chemistry Research	58	43	20125	20133
298	Dutta, S., Chatterjee, B., Mishra, P.K., Lode, A.U.J., Tsatsos, M.C., Basu, S.	Tunneling Dynamics of interacting bosons in a quantum seesaw potential	2019	Journal of Physics: Conference Series	1290	1		
299	Sahu, S.S., Gandhi, I.S.R.	Evaluation of performance of foam produced with different methodologies for use in foam concrete production	2019	IOP Conference Series: Materials Science and Engineering	652	1		
300	Mohapatra, P.P., Pamu, D.	Magnetic and dielectric studies of $\text{Li}_2\text{Ca}_2\text{Fe}_5\text{O}_{18}$ for RF/microwave applications	2019	AIP Conference Proceedings	2162			

301	Babu, M.S., Pal, D.	Study on variation of second magnetization peak curve in a low temperature cubic superconductor, $Ca_{x-3}Rh_{4-x}$	2019	AIP Conference Proceedings	2162
302	Ganapathi, P., Sorathia, K.	An elicitation study of body gestures for locomotion in HMD-VR interfaces in a sitting-position	2019	Proceedings - MIG 2019: ACM Conference on Motion, Interaction, and Games	2 10 7457 7466
303	Mohanta, M.K., Sahu, T.K., Gogoi, D., Peela, N.R., Gureshi, M.	Hexagonal Boron Nitride Quantum Dots as a Superior Hole Extractor for Efficient Charge Separation in WO_3 -Based Photoelectrochemical Water Oxidation	2019	ACS Applied Energy Materials	2 10 4571 4582
304	Bhuyan, T., Dutta, D., Bhattacharjee, M., Singh, A.K., Ghosh, S.S., Bandyopadhyay, D.	Acoustic Propulsion of Vitamin C Loaded Teabots for Targeted Oxidative Stress and Amyloid Therapeutics	2019	ACS Applied Bio Materials	2 10 4571 4582
305	Shaikh, J., Bordoloi, S., Yamsani, S.K., Sekharan, S., Rakesh, R.R., Sarmah, A.K.	Long-term hydraulic performance of landfill cover system in extreme humid region: Field monitoring and numerical approach	2019	Science of the Total Environment	688 409 423
306	Ascia, G., Catania, V., Monteleone, S., Palesi, M., Patti, D., Jose, J.	Analyzing networks-on-chip based deep neural networks	2019	Proceedings of the 13th IEEE/ACM International Symposium on Networks-on-Chip, NOCS 2019	13 15 2507 2519
307	Pandey, S., Majhi, S.	Relay-based identification scheme for processes with non-minimum phase and time delay	2019	IET Control Theory and Applications	13 15 2507 2519
308	Vigneshwaran, K., Singh Sodhi, G., Muthukumar, P., Subbiah, S.	Concrete based high temperature thermal energy storage system: Experimental and numerical studies	2019	Energy Conversion and Management	198
309	Ghosh, S., Chakraborty, S.	Influence of inoculum variation on formation and stability of aerobic granules in oily wastewater treatment	2019	Journal of Environmental Management	248
310	Akitaya, H.A., Inkulu, R., Nichols, T.L., Souvaine, D.L., Tóth, C.D., Winston, C.R.	Minimum weight connectivity augmentation for planar straight-line graphs	2019	Theoretical Computer Science	789 50 63

311	Jin, Y., Aihara, H., Epifanov, D., Adachi, I., Al Said, S., Asner, D.M., Aulchenko, V., Aushev, T., Ayad,	Observation of $\tau \rightarrow \pi \nu e^+ e^-$ and search for $\tau \rightarrow \pi^+ \nu \mu^+ \mu^-$	2019	Physical Review D	100	7
312	Bharadwaj, N., Singh, Y.P., Mandal, B.B.	Silk Fibroin Scaffold-Based 3D Co-Culture Model for Modulation of Chondrogenesis without Hypertrophy via Reciprocal Cross-talk and Paracrine Signaling	2019	ACS Biomaterials Science and Engineering	5	10 5240 5254
313	Kunthara, R.G., James, R.K., Sreeba, S.Z., Jose, J.	Asymmetric routing in 3D NoC using interleaved edge routers	2019	2019 12th International Workshop on Network on Chip Architectures, NoC-Arc 2019 - In conjunction with the 52nd Annual IEEE/ACM International Symposium on Microarchitecture, MICRO 2019	7	12
314	Prabhu, A.A., Hariramani, K., Lakshmi, P., Dasu, V.V.	Systems metabolic engineering approach for recombinant protein production in microbial cell	2019	Horizons in Bioprocess Engineering	211	240
315	Das, A., Dalui, S., Chowdhury, C., Majhi, B.R.	Conformal vacuum and the fluctuation-dissipation theorem in a de Sitter universe and	2019	Physical Review D	100	8
316	Ghosh, V., Bharadwaja, M., Yadav, S., Kabra, G.	Team-member exchange and innovative work behaviour: The role of psychological empowerment	2019	International Journal of Innovation Science	11	3 344 361
317	Acero, M.A., Adamson, P., Aliaga, L., Alion, T., Allakhverdian, V., Altakarli, S., Anfimov, N., Antoshkin,	First measurement of neutrino oscillation parameters using neutrinos and antineutrinos by NOvA	2019	Physical Review Letters	123	15
318	Pal, T., Sahu, K.	Anomalous Variation of Excited-State Proton Transfer Dynamics inside a Triblock Copolymer	2019	Journal of Physical Chemistry B	123	40 8559 8568
319	Borthakur, U., Saikia, A.K.	Bismuth(III)-Triflate-Catalyzed Highly Diastereoselective Synthesis of Substituted Tetrahydrothiophene via Tandem Isomerization, Michael and	2019	ChemistrySelect	4	37 11136 11139
320	Ruby, K., Majumder, S.K.	Effect of Salt on the Stability of Microbubbles in the Presence of Micro-Nanoparticles: Substantial Adsorption in the Separation of Particles by Flocculation	2019	Industrial and Engineering Chemistry Research	58	40 18881 18895

321	Chaudhuri, S., Kshetrimayum, R.S., Sonkar, R.K., Mishra, M.	Dual circularly polarised travelling wave slot antenna array	2019	Electronics Letters	55	20	1071	1073
322	Greschner, S., Mishra, T.	Interacting bosons in generalized zigzag and railroad-trestle models	2019	Physical Review B	100	14		
323	Kumar, P., Narayan Maifi, U., Sikdar, A., Kumar Das, T., Kumar, A., Sudarsan, V.	Recent Advances in Polymer and Polymer Composites for Electromagnetic Interference Shielding: Review and Future Prospects	2019	Polymer Reviews	59	4	687	738
324	Bhattacharjya, B.R., Kakoty, S.K.	Presenting an iterative innovation framework perceived for resource-constrained society	2019	2019 IEEE International Symposium on Innovation and Entrepreneurship, TEMS-ISIE 2019				
325	Blange, R., Mahanta, C., Gogoi, A.K.	DSP Based Photovoltaic Hardware Development for Controlling Voltage and Current	2019	2019 3rd International Conference on Recent Developments in Control, Automation and Power Engineering, RDCAPE 2019			500	502
326	Narayan, J., Kalani, A., Dwivedy, S.K.	Reference Trajectory based Jacobian Transpose Control of a Novel Lower Limb Exoskeleton System for	2019	Proceedings of IEEE International Conference on Signal Processing, Computing and Control	2019-	October	102	107
327	Saikia, P., Nankani, D., Baruah, R.D.	Reservoir Facies Classification using Convolutional Neural Networks	2019	Proceedings of the 2019 IEEE Recent Advances in Geoscience and Remote Sensing: Technologies, Standards and Applications, TENGARSS 2019			34	38
328	Baruah, N., Maharana, M., Dey, S.S., Nayak, S.K.	Behavioural assessment of aged natural ester based nanofluid using statistical technique	2019	Annual Report - Conference on Electrical Insulation and Dielectric Phenomena, CEIDP	2019-	October	653	656
329	Dey, S.S., Rohith, S., Baruah, N., Maharana, M., Nayak, S.K.	Investigation of thermal conductivity of semiconducting nanofluid for transformer	2019	Annual Report - Conference on Electrical Insulation and Dielectric Phenomena, CEIDP	2019-	October	109	112
330	Jana, M., Barua, B.G., Hazarika, S.M.	Design and Development of a Fin-Exoskeleton for Motor Rehabilitation using Electromyography Sig-	2019	2019 23rd International Conference on Mechatronics Technology, ICMT 2019				

331	Roy, A., Nemade, H.B., Bhattacharjee, R.	Symmetry Chirp Modulation Waveform Design for LEO Satellite IoT Communication	2019	IEEE Communications Letters	23	10	1836	1839
332	Lorenzo, R., Paily, R.	Low Power 10T SRAM Cell with Improved Stability Solving Soft Error Issue	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	2549	2553
333	Singh Yadav, V.K., Roy, S., Naidu, G., Paily, R.	Fabrication of Back to Back Schottky Micro-Diodes Using Silver Nanoparticle Film and Zinc Oxide Nanowire Mat for Biological Interactions	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	1813	1817
334	Chakrabarty, P., Roy, S., Paily, R.	Analysis of Electromagnetic Actuation System for Different Coil Topologies	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	679	683
335	Roy, A., Nemade, H.B., Bhattacharjee, R.	A Chirp Communication System Using SAW-Chirp Devices for Multibit Symbol Transmission	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	1466	1471
336	Moulik, S., Das, Z.	TASOR: A Temperature-Aware Semi-Partitioned Real-time Scheduler	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	1578	1583
337	Meher, T., Majhi, S., Ramana, K.V.	Hammerstein Modeling of Buck Converter using Relay Feedback	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	637	642
338	Nankani, D., Dutta Baruah, R.	An End-to-End framework for automatic detection of Atrial Fibrillation using Deep Residual Learning	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	690	695
339	Bhagath, P., Das, P.K.	Phoneme Boundary Analysis Using Graphs	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	1764	1768
340	Singh, P.K., Singh, R., Muchary, G., Lahon, M., Nandi, S.	A Blockchain-Based Approach for Usage Based Insurance and Incentive in ITS	2019	IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-	October	1202	1207

341	Manjari, K., Majhi, S.	Generalized Predictive Control Tuning for Desired Frequency Domain Specification	2019 IEEE Region 10 Annual International Conference, Proceedings/	2019-October	2245	2250
342	Bhagath, P., Das, P.K.	Characterization of Spoken English Vowels Using Tree Structures	2019 IEEE Region 10 Annual International Conference, Proceedings/	2019-October	1758	1763
343	Rabha, S., Sarmah, P., Prasanna, S.R.M.	Acoustic Correlates of Aspiration in Fricatives and Nasals	2019 IEEE Region 10 Annual International Conference, Proceedings/	2019-October	986	990
344	Alam, M.S., Muthiah, A., Salve, U.R.	Thermal comfort of the kitchen in pantry cars on Indian railways	2019 Instrumentation Measure Metrologie	18	5	465
345	Vidyapu, S., Vedula, V.S., Bhattacharya, S.	Attention prediction on webpage images using multilabel classification	2019 Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics	2019-October	1975	1980
346	Tripathi, A.M., Baruah, R.D.	Anomaly detection in multivariate time series using fuzzy adaboost and dynamic naive bayesian classifier	2019 Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics	2019-October	1938	1944
347	Saikia, P., Baruah, R.D.	Investigating stacked ensemble model for oil reservoir characterisation	2019 Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics	2019-October	13	20
348	Suryasarman, V.M., Biswas, S., Sahu, RSBST: an Accelerated Automated Software-Based Self-Test Synthesis for Processor Testing	2019 Journal of Electronic Testing: Theory and	2019 Journal of Electronic Testing: Theory and	35	5	695
349	Sadhukhan, D., Rao, S.V.	Minimum cost event driven WSN with spatial differentiated QoS requirements	2019 Wireless Networks	25	7	3899
350	Tiwari, A., Singh, P., Pankaj, P., Biswas, P., Kore, S.D.	FSW of low carbon steel using tungsten carbide (WC-10wt.%Co) based tool material	2019 Journal of Mechanical Science and Technol-	33	10	4931
						4938

351	Tiwari, A., Singh, P., Pankaj, P., Biswas, P., Kore, S.D., Pal, S.	Effect of Tool Offset and Rotational Speed in Dissimilar Friction Stir Welding of AISI 304 Stainless Steel and Mild Steel	2019	Journal of Materials Engineering and Performance	28	10	6365	6379
352	Mohanty, S., Dwivedy, S.K.	Nonlinear dynamics of piezoelectric-based active nonlinear vibration absorber using time delay acceleration feedback	2019	Nonlinear Dynamics	98	2	1465	1490
353	Kiran, U., Sharma, D., Gautam, S.S.	GPU-warp based finite element matrices generation and assembly using coloring method	2019	Journal of Computational Design and Engineering	6	4	705	718
354	Shavez, M., Goswami, J., Panda, A.N.	Effect of fluorination of the donor unit on the properties of benzodithiophene-triazole based donor-acceptor systems for polymer solar cells: A computational investigation	2019	Computational and Theoretical Chemistry	1165			
355	Balasubramani, N., Guru Prem Prasad, M., Natesan, S.	Fractal Quintic Spline Solutions for Fourth-Order Boundary-Value Problems	2019	International Journal of Applied and Computational Mathematics	5	5		
356	Alok, A., Das, M.	White layer analysis of hard turned AISI 52100 steel with the fresh tip of newly developed HSN ² coated insert	2019	Journal of Manufacturing Processes	46	16	25	
357	Gaikwad, V.M., Brahma, M., Borah, R., Ravi, S.	Structural, optical and magnetic properties of Pr ₂ FeCrO ₆ nanoparticles	2019	Journal of Solid State Chemistry	278			
358	Aakansha, Ravi, S.	Influence of Cr substitution on magnetic and dielectric properties of gadolinium iron garnets	2019	Solid State Communications	300			
359	Katla, S., Mohan, N., Pavan, S.S., Pal, U., Sivaprakasam, S.	Control of specific growth rate for the enhanced production of human interferon α2b in glycoengineered <i>Pichia pastoris</i> : process analytical technology guided approach	2019	Journal of Chemical Technology and Biotechnology	94	10	3111	3123
360	Shufen, R., Mahanta, N., Dixit, U.S.	Development of a Thermal Autofrettage Setup to Generate Compressive Residual Stresses on the Surfaces of a Cylinder	2019	Journal of Pressure Vessel Technology, Transactions of the ASME	141	5		

361	Vignesh Babu, R., Kanagaraj, S.	Sintering behaviour of Copper/carbon nanotube composites and their characterization	2019	Advanced Powder Technology	30	10	2200	2210
362	Arora, N., Shome, R., Ghosh, S.S.	Deciphering therapeutic potential of PEGylated recombinant PTEN-silver nanoclusters ensemble on 3D spheroids	2019	Molecular Biology Reports	46	5	5103	5112
363	Chaudhuri, S., Kshetrimayum, R.S., Sonkar, R.K.	High inter-port isolation dual circularly polarized slot antenna with interdigital capacitor	2019	International Journal of RF and Microwave Computer-Aided Engineering	29	10		
364	Basu, D.N.	Dynamic frequency response of a single-phase natural circulation loop under an imposed sinusoidal excitation	2019	Annals of Nuclear Energy	132		603	614
365	Das, R., Paul, K.K., Giri, P.K.	Highly sensitive and selective label-free detection of dopamine in human serum based on nitrogen-doped graphene quantum dots decorated on Au nanoparticles: Mechanistic insights through microscopic and spectroscopic studies	2019	Applied Surface Science	490		318	330
366	Mishra, R.K., Sahoo, A., Mohanty, K.	Pyrolysis kinetics and synergistic effect in co-pyrolysis of Samanea saman seeds and polyethylene terephthalate using thermogravimetric analyser	2019	Bioresource Technology	289			
367	Lalthazuala, R., Singh, K.D.	Structural performance of hybrid stainless steel plate girders under shear	2019	Thin-Walled Structures	143			
368	Mukherjee, M., Sarkar, P., Goswami, G., Das, D.	Regulation of butanol biosynthesis in Clostridium acetobutylicum ATCC 824 under the influence of zinc supplementation and magnesium star-	2019	Enzyme and Microbial Technology	129			
369	Rathod, U.H., Talukdar, P.K., Kulkarni, V., Saha, U.K.	Effect of Capped Vents on Torque Distribution of a Semicircular-Bladed Savonius Wind Rotor	2019	Journal of Energy Resources Technology, Transactions of the ASME	141	10		
370	Velaga, B., Parde, R.P., Soni, J., Peela, N.R.	Synthesized hierarchical mordenite zeolites for the biomass conversion to levulinic acid and the mechanistic insights into humins formation	2019	Microporous and Mesoporous Materials	287	18	28	

371	Vigneshwaran, K., Sodhi, G.S., Muthukumar, P., Guha, A., Senthilmurugan, S.	Experimental and numerical investigations on high temperature cast steel based sensible heat storage system	2019	Applied Energy	251
372	Murugan, D., Saini, G.K.	Cytotoxic and lethal effects of recombinant β -BUTX-Lq1a peptide against Lepidopteran insects and cell	2019	Toxicology in Vitro	44 50
373	Edubilli, S., Gumma, S.	A systematic evaluation of UiO-66 metal organic framework for CO ₂ separation	2019	Separation and Purification Technology	224 85 94
374	Monika, Katiyar, V.	Non-isothermal degradation kinetics of PLA-functionalized gum (fG) biocomposite with dicumyl peroxide (DCP)	2019	Journal of Thermal Analysis and Calorimetry	138 1 195 210
375	Mishra, R.K., Mohanty, K.	Pyrolysis of three waste biomass: Effect of biomass bed thickness and distance between successive beds on pyrolytic products yield and properties	2019	Renewable Energy	141 549 558
376	Baruah, G., Majhi, S., Mahanta, C.	Auto-tuning of FOPI Controllers for TITO Processes with Experimental Validation	2019	International Journal of Automation and Computing	16 5 589 603
377	Shakya, A.K., Ghosh, P.K.	Arsenic, iron and nitrate removal from groundwater by mixed bacterial culture and fate of arsenic-laden bio-solids	2019	International Journal of Environmental Science and Technology	16 10 5901 5916
378	Sahu, H., Dube, S., Mohanty, K.	MgO Supported Groundnut (Arachis hypogaea) Shell for Methanalysis of Waste Cooking Oil	2019	Waste and Biomass Valorization	10 10 2995 3008
379	Nayani, P.S., Kumar Bhaghel, A., Nayak, S.K.	Dual Band Metamaterial Split Ring Resonator as a Perfect Absorber at GHz Frequency Range	2019	2019 Global Conference for Advancement in Technology, GCAT 2019	
380	Cazzato, D., Olivares-Mendez, M.A., Sanchez-Lopez, J.L., Voos, H.	Vision-Based Aircraft Pose Estimation for UAVs Autonomous Inspection without Fiducial Markers	2019	IECON Proceedings (Industrial Electronics Conference)	2019-October 5642 5648

381	Siddique, M.D., Mekhilef, S., Shah, N.M., Kumar, C.	A New Single-Phase Single Source Nine Level Boost Inverter Topology	2019 IECON Proceedings (Industrial Electronics Conference)	2019-October	1521	1525
382	Chakrabarty, R., Adda, R.	Reduced switch single DC source cascaded H-bridge multilevel inverter based DSTATCOM	2019 IECON Proceedings (Industrial Electronics Conference)	2019-October	7074	7079
383	Maharana, M., Baruah, N., Nayak, S.K., Wu, K.	Insulation Monitoring of Oxidative Aged Nonedible Ester Based Dielectric Fluid by Suitable Dissolved Gas Analysis	2019 Annual Report - Conference on Electrical Insulation and Dielectric Phenomena, CEIDP	2019-October	649	652
384	Ascia, G., Catania, V., Monteleone, S., Palesi, M., Paffi, D., Jose, J.	Networks-on-Chip based Deep Neural Networks Accelerators for IoT Edge Devices	2019 2019 6th International Conference on Internet of Things: Systems, Management and Security, IOTSMS 2019		227	234
385	Pandey, S.K., Shekhawat, H.S., Prasanna, S.R.M.	Emotion Recognition from Raw Speech using Wavenet	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	1292	1297
386	Kumari, A., Chandra, J., Sairam, A.S.	Predictive Flow Modeling in Software Defined Network	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	1494	1498
387	Khan, M.M., Sonkar, R.K.	Performance estimation of Thulium doped fiber amplifiers in S-Band including Amplified Spontaneous Emission: Ion-Ion interaction analysis	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	155	159
388	Sehgal, B., Shekhawat, H.S., Jana, S.K.	Automatic Radar Target Identification Using Radar Cross Section Fluctuations and Recurrent Neural Networks	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	2490	2495
389	Prasad, B., Bhattacharjee, R., Bose, S.K.	Cooperative Communication under Nonlinear Energy Harvesting Model and Interference Signal	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	1975	1980
390	Devan, V., Chandar, T.S.	Proportional Linear Quadratic Regulator based Robust Missile Roll Autopilot	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	1421	1427

391	Santosh Gollapudi, S.K., Nemade, H.B. Design and Fabrication of SAW Resonators on Silicon Substrate Employing Transverse BAW in Patterned ZnO	2019 IEEE International Ultrasonics Symposium, IUS	2019-October	695	698
392	Dash, S., Trivedi, G. Convergence analysis of river formation dynamics algorithm	2019 Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics	2019-October	2053	2058
393	Barman, B., Borah, D., Ghosh, P., Saha, A.K. Flavoured gauge extension of singlet-doublet fermionic dark matter: neutrino mass, high scale validity and collider signatures	2019 Journal of High Energy Physics	2019	10	
394	Chakraborty, S., Kapoor, H.K. Exploring the role of large centralised caches in thermal efficient chip design	2019 ACM Transactions on Design Automation of Electronic Systems	24	5	
395	Kalita, R., Saikia, A., Bhuyan, A.C., Boruah, B.R. Holographic scanning confocal microscopy for both reflected light and fluorescence	2019 Review of Scientific Instruments	90	10	
396	Badiyari, K., Nallam, N., Chatterjee, S. An N-Path Band-Pass Filter with Parametric Gain-Boosting	2019 IEEE Transactions on Circuits and Systems I: Regular Papers	66	10	3700 3712
397	Kumar, K., Singal, S., Goyal, A. Role of carbohydrate binding module (CBM3c) of GH9 β -1,4 endoglucanase (Ce19W) from <i>Hungateiclostridium thermophilum</i>	2019 Carbohydrate Research	484		
398	Jain, M.S., Paul, S., Kalamdhad, A.S. Interplay of physical and chemical properties during in-vessel degradation of microplastics	2019 Waste Management	98	58	68
399	Mahato, K., Purohit, B., Bhardwaj, K., Jaiswal, A., Chandra, P. Novel electrochemical biosensor for serotonin detection based on gold nanoparticles decorated reduced graphene oxide in biological fluids and in vitro	2019 Biosensors and Bioelectronics	142		
400	Agrawal, A.K., Narayanan, R.G., Kailas, S.V. Experimental evaluation and prediction of end-forming behavior of friction stir processed Al6063T6 tubes at different tool traverse speeds	2019 International Journal of Advanced Manufacturing Technology	104	09- Dec	3607 3627

401	Shyamal, D.S., Ghosh, P.K.	Efficiency of Portland Pozzolana Cement as an adsorbent in removing excess fluoride from groundwater	2019 Groundwater for Sustainable Development	9	
402	Veluchamy, C., Gilroyed, B.H., Kalamdhad, A.S.	Process performance and biogas production optimizing of mesophilic plug flow anaerobic digestion of corn silage	2019 Fuel	253	1097 1103
403	Kulkarni, R., Banoth, E., Pal, P.	Automated surface feature detection using fringe projection: An autoregressive modeling-based approach	2019 Optics and Lasers in Engineering	121	506 511
404	Alom, N., Saha, U.K.	Drag and lift characteristics of a novel elliptical-bladed savonius rotor with vent augmenters	2019 Journal of Solar Energy Engineering, Transactions of the ASME	141	5
405	Bera, S., Kauser, H., Mohanty, K.	Optimization of p-cresol biodegradation using novel bacterial strains isolated from petroleum hydrocarbon fallout	2019 Journal of Water Process Engineering	31	
406	Kunthara, R.G., Neethu, K., James, R.K., Sleeba, S.Z., Jose, J.	DoLaR: Double Layer Routing for Bufferless Mesh Network-on-Chip	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2019-October	400 405
407	Vij, S., John, A., Barua, A.	Whose water? Whose profits? The role of informal water markets in groundwater depletion in peri-urban Hyderabad	2019 Water Policy	21	5 1081 1095
408	Kushwaha, B.K., Rituraj, G., Kumar, P., Bauer, P.	Mathematical model for the analysis of series-parallel compensated wireless power transfer system for different misalignments	2019 IET Circuits, Devices and Systems	13	7 970 978
409	Goyal, A., Islam, R., Kumar, M.	Dark matter in the Randall-Sundrum model with non-universal coupling	2019 Journal of High Energy Physics	2019	10
410	Kumar, M., Goswami, L., Singh, A.K., Sikandar, M.	Valorization of coal fired-fly ash for potential heavy metal removal from the single and multi-contaminated system	2019 Heliyon	5	10

411	Nalajala, V.S., Khan, A.A., Tondepu, S., Avula, V.R.	Influence of process parameters on the yield of Mn ³⁺ through sonochemical route	2019	Journal of The Institution of Engineers	100	2	211	215
412	Paul, K.K., Giri, P.K., Sugimoto, H., Fujii, M., Choudhury, B.	Evidence for plasmonic hot electron injection induced superior visible light photocatalysis by g-C ₃ N ₄ nanosheets decorated with Ag-TiO ₂ and Au-TiO ₂ nanorods	2019	Solar Energy Materials and Solar Cells	201			
413	Borah, S.N., Sen, S., Goswami, L., Bora, A., Pakshirajan, K., Deka, S.	Rice based distillers dried grains with solubles as a low cost substrate for the production of a novel rhamnolipid biosurfactant having anti-biofilm activity against <i>Candida tropicalis</i>	2019	Colloids and Surfaces B: Biointerfaces	182			
414	Roy, D., Chakraborty, M., Gupta, P.S.	Annealing provoked modification of ZnPc photoactive nanolayer via self-assembling at SnO ₂ hybrid interface and its effect on layer electric properties towards application in hybrid photovoltaic devices	2019	Applied Surface Science	490		492	501
415	Baruah, B., Katakai, R., Thakur, P., Tiwari, P.	Detailed physicochemical and thermochemical investigation of Upper Assam oil shale	2019	Journal of Thermal Analysis and Calorimetry	138	2	1221	1232
416	Patra, A.S., Chauhan, M.S., Keene, S., Gogoi, G., Reddy, K.A., Ardo, S., Prasad, D.L.V.K., Qureshi, M.	Combined Experimental and Theoretical Insights into the Synergistic Effect of Cerium Doping and Oxygen Vacancies in BaZrO _{3-δ} Hollow Nanospheres for Efficient Photocatalytic Hydrogen Production	2019	Journal of Physical Chemistry C	123	1	233	249
417	Jacob, J., Amalraj, A., Raj, K.K.J., Divya, C., Kunnumakkara, A.B., Gopi, S.	A novel bioavailable hydrogenated curcuminoids formulation (CuroWhite™) improves symptoms and diagnostic indicators in rheumatoid arthritis patients - A randomized, double blind and placebo controlled study	2019	Journal of Traditional and Complementary Medicine	9	4	346	352
418	Tang, F., Yan, Y., Peng, L., Bose, S.K., Shen, G.	Crosstalk-Aware counter-propagating core assignment to reduce inter-core crosstalk and capacity wastage in multi-core fiber optical networks	2019	Journal of Lightwave Technology	37	19	5010	5027
419	Dey, A., Dash, S., Tumati, L., Sharma, S., Megharajani, N., Janveja, M., Rodriguez, I., Trivedi, G.	A cooperative co-evolution based scalable framework for solving large-scale global optimization problems	2019	Conference Proceedings - IEEE International Conference on Systems, Man and Cyber-	2019-	1689	1694	
420	Liu, J., Gadi, V.K., Garg, A., Ganesan, S.P., GuhaRay, A.	A novel approach to interpret soil moisture content for ecological monitoring of urban landscape	2019	Sustainability (Switzerland)	11	20		

421	Singh, V.K., Kumar, P., Nishant, S.	Global connectedness of MSCI energy equity indices: A system-wide network approach	2019 Energy Economics	84
422	Prasad, B., Thakur, R.M., Mandal, B., Su, B.	Enhanced CO ₂ separation membrane prepared from waste by-product of silk fibroin	2019 Journal of Membrane Science	587
423	Chopra, R., Murthy, C.R., Annavaajjala, R.	Physical Layer Security in Wireless Sensor Networks Using Distributed Co-Phasing	2019 IEEE Transactions on Information Forensics and Security	14 10 2662 2675
424	Mishra, V., Kumar, T., Shivakumar, S., Ravishankar, V.D., Bhalla, K., Dhiman, B.	Design and Development of Khadi-Kart: A Web-based application for rejuvenating the Handloom Industry in India	2019 IEEE Global Humanitarian Technology Conference, GHTC 2019	
425	Borghain, R., Jain, N., Prasad, B., Mandal, B., Su, B.	Carboxymethyl chitosan/carbon nanotubes mixed matrix membranes for CO ₂ separation	2019 Reactive and Functional Polymers	143
426	Ignatov, A., Patel, J., Timofte, R., Zheng, B., Ye, X., Huang, L., Tian, X., Dutta, S., Purohit, K., Kandula, P., Suin, M., Rajagopalan, A.N., Xiong, Z., Huang, J., Dong, G., Yao, M., Liu, D., Yang, W., Hong, M., Lin, W., Qu, Y., Choi, J.-S., Park, W., Kim, M., Liu, R., Mao, X., Yang, C., Yan, Q., Sun, W., Fang, J., Shang, M., Gao, F., Ghosh, S., Sharma,	AIM 2019 challenge on bokeh effect synthesis: Methods and results	2019 Proceedings - 2019 International Conference on Computer Vision Workshop, ICCVW 2019	3591 3598
427	Resmi, P.K., Libby, J., Trabelsi, K., Adachi, I., Aihara, H., Al Said, S., Asner, D.M., Aulchenko, V., Aushev, T., Babu, V., et al	First measurement of the CKM angle ϕ_3 with $B \rightarrow D(KS_0 \pi)$ decays	2019 Journal of High Energy Physics	2019 10
428	Mizuk, R., Bondar, A., Adachi, I., Aihara, H., Asner, D.M., Aulchenko, V., Aushev, T., Ayad, R., Badhrees, I., Bahinipati, S., et al	Observation of a new structure near 10.75 GeV in the energy dependence of the $e^+e^- \rightarrow \gamma(nS)\pi$ cross sections ($n = 1, 2, 3$)	2019 Journal of High Energy Physics	2019 10
429	Rabha, S., Dobbidi, P.	The impact of thickness on the optical, electrical and dielectric properties of nanocrystalline 0.9 MTO-0.1BNO composite thin films	2019 Applied Surface Science	489 831 840

430	Sarkar, S., Chakraborty, A.	Development of semi-active vibration control strategy for horizontal axis wind turbine tower using multiple magnetorheological tuned liquid column dampers	2019	Journal of Sound and Vibration	457	15	36
431	Saha, K., Deka, J., Raidongia, K.	Energy from the Nanofluidic Transport of Water through Nanochannels between Packed Silica Spheres	2019	ACS Applied Nano Materials	2	9	5850 5856
432	Hossen, T., Sahu, K.	Photo-induced Electron Transfer or Proton-Coupled Electron Transfer in Methylbipyridine/Phenol Complexes: A Time-Dependent Density Functional Theory Investigation	2019	Journal of Physical Chemistry A	123	38	8122 8129
433	Kumar, A., Åqvist, J., Satpati, P.	Principles of tRNA ^{Ala} Selection by Alanyl-tRNA Synthetase Based on the Critical G3-U70 Base Pair	2019	ACS Omega	4	13	15539 15548
434	Chandra, R., Jain, K., Deo, R.V., Cripps, S.	Langevin-gradient parallel tempering for Bayesian neural learning	2019	Neurocomputing	359	315	326
435	Roy, P., Mukherjee, R., Bandyopadhyay, D., Gooch Pattader, P.S.	Electrodynamical-contact-line-lithography with nematic liquid crystals for template-less E-writing of mesopatterns on soft surfaces	2019	Nanoscale	11	35	16523 16533
436	Vijay, M., Kumar, S.V., Satheesh, V., Anthappan, P., Srivastava, H.K., Ellairaja, S., Vasantha, V.S., Punniyamurthy, T.	Stereospecific Assembly of Fused Imidazolines via Tandem Ring Opening/Oxidative Amination of Aziridines with Cyclic Secondary Amines Using Photoredox Catalysis	2019	Organic Letters	21	18	7649 7654
437	Sharma, R., Kumar, A., Upadhyay, R.K.	Bimetallic Fe-Promoted Catalyst for CO-Free Hydrogen Production in High-Temperature-Methanol Steam Reforming	2019	ChemCatChem	11	18	4568 4580
438	Borah, D., Roshan, R., Sil, A.	Minimal two-component scalar doublet dark matter with radiative neutrino mass	2019	Physical Review D	100	5	
439	Das, S., Das, A., Parbat, D., Manna, U.	Catalyst-Free and Rapid Chemical Approach for in Situ Growth of "chemically Reactive" and Porous Polymeric Coating	2019	ACS Applied Materials and Interfaces	11	37	34316 34329
440	Singh, Y.P., Bandyopadhyay, A., Mandal, B.B.	3D Bioprinting Using Cross-Linker-Free Silk-Gelatin Bioink for Cartilage Tissue Engineering	2019	ACS Applied Materials and Interfaces	11	37	33684 33696

441	Chandrasekaran, K., Bose, B.	Percolation in a reduced equilibrium model of planar cell polarity	2019	Physical Review E	100	3
442	Bidkar, A.P., Sanpui, P., Ghosh, S.S.	Red Blood Cell-Membrane-Coated Poly(Lactic-co-glycolic Acid) Nanoparticles for Enhanced Chemo- And Hypoxia-Activated Therapy	2019	ACS Applied Bio Materials	2	9 4077 4086
443	Sikdar, D., Weir, H., Kornyshev, A.A.	Optical response of electro-tuneable 3D superstructures of plasmonic nanoparticles self-assembling on transparent columnar electrodes	2019	Optics Express	27	19 2648 26498 3
444	Mandal, N., Mitra, S., Bandyopadhyay, D.	Paper-Sensors for Point-of-Care Monitoring of Drinking Water Quality	2019	IEEE Sensors Journal	19	18 7936 7941
445	Pankaj, P., Tiwari, A., Biswas, P.	Influence of Operating Parameters on CO ₂ Laser Welded Butt Joints of AISI 304 Stainless Steel Thin Sheets	2019	Lasers in Manufacturing and Materials Processing	6	3 205 227
446	Gayen, D., Tiwari, R., Chakraborty, D.	Static and dynamic analyses of cracked functionally graded structural components: A review	2019	Composites Part B: Engineering	173	
447	Kanaujija, D.K., Paul, T., Sinharoy, A., Pakshirajan, K.	Biological Treatment Processes for the Removal of Organic Micropollutants from Wastewater: a Review	2019	Current Pollution Reports	5	3 112 128
448	Pattipaka, S., Joseph, A., Bharti, G.P., Raju, K.C.J., Khare, A., Parnu, D.	Thickness-dependent microwave dielectric and nonlinear optical properties of Bi ₂ Te ₃ thin films	2019	Applied Surface Science	488	391 403
449	Patwa, R., Saha, N., Saha, P., Katiyar, V.	Biocomposites of poly(lactic acid) and lactic acid oligomer-grafted bacterial cellulose: It's preparation and characterization	2019	Journal of Applied Polymer Science	136	35
450	Borah, D., Karmakar, B., Nanda, D.	Planck scale origin of nonzero θ_{13} and super-WIMP dark matter	2019	Physical Review D	100	5

- 451 Das, D., Assaf, K.I., Nau, W.M. Applications of Cucurbiturils in Medicinal Chemistry and Chemical Biology 2019 Frontiers in Chemistry 7
- 452 Ahmed, S., Pandey, M. New insights on modeling of evaporation phenomena in thin films 2019 Physics of Fluids 31 9
- 453 Measurement of the CKM matrix element $|V_{cb}|$ from $B_0 \rightarrow d^* \ell^+ \nu \ell$ at Belle 2019 Physical Review D 100 5
- 454 Chakrabarti, S., Chougule, S., Maity, D. Effective field theory of hairy black holes and their flat and de Sitter limits 2019 Physical Review D 100 6
- 455 Chouhan, D., Lohe, T.-U., Thatikonda, N., Naidu, V.G.M., Hedhammar, M., Mandal, B.B. Silkworm Silk Scaffolds Functionalized with Recombinant Spider Silk Containing a Fibronectin Motif Promotes Healing of Full-Thickness Burn Wounds 2019 ACS Biomaterials Science and Engineering 5 9 4634 4645
- 456 Mishra, M., De, P.B., Pradhan, S., Niyamurthy, T. Pun-Stereospecific copper(II)-catalyzed tandem ring opening/oxidative alkylation of donor-acceptor cyclopropanes with hydrazones: Synthesis of tetrahydropyridazines 2019 Journal of Organic Chemistry 84 17 10901 10910
- 457 Parida, C., Maity, R., Chandra Sahoo, S., Chandra Pan, S. α -Nitro- α,β -Unsaturated Ketones: An Electrophilic Acyl Transfer Reagent in Catalytic Asymmetric Friedel-Crafts and Michael Reactions 2019 Organic Letters 21 17 6700 6704
- 458 Kumar, A., Raju, N.N., Muthukumar, P., Selvan, P.V. Corrigendum to "Experimental studies on industrial scale metal hydride based hydrogen storage system with embedded cooling tubes" [Int J Hydrogen Energy. 44 (2019) 13549–13560] [S0360319919312091] (10.1016/j.ijhydene.2019.03.180) 2019 International Journal of Hydrogen Energy 44 43 24075 24076
- 459 Tanguturi, R.G., Ravi, S. Anomalous low temperature electrical transport behaviour of MnO_3 thin films: Presence of localized magnetic moments 2019 Materials Research Express 6 10
- 460 Mukhopadhyay, A., Jana, K., Hossen, T., Sahu, K., Moorthy, J.N. Coumarin-annulated regioisomeric heptahelicenes: Influence of helicity on excited-state properties and chiroptical properties 2019 Journal of Organic Chemistry 84 17 10658 10668

461	Kumar, R., Chandra, A., Mir, B.A., Shukla, G.	Cu(I)-catalyzed oxygen and nitrogen nucleophiles triggered regioselective synthesis of furo/pyrrolo-annulated quinolines	2019	Journal of Organic Chemistry	84	17	10710	10723
462	Ghosh, S., Ghosh, S.	Systematic understanding of half-metallicity of ternary compounds in Heusler and Inverse Heusler structures with 3d and 4d elements	2019	Physica Scripta	94	12		
463	Das, B., Mohanty, K.	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	2019	Industrial and Engineering Chemistry Research	58	35	15803	15817
464	Das, S., Maurya, A.K., Budhkar, A.K.	Determinants of time headway in staggered car-following conditions	2019	Transportation Letters	11	8	447	457
465	Al Issa, S., Chakravarty, A., Kar, I.	Improved event-triggered adaptive control of nonlinear uncertain networked systems	2019	IET Control Theory and Applications	13	13	2146	2152
466	Das, J.P., Setlur, G.S.	Conductance of inhomogeneous Luttinger liquids with a finite bandwidth	2019	Physics Letters, Section A: General, Atomic and Solid State Physics	383	25	3149	3161
467	Kunnumakkara, A.B., Hatsha, C., Banik, K., Vikkurthi, R., Sailo, B.L., Bordoloi, D., Gupta, S.C., Aggarwal,	Is curcumin bioavailability a problem in humans: lessons from clinical trials	2019	Expert Opinion on Drug Metabolism and Toxicology	15	9	705	733
468	Ojah, N., Deka, J., Haloi, S., Kandimalla, R., Gogoi, D., Medhi, T., Mandal, M., Ahmed, G.A.,	Chitosan coated silk fibroin surface modified by atmospheric dielectric-barrier discharge (DBD) plasma: a mechanically robust drug release system	2019	Journal of Biomaterials Science, Polymer Edition	30	13	1142	1160
469	Abbas, M., Narayan, J., Dwivedy, S.K.	Simulation analysis for trajectory tracking control of 5-dofs robotic arm using ANFIS approach	2019	Proceedings - 2019 5th International Conference on Computing, Communication Control and Automation, ICCUBEA 2019				
470	Venugopal, V., Sundaram, S.	Online writer identification using gmm based feature representation and writer-specific weights	2019	Proceedings of the International Conference on Document Analysis and Recognition, ICDAR			743	748

471	Sharma, P.K., Jain, P., Sur, A.	Dual-Domain Single Image De-Raining Using Conditional Generative Adversarial Network	2019	Proceedings - International Conference on Image Processing, ICIP	2019-September	2796	2800
472	Mazumdar, A., Bora, P.K.	Deep Learning-Based Classification of Illumination Maps for Exposing Face Splicing Forgeries in Images	2019	Proceedings - International Conference on Image Processing, ICIP	2019-September	116	120
473	Nandi, P., Adda, R.	Reduction of low-frequency ripples in single-phase switched boost inverter using active power decoupling	2019	2019 IEEE Energy Conversion Congress and Exposition, ECCE 2019		6981	6988
474	Missula, J.V., Adda, R., Tripathy, P.	Average Modeling of Active Neutral Point Clamped Inverter	2019	2019 IEEE Energy Conversion Congress and Exposition, ECCE 2019		3689	3696
475	Ahlawat, S., Kaushal, M., Palabhanvi, B., Goswami, G., Das, D.	Flux balance analysis of nutritional modulation assisted changes in two-stage fed-batch fermentation by <i>Clostridium acetobutylicum</i>	2019	Bioresource Technology Reports	7		
476	Gurjapu, S., Raj, S., Chouhan, S.	Spectrum allocation and power management using markov chains and beamforming in underlay cognitive radios	2019	2019 27th International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2019			
477	Chouhan, S.	Energy optimal partial computation offloading framework for mobile devices in multi-access edge computing	2019	2019 27th International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2019			
478	Singh, P.K., Chourasiya, D., Singh, A., Nandi, S.K., Nandi, S.	CCAPS: Cooperative context aware privacy scheme for VANETs	2019	IEEE Vehicular Technology Conference	2019-September		
479	Sairam, A.S., Garg, A.	Detecting semantic attacks in intelligent transport system	2019	4th International Conference on Intelligent Transportation Engineering, ICITE 2019		185	189
480	Das, N., Rai, B.K.	Vector Linear Solution iff Dimension $\geq m$	2019	IEEE Communications Letters	23	1470	1473

481	Sharma, F., Dixit, U.S.	Fuzzy set based cost model of additive manufacturing with specific example of selective laser sintering	2019	Journal of Mechanical Science and Technology	33	9	4439	4449
482	Chinthakunta, U.R., Prabhakar, K.K., Singh, A.K., Kumar, P.	Direct torque control induction motor drive performance evaluation based on torque error status selection methods	2019	IET Electrical Systems in Transportation	9	3	113	127
483	Sinha, P., Basu, S.	Study of edge states and conductivity in spin-orbit coupled bilayer graphene	2019	European Physical Journal B	92	9		
484	Sharma, S., Verma, R., Pandey, L.M.	Crude oil degradation and biosurfactant production abilities of isolated <i>Agrobacterium fabrum</i> SLAJ731	2019	Biocatalysis and Agricultural Biotechnology	21			
485	Purohit, B., Mahato, K., Kumar, A., Chandra, P.	Sputtering enhanced peroxidase like activity of a dendritic nanochip for amperometric determination of hydrogen peroxide in blood samples	2019	Microchimica Acta	186	9		
486	Rani, K., Kapoor, H.K.	Write Variation Aware Buffer Assignment for Improved Lifetime of Non-Volatile Buffers in On-Chip Interconnects	2019	IEEE Transactions on Very Large Scale Integration (VLSI) Systems	27	9	2191	2204
487	Bandyopadhyay, A., Chowdhury, S.K., Dey, S., Moses, J.C., Mandal, B.B.	Silk: A Promising Biomaterial Opening New Vistas Towards Affordable Healthcare Solutions	2019	Journal of the Indian Institute of Science	99	3	445	487
488	Rai, N., Raj, R., Kanagaraj, S.	Radical Scavenging of Nanoceria in Minimizing the Oxidative Stress-Induced Loss of Residual Hearing: A Review	2019	Journal of the Indian Institute of Science	99	3	529	545
489	Baruah, N., Maharana, M., Nayak, S.K.	Performance analysis of vegetable oil-based nanofluids used in transformers	2019	IET Science, Measurement and Technology	13	7	995	1002
490	Dikshit, P.K., Moholkar, V.S.	Batch and Repeated-Batch Fermentation for 1,3-Dihydroxyacetone Production from Waste Glycerol Using Free, Immobilized and Resting Gluconobacter oxydans Cells	2019	Waste and Biomass Valorization	10	9	2455	2465

491	Dubey, M.K., Panda, S.	Shear actuation mechanism and shear based actuation capability of an obliquely reinforced piezoelectric fibre composite in active control of annular plates	2019 Journal of Intelligent Material Systems and Structures	30	16	2447	2463
492	Panda, R.P.	Laplacian Spectra of Power Graphs of Certain Finite Groups	2019 Graphs and Combinatorics	35	5	1209	1223
493	Das, V., Dandapat, S., Bora, P.K.	Multi-scale deep feature fusion for automated classification of macular pathologies from OCT images	2019 Biomedical Signal Processing and Control	54			
494	Dhadge, V.L., Changmai, M., Purkait, M.K.	Purification of catechins from <i>Camellia sinensis</i> using membrane cell	2019 Food and Bioproducts Processing	117		203	212
495	Sharma, K., Thakur, A., Kumar, R., Goyal, A.	Structure and biochemical characterization of glucose tolerant β -1,4 glucosidase (HtBgl) of family 1 glycoside hydrolase from <i>Hungateciostiridium thermocellum</i>	2019 Carbohydrate Research	483			
496	Das, P., Tiwari, P.	Thermal degradation study of waste polyethylene terephthalate (PET) under inert and oxidative environments	2019 Thermochimica Acta	679			
497	Kalita, B., Dwivedy, S.K.	Dynamic analysis of pneumatic artificial muscle (PAM) actuator for rehabilitation with principal parametric resonance condition	2019 Nonlinear Dynamics	97	4	2271	2289
498	Nallikuzhy, J.J., Dandapat, S.	Spatial enhancement of ECG using multiple joint dictionary learning	2019 Biomedical Signal Processing and Control	54			
499	Shivam, G., Goyal, M.K., Sarma, A.K.	Index-based study of future precipitation changes over subansiri river catchment under changing climate	2019 Journal of Environmental Informatics	34	1	1	14
500	Medhi, B.J., Reddy, M.M., Singh, A.	Particle migration of concentrated suspension flow in bifurcating channels	2019 Advanced Powder Technology	30	9	1897	1909

501	Barman, R., Ray, C.	Divisibility of Andrews' singular overpartitions by powers of 2 and 3	2019	Research in Number Theory	5	3
502	Mandal, B., Prabhu, A., Pakshirajan, K., Veeranki Dasu, V.	Construction and parameters modulation of a novel variant Rhodococcus opacus BM985 to achieve enhanced triacylglycerol-a biodiesel precursor, using synthetic dairy wastewater	2019	Process Biochemistry	84	9 21
503	Das, S., Naik Deshavath, N., Goud, V.V., Dasu, V.V.	Bioleaching of Al from spent fluid catalytic cracking catalyst using Aspergillus species	2019	Biotechnology Reports	23	
504	Kainthola, J., Kalamdhad, A.S., Goud, V.V.	A review on enhanced biogas production from anaerobic digestion of lignocellulosic biomass by different enhancement techniques	2019	Process Biochemistry	84	81 90
505	García, S., Pal, A.K., Ravi, K., Nair, A.M.	A comprehensive analysis on the relationships between elastic wave velocities and petrophysical properties of sedimentary rocks based on laboratory measurements	2019	Journal of Petroleum Exploration and Production Technology	9	3 1869 1881
506	Palsaniya, S., Nemade, H.B., Dasmahapatra, A.K.	Graphene based PANI/MnO ₂ nanocomposites with enhanced dielectric properties for high energy density materials	2019	Carbon	150	179 190
507	Maitiy, D., Saha, P.	CMB constraints on dark matter phenomenology via reheating in minimal plateau inflation	2019	Physics of the Dark Universe	25	
508	Dolla, T., Laishram, B.S.	Governance Issues in Public Utility Public-Private Partnerships: A Theoretical Perspective	2019	Journal of The Institution of Engineers (India): Series A	100	3 509 514
509	Sarita, B., Senthilvelan, S.	Effects of lubricant on the surface durability of an injection molded polyamide 66 spur gear paired with a steel gear	2019	Tribology International	137	193 211
510	Borgohain, R., Prasad, B., Mandal, B.	Synthesis and characterization of water-soluble chitosan membrane blended with a mobile carrier for CO ₂ separation	2019	Separation and Purification Technology	222	177 187

511	Pramanick, T., Sinha, R.K.	Error estimates for two-scale composite finite element approximations of parabolic equations with measure data in time for convex and nonconvex polygonal domains	2019	Applied Numerical Mathematics	143	112	132
512	Deka, B.	A posteriori error estimates for finite element approximations to the wave equation with discontinuous coefficients	2019	Numerical Methods for Partial Differential Equations	35	5	1630 1653
513	Mahanta, A.	Endogenous strategic variable in a mixed duopoly	2019	Journal of Economics/Zeitschrift für Nationalökonomie	128	1	47 65
514	Naik, B.K., Muthukumar, P.	Energy, entransy and exergy analyses of a liquid desiccant regenerator Analyses de l'énergie, de l'exergie et de l'entranse d'un régénérateur de déshydratant	2019	International Journal of Refrigeration	105	80	91
515	Mandal, S., Prasanna, S.R.M., Sundaram, S.	Exploration of CNN features for online handwriting recognition	2019	Proceedings of the International Conference on Document Analysis and Recognition, ICDAR		831	836
516	Choudhury, H., Mahadeva Prasanna, S.R.	Synthesis of handwriting dynamics using sinusoidal model	2019	Proceedings of the International Conference on Document Analysis and Recognition, ICDAR		870	875
517	Nandi, S.K., Kumar Singh, P., Nandi, S.	Evaluating DASH Player QoE with MPTCP in Presence of a Shared Bottleneck Link	2019	IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC	2019-September		
518	Sarkar, R., Devi, K.M., Ghindani, D., Jain, R., Pattanayak, A., Prabhhu, S.S., Kumar, G.	Dual-band electromagnetically induced transparency effect in asymmetrically coupled terahertz metamaterials	2019	International Conference on Infrared, Millimeter, and Terahertz Waves, IRMMW-THz	2019-September		
519	Karfa, C., Sarkar, D., Mandal, C.	Verification of parallelising transformations of KPN models	2019	IET Cyber-Physical Systems: Theory and Applications	4	3	276 289
520	Kundu, D., Chakma, S., Pugazhenti, G., Banerjee, T.	Effect of thiocyanate-based ionic liquids on the dehydrogenation of amine boranes: Experimental and molecular modeling studies	2019	Asia-Pacific Journal of Chemical Engineering	14	5	

521	Goyal, M.K., Shivam, G., Sarma, A.K.	Spatial homogeneity of extreme precipitation indices using fuzzy clustering over northeast India	2019 Natural Hazards	98	2	559	574
522	Bali, S., Hazra, B., Pakrashi, V.	Quantile autoregressive modeling for non-linear change detection in vibrating structural systems	2019 Mechanics Research Communications	100			
523	Kumar, A., Sharma, R., Dattachoudhury, S., Sharma, A., Anand, T., Bhattacharyya, J.,	OCT4A transcript level correlates with proliferation potential of human mesenchymal stem cells	2019 Gene Reports	16			
524	Kumar, A., Purohit, B., Maurya, P.K., Pandey, L.M., Chandra, P.	Engineered Nanomaterial Assisted Signal-amplification Strategies for Enhancing Analytical Performance of Electrochemical Biosensors	2019 Electroanalysis	31	9	1615	1629
525	Palanikumar, I., Katla, S., Tahara, N., Yui, M., Zhang, R., Ebihara, A., Sivaprakasam, S.	Heterologous expression, purification, and functional characterization of recombinant ovine angiotensinogen in the methylophilic yeast	2019 Biotechnology Progress	35	5		
526	Chouhan, D., Dey, N., Bhardwaj, N., Mandal, B.B.	Emerging and innovative approaches for wound healing and skin regeneration: Current status and advances	2019 Biomaterials	216			
527	Gangsar, P., Tiwari, R.	Online Diagnostics of Mechanical and Electrical Faults in Induction Motor Using Multiclass Support Vector Machine Algorithms Based on Frequency Domain Vibration and Current Signature	2019 ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering	5	3		
528	Khan, M.F., Kundu, D., Hazra, C., Patra, S.	A strategic approach of enzyme engineering by attribute ranking and enzyme immobilization on zinc oxide nanoparticles to attain thermostability in mesophilic <i>Bacillus subtilis</i> lipase for	2019 International Journal of Biological Macromolecules	136	66	82	
529	Dey, A., Dash, S.K., Balchandani, S.C., Mandal, B.	Investigation on the inclusion of 1-(2-aminoethyl) piperazine as a promoter on the equilibrium CO_2 solubility of aqueous	2019 Journal of Molecular Liquids	289			
530	Deka, B., Deka, R.C.	A priori estimates for finite element approximations to parabolic integro-differential equations with	2019 Proceedings of the Indian Academy of Sciences: Mathematical Sciences	129	4		

531	Katla, S., Yoganand, K.N.R., Hingane, S., Ranjith Kumar, C.T., Anand, B., Sivaprakasam, S.	Novel glycosylated human interferon alpha 2b expressed in glycoengineered <i>Pichia pastoris</i> and its biological activity: N-linked glycoengineering approach	2019	Enzyme and Microbial Technology	128	49	58
532	Manohar, M., Kshetrimayum, R.S., Gogoi, A.K.	Low profile dual band-stop super wideband printed monopole antenna with polarization diversity	2019	International Journal of Microwave and Wireless Technologies	11	7	702
533	Kumar, S., Sahu, H.S., Nayak, S.K.	Estimation of MPP of a Double Diode Model PV Module from Explicit I-V Characteristic	2019	IEEE Transactions on Industrial Electronics	66	9	7032 7042
534	Nandy, A., Chakraborty, D., Shah, M.S.	Optimal Sensors/Actuators Placement in Smart Structure Using Island Model Parallel Genetic Algorithm	2019	International Journal of Computational Methods	16	6	
535	Patra, M., Krishnendu, C.T.I., Konwar, H.N.	A cost-and-energy aware resource scheduling technique for roadside clouds	2019	IEEE Vehicular Technology Conference	September		
536	Kalita, P., Das, S., Das, D., Borgohain, P., Dewan, A., Banik, R.K.	Feasibility study of installation of MW level grid connected solar photovoltaic power plant for northeastern region of India	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	9	
537	Bhatta, A., Krishnamoorthy, G., Marimuthu, N., Dishingia, A., Manna, P., Biswal, H.T., Das, M., Krishnamoorthy,	Chlorin e6 decorated doxorubicin encapsulated chitosan nanoparticles for photo-controlled cancer drug delivery	2019	International Journal of Biological Macromolecules	136	951	961
538	Rele, R.R., Dammala, P.K., Bhattacharya, S., Balmukund, R., Mitoulis, S.	Seismic behaviour of rocking bridge pier supported by elastic pads on pile foundation	2019	Soil Dynamics and Earthquake Engineering	124	98	120
539	Barman, B., Kumar, B., Sarma, A.K.	Impact of sand mining on alluvial channel flow characteristics	2019	Ecological Engineering	135	36	44
540	Amalraj, A., Jacob, J., Varma, K., Kunnumakkara, A.B., Divya, C., Gopi, S.	Acujoint™, a highly efficient formulation with natural bioactive compounds, exerts potent anti-arthritis effects in human osteoarthritis – A pilot randomized double blind clinical study compared to combination of glucosamine and chondroitin	2019	Journal of Herbal Medicine	17-	18	

541	Anangsha, A., Gadi, V.K., Bordoloi, S., Kothapalli, S.K., Sreedeeep, S., Guoxiong, M., Garg, A.	A new autonomous program customized for computing surface cracks in an unsaturated soil in a 1-D column	2019	Journal of Testing and Evaluation	47	5
542	Sadhukhan, A., Enomoto, T., Kobayashi, Y., Watanabe, T., Iuchi, S., Kobayashi, M., Sahoo, L., Yamamoto, Y.Y., Koyama, H.	Sensitive to Proton Rhizotoxicity1 Regulates Salt and Drought Tolerance of Arabidopsis thaliana through Transcriptional Regulation of CIPK23	2019	Plant and Cell Physiology	60	9
543	Dwivedi, K.M., Osuch, T., Trivedi, G.	High sensitive and large dynamic range quasi-distributed sensing system based on slow-light π -phase-shifted fiber Bragg gratings	2019	Opto-electronics Review	27	3
544	Kanth, P., Singh, H.K., Kumar, V., Singh, S.K., Rao, D.S.S., Prasad, S.K., Singh, B.	Effect of regioisomerism on the self-assembly, photo-physical and gelation behavior of arylhydrazone based polycatenars: Synthesis and characterization	2019	Journal of Molecular Liquids	289	
545	K., J., N., S., S., M., K., R., J., P., S., S., Dhakal, N., Shahnaz, T., N., S.	Optimization of EDTA enriched phytoaccumulation of zinc by Ophiopogon japonicus: Comparison of Response Surface, Artificial Neural Network and Random	2019	Bioresource Technology Reports	7	7
546	Sevda, S., Garlapati, V.K., Sharma, S., Bhattacharya, S., Mishra, S., Sreerishnan, T.R., Pant, D.	Microalgae at niches of bioelectrochemical systems: A new platform for sustainable energy production coupled industrial effluent treatment	2019	Bioresource Technology Reports	7	
547	Roy, N.K., Parama, D., Banik, K., Bordoloi, D., Devi, A.K., Thakur, K.K., Padmavathi, G., Shakibaei, M., Fan, L., Sethi, G., Kunnumakkara, A.B.	An update on pharmacological potential of boswellic acids against chronic diseases	2019	International Journal of Molecular Sciences	20	17
548	Hussain, S., Zhao, H., Zhou, L., Zhou, X., Iyer, P.K., Lv, F., Liu, L., Wang, S.	An Optoelectronic Device for Rapid Monitoring of Creatine Kinase Using Cationic Conjugated Polyelectrolyte	2019	Advanced Materials Technologies	4	9
549	Mahapatro, A., Mahanta, P.	Hydrodynamic and gasification studies of sawdust in a pressurized circulating fluidized bed	2019	IOP Conference Series: Materials Science and Engineering	605	1
550	Laskar, S.M., Talukdar, S.	A study on the performance of damaged RC members repaired using ultra-fine slag based geopolymer mortar	2019	Construction and Building Materials	217	216

551	Mokhtari, R.B., Baluch, N., Morgatskaya, E., Kumar, S., Sparaneo, A., Muscarella, L.A., Zhao, S., Cheng, H.-L., Das, B., Yeager, H.	Human bronchial carcinoid tumor initiating cells are targeted by the combination of acetazolamide and sulforaphane	2019	BMC Cancer	19	1
552	Lees, J.P., Ferroni, F., Poireau, V., Tisserand, V., Grauges, E., Palano, A., Eigen, G., Brown, D.N., Kolomensky, Y.G., Fritsch, M., <i>et al</i>	Extraction of form Factors from a Four-Dimensional Angular Analysis of $B \rightarrow d^* \nu$	2019	Physical Review Letters	123	9
553	Mahanta, D., Dutta, S.	Reconnection of multiple scroll rings in a three-dimensional reaction-diffusion system	2019	Physical Review E	100	2
554	Borah, D., Dasgupta, A.	Left-right symmetric models with a mixture of keV-TeV dark matter	2019	Journal of Physics G: Nuclear and Particle Physics	46	10
555	Devi, D., Chaudhury, K.M., Sarma, A.K.	Application of BRAHMA hydrodynamic model for flood forecasting	2019	Journal of Physics: Conference Series	1276	1
556	Haque, N., Singh, A., Saha, U.K.	A noble method for rapid prototyping of porous micromodels applicable to enhanced oil recovery	2019	Journal of Physics: Conference Series	1276	1
557	Kumar Sarma, A., Baruah, A.J.	A robust numerical scheme for transcritical flow simulation in a Braided river	2019	Journal of Physics: Conference Series	1276	1
558	Thalmeier, R., Casarosa, G., Schwanda, C., Aihara, H., Aziz, T., Bacher, S., Bahinipati, S., Barberio, E., Baroncelli, T., Baroncelli, T., <i>et al</i>	The Belle II silicon vertex detector: Assembly and initial results	2019	Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment	936	712 714
559	Kodyš, P., Abudinen, F., Ackermann, K., Ahlburg, P., Aihara, H., Albalawi, M., Alonso, O., Andricek, L., Ayad, R., Aziz, T., <i>et al</i>	The Belle II vertex detector integration	2019	Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment	936	616 620
560	Dasgupta, A., Das, D.	Designer Peptide Amphiphiles: Self-Assembly to Applications	2019	Langmuir	35	33 10704 10724

561	Mukherjee, S., Das, G., Ramesh, A.	Biocompatible nanocomposite tailored to endure the gastric niche renders effective in vitro elimination of intestinal pathogenic bacteria and supports adhesion by beneficial bacteria	2019	ACS Applied Bio Materials	2	8	3225	3233
562	Tripathi, N., Bharadwaja, M.	Psychological empowerment and stress: role of personality and power distance	2019	Journal of Indian Business Research	11	3	281	298
563	Pan, U.N., Sanpui, P., Paul, A., Chattopadhyay, A.	Protein-Nanoparticle Agglomerates as Plasmonic Magneto-Luminescent Multifunctional Nanocarrier for Imaging and Combination Therapy	2019	ACS Applied Bio Materials	2	8	3144	3152
564	Tiwari, A., Pankaj, P., Biswas, P., Kore, S.D., Rao, A.G.	Tool performance evaluation of friction stir welded shipbuilding grade DH36 steel butt joints	2019	International Journal of Advanced Manufacturing Technology	103	05-Aug	1989	2005
565	Jia, S., Shen, C.P., Adachi, I., Ahn, J.K., Aihara, H., Al Saïd, S., Asner, D.M., Aushev, T., Ayad, R., Babu, V., et al	Search for ω (2012) \rightarrow $k\pi\pi$ at Belle	2019	Physical Review D	100	3		
566	Sahoo, S.C., Pan, S.C.	Synthesis of N-Formyl-2-benzoyl Benzothiazolines, 2-Substituted Benzothiazoles, and Symmetrical Disulfides from N-Phenacylbenthiazolium Bromides	2019	Organic Letters	21	16	6208	6212
567	Kumar, S., Pradhan, S., Roy, S., De, P.B., Punniyamurthy, T.	Iron-Catalyzed Regioselective Remote C(sp ²)-H Carboxylation of Naphthyl and Quinoline Amides	2019	Journal of Organic Chemistry	84	16	10481	10489
568	Pal, A., Bhakat, A., Chattopadhyay, A.	Zinc Ion-Induced Assembly of Crystalline Carbon Dots with Excellent Supercapacitor Performance	2019	Journal of Physical Chemistry C	123	32	19421	19428
569	Jamaldheen, S.B., Thakur, A., Moholkar, V.S., Goyal, A.	Enzymatic hydrolysis of hemicellulose from pretreated Finger millet (Eleusine coracana) straw by recombinant endo-1,4- β -xylanase and exo-1,4- β -xylosidase	2019	International Journal of Biological Macromolecules	135		1098	1106
570	Behera, P., Ravi, S.	Influence of Ti-Substitution on Structural, Magnetic and Dielectric Properties of M-Type Barium Hexaferrite	2019	Journal of Electronic Materials	48	8	5062	5074

571	Saha, S., Boro, R., Das, C.	Treatment of tea industry wastewater using coagulation-spinning basket membrane ultrafiltration hybrid system	2019	Journal of Environmental Management	244	180	188
572	Paul, S., Paul, S.	Molecular dynamics simulation study on the inhibitory effects of choline-O-sulfate on hIAPP protofibrillation	2019	Journal of Computational Chemistry	40	22	1957 1968
573	Mondal, P., Samanta, N.S., Meghna, V., Purkait, M.K.	Selective glucose permeability in presence of various salts through tunable pore size of pH responsive PVDF-co-HFP membrane	2019	Separation and Purification Technology	221	249	260
574	Das, R.K., Prasanna, S.R.M.	Investigating Text-Independent Speaker Verification Systems Under Varied Data Conditions	2019	Circuits, Systems, and Signal Processing	38	8	3778 3801
575	Mondal, D.K., Borgohain, C., Paul, N., Borah, J.P.	Improved heating efficiency of bifunctional MnFe ₂ O ₄ /ZnS nanocomposite for magnetic hyperthermia applications	2019	Physica B: Condensed Matter	567	122	128
576	Sharma, S., Datta, P., Kumar, B., Tiwari, P., Pandey, L.M.	Production of novel rhamnolipids via biodegradation of waste cooking oil using <i>Pseudomonas aeruginosa</i> MTCC7815	2019	Biodegradation	30	4	301 312
577	Patil, P.O., Pandey, G.R., Patil, A.G., Borse, V.B., Deshmukh, P.K., Patil, D.R., Tade, R.S., Nangare, S.N., Khan, Z.G., Patil, A.M., More, M.P., Veerapandian, M., Bari, S.B.	Graphene-based nanocomposites for sensitivity enhancement of surface plasmon resonance sensor for biological and chemical sensing: A review	2019	Biosensors and Bioelectronics	139		
578	Das, B., Pal, B., Bhuyan, R., Li, H., Sarma, A., Ganyan, S., Talukdar, J., Sandhya, S., Bhuyan, S., Gogoi, G., Gouw, A.M., Baishya, D., Gotlib, J.R., Katakai, A.C., Felsner, D.W.	MYC Regulates the HIF2 α Stemness Pathway via Nanog and Sox2 to Maintain Self-Renewal in Cancer Stem Cells versus Non-Stem Cancer Cells	2019	Cancer Research	79	16	4015 4025
579	Baghel, A.K., Kulkarni, S., Nayak, S.K.	Parabolic profile pyramidal horn antenna with lower phase centre variation and 3 dB beamwidth in S-band	2019	IET Microwaves, Antennas and Propagation	13	10	1626 1636
580	Dutta, D., Sailapu, S.K., Simon, A.T., Ghosh, S.S., Chattopadhyay, A.	Gold-Nanocluster-Embedded Mucin Nanoparticles for Photodynamic Therapy and Bi-	2019	Langmuir	35	32	10475 10483

581	Das, S., Sajeer, M.M., Chakraborty, A.	Vibration control of horizontal axis offshore wind turbine blade using SMA stiffener	2019	Smart Materials and Structures	28	9
582	Li, Y.B., Shen, C.P., Adachi, I., Ahn, J.K., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., Aushiev, T., Ayad, R., Babu, V., <i>et al</i>	First measurements of absolute branching fractions of the Ξc^+ baryon at Belle	2019	Physical Review D	100	3
583	Chatterraj, K.G., Paul, S.	Underlying mechanistic insights into the structural properties of melamine and uric acid complexes with compositional variation under ambient conditions	2019	Journal of Chemical Physics	151	5
584	Chakraborty, K., Majhi, B.R.	Defector response along null geodesics in black hole spacetimes and in a Friedmann-Lemaître-Robertson-Walker universe	2019	Physical Review D	100	4
585	Alam, M.S., Arunachalam, M., Salve, U.R.	A pilot study on thermal comfort in Indian Railway pantry car chefs	2019	Journal of Physics: Conference Series	1240	1
586	Baruah, U., Das, A., Manna, U.	Synthesis of Dual-Functional and Robust Underwater Superoleophobic Interfaces	2019	ACS Applied Materials and Interfaces	11	31 28571 28581
587	Saravankumar, R., Muthukumar, K., Selvaraju, N.	Enhanced Pb (II) ions removal by using magnetic NiO/Biochar composite	2019	Materials Research Express	6	10
588	Sagar Sinha, G., Muthukumar, P.	Study of effects of various parameter on thermal efficiency of porous burner with kerosene pressure stove	2019	Journal of Physics: Conference Series	1240	1
589	Singha, D., Sahu, D.K., Sahu, K.	Probing the interfacial transition of acetone-trile/AOT/n-heptane microemulsion through in situ silver colloid synthesis	2019	Colloids and Surfaces A: Physicochemical and Engineering Aspects	574	171 177
590	Shakya, A.K., Paul, S., Ghosh, P.K.	Bio-attenuation of arsenic and iron coupled with nitrate remediation in multi-oxyanionic system: Batch and column stud-	2019	Journal of Hazardous Materials	375	182 190

591	Mokashi-Punekar, R.	Translating stigma in the postcolonial context: An analysis of Bharat Sasne's short story 'Mai Dukh Ki Lambi Raat'	2019	Disability in Translation: The Indian Experience	220	230
592	Pandey, R., Sahu, A.	Access-aware self-adaptive data mapping onto 3d-stacked hybrid DRAM-PCM based chip-multiprocessor	2019	Proceedings - 21st IEEE International Conference on High Performance Computing and Communications, 17th IEEE International Conference on Smart City and 5th IEEE International Conference on Data Science and Systems, HPCCC/SmartCity/DSS 2019	389	396
593	Kotoky, N., Dutta, A., Deb, S.K.	Hybrid testing for evaluation of seismic performance of highway bridge with pier made of HyFRC	2019	Structures	848	865
594	Chakraborti, S., Dutta Banik, A., Islam, R.	Probing multicomponent extension of inert doublet model with a vector dark matter	2019	European Physical Journal C	79	8
595	Bhowal, A., Kshetrimayum, R.S.	Outage probability bound of decode and forward two-way relay employing optical spatial modulation over gamma-gamma	2019	IET Optoelectronics	13	4 183 190
596	Rabha, S., Dobbidi, P.	Enhanced microwave dielectric and electrical properties of Zn substituted Mg ₂ TiO ₄ ceramics for RF/microwave applications	2019	Journal of Materials Science: Materials in Electronics	30	15 14600 14610
597	Deka, B., Singh, K.	The arginine and serine-rich domains of Acinus modulate splicing	2019	Cell Biology International	43	8 954 959
598	Mondal, S., Majumder, S.K.	Honeycomb-like porous activated carbon for efficient copper (II) adsorption synthesized from natural source: Kinetic study and equilibrium isotherm analysis	2019	Journal of Environmental Chemical Engineering	7	4
599	Singh, R., Rai, B.K., Bose, S.K.	Modeling and Performance Analysis for Pipelined-Forwarding MAC Protocols for Linear Wireless Sensor Networks	2019	IEEE Sensors Journal	19	15 6539 6552
600	Akansha, Ravi, S.	Investigation of magnetic and relaxor dielectric properties of polycrystalline gadolinium iron garnet by Bi substitution	2019	Applied Physics A: Materials Science and Processing	125	8

601	Patra, C., Mediseti, R.M.N., Pakshirajan, K., Narayanasamy, S.	Assessment of raw, acid-modified and chelated biomass for sequestration of hexavalent chromium from aqueous solution using <i>Sterculia villosa</i> Roxb. shells	2019 Environmental Science and Pollution Research	26	23	23625	23637
602	Shallam, R.D.K., Venthuruthiyil, S.P., Chunchu, M., Siddagangaiah, A.K.	Empirical Analysis of Operating Speed Performance on Undivided Hilly Roads	2019 Journal of Transportation Engineering Part A: Systems	145	8		
603	Kaushal, M., Ahlawat, S., Makut, B.B., Goswami, G., Das, D.	Dual substrate fermentation strategy utilizing rice straw hydrolysate and crude glycerol for liquid biofuel production by <i>Clostridium sporogenes</i> NCIM 2918	2019 Biomass and Bioenergy	127			
604	Tomar, S.K., Chakraborty, S.	Comparison of rapid granulation developed from the same industrial sludge with two different substrates	2019 International Biodeterioration and Biodegradation	142	218	218	226
605	Ghosh, J., Natu, G., Giri, P.K.	Plasmonic hole-transport-layer enabled self-powered hybrid perovskite photodetector using a modified perovskite deposition method in ambient air	2019 Organic Electronics	71	175	175	184
606	Ghosh, S., Chopra, R.	Training for massive MIMO systems with non-identically aging user channels	2019 Physical Communication	35			
607	Chand, B., Kaushik, H.B., Das, S.	Lateral Load Behavior of Traditional Assam-Type Wooden House	2019 Journal of Structural Engineering (United States)	145	8		
608	Bhattacharjee, M., Bandyopadhyay, D.	Flexible Paper Touchpad for Parkinson's Hand Tremor Detection	2019 Sensors and Actuators, A: Physical	294	164	164	172
609	Dharmalingam, K., Anandalakshmi, R.	Fabrication, characterization and drug loading efficiency of citric acid crosslinked NaCMC-HPMC hydrogel films for wound healing drug delivery applications	2019 International Journal of Biological Macromolecules	134	815	815	829
610	Nath, K., Dutta, A., Hazra, B.	An iterative polynomial chaos approach for solution of structural mechanics problem with Gaussian material property	2019 Journal of Computational Physics	390	425	425	451

611	Shah, M., Bharadwaj, M.S.K., Gupta, A., Kumar, R., Kumar, S.	Chicken viperin inhibits Newcastle disease virus infection in vitro: A possible interaction	2019	Cytokine	120	28	40
612	Das, A., Pamu, D.	A comprehensive review on electrical properties of hydroxyapatite based ceramic composites	2019	Materials Science and Engineering C	101	539	563
613	Bora, T., Ravi, S.	Erratum to "Negative magnetization and the tunable exchange bias field in LaCr ₃ O ₇ " [J. Magn. Mater. 358–359 (2014) 208–211] (S0304885314000742)(10.1016/j.jmmm.2014.01.063)	2019	Journal of Magnetism and Magnetic Materials	483	293	
614	Mohapatra, R.C., Kar, S., Kumari, P.	An extended kantrovich method used for static solution of an arbitrarily edge supported sandwich cylindrical shell panel	2019	International Journal of Engineering and Advanced Technology	8	6	4184 4193
615	Okosun, F., Cahill, P., Hazra, B., Pakrashi, V.	Vibration-based leak detection and monitoring of water pipes using output-only piezoelectricity	2019	European Physical Journal: Special Topics	228	7	1659 1675
616	Mandal, A., Choudhury, A., Iyer, P.K., Mal, P.	Charge Transfer Versus Arene-Perfluoroarene Interactions in Modulation of Optical and Conductivity Properties in Cocrystals of 2,7-Di-	2019	Journal of Physical Chemistry C	123	30	18198 18206
617	Saju, T.P., Narayanan, R.G., Roy, B.S.	Effect of pinless tool shoulder diameter on dieless friction stir extrusion joining of AA 5052-H32 and AA 6061-T6 aluminum alloy sheets	2019	Journal of Mechanical Science and Technology	33	8	3981 3997
618	Chouksey, R., Karfa, C., Banerjee, K., Kalita, P.K., Bhaduri, P.	Counter-example generation procedure for path-based equivalence checkers	2019	IET Software	13	4	280 285
619	Nath, S., Pathak, S.K., De, J., Pal, S.K., Achalkumar, A.S.	Correction: Star-shaped π-gelators based on oxadiazole and thiadiazoles: A structure-property correlation (Molecular Systems Design and Engineering (2019) 4 (984) DOI:	2019	Molecular Systems Design and Engineering	4	4	984 985
620	Kumar, M., Natarajan, G.	Diffuse interface immersed boundary method for low Mach number flows with heat transfer	2019	Physics of Fluids	31	8	

621	Das, S., Giri, A., Samanta, S., Kanagaraj, S.	An experimental investigation of properties of nanofluid and its performance on thermosyphon cooled by natural convection	2019 Journal of Thermal Science and Engineering Applications	11	4	4
622	Singh, P.K., Nandi, S.K., Nandi, S.	A tutorial survey on vehicular communication state of the art, and future research directions	2019 Vehicular Communications	18	24	25154 25166
623	Goswami, L., Manikandan, N.A., Taube, J.C.R., Pakshirajan, K., Pugazhenthii, G.	Novel waste-derived biochar from biomass gasification effluent: preparation, characterization, cost estimation, and application in polycyclic aromatic hydrocarbon biodegradation and lipid accumulation by <i>Rhodococcus opacus</i>	2019 Environmental Science and Pollution Research	26	24	25154 25166
624	Thunga, S., Poshala, S., Anugu, N., Konakanchi, R., Vanaparathi, S., Kokatla, H.P.	An efficient Pd(II)-(2-aminonicotinaldehyde) complex as complementary catalyst for the Suzuki-Miyaura	2019 Tetrahedron Letters	60	31	2046 2048
625	Handique, M., Biswas, S., Deka, J.K.	Test Generation for Bridging Faults in Reversible Circuits Using Path-Level Expressions	2019 Journal of Electronic Testing: Theory and Applications (JETTA)	35	4	441 457
626	Das, D., Kalita, P., Dewan, A., Tanweer, S.	Development of a novel thermal model for a PV/T collector and its experimental analysis	2019 Solar Energy	188	631	643
627	Lakshmi, D.V.N., Muthukumar, P., Layek, A., Nayak, P.K.	Performance analyses of mixed mode forced convection solar dryer for drying of stevia leaves	2019 Solar Energy	188	507	518
628	Das, A., Anbu, N., Dhakshinamoorthy, A., Biswas, S.	A highly catalytically active Hf(IV) metal-organic framework for Knoevenagel condensation	2019 Microporous and Mesoporous Materials	284	459	467
629	Kainthola, J., Kalamdhad, A.S., Goud, V.V., Goel, R.	Fungal pretreatment and associated kinetics of rice straw hydrolysis to accelerate methane yield from anaerobic digestion	2019 Bioresource Technology	286		
630	Gupta, V., Bora, S.N., Nieto, J.J.	Dhage iterative principle for quadratic perturbation of fractional boundary value problems with finite delay	2019 Mathematical Methods in the Applied Sciences	42	12	4244 4255

631	Desai, S., Kulkarni, V., Gadgil, H.	Separation mitigation using pressure feedback technique for hypersonic shock wave boundary layer interaction	2019	Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering	233	10	3519	3533
632	Gaikwad, H.S., Mondal, P.K., Basu, D.N., Chimres, N., Wongwises, S.	Analysis of the Effects of Joule Heating and Viscous Dissipation on Combined Pressure-Driven and Electrokinetic Flows in a Two-Parallel Plate Channel with Une-	2019	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering	233	4	871	879
633	Pati, S., Mondal, P.K.	Limiting thermal characteristics for flow of non-Newtonian fluids between asymmetrically heated parallel plates: An analytical	2019	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering	233	4	880	892
634	Sharma, M., Mondal, P., Chakraborty, A., Kuttippurath, J., Purkait, M.	Effect of different molecular weight polyethylene glycol on flat sheet cellulose acetate membranes for evaluating power density performance in pressure retarded osmosis study	2019	Journal of Water Process Engineering	30			
635	Kalifa, S., Girish, K.S., Pushpavathi, M., Mahadeva Prasanna, S.R., Dandapat, S.	Objective assessment of cleft lip and palate speech intelligibility using articulation and hypernasality measures	2019	Journal of the Acoustical Society of America	146	2	1164	1175
636	Lade, A.D., Deshpande, V., Kumar, B., Oliveto, G.	On the morphodynamic alterations around bridge piers under the influence	2019	Water (Switzerland)	11	8		
637	Narendra, P.V.R., Prasad, K., Krishna, E.H., Kumar, V., Singh, K.D.	Low-Cycle-Fatigue (LCF) behavior and cyclic plasticity modeling of E250A mild steel	2019	Structures	20		594	606
638	Guo, Y., Li, S., Su, B., Mandal, B.	Fluorine incorporation for enhancing solvent resistance of organic solvent nanofil-	2019	Chemical Engineering Journal	369		498	510
639	Patel, A.K., Das, N., Goswami, R., Kumar, M.	Arsenic mobility and potential co-leaching of fluoride from the sediments of three tributaries of the Upper Brahmaputra floodplain, Lakhimpur, Assam, India	2019	Journal of Geochemical Exploration	203		45	58
640	Verma, S., Mukherjee, A., Mahanta, C., Choudhury, R., Badoni, R.P., Joshi, G.	Arsenic fate in the Brahmaputra river basins, provenance and water-rock interac-	2019	Applied Geochemistry	107		171	186

641	Dhara, A., Hussain, M.S., Datta, D., Kumar, M.	Insights to the assembly of a functionally active leptospiral ClpP1P2 protease complex along with its ATPase chaperone ClpX	2019	ACS Omega	4	7	12880	12895
642	Naik, P.K., Paul, S., Banerjee, T.	Physiochemical Properties and Molecular Dynamics Simulations of Phosphonium and Ammonium Based Deep Eutectic Solvents	2019	Journal of Solution Chemistry	48	7	1046	1065
643	Maddaka, R., Kumari, J., Kanneboina, V., Jha, H.S., Agarwal, P.	Role of chamber pressure on crystallinity and composition of silicon films using silane and methane as precursors in hot-wire chemical vapour deposition technique	2019	Thin Solid Films	682		126	130
644	Mahanta, U., Venkatesh, R.P., Sujatha, S., Ilangovan, S.A., Banerjee, T.	Imidazolium Based Ionic Liquids as Electrolytes for Energy Efficient Electrical Double Layer Capacitor: Insights from Molecular Dynamics and Electrochemical Characterization	2019	Journal of Solution Chemistry	48	7	1119	1134
645	Pal, D., Chunchu, M.	Modeling of lateral gap maintaining behavior of vehicles in heterogeneous traffic stream	2019	Transportation Letters	11	7	373	381
646	Mazumdar, A., Bora, P.K.	Estimation of lighting environment for exposing image splicing forgeries	2019	Multimedia Tools and Applications	78	14	19839	19860
647	Dutta, V.	The 'Indian' staff college: Politics and practices of military institution-building in Twentieth century India	2019	Journal of Strategic Studies	42	5	600	625
648	Barman, P., Cantú Reinhard, F.G., Bagha, U.K., Kumar, D., Sastri, C.V., de Visser, S.P.	Hydrogen by Deuterium Substitution in an Aldehyde Tunes the Regioselectivity by a Non-heme Manganese(III)-Peroxo Complex	2019	Angewandte Chemie - International Edition	58	31	10639	10643
649	Meher, N., Iyer, P.K.	Functional group engineering in naphthalimides: A conceptual insight to fine-tune the supramolecular self-assembly and condensed state luminescence	2019	Nanoscale	11	28	13233	13242
650	Raju, N.N., Muthukumar, P., Selvan, P.V., Malleswararao, K.	Design methodology and thermal modelling of industrial scale reactor for solid state hydrogen storage	2019	International Journal of Hydrogen Energy	44	36	20278	20292

651	Mondal, S., Greschner, S., Mishra, T.	Three-body constrained bosons in a double-well optical lattice	2019	Physical Review A	100	1	
652	Deb, S., Dandapat, S.	Emotion classification using segmentation of vowel-like and non-vowel-like regions	2019	IEEE Transactions on Affective Computing	10	3	360 373
653	Das, R., Laishram, B., Jawed, M.	Perception of groundwater quality and health effects on willingness to procure: The case of upcoming water supply scheme in Guwahati,	2019	Journal of Cleaner Production	226		615 627
654	Chou, P.-C., Chang, P., Adachi, I., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., Aulchenko, V., Aushev, T., Ayad, R., et al	Search for B0 →x (3872) γ	2019	Physical Review D	100	1	
655	Barman, M.P., Awekar, A., Kothari, S.	Decoding the style and bias of song lyrics	2019	SIGIR 2019 - Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval			1165 1168
656	Barman, B., Bhattacharya, S., Ghosh, P., Kadam, S., Sahu, N.	Fermion dark matter with scalar triplet at direct and collider searches	2019	Physical Review D	100	1	
657	Menon, T.S., Mishra, S., Antony, V.C., Dixit, K., Kakkar, S., Ahmed, T., Islam, S., Jayaraman, A., Hsieh, K., Karnatak, P., Ghosh, A.	Optimising graphene visibility in van der Waals heterostructures	2019	Nanotechnology	30	39	
658	Sarma, B., Shahapure, V., Dalal, A., Basu, D.N.	Experimental characterization of the growth dynamics during capillarity-driven droplet gen-	2019	Physical Review E	100	1	
659	Thakur, S., Bhattacharjee, M., Dasmahapatra, A.K., Bandyopadhyay, D.	Acoustic Wave Catalyzed Urea Detection Utilizing a Pulsatile Microdroplet Sensor	2019	ACS Sustainable Chemistry and Engineering	7	14	12069 12082
660	Mallik, S.K., Chakraborty, S.	Varied infeed inorganics and organics for the assimilation of aqueous petrochemical products in anoxic fed-batch reactors: Maximizing precipitation of S ₂ O ₃ ²⁻	2019	Separation and Purification Technology	219		268 280

661	Basha, S.H., Kaushik, H.B.	Investigation on improving the shear behavior of columns in masonry infilled RC frames under lateral loads	2019	Bulletin of Earthquake Engineering	17	7	3995	4026
662	Rameshnath, S., Bora, P.K.	Perceptual video hashing based on temporal wavelet transform and random projections with application to indexing and retrieval of near-identical videos	2019	Multimedia Tools and Applications	78	13	18055	18075
663	Shi, Q., Gómez, D.E., Dong, D., Sikdar, D., Fu, R., Liu, Y., Zhao, Y., Smilgies, D.-M., Cheng, W.	2D Freestanding Janus Gold Nanocrystal Superlattices	2019	Advanced Materials	31	28		
664	Maity, D., Saha, P.	(P)reheating after minimal plateau inflation and constraints from CMB	2019	Journal of Cosmology and Astroparticle Physics	2019	7		
665	Dutta, B., Pal, D.	Absorption and Raman spectroscopy: Ferrimagnetic spinel MnCr ₂ O ₄	2019	AIP Conference Proceedings	2115			
666	Das, A., Kornepati, S., Rabha, J., Dobbidi, P.	Microstructural study of bone like apatite deposited by a biomimetic process	2019	AIP Conference Proceedings	2115			
667	Sarma, R., Mondal, P.K.	Marangoni instability in a heated viscoelastic liquid film: Long-wave versus short-wave perturbations	2019	Physical Review E	100	1		
668	Jee, A.A., Pradhan, B.	Study on development of empirical relationships between durability parameters of concrete made with different types of binder and exposed to chloride environment	2019	Construction and Building Materials	212		799	817
669	Jain, S., Pradhan, B.	Effect of cement type on hydration, microstructure and thermo-gravimetric behaviour of chloride admixed self-compacting concrete	2019	Construction and Building Materials	212		304	316
670	Chilikin, K., Adachi, I., Asner, D.M., Aulchenko, V., Aushev, T., Ayad, R., Babu, V., Badhrees, I., Bansal, V., Behrera, P., et al	Evidence for B ⁺ →hcK ⁺ and observation of ηc(2S)→pp̄π ⁺ π ⁻	2019	Physical Review D	100	1		

671	Lai, Y.-T., Adachi, I., Aihara, H., Al Said, S., Asner, D.M., Afmaman, H., Aulichenko, V., Aushev, T., Babu, V., Badhrees, I., <i>et al</i>	Measurement of branching fraction and final-state asymmetry for the $B \rightarrow K_S^0 K^{\pm} \mu^{\pm}$ decay	2019	Physical Review D	100	1
672	Gayen, C., Basu, S., Goswami, U., Paul, A.	Visible Light Excitation-Induced Luminescence from Gold Nanoclusters following Surface Ligand Complexation with Zn^{2+} for Daylight Sensing and Cellular Imaging	2019	Langmuir	35	27 9037 9043
673	Behera, S., Islam, R., Kumar, M., Poulouse, P., Rahaman, R.	Fingerprinting the top quark FCNC via anomalous $Z\mu$ couplings at the LHeC	2019	Physical Review D	100	1
674	Chouhan, D., Das, P., Thatikonda, N., Nandli, S.K., Hedhammar, M., Mandal, B.B.	Silkworm Silk Matrices Coated with Functionalized Spider Silk Accelerate Healing of Diabetic Wounds	2019	ACS Biomaterials Science and Engineering	5	7 3537 3548
675	Sau, P., Rakshit, A., Alam, T., Srivastava, H.K., Patel, B.K.	Tert-Butyl Nitrite Mediated Synthesis of 1,2,4-Oxadiazol-5(4 H)-ones from Terminal Aryl Alkenes	2019	Organic Letters	21	13 4966 4970
676	Sharma, M., Das, B., Baruah, M.J., Biswas, S., Roy, S., Hazarika, A., Bhargava, S.K., Bania, K.K.	Pd-Au-Y as Efficient Catalyst for C-C Coupling Reactions, Benzyl C-H Bond Activation, and Oxidation of Ethanol for Synthesis of Cinnamaldehydes	2019	ACS Catalysis	9	7 5860 5875
677	Sarkar, A., Bora, S.N.	Water wave diffraction by a surface-piercing floating compound porous cylinder in finite depth	2019	Geophysical and Astrophysical Fluid Dynamics	113	4 348 376
678	Rani, A., Baruah, R., Goyal, A.	Prebiotic Chondroitin Sulfate Disaccharide Isolated from Chicken Keel Bone Exhibiting Anticancer Potential Against Human Colon Cancer Cells	2019	Nutrition and Cancer	71	5 825 839
679	Bharat, T.V., Das, P., Buragadda, V.	Specific ion effects on surrogate compatibility indices of bentonite for hydraulic barrier applications	2019	International Journal of Geotechnical Engineering	13	4 360 368
680	Patel, S.K., Singh, B.	Shear strength response of glass fibre-reinforced sand with varying compacted relative density	2019	International Journal of Geotechnical Engineering	13	4 339 351

681	Kumar, U.	Anisotropic Floquet optical spectra of Weyl semimetal	2019	Materials Research Express	6	9
682	Ranjan, G., Tiwari, R.	Application of active magnetic bearings for in situ flexible rotor residual balancing using a novel generalized influence coefficient	2019	Inverse Problems in Science and Engineering	27	943 968
683	Majumdar, A., Natesan, S.	An ϵ -uniform hybrid numerical scheme for a singularly perturbed degenerate parabolic convection–diffusion problem	2019	International Journal of Computer Mathematics	96	7 1313 1334
684	Bhardwaj, N., Narayanan, R.G., Dixit, U.S., Hashmi, M.S.J.	Recent developments in friction stir welding and resulting industrial practices	2019	Advances in Materials and Processing Technologies	5	3 461 496
685	Paritosh, P., Kalita, B., Sharma, D.	A game theory based land layout optimization of cities using genetic algorithm	2019	International Journal of Management Science and Engineering Management	14	3 155 168
686	Srinivas, P.S., Mishra, D.K., Gupta, R., Korath, J.M., Jana, A.K.	Vortex characteristics due to nozzle clogging in water caster mould: modelling and	2019	Canadian Metallurgical Quarterly	58	3 308 324
687	Jhunjhunwala, S., Narayan, J., Dwivedy, S.K.	Design and modeling of a novel mechanized injection platform	2019	ACM International Conference Proceeding Series		
688	Al Issa, S., Sharma, M., Kar, I.	Event-triggered Backstepping Control Scheme for Networked Mobile Robots	2019	ACM International Conference Proceeding Series		
689	Patel, P., Mondal, S.K., Bharti, R.	Snow Area Mapping using Feature-oriented Principal Component Analysis	2019	International Geoscience and Remote Sensing Symposium (IGARSS)		4088 4090
690	Lekshmi, K., Bharti, R., Mahanta, C.	Spatio-Temporal Distribution of Carbon Dioxide Partial Pressure in the Bay of Bengal	2019	International Geoscience and Remote Sensing Symposium (IGARSS)		8165 8168

691	Bhowal, A., Kshetrimayum, R.S.	Performance analysis of b2b communication for different	2019	IEEE Sensors Letters	3	7
692	Vijith Kumar, K.P., Kumar Rai, B., Jacob, T.	Fundamental Limits of Coded Caching: The Memory Rate Pair ($K - 1 - 1/K, 1/(K-1)$)	2019	IEEE International Symposium on Information Theory - Proceedings	2019-July	2624 2628
693	Vijith Kumar, K.P., Kumar Rai, B., Jacob, T.	Pareto Optimal Schemes in Coded Caching	2019	IEEE International Symposium on Information Theory - Proceedings	2019-July	2629 2633
694	Tikadar, S., Bhattacharya, S.	Predicting students' involvement in blended learning environment	2019	IEEE 19th International Conference on Advanced Learning Technologies, ICAIT 2019		76 78
695	Minz, M., Mishra, D., Sonkar, R.K.	Mode-Division Multiplexer with Contra-directional Couplers	2019	OECC/PSC 2019 - 24th OptoElectronics and Communications Conference/ International Conference Photonics in		
696	Roy, S.K., Devaraj, R., Sarkar, A.	Optimal scheduling of PTGS with multiple service levels on heterogeneous distributed systems	2019	Proceedings of the American Control Conference	2019-July	157 162
697	Dixit, A., Lekshmi, K.L., Bharti, R., Mahanta, C.	Net sea-Air co fluxes and modeled partial pressure of co in open ocean of bay of bengal	2019	IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing	12	7 2462 2469
698	Chakrabarti, S., Maity, D., Wahlang, W.	Probing the holographic Fermi arc with scalar field: numerical	2019	Journal of High Energy Physics	2019	7
699	Bose, P., Mukherjee, C., Golder, A.K.	A Ni ^{II} complex of the tetradentate salen ligand H ₂ L ^L comprising an anchoring -NH ₂ group: Synthesis, characterization and electrocatalytic CO ₂ reduction to alcohols	2019	Inorganic Chemistry Frontiers	6	7 1721 1728
700	Baghel, A.K., Kulkarni, S.S., Nayak, S.K.	Linear-to-Cross-Polarization Transmission Converter Using Ultrathin and Smaller Periodicity	2019	IEEE Antennas and Wireless Propagation Letters	18	7 1433 1437

701	Soni, R.P., Gavara, M.R.	Aiding and opposing mixed convection of water with density inversion about a wall of varying temperature	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	7	
702	Sharma, P.K., Nallam, N.	A 0.1-0.95 GHz Full-Duplex Receiver with <math>1\text{ dB}</math> NF Degradation Using a Passive Continuous-Mode Charge-	2019	IEEE Transactions on Microwave Theory and Techniques	67	7	3042 3052
703	Das, A., Parbat, D., Shome, A., Manna, U.	Sustainable Biomimicked Oil/Water Wettability That Performs under Severe Challenges	2019	ACS Sustainable Chemistry and Engineering	7	13	11350 11359
704	Chaudhuri, S., Kshetrimayum, R.S., Kar, R.K.	High inter-port isolation dual circularly polarized slot antenna with split-ring resonator based novel metasurface	2019	AEU - International Journal of Electronics and Communications	107		146 156
705	Singh, S.B., De, M.	Scope of doped mesoporous (<math>10\text{ nm}</math>) surfactant-modified alumina templated carbons for hydrogen	2019	International Journal of Energy Research	43	9	4264 4280
706	Kesarwani, R., Khare, A.	Assessment of interfacial layer thickness of pulsed laser deposited plasmonic copper thin films via spectro-	2019	Optical Materials	93		98 102
707	Kawale, H.D., Kishore, N.	Production of hydrocarbons from a green algae (Oscillatoria) with exploration of its fuel characteristics over dif-	2019	Energy	178		344 355
708	Barua, V.B., Kalamdhad, A.S.	Biogas production from water hyacinth in a novel anaerobic digester: A continuous study	2019	Process Safety and Environmental Protection	127		82 89
709	Gayen, D., Tiwari, R., Chakraborty, D.	Finite element based stability analysis of a rotor-bearing system having a functionally graded shaft with trans-	2019	International Journal of Mechanical Sciences	157-158		403 414
710	Ganji, S., Dhawan, K., Sinha, R.	IITG-HingCoS corpus: A Hinglish code-switching database for automatic	2019	Speech Communication	110		76 89

711	Kashyap, D., Dass, A.K.	Effect of boundary conditions on heat transfer and entropy generation during two-phase mixed convection hybrid Al ₂ O ₃ -Cu/water nanofluid flow in a cavity	2019	International Journal of Mechanical Sciences	157-158	45	59
712	Mondal, D., Selvaraju, N.	A note on a mean-lower partial moment CAPM without risk-free asset	2019	Operations Research Letters	47	4	264 269
713	Sinharoy, A., Pakshirajan, K.	Heavy metal sequestration by sulfate reduction using carbon monoxide as the sole carbon and energy	2019	Process Biochemistry	82	135	143
714	Baranwal, P.K., Rajaraman, P.V.	Kinetics of carbon steel dissolution in ammonium chloride solution containing sodium thiosulfate	2019	International Journal of Chemical Kinetics	51	7	497 510
715	Naira, V.R., Das, D., Maiti, S.K.	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	2019	Bioresource Technology	284	43	55
716	Singh, T.G., Singh, K.D.	Mechanical properties of YSt-310 cold-formed steel hollow sections at elevated temperatures	2019	Journal of Constructional Steel Research	158	53	70
717	Dharmalingam, K., Padmavathi, G., Kunnumakkar, A.B., Anandalakshmi, R.	Microwave-assisted synthesis of cellulose/zinc-sulfate-calcium-phosphate (ZSCAP) nanocomposites for biomedical applications	2019	Materials Science and Engineering C	100	535	543
718	Saikia, K., Pandey, M., Basu, D.N.	Numerical investigation of the effect of inlet subcooling on flow instabilities in a parallel channel natural circulation boiling system	2019	Progress in Nuclear Energy	114	13	21
719	Paul, T., Baskaran, D., Pakshirajan, K., Pugazhenthii, G.	Continuous bioreactor with cell recycle using tubular ceramic membrane for simultaneous wastewater treatment and bio-oil production by oleaginous Rhodospirillum rubrum	2019	Chemical Engineering Journal	367	76	85
720	Kumar, S., Trivedi, V.	Extracellular methemoglobin promotes cytoadherence of uninfected RBC to endothelial cells: Insight into cerebral malaria pathology	2019	Journal of Cellular Biochemistry	120	7	1114 11149 0

721	Prakash, A., Hazra, B., Sreedeeep, S.	Uncertainty quantification in water retention characteristic curve of fly ash using copulas	2019	Journal of Testing and Evaluation	47	4	
722	Chouksey, R., Kaifia, C., Bhaduri, P.	Translation Validation of Code Motion Transformations Involving Loops	2019	IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems	38	7	1378 1382
723	Mohanty, R., Chatterjee, D., Suman, S., Sengupta, G.	PSO Based Improved Topology for MLI Considering Low THD and Low Switching Loss	2019	2019 10th International Conference on Computing, Communication and Networking Technologies, ICCCNT 2019			
724	Doley, J.K., Kore, S.D.	A Comparative study on formability of a different thickness fused aa 5052 blank by conventional and em forming	2019	Journal of Testing and Evaluation	47	4	2337 2351
725	Chowdhury, A., Chopra, R., Murthy, C.R., Suraweera, H.A.	On the Achievable Rates of Full-Duplex Massive MIMO Systems under Channel Aging	2019	IEEE Workshop on Signal Processing Advances in Wireless Communications, SPAWC	2019-July		
726	Pandey, S., Majhi, S., Ghorai, P.	Parameter estimation and control of time delay SISO systems	2019	Proceedings of the American Control Conference	2019-July		5161 5166
727	Rabha, S., Sarmah, P., Prasanna, S.R.M.	Aspiration in fricative and nasal consonants: Properties and detection	2019	Journal of the Acoustical Society of America	146	1	614 625
728	Deka, N., Barman, J., Deka, J., Raidon-Gia, K., Dutta, G.K.	Microporous Organic Polymer-Derived Nitrogen-Doped Porous Carbon Spheres for Efficient Capacitive Energy Storage	2019	ChemElectroChem	6	13	3327 3336
729	Kalifa, N.K., Nagar, M.K., Mudenu, C., Kalamdhad, A., Katiyar, V.	Biodegradation of modified Poly(lactic acid) based biocomposite films under thermophilic composting conditions	2019	Polymer Testing	76		522 536
730	Sarma, S., Ortega, D., Minton, N.P., Dubey, V.K., Moholkar, V.S.	Homologous overexpression of hydrogenase and glycerol dehydrogenase in Clostridium pasteurianum to enhance hydrogen production from crude glycerol	2019	Bioresource Technology	284		168 177

731	Borugadda, V.B., Goud, V.V.	Hydroxylation and hexanoxylation of epoxidized waste cooking oil and epoxidized waste cooking oil methyl esters: Process optimization and physico-chemical characterization	2019 Industrial Crops and Products	133	151	159
732	Choudhury, H., Prasanna, S.R.M.	Representation of online handwriting using multi-component sinusoidal model	2019 Pattern Recognition	91	200	215
733	Sah, B., Kumar, P., Rayudu, R., Bose, S.K., Inala, K.P.	Impact of Sampling in the Operation of Vehicle to Grid and Its Mitigation	2019 IEEE Transactions on Industrial Informatics	15	7	3923
734	Ghorai, P., Majhi, S., Kasi, V.R., Pandey, S.	Parameter Identification of Delayed Under-Damped Systems Using On-Line Relay Auto-tuning	2019 IEEE Transactions on Circuits and Systems II: Express Briefs	66	7	1197
735	Ramesh, P., Nanda, S.R., Kulkarni, V., Dwivedy, S.K.	Application of neural-networks and neuro-fuzzy systems for the prediction of short-duration forces acting on the blunt bodies	2019 Soft Computing	23	14	5725
736	Toda, H., Iwahori, Y., Usami, H., Kijirikul, B., Bhuyan, M.K., Ogasawara, N., Kasugai, K.	Shape Recovery of Polyp Using Blood Vessel Detection and Matching Estimation by U-Net	2019 Proceedings - 2019 8th International Congress on Advanced Applied Informatics, IIAI-AAI 2019			450
737	Neelapala, S.D., Ashok Yaranal, N., Dasari, H.	Synthesis of La^{3+} -perovskites by reverse strike co-precipitation method and its soot oxidation activity	2019 Iranian Journal of Chemistry and Chemical Engineering	38	4	69
738	Garimella, R.M., Munugoti, S.D., Rayala, A.	Novel Ceiling Neuron Model and its Applications	2019 Proceedings of the International Joint Conference on Neural Networks	2019-July		
739	Wang, T., Jie, S., Jiang, B., Bose, S.K., Shen, G.	Distributed backup resource allocation in fiber-wireless (FWi) access networks supporting mobile edge computing	2019 International Conference on Transparent Optical Networks	2019-July		
740	Sen, S., Dasu, V.V., Mahajan, D.	Potential application of <i>Bacillus pseudofirmus</i> SVB1 extract in effluent treatment	2019 Biocatalysis and Agricultural Biotechnology	20		

- 741 Gadi, V.K., Garg, A., Rattan, B., Raj, P., Gaurav, S., S., Sahoo, L., Berretta, C., Peng, L. Growth dynamics of deciduous species during their life period: A case study of urban green space in India 2019 Urban Forestry and Urban Greening 43
- 742 Dong, D., Shi, Q., Sikdar, D., Zhao, Y., Liu, Y., Fu, R., Premaratne, M., Cheng, W. Site-specific Ag coating on concave Au nanoarrows by controlling the surfactant concentration 2019 Nanoscale Horizons 4 4 940 946
- 743 Yang, S., Xing, Y., Zhang, J., Su, B., Mandal, B., Gao, X., Gao, C. Negatively charged polyamide thin film composite membrane with ultra-smooth selective layer and excellent organic solvent resistance for nanofiltration application 2019 Desalination and Water Treatment 157 18 28
- 744 Sharma, S., Bhatia, V., Mishra, A.K. Wireless Consumer Electronic Devices: The Effects of Impulsive Radio-Frequency Interference 2019 IEEE Consumer Electronics Magazine 8 4 56 61
- 745 Sanjog, J., Patel, T., Karmakar, S. Occupational ergonomics research and applied contextual design implementation for an industrial shop-floor workstation 2019 International Journal of Industrial Ergonomics 72 188 198
- 746 Vikram, C.M., Adiga, N., Prasanna, S.R.M. Detection of Nasalized Voiced Stops in Cleff Palate Speech Using Epoch-Synchronous Features 2019 IEEE/ACM Transactions on Audio Speech and Language Processing 27 7 1189 1200
- 747 Joshi, D.C., Pramanik, P., Warshi, M.K., Ghosh, S., Meher, A., Dasari, K., Thota, S. Role of phase transition in the dielectric and magnetic properties of Na containing NiO 2019 Journal of Physics and Chemistry of Solids 130 154 164
- 748 Wadhwa, R., Aggarwal, T., Thapliyal, N., Kumar, A., Priya, Yadav, P., Kumari, V., Reddy, B.S.C., Chandra, P., Maurya, P.K. Red blood cells as an efficient in vitro model for evaluating the efficacy of metallic nanoparticles 2019 3 Biotech 9 7
- 749 Kumar, H., Ganesan, S.P., Bordoloi, S., Sreedeeep, S., Lin, P., Mei, G., Garg, A., Sarmah, A.K. Erodibility assessment of compacted biochar amended soil for geo-environmental applications 2019 Science of the Total Environment 672 698 707
- 750 Deb, G., Shankar, E., Thakur, V.S., Ponsky, L.E., Bodner, D.R., Fu, P., Gupta, S. Green tea-induced epigenetic reactivation of tissue inhibitor of matrix metalloproteinase-3 suppresses prostate cancer progression through histone-modifying en-

751	Talewar, R.A., Gaikwad, V.M., Tawalare, P.K., Moharil, S.V.	Sensitization of Er ³⁺ /Ho ³⁺ visible and NIR emission in NaY(MoO ₄) ₂ phosphors	2019	Optics and Laser Technology	115	215	221
752	Karthik, V., Sivarajasekar, N., Padmanaban, V.C., Nakkeeran, E., Selvaraju, N.	Biosorption of xenobiotic Reactive Black B onto metabolically inactive T. harzianum biomass: optimization and equilibrium studies	2019	International Journal of Environmental Science and Technology	16	7	3625 3636
753	Roy, N.K., Monisha, J., Padmavathi, G., Lalhruaitluanga, H., Kumar, N.S., Singh, A.K., Boroloi, D., Baruah, M.N., Ahmed, G.N., Longkumar, I., Arfuso, F., Kumar, A.P., Kunnumakkara, A.B.	Isoform-specific role of akt in oral squamous cell carcinoma	2019	Biomolecules	9	7	
754	Abada, A., Abbrescia, M., AbdusSalam, S.S., Abdyukhanov, I., Abelleira Fernandez, J., Abramov, A., Aburaia, M., Acar, A.O., Adzic, P.R., Agrawal, P., et al	HE-LHC: The High-Energy Large Hadron Collider Future Circular Collider Conceptual Design Report Volume 4	2019	European Physical Journal: Special Topics	228	5	1109 1382
755	Abada, A., Abbrescia, M., AbdusSalam, S.S., Abdyukhanov, I., Abelleira Fernandez, J., Abramov, A., Aburaia, M., Acar, A.O., Adzic, P.R., Agrawal, P., et al	FCC-hh: The Hadron Collider Future Circular Collider Conceptual Design Report Volume 3	2019	European Physical Journal: Special Topics	228	4	755 1107
756	Rana, S., Sur, A.	View invariant DIBR-3D image watermarking using DT-CWT	2019	Multimedia Tools and Applications	78	12	16665 16693
757	Deka, H., Tsai, P.-H., Biswas, G., Datal, A., Ray, B., Wang, A.-B.	Dynamics of formation and oscillation of non-spherical drops	2019	Chemical Engineering Science	201		413 423
758	Saha, A., Pradhan, N., Chatterjee, S., Singh, R.K., Trivedi, V., Bhattacharyya, A., Manna, D.	Fatty-Amine-Conjugated Cationic Bovine Serum Albumin Nanoparticles for Target-Specific Hydrophobic Drug Delivery	2019	ACS Applied Nano Materials	2	6	3671 3683
759	Acerro, M.A., Adamson, P., Aliaga, L., Alion, T., Allakhverdian, V., Altakarli, S., Anfimov, N., Antoshkin, A., Aurisano, A.,	Observation of seasonal variation of atmospheric multiple-muon events in the NOvA Near Detector	2019	Physical Review D	99	12	
760	Chadha, A., Sakthivel, R., Bora, S.N.	Solvability of control problem for fractional nonlinear differential inclusions with nonlocal conditions	2019	Nonlinear Analysis: Modelling and Control	24	4	503 522

761	Bhattacharya, K., Dey, S., Majhi, B.R., Samanta, S.	General framework to study the extremal phase transition of black holes	2019 Physical Review D	99	12
762	Ma, Y., Sikdar, D., Fedosyuk, A., Velleman, L., Zhao, M., Tang, L., Kornyshev, A.A., Edel, J.B.	Auxetic Thermo-responsive Nanoplasmonic Optical Switch	2019 ACS Applied Materials and Interfaces	11	25 22754 22760
763	Vidyapu, S., Vedula, V.S., Bhattacharya, S.	Quantitative visual attention prediction on webpage images using multiclass SVM	2019 Eye Tracking Research and Applications Symposium (ETRA)		
764	Peela, N.R., Yedla, S.K., Velaga, B., Kumar, A., Golder, A.K.	Choline chloride functionalized zeolites for the conversion of biomass derivatives to 5-hydroxymethylfurfural	2019 Applied Catalysis A: General	580	59 70
765	Sahu, T.K., Shah, A.K., Banik, A., Qureshi, M.	Enhanced Surface and Bulk Recombination Kinetics by Virtue of Sequential Metal and Nonmetal Incorporation in Hematite-Based Photoanode for Superior Photoelectrochemical Water Oxidation	2019 ACS Applied Energy Materials	2	6 4325 4334
766	Srinivas, R.S., Tiwari, R., Kannababu, C.	Model based analysis and identification of multiple fault parameters in coupled rotor systems with off-set discs in the presence of angular misalignment and integrated with an active magnetic bearing	2019 Journal of Sound and Vibration	450	109 140
767	Zhdanova, G.O., Kononova, E.Y., Tolstoy, M.Y., Kashevsky, A.V., Barbora, L., Goswami, P., Goel, S., Fialkow, V.A., Kupchinsky, A.B., Stom, D.I.	Comparative Analysis of Electrogenic Activity of Complex Microbial Preparations in Microbial Fuel Cells	2019 IOP Conference Series: Earth and Environmental Science	272	3
768	Das, K., Dutta, M., Das, B., Srivastava, H.K., Kumar, A.	Efficient Pincer-Ruthenium Catalysts for Kharasch Addition of Carbon Tetrachloride to Styrene	2019 Advanced Synthesis and Catalysis	361	12 2965 2980
769	De, S., Dey, S., Majhi, B.R.	Effective metric in fluid-gravity duality through parallel transport: A proposal	2019 Physical Review D	99	12
770	Konch, T.J., Bora, A.P., Raidongia, K.	Disposable Fluidic Devices of Bionanochannels for Enzymatic Monitoring and Energy Harvesting	2019 ACS Applied Bio Materials	2	6 2549 2556

771	Namboodiri, M.M.T., Pakshirajan, K.	Sustainable and green approach of chitosan production from <i>Penicillium citrinum</i> biomass using industrial wastewater as a cheap substrate	2019	Journal of Environmental Management	240	431	440
772	Ansari, M.S., Banik, A., Alam, S., Qureshi, M.	Combined effect of in-situ grown p-type CuS/n-type ZnO coupled with hierarchical ZnO nano disks for improved photovoltaic light harvesting efficiency	2019	Journal of Power Sources	425	204	216
773	Das, A., Uppaluri, R., Das, C.	Feasibility of poly-vinyl alcohol/starch/glycerol/citric acid composite films for wound dressing applications	2019	International Journal of Biological Macromolecules	131	998	1007
774	Pradhan, G., Sharma, A.K.	Temperature controlled 1T/2H phase ratio modulation in mono- and a few layered MoS ₂ films	2019	Applied Surface Science	479	1236	1245
775	Mukherjee, K., Mishra, A.K.	Hydraulic and mechanical characteristics of compacted sand-bentonite: tyre chips mix for its landfill application	2019	Environment, Development and Sustainability	21	3	1411
776	Volli, V., Purkait, M.K., Shu, C.-M.	Preparation and characterization of animal bone powder impregnated fly ash catalyst for transesterification	2019	Science of the Total Environment	669	314	321
777	Singh, H.K., Gupta, R.K., Singh, S.K., Rao, D.S.S., Prasad, S.K., Achalkumar, A.S., Singh, B.	Synthesis and self-assembly of arylhydrazine based polycatenars: A structure-property correlation	2019	Journal of Molecular Liquids	284	282	290
778	Dammala, P.K., Kumar, S.S., Krishna, A.M., Bhattacharya, S.	Dynamic soil properties and liquefaction potential of northeast Indian soil for non-linear effective stress analysis	2019	Bulletin of Earthquake Engineering	17	6	2899
779	Das, S., Horo, H., Goswami, U., Kundu, L.M.	Synthesis of a Peptide Conjugated 5-Fluorouracil Gelator Prodrug for Photo-Controlled Release of the Antitumor Agent	2019	ChemistrySelect	4	22	6778
780	Seidl, R., Adachi, I., Ahn, J.K., Aihara, H., Asner, D.M., Aulchenko, V., Aushev, T., Ayad, R., Bakich, A.M., Bansal, V., et al	Transverse momentum dependent production cross sections of charged pions, kaons and protons produced in inclusive e+e- annihilation at s = 10.58 GeV	2019	Physical Review D	99	11	

781	Kundu, D., Mondal, S.K., Banerjee, T.	Development of β -Cyclodextrin-Cellulose/Hemicellulose-Based Hydrogels for the Removal of Cd(II) and Ni(II): Synthesis, Kinetics, and Adsorption Aspects	2019	Journal of Chemical and Engineering Data	64	6	2601	2617
782	Patel, S.K., Singh, B.	Shear Strength and Deformation Behaviour of Glass Fibre-Reinforced Cohesive Soil with Varying Dry Unit Weight	2019	Indian Geotechnical Journal	49	3	241	254
783	Kumar, A., Borah, N., Naik, S.P., Olympa, B.	Detailed Review on Methodologies Available to Find Preinstrumental Missing Earthquakes of the Present Catalogue with the Relevance to Seismicity Assessment of the Northeast India	2019	Indian Geotechnical Journal	49	3	352	366
784	Taipodia, J., Baglari, D., Dey, A.	Effect of Source Characteristics on the Resolution of Dispersion Image from Active MASW Survey	2019	Indian Geotechnical Journal	49	3	314	327
785	Mondal, S.K., Beriya, M.K., Saha, P.	Separation and Recovery of Nickel and Zinc from Synthetic Wastewater Using Supported Liquid Membranes with in Situ Electrodeposition	2019	Industrial and Engineering Chemistry Research	58	23	9970	9987
786	Bhardwaj, V., Jia, S., Adachi, I., Aihara, H., Asner, D.M., Aushev, T., Ayad, R., Babu, V., Badhrees, I., Bahinipati, S., et al	Search for X (3872) and X (3915) decay into $\chi_{c1}\pi^0$ in B decays at Belle	2019	Physical Review D	99	11		
787	Tej, S., Gaurav, K., Mukherji, S.	Small RNA driven feed-forward loop: Critical role of sRNA in noise filtering	2019	Physical Biology	16	4		
788	Mullick, P., Mukherjee, S., Das, G., Ramesh, A.	Generation of a Hydroxyapatite Nanocarrier through Biomimetic Mineralization Using Cell-Free Extract of Lactic Acid Bacteria for Antibiofilm Application	2019	ACS Applied Bio Materials	2	7	2927	2936
789	Kumar, G., Borbora, S.	Institutional environment differences and their application for entrepreneurship development in India	2019	Journal of Entrepreneurship in Emerging Economies	11	2	177	199
790	Khannam, M., Sahoo, S.K., Mukherjee, C.	Effect of Ligand Chirality and Hyperconjugation on the Thermodynamic Stability of a Tris(aquated) Gd ^{III} Complex: Synthesis, Characterization, and T ₁ -Weighted Phantom MR Image Study	2019	European Journal of Inorganic Chemistry	2019	20	2518	2523

791	Yadav, S., Laxmi, V., Gaur, M.S., Kapoor, H.K.	Late breaking results: Improving static power efficiency via placement of network demultiplexer over control plane of router in multi-NoCs	2019 Proceedings - Design Automation Conference	961	963
792	Chaudhuri, S., Kshetrimayum, R.S., Sonkar, R.K., Mishra, D.	High Gain Dual Linearly Polarized Patch Antenna Array	2019 Progress in Electromagnetics Research Symposium	2019-June	3683 3685
793	Mishra, D., Minz, M., Sonkar, R.K.	Effect of Germanium Doping on the Performance of a Silicon Optical Modulator	2019 Progress in Electromagnetics Research Symposium	2019-June	3073 3076
794	Nayek, N., Sonkar, R.K., Bhattacharjee, R.	Elimination of Mode Competition in $\{0n\}$ Mode Gyrotron	2019 Progress in Electromagnetics Research Symposium	2019-June	3686 3688
795	Minz, M., Mishra, D., Sonkar, R.K.	Design of a 3-channel Mode-division Multiplexer Based on Grating Assisted Couplers	2019 Progress in Electromagnetics Research Symposium	2019-June	595 598
796	Chaudhuri, S., Kshetrimayum, R.S., Sonkar, R.K., Mishra, D.	Dual Circularly Polarized Slot Antenna with Novel Isolator	2019 Progress in Electromagnetics Research Symposium	2019-June	665 670
797	Mishra, M., Kshetrimayum, R.S.	Compact Quad-band MIMO Antenna Array with Low Mutual Coupling for Mobile Terminal	2019 Proceedings of 2019 IEEE Region 10 Symposium, TEN-SYMP 2019	2019	143 146
798	Choudhary, T., Bhuyan, M.K., Sharma, L.N.	Effect of Respiratory Effort Levels on SCG Signals	2019 Proceedings of 2019 IEEE Region 10 Symposium, TEN-SYMP 2019	2019-June	
799	Tripathi, A.M., Dutta Baruah, R.	Incremental Cauchy Non-Negative Matrix Factorization and Fuzzy Rule-based Classifier for Acoustic Source Separation	2019 IEEE International Conference on Fuzzy Systems	2019-June	
800	Lakshmi, S., Ganguly, S.	Centralized and distributed battery energy storage system for peak load demand support of radial distribution networks	2019 2019 IEEE Milan PowerTech, PowerTech 2019	2019	

801	Sarma, U., Ganguly, S.	Modelling of the PEM fuel cell and design of a closed loop control based DC-DC boost converter for locomotive application	2019	2019 IEEE Milan PowerTech, PowerTech 2019	160	163
802	Baruah, N., Maharana, M., Dey, S.S., Nayak, S.K.	Nanoparticle polarization effect on the permittivity of the dielectric liquid	2019	Proceedings - IEEE International Conference on Dielectric Liquids	2019-June	
803	Nanda, B., Kumar, P.	Determination of D and Q Axes Inductances for Steady State Model Analysis of PM Motor with Non-Ideal Machine Parameters	2019	ITEC 2019 - 2019 IEEE Transportation Electrification Conference and Expo		
804	Badiyari, K., Nallam, N.	A Switched-Capacitor RF Receiver Exploiting MOS Parametric Amplification to Reduce NF	2019	IEEE MTT-S International Microwave Symposium Digest	2019-June	
805	Sharma, M., Kar, I.	Geometric Modeling and Attitude Stabilization of Quadcopters	2019	2019 12th Asian Control Conference, ASCC 2019	61	66
806	Baghel, A.K., Kulkarni, S.S., Nayak, S.K.	Far-Field Wireless Power Transfer Using GRIN Lens Metamaterial at GHz Frequency	2019	IEEE Microwave and Wireless Components Letters	29	424 426
807	Jiru, W.G., Sankar, M.R., Dixit, U.S.	Laser Surface Alloying of Aluminum for Improving Acid Corrosion Resistance	2019	Journal of The Institution of Engineers (India): Series C	100	3 481 492
808	Minz, M., Sonkar, R.K.	Numerical design and analysis of a 3-channel grating assisted mode-division (de)multiplexer	2019	Optik	187	272 277
809	Bag, S.S., Yashmeen, A.	FRET events in fluorescent pentapeptides containing aliphatic triazole amino acid scaffolds: Role of spacer lengths	2019	Journal of Photochemistry and Photobiology A: Chemistry	378	171 183
810	Banik, A., Ansari, M.S., Qureshi, M.	Superior light harnessing and charge injection kinetics utilizing mirror-like nano cuboidal ceria coupled with reduced graphene oxide in zinc oxide nanoparticle based photovoltaics	2019	Solar Energy	185	89 99

811	Arul Manikandan, N., Pakshirajan, K., Pugazhenth, G.	A novel ceramic membrane assembly for the separation of polyhydroxybutyrate (PHB) rich <i>Ralstonia eutropha</i> biomass from culture broth	2019	Process Safety and Environmental Protection	126	106	118
812	Kainthola, J., Kalamdhad, A.S., Goud, V.V.	Enhanced methane production from anaerobic co-digestion of rice straw and <i>hydrilla verticillata</i> and its kinetic analysis	2019	Biomass and Bioenergy	125	8	16
813	Mukherjee, K., Mishra, A.K.	Evaluation of Hydraulic and Strength Characteristics of Sand-Bentonite Mixtures with Added Tire Fiber for Landfill Application	2019	Journal of Environmental Engineering (United States)	145	6	6
814	Paul, R., Paul, S.	How does the complexation ability between host endo-functionalized molecular tube and strongly hydrophilic guest molecules in water depend on guest concentration?	2019	Journal of Molecular Liquids	283	507	514
815	Gohain, D., Tamuli, R.	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>	2019	Molecular Microbiology	111	6	1510 1528
816	Ghosh, B., Pekkat, S.	A critical evaluation of the variability induced by different mathematical equations on hydraulic conductivity determination using disc infiltrometer	2019	Acta Geophysica	67	3	863 877
817	Nath, P., Dhillon, A., Kumar, K., Sharma, K., Jamalidheen, S.B., Moholkar, V.S., Goyal, A.	Development of bi-functional chimeric enzyme (CtGH1-L1-CtGH5-F194A) from endoglucanase (CtGH5) mutant F194A and B-1,4-glucosidase (CtGH1) from <i>Clostridium thermocellum</i> with enhanced activity and structural integrity	2019	Bioresource Technology	282	494	501
818	Kanaujya, A., Chakrabarty, S.P.	Valuation of American passport option using a three-time level scheme	2019	Computational and Applied Mathematics	38	2	
819	Baruah, G., Majhi, S., Mahanta, C.	Design of FOPI Controller for Time Delay Systems and Its Experimental Validation	2019	International Journal of Automation and Computing	16	3	310 328
820	Das, J.P., Setlur, G.S.	Transport properties of a Luttinger liquid with a cluster of impurities	2019	Physica E: Low-Dimensional Systems and Nanostructures	110	39	48

821	Sinha, A.K., Dutta, A., Chandravanshi, M., Kanaujia, S.P.	An insight into bacterial phospholipase C classification and their translocation through Tat and Sec pathways: A data mining study	2019	Meta Gene	20		
822	Sarma, S., Sahoo, N., Unal, A.	Prediction of Experimental Surface Heat Flux of Thin Film Gauges using ANFIS	2019	Journal of The Institution of Engineers (India): Series C	100	3	553 560
823	Sarkar, A., Saha, U.K.	A critique on the research activities and potential benefits of dual-fuel diesel engines run on biogas and oxygenated liquid fuels	2019	Journal of Engineering for Gas Turbines and Power	141	6	
824	Kumar, P., Kalita, J.C.	A transformation-free ψ - v formulation of the Navier-Stokes equations on compact nonuniform grids	2019	Journal of Computational and Applied Mathematics	353		292 317
825	Pandey, V., Kar, I., Mahanta, C.	Multiple models with two level adaptation control for a class of nonlinearly parameterized nonlinear system	2019	International Journal of Dynamics and Control	7	2	713 724
826	Agrawal, V., Gautam, S.S.	IGA: A Simplified Introduction and Implementation Details for Finite Element Users	2019	Journal of The Institution of Engineers (India): Series C	100	3	561 585
827	Hazam, P.K., Singh, A., Chaudhary, N., Ramakrishnan, V.	Bactericidal Potency and Extended Serum Life of Stereoid Chemically Engineered Peptides Against Mycobacterium	2019	International Journal of Peptide Research and Therapeutics	25	2	465 472
828	Maharana, M., Baruah, N., Nayak, S.K., Sahoo, N., Chakrobarty, M.	Investigation of AC breakdown strength and frequency varied dielectric response of the non-conventional vegetable oil	2019	Proceedings - IEEE International Conference on Dielectric Liquids	2019- June		
829	Sukapuram, R., Barua, G.	ProFlow: Proportional per-bidirectional-flow consistent updates	2019	IEEE Transactions on Network and Service Management	16	2	675 689
830	Borghain, H., Das, M.K., Borah, D.	Phenomenological study of texture zeros in lepton mass matrices of minimal left-right symmetric model	2019	Journal of High Energy Physics	2019	6	

831	Dey, S., Chakrabarti, S.	A note on electromagnetic and gravitational perturbations of the Bardeen de Sitter black hole: quasinormal modes and greybody factors	2019 European Physical Journal C	79	6
832	Suganya, E., Saranya, N., Patra, C., Varghese, L.A., Selvaraju, N.	Biosorption potential of <i>Gliricidia sepium</i> leaf powder to sequester hexavalent chromium from synthetic aqueous solution	2019 Journal of Environmental Chemical Engineering	7	3
833	Kodeeswaran, M., Suresh, R., Senthivelan, S.	Effect of strain rate on bending and transmission characteristics of injection molded polyamide 66 spur gears	2019 Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications	233	6 1145 1155
834	Montelongo, Y., Sikdar, D., Ma, Y., McIntosh, A.J.S., Velleman, L., Kucernak, A.R., Edel, J.B., Kornyshev, A.A.	Author Correction: Electrotunable nanoplasmonic liquid mirror (Nature Materials, (2017), 16, 11, (1127-1135), 10.1038/nmat4969)	2019 Nature Materials	18	6 650
835	Patel, S., Majumder, S.K., Das, P., Ghosh, P.	Ozone microbubble-aided intensification of degradation of naproxen in a plant prototype	2019 Journal of Environmental Chemical Engineering	7	3
836	Swain, J., Krishna, M.	Szegö limit theorem on the lattice	2019 Journal of Pseudo-Differential Operators and Applications	10	2 489 503
837	Ratha, R., Singh, A., Afroz, M.A., Gupta, R.K., Baumgarten, M., Müllen, K., Iyer, P.K.	6,7-Di(thiophen-2-yl)naphtho[2,3-c][1,2,5]thiadiazole and 4,6,7,9-tetra(thiophen-2-yl)naphtho[2,3-c][1,2,5]thiadiazole as new acceptor units for D-A type co-polymer for polymer solar cells	2019 Synthetic Metals	252	113 121
838	Sahoo, A., Dwivedy, S.K., Robi, P.S.	Advancements in the field of autonomous underwater vehicle	2019 Ocean Engineering	181	145 160
839	Lakshmi, D.V.N., Muthukumar, P., Ekka, J.P., Nayak, P.K., Layek, A.	Performance comparison of mixed mode and indirect mode parallel flow forced convection solar driers for drying <i>Curcuma zedoaria</i>	2019 Journal of Food Process Engineering	42	4
840	Mukhopadhyay, S., Das, S., Gupta, V.K.	Wavelet-based generation of accelerometer-consistent, spectrum-compatible motions: New algorithms and short-period overestimation	2019 Soil Dynamics and Earthquake Engineering	121	327 340

841	Kumar, V., Dixit, U.S., Zhang, J.	Determining thermal conductivity, specific heat capacity and absorptivity during laser based materials processing	2019	Measurement: Journal of the International Measurement Confederation	139	213	225
842	Verma, G.C., Pandey, P.M., Dixit, U.S.	An experimental study on surface roughness and frictional property of ultrasonic-vibration-assisted milled surface	2019	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science	233	12	4187 4198
843	Bhardwaj, S., Dalal, A., Mukherjee, P.P.	Mesoscale understanding of capillarity driven two-phase flow in a packed bed architecture	2019	International Journal of Heat and Mass Transfer	136	116	127
844	Giri, A.S., Golder, A.K.	Ciprofloxacin degradation in photo-Fenton and photo-catalytic processes: Degradation mechanisms and iron chelation	2019	Journal of Environmental Sciences (China)	80	82	92
845	Alom, N., Saha, U.K.	Evolution and progress in the development of savonius wind turbine rotor blade profiles and shapes	2019	Journal of Solar Energy Engineering, Transactions of the ASME	141	3	
846	Mukherjee, K., Natesan, S.	Parameter-uniform fractional step hybrid numerical scheme for 2D singularly perturbed parabolic convection-diffusion problems	2019	Journal of Applied Mathematics and Computing	60	01-Feb	51 86
847	Sharma, B., Kumar, M., Denis, D.M., Singh, S.K.	Appraisal of river water quality using open-access earth observation data set: a study of river Ganga at Allahabad (India)	2019	Sustainable Water Resources Management	5	2	755 765
848	Verma, V.K., Mishra, A., Mishra, A., Rai, P.	Generative model for zero-shot sketch-based image retrieval	2019	IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops	2019-	June	704 713
849	Pandey, A.K., Katiyar, V., Takagi, H., Shimizu, N., Igarashi, N., Sasaki, S., Sakurai, S.	Structural evolution in isothermal crystallization process of poly(L-lactic acid) enhanced by silk fibroin nano-disc	2019	Materials	12	11	
850	Yarnagula, H.K., Juluri, P., Mehr, S.K., Tamarapalli, V., Medhi, D.	QoE for mobile clients with Segment-aware Rate Adaptation Algorithm (SARA) for DASH video streaming	2019	ACM Transactions on Multimedia Computing, Communications and Applications	15	2	

851	Kumar, M., Gautam, S.S., Dixit, P.M.	A non-linear ductile damage growth law at elevated temperature	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	6
852	Ghosh, A., Mandal, K.	High gain and wideband substrate integrated waveguide based H-plane	2019	AEU - International Journal of Electronics and Communications	105	85 91
853	Sharma, K., Fontes, C.M.G.A., Najmudin, S., Goyal, A.	Molecular organization and protein stability of the Clostridium thermocellum glucuronoxylan endo- β -1,4-xylanase of family 30 glycoside hydrolase in solution	2019	Journal of Structural Biology	206	3 335 344
854	Senapati, T., Dey, L.K., Chanda, A., Huang, H.	Some non-unique fixed point or periodic point results in JS-metric spaces	2019	Journal of Fixed Point Theory and Applications	21	2
855	Guo, H., Sahu, S.K., Kota, S.H., Zhang, H.	Characterization and health risks of	2019	Chemosphere	225	27 34
856	Patel, A.K., Das, N., Kumar, M.	Multilayer arsenic mobilization and multimetal co-enrichment in the alluvium (Brahmaputra) plains of India: A tale of redox domination along the depth	2019	Chemosphere	224	140 150
857	Shyam, S., Mehta, B., Mondal, P.K., Wongwises, S.	Investigation into the thermohydrodynamics of ferrofluid flow under the influence of constant and alternating magnetic field by InfraRed Ther-	2019	International Journal of Heat and Mass Transfer	135	1233 1247
858	Das, D., Desai, S., Kulkarni, V., Gadgil, H.	Performance assessment of energy deposition based drag reduction technique for Earth and Mars flight condi-	2019	Acta Astronautica	159	418 428
859	Fitzgerald, P.C., Malekjarfarian, A., Bhowmik, B., Prendergast, L.J., Cahill, P., Kim, C.-W., Hazra, B., Pakrashi, V., O'Brien, E.J.	Scour damage detection and structural health monitoring of a laboratory-scaled bridge using a vibration energy harvesting device	2019	Sensors (Switzerland)	19	11
860	Basak, S., Aadi Moolam, R., Parida, A., Mitra, S., Rangan, L.	Evaluation of rapid molecular diagnostics for differentiating medicinal Kaempferia species from its adulterants	2019	Plant Diversity	41	3 206 211

861	Bhattacharjee, S., Vatsyayan, R., Ganapathi, K.L., Ravindra, P., Mohan, S., Bhat, N.	Hole Injection and Rectifying Heterojunction Photodiodes through Vacancy Engineering in MoS ₂	2019	Advanced Electronic Materials	5	6
862	Verma, S., Choudhary, J., Singh, K.P., Chandra, P., Singh, S.P.	Uricase grafted nanoconducting matrix based electrochemical biosensor for ultra-fast uric acid detection in human serum	2019	International Journal of Biological Macromolecules	130	333 341
863	Lind, C., Esguerra, M., Jaspers, W., Satpati, P., Gutierrez-de-Terán, H.	Free energy calculations of RNA interactions	2019	Methods	162-163	85 95
864	Banik, K., Ranaware, A.M., Deshpande, V., Nalawade, S.P., Padmavathi, G., Bordoloi, D., Sailo, B.L., Shanmugam, M.K., Fan, L., Arfuso, F., Sethi, G., Kung	Honokiol for cancer therapeutics: A traditional medicine that can modulate multiple oncogenic targets	2019	Pharmacological Research	144	192 209
865	Singh, D.P., Misra, A.K., Achalkumar, A.S., Yelamaggad, C.V., Depriester, M.	Transmuting the blue fluorescence of hexates mesogens derived from tris(N-salicylideneaniline)s core via ZnS/ZnS:Mn	2019	Journal of Luminescence	210	7 13
866	Awasthee, N., Rai, V., Chava, S., Nallasamy, P., Kunnumakkara, A.B., Bishayee, A., Chauhan, S.C., Challa-	Targeting I κ B kinases for cancer therapy	2019	Seminars in Cancer Biology	56	12 24
867	Nah, S., Timofte, R., Zhang, R., Suin, M., Purohit, K., Rajagopalan, A.N., Athi Narayanan, S., Pinjari, J.B., Xiong, Z., Shi, Z., Chen, C., Liu, D., Sharma, M., Makwana, M., Badhwar, A., Singh, A.P., Upadhyay, A., Trivedi, A., Saini, A., Chaudhury, S., Sharma, P.K., Jain, P.,	NTIRE 2019 challenge on image colorization: Report	2019	IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops	2019-	2233 2240
868	Abada, A., Abbrescia, M., Abdus-Salam, S.S., Abdulkhanov, I., Fernandez, J.A., Abramov, A., Aburadja, M., Acar, A.O., Adzic, P.R., Agrawal, P., et	FCC Physics Opportunities: Future Circular Collider Conceptual Design Report Volume 1	2019	European Physical Journal C	79	6

869	Abada, A., Abbrescia, M., Abdus-Salam, S.S., Abdyukhanov, I., Abelleira Fernandez, J., Abramov, A., Aburdaia, M., Acar, A.O., Adzic, P.R., Agrawal, P.,	FCC-ee: The Lepton Collider: Future Circular Collider Conceptual Design Report Volume 2	2019	European Physical Journal: Special Topics	228	2	261	623
870	Agrawal, K., Verma, A.M., Kishore, N.	Thermochemical Conversion of Guaiacol in Aqueous Phase by Density Functional Theory	2019	ChemistrySelect	4	20	6013	6025
871	Bag, S.S., Das, S.K.	Triazolyl C-nucleosides via the intermediacy of β -1'-ethynyl-2'-deoxyribose derived from a Nicholas reaction: Synthesis, photophysical properties and interaction	2019	Tetrahedron	75	22	3024	3037
872	Singh, M., Jha, H.S., Agarwal, P.	Synthesis of vertically aligned carbon nanoflakes by hot-wire chemical vapor deposition: Influence of process pressure and different substrates	2019	Thin Solid Films	678		26	31
873	Das, J.K., Pradhan, B.	Effect of cation type of chloride salts on corrosion behaviour of steel in concrete powder electrolyte solution in the presence of corrosion inhibitors	2019	Construction and Building Materials	208		175	191
874	Bhargava, N., Siddagangaiah, A.K., Rynthathiang, T.L.	Sustainable development with microsurfacing: A review	2019	Journal of Testing and Evaluation	49	2		
875	Dutta, S., Tsatsos, M.C., Basu, S., Lode, A.U.J.	Management of the correlations of Ultracold Bosons in triple wells	2019	New Journal of Physics	21	5		
876	Noor Nabi, S., Basu, S.	Effects of an attractive three-body interaction on a spin-1 Bose Hubbard model	2019	Laser Physics	29	7		
877	Goswami, L., Kumar, R.V., Arul Manikandan, N., Pakshirajan, K., Pugazhenthir, G.	Anthracene Biodegradation by Oleaginous Rhodococcus opacus for Biodiesel Production and Its Characterization	2019	Polycyclic Aromatic Compounds	39	3	207	219
878	Singh, M.P., Tarai, A., Baruah, J.B.	Neutral, Zwitterion, Ionic Forms of 5-Aminoisophthalic Acid in Cocrytals, Salts and Their Optical Properties	2019	ChemistrySelect	4	19	5427	5436
879	Kumar, A., Raju, N.N., Muthukumar, P., Selvan, P.V.	Experimental studies on industrial scale metal hydride based hydrogen storage system with embedded cooling tubes	2019	International Journal of Hydrogen Energy	44	26	13549	13560
880	Sinharoy, A., Baskaran, D., Pakshirajan, K.	Sustainable biohydrogen production by dark fermentation using carbon monoxide as the sole carbon and energy source	2019	International Journal of Hydrogen Energy	44	26	13114	13125

881	Mondal, S., Roy Chowdhury, S., Shah, M., Kumar, V., Kumar, S., Iyer, P.K.	Nanoparticle Assisted Regulation of Nucleation Pathway of Amyloid Tetramer and Inhibition of Their Fibrillation Kinetics	2019	ACS Applied Bio Materials	2	5	2137	2142
882	Das, P., Singh, Y.P., Joardar, S.N., Biswas, B.K., Bhattacharya, R., S.K., Mandal, B.B.	Decellularized Caprine Conchal Cartilage toward Repair and Regeneration of Damaged Cartilage	2019	ACS Applied Bio Materials	2	5	2037	2049
883	Shukla, G., Alam, T., Srivastava, H.K., Kumar, R., Patel, B.K.	Visible-Light-Mediated Ir(III)-Catalyzed Concomitant C3 Oxidation and C2 Amination of Indoles	2019	Organic Letters	21	10	3543	3547
884	Ghosh, T., Mukherji, A., Kancharla, P.K.	Sterically Hindered 2,4,6-Tri-tert-butylpyridinium Salts as Single Hydrogen Bond Donors for Highly Stereoselective Glycosylation Reactions of Glycols	2019	Organic Letters	21	10	3490	3495
885	Ghosh, B., Pekkati, S., Yamsani, S.K.	Evaluation of infiltrimeters and permeameters for measuring hydraulic conductivity	2019	Advances in Civil Engineering Materials	8	1	308	321
886	Saha, R., Uppaluri, R.V.S., Tiwari, P.	Impact of Natural Surfactant (Reetha), Polymer (Xanthan Gum), and Silica Nanoparticles to Enhance Heavy Crude Oil Recovery	2019	Energy and Fuels	33	5	4225	4236
887	Haque, M.R., Maity, D.	Reheating constraints on the inflaton and dark matter: Swampland conjecture	2019	Physical Review D	99	10		
888	Saikia, J., Pandey, G., Sasidharan, S., Antony, F., Nemade, H.B., Kumar, S., Chaudhary, N., Ramakrishnan, V.	Electric Field Disruption of Amyloid Aggregation: Potential Noninvasive Therapy for Alzheimer's Disease	2019	ACS Chemical Neuroscience	10	5	2250	2262
889	Saha, D., Pal, S.	Microstructure and Work Hardening Behavior of Micro-plasma Arc Welded AISI 316L Sheet Joint	2019	Journal of Materials Engineering and Performance	28	5	2588	2599
890	Sodhi, G.S., Jaiswal, A.K., Vigneshwaran, K., Muthukumar, P.	Investigation of charging and discharging characteristics of a horizontal conical shell and tube latent thermal energy storage device	2019	Energy Conversion and Management	188		381	397

891	Kukreja, G., Narayanan, R.G.	Forming of Adhesive-Bonded Sandwich Sheets with a Rubber Pad	2019	Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science	50	5	2155	2168
892	Chandravanshi, M., Sharma, A., Dasgupta, P., Mandal, S.K., Kanaujia, S.P.	Identification and characterization of ABC transporters for carbohydrate uptake in <i>Thermus thermophilus</i> HB8	2019	Gene	696		135	148
893	Das, R.K., Alam, R.	Affine spaces of strong linearizations for rational matrices and the recovery of eigenvectors and minimal bases	2019	Linear Algebra and Its Applications	569		335	368
894	Das, R.K., Alam, R.	Automatic recovery of eigenvectors and minimal bases of matrix polynomials from generalized Fiedler pencils with repetition	2019	Linear Algebra and Its Applications	569		78	112
895	Kumar, C., Das, M., Paul, C.P., Bindra, K.S.	Weld Quality Assessment in Fiber Laser Weldments of Ti-6Al-4V Alloy	2019	Journal of Materials Engineering and Performance	28	5	3048	3062
896	Malani, R.S., Umriwad, S.B., Kumar, K., Goyal, A., Moholkar, V.S.	Ultrasound-assisted enzymatic biodiesel production using blended feedstock of non-edible oils: Kinetic analysis	2019	Energy Conversion and Management	188		142	150
897	Shaikh, J., Yamsani, S.K., Sekharan, S., Rakesh, R.R.	Performance evaluation of 5TM sensor for real-time monitoring of volumetric water content in landfill cover system	2019	Advances in Civil Engineering Materials	8	1	322	335
898	Ghorai, P., Majhi, S., Pandey, S.	Closed-loop Relay Experiment for Modeling of Underdamped Plant Dynamics	2019	2019 5th Indian Control Conference, ICC 2019 - Proceedings			424	429
899	Agarwal, S., Kapoor, H.K.	Enhancing the lifetime of non-volatile caches by exploiting module-wise write restriction	2019	Proceedings of the ACM Great Lakes Symposium on VLSI, GLSVLSI			213	218
900	Manohar, S.S., Agarwal, S., Kapoor, H.K.	Towards optimizing refresh energy in embedded-dram caches using private blocks	2019	Proceedings of the ACM Great Lakes Symposium on VLSI, GLSVLSI			225	230

901	Gangrade, A., Mandal, B.B.	Injectable Carbon Nanotube Impregnated Silk Based Multifunctional Hydrogel for Localized Targeted and On-Demand Anticancer Drug Delivery	2019 ACS Biomaterials Science and Engineering	5	5	2365	2381
902	Mehrotra, S., Chouhan, D., Konwarh, R., Kumar, M., Jaji, P.K., Mandal, B.B.	Comprehensive Review on Silk at Nanoscale for Regenerative Medicine and Allied Applications	2019 ACS Biomaterials Science and Engineering	5	5	2054	2078
903	Bidkar, A.P., Sanpui, P., Ghosh, S.S.	Combination Therapy with MAPK-Pathway-Specific Inhibitor and Folic-Acid-Receptor-Targeted Selenium Nanoparticles Induces Synergistic Antiproliferative Response in BRAF Mutant	2019 ACS Biomaterials Science and Engineering	5	5	2222	2234
904	Kumar, R., Dass, A.K.	A new flux-limiting approach-based kinetic scheme for the Euler equations of gas dynamics	2019 International Journal for Numerical Methods in Fluids	90	1	22	56
905	Deka, H., Biswas, G., Sahu, K.C., Kulkarni, Y., Dalal, A.	Coalescence dynamics of a compound drop on a deep liquid pool	2019 Journal of Fluid Mechanics	866			
906	Chouksey, R., Karfa, C., Bhaduri, P.	Improving performance of a path-based equivalence checker using counter-examples	2019 Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019			377	382
907	Nath, A., Kapoor, H.K.	Write Variation aware Cache Partitioning for improved lifetime in Non-Volatile Caches	2019 Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019			425	430
908	Rani, K., Kapoor, H.K.	Write variation aware non-volatile buffers for on-chip interconnects	2019 Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019			7	12
909	Hazarika, J., Khan, M.T., Ahamed, S.R.	Low-complexity continuous-flow memory-based FFT architectures for real-valued signals	2019 Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019			46	51
910	Kalita, A., Khatua, M.	Faster Joining in 6TiSCH Network using Dynamic Beacon Interval	2019 11th International Conference on Communication Systems and Networks, COMSNETS 2019			454	457

911	Najm, M., Tamarapalli, V.	Cost-efficient Deployment of Big Data Applications in Federated Cloud Systems	2019	2019 11th International Conference on Communication Systems and Networks, COMSNETS 2019	428	431
912	Pal, S., Paul, S.	Effect of Hydrated and Nonhydrated Choline Chloride-Urea Deep Eutectic Solvent (Reline) on Thrombin-Binding Quadruplex Aptamer (TBA): A Classical	2019	Journal of Physical Chemistry C	123	11698
913	Deb, D., Jose, J., Palesi, M.	Performance enhancement of caches in TCMPs using near vicinity prefetcher	2019	Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019	13	18
914	Paul, B., Khobragade, A., Soumith, J.S., Goswami, S.S.P., Dutt, S., Trivedi, G.	Design and implementation of Low-power high-throughput PRNGs for security applications	2019	Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019	535	536
915	Vasudevan, M.S., Biswas, S., Sahu, A.	RSBST: A rapid software-based self-test methodology for processor testing	2019	Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019	112	117
916	Moulik, S., Devaraj, R., Sarkar, A.	Heart: A heterogeneous energy-aware real-time scheduler	2019	Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019	476	481
917	Yarnagula, H.K., Anandi, R., Tamarapalli, V.	Objective QoE Assessment of DASH Adaptation Algorithms over Multipath TCP	2019	2019 11th International Conference on Communication Systems and Networks, COMSNETS 2019	461	464
918	Gupta, A., Santhosh, A., Patra, M.	A Novel Request Scheduling Technique for Efficient Resource Management at Roadside Clouds	2019	2019 11th International Conference on Communication Systems and Networks, COMSNETS 2019	403	406
919	Dash, S., Dey, S., Augustine, A., Dhar, R.S., Pidanic, J., Nemeč, Z., Trivedi, G.	Riveropt: A multiobjective optimization framework based on modified river formation dynamics heuristic	2019	Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019	233	238
920	Bharadwaj, K., Ray, A., Bordoloi, S., Trivedi, G.	Current collapse reduction technique using N-doped buffer layer into the bulk region of a gate injection transistor	2019	Proceedings - 32nd International Conference on VLSI Design, VLSID 2019 - Held concurrently with 18th International Conference on Embedded Systems, ES 2019	494	495

921	Kumar, M., Natarajan, G.	Diffuse-interface immersed-boundary framework for conjugate-heat-transfer problems	2019 Physical Review E	99	5
922	Khanum, R., Das, N.M., Moirangthem, R.S.	Defect engineered ZnO whispering gallery modes via doping with alkali metal ions for label-free optical sensors	2019 Journal of Applied Physics	125	17
923	Dalapati, R., Biswas, S.	A Pyrene-Functionalized Metal-Organic Framework for Nonenzymatic and Ratiometric Detection of Uric Acid in Biological Fluid via Conformation	2019 Inorganic Chemistry	58	9 5654 5663
924	Shakya, A.K., Ghosh, P.K.	Effects of backwashing strategy and dissolved oxygen on arsenic removal to meet drinking water standards in a sulfidogenic attached growth	2019 Journal of Hazardous Materials	369	309 317
925	Sharma, N., Hussain, D.	Role of Cultural Intelligence in Acculturation: Explorations on a Physiognomic Minority Diaspora in India	2019 Journal of Intercultural Communication Research	48	3 274 291
926	Sharma, A., Kumar, B.	Boundary layer development over non-uniform sand rough bed channel	2019 ISH Journal of Hydraulic Engineering	25	2 162 169
927	Das, K., Mondal, A., Pal, D., Srimani, D.	Sustainable Synthesis of Quinazoline and 2-Aminoquinoline via Dehydrogenative Coupling of 2-Aminobenzyl Alcohol and Nitrile Catalyzed by Phosphine-Free Manganese Pincer Complex	2019 Organic Letters	21	9 3223 3227
928	Hazarika, H., Neog, K., Sharma, A., Das, B., Gogoi, P.	Three-Component Coupling Reactions of Aryne, DMSO, and Activated Alkyne: Stereoselective Synthesis of 2-[(o-Methylthio)aryloxy]-Substituted Dialkyl Maleates	2019 Journal of Organic Chemistry	84	9 5846 5854
929	Das Chakraborty, S., Mondal, S., Satpati, B., Pal, U., De, S.K., Bhattacharya, M., Ray, S., Senapati, D.	Wide Range Morphological Transition of Silver Nanoprisms by Selective Interaction with As(III): Tuning-Detuning of Surface Plasmon Offers to Decode the Mechanism	2019 Journal of Physical Chemistry C	123	17 11044 11054
930	Pamwani, L., Agarwal, V., Shelke, A.	Damage Classification and Feature Extraction in Steel Moment-Resisting Frame Using Time-Varying Autoregressive Model	2019 Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems	2	2

931	Buragohain, M., Gudipudi, P., Anwer, M.Z., Nandi, S.	EQPR: Enhancing QoS in Named Data Networking using Priority and RTT Driven PIT Replacement Policy	2019 IEEE International Conference on Communications	2019-May	
932	Vishnu, V.T., De, A.K., Mishra, P.K.	Dynamics and statistics of reorientations of large-scale circulation in turbulent rotating Rayleigh-Bénard convection	2019 Physics of Fluids	31	5
933	Chaudhuri, J., Mandal, T.K., Bandyopadhyay, D.	Electric field mediated squeezing to bending transitions of interfacial instabilities for digitization and mixing of two-phase microflows	2019 Physics of Fluids	31	5
934	Das, J.P., Chowdhury, C., Setlur, G.S.	Nonchiral Boseization of Strongly Inhomogeneous Liquid Finger Liquids	2019 Theoretical and Mathematical Physics (Russian Federation)	199	2 736 760
935	Anurag Sharma, Bimlesh Kumar	Conditional Statistics of Reynolds Stress in Curvilinear Cross Section Incipient Motion Channel	2019 Water Resources	46	3 367 376
936	Reddy, M.M., Singh, A.	Shear-induced particle migration and size segregation in bidisperse suspension flowing through symmetric T-shaped channel	2019 Physics of Fluids	31	5
937	Chakraborti, S., Poulouse, P.	Interplay of scalar and fermionic components in a multi-component dark matter scenario	2019 European Physical Journal C	79	5
938	Mondal, S., Majumder, S.K.	Synthesis of phosphate functionalized highly porous activated carbon and its utilization as an efficient copper (II) adsorbent	2019 Korean Journal of Chemical Engineering	36	5 701 712
939	Agarwal, M., Biswas, S., Nandi, S.	Discrete event system framework for fault diagnosis with measurement inconsistency: Case study of rogue DHCP attack	2019 IEEE/CAA Journal of Automatica Sinica	6	3 789 806
940	Chakravarty, K., Dalal, D.C.	Stability analysis of drug dynamics model: A mathematical approach	2019 International Journal of Biomathematics	12	4

941	Konwar, S., Boruah, B.R.	Improved linear response in a modal wavefront sensor	2019 Journal of the Optical Society of America A: Optics and Image Science, and Vision	36	5	741	750
942	Samanta, S., Halder, S., Manna, U., Das, G.	Specific detection of hypochlorite: a cyanine based turn-on fluorescent sensor	2019 Journal of Chemical Sciences	131	5		
943	Biswas, D., Kartha, S.A.	Conceptual modeling of temperature effects on capillary pressure in dead-end pores	2019 Sadhana - Academy Proceedings in Engineering Sciences	44	5		
944	Das, S., Maurya, A.K.	Modeling Maneuverability of Motorized Two-Wheelers during Filtering in Urban Roads	2019 Transportation Research Record	2673	5	637	647
945	Brahma, M., Aakansha, Gaikwad, V.M., Ravi, S.	Investigation of structural, magnetic and dielectric properties of Al-doped samarium iron garnet	2019 Applied Physics A: Materials Science and Processing	125	5		
946	Dash, M., Mohanty, K.	Effect of different ionic liquids and anti-solvents on dissolution and regeneration of Miscanthus towards bioethanol	2019 Biomass and Bioenergy	124		33	42
947	Katla, S., Karmakar, B., Tadi, S.R.R., Mohan, N., Anand, B., Pal, U., Sivaprakasam, S.	High level extracellular production of recombinant human interferon alpha 2b in glycoengineered Pichia pastoris: culture medium optimization, high cell density cultivation and biological characterization	2019 Journal of Applied Microbiology	126	5	1438	1453
948	Hazam, P.K., Akhil, R., Jerath, G., Saikia, J., Ramakrishnan, V.	Topological effects on the designability and bactericidal potency of antimicrobial peptides	2019 Biophysical Chemistry	248		1	8
949	Garg, A., Dwivedy, S.K.	Nonlinear dynamics of parametrically excited piezoelectric energy harvester with 1:3 internal resonance	2019 International Journal of Non-Linear Mechanics	111		82	94
950	Kalita, B., Dwivedy, S.K.	Nonlinear dynamics of a parametrically excited pneumatic artificial muscle (PAM) actuator with simultaneous resonance condition	2019 Mechanism and Machine Theory	135		281	297

951	Vishan, I., Saha, B., Sivaprakasam, S., Kalamdhad, A.	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	2019 Environmental Technology and Innovation	14		
952	Hussain, M.K., Murthy, K.S.R.K.	Calculation of mixed mode (I/II) stress intensities at sharp V-notches using finite element notch opening and sliding displacements	2019 Fatigue and Fracture of Engineering Materials and Structures	42	5	1130 1147
953	Jayachandran, D., Chityala, S., Prabhhu, A.A., Dasu, V.V.	Cationic reverse micellar based purification of recombinant glutaminase free L-asparaginase II of <i>Bacillus subtilis</i> WB800N from fermentation media	2019 Protein Expression and Purification	157	1	8
954	Bhattacharjya, B.R., Kakoty, S.K., Singha, S.	A feedback mechanism for appropriate technology development and dissemination: Case study approach	2019 Technology in Society	57	104	114
955	Velaga, B., Peela, N.R.	Seed-assisted and OSDA-free synthesis of H-mordenite zeolites for efficient production of 5-hydroxymethylfurfural from glucose	2019 Microporous and Mesoporous Materials	279	211	219
956	Dhillon, A., Rajulapati, V., Goyal, A.	Bio-scouring of cotton fabric and enzymatic degumming of jute fibres by a thermo-alkaline recombinant rhamnogalacturonan lyase, citrglf from <i>Clostridium thermocellum</i>	2019 Canadian Journal of Chemical Engineering	97	5	1043 1047
957	Mohan, M., Banerjee, T., Goud, V.V.	Phase transition properties, chemical purity, and solubility of coniferyl alcohol and D-mannose: Experimental and Cosmo-RS predictions	2019 Canadian Journal of Chemical Engineering	97	5	1100 1106
958	Chakraborty, G., Pugazhenthi, G., Katiyar, V.	Exfoliated graphene-dispersed poly (lactic acid)-based nanocomposite sensors for ethanol detection	2019 Polymer Bulletin	76	5	2367 2386
959	Choudhary, T., Sharma, L.N., Bhuyan, M.K.	Automatic detection of aortic valve opening using seismocardiography in healthy individuals	2019 IEEE Journal of Biomedical and Health Informatics	23	3	1032 1040
960	Kumar, S., Devaraj, R., Sarkar, A.	A hybrid offline-online approach to adaptive downlink resource allocation over LTE	2019 IEEE/CAA Journal of Automatica Sinica	6	3	766 777

961	Roy, S.K., Devaraj, R., Sarkar, A., Sinha, S., Maji, K.	Optimal scheduling of precedence-constrained task graphs on heterogeneous distributed systems with shared buses	2019	Proceedings - 2019 IEEE 22nd International Symposium on Real-Time Distributed Computing, ISORC 2019	185	192
962	Datta, D., Hari Krishna, A., Nagaraj, R., Chaudhary, N.	Self-assembly of β -turn motif-connected tandem repeats of A β and its aromatic analogs	2019	Peptide Science	111	3
963	Sikdar, D., Ma, Y., Kucernak, A.R., Edel, J.B., Kornyshev, A.A.	Nanoplasmonic Metamaterial Devices as Electrically Switchable Perfect Mirrors and Perfect Absorbers	2019	2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings		
964	Saha, D., Sinha, K.	Optimal schedule for all-to-all personalized communication in multiprocessor systems	2019	ACM Transactions on Parallel Computing	6	1
965	Poddar, M.K., Vishwakarma, K., Moholkar, V.S.	Rheological and mechanical properties of PMMA/organoclay nanocomposites prepared via ultrasound-assisted in-situ emulsion polymerization	2019	Korean Journal of Chemical Engineering	36	5
966	Gayen, A., Modak, R., Srinivasan, A., Srinivasu, V.V., Alagarsamy, P.	Thickness dependent magneto-static and magneto-dynamic properties of CoFeB thin films	2019	Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films	37	3
967	Nizami, T.K., Chakravarty, A., Mahanta, C.	Erratum to "Analysis and Experimental Investigation into a Finite Time Current Observer Based Adaptive Backstepping Control of Buck Converters" (Journal of the Franklin Institute (2018) 355(12) (4996-5017), (S0016003218303387), (10.1016/j.jfranklin.2018.05.026))	2019	Journal of the Franklin Institute	356	7
968	Reshad, A.S., Tiwari, P., Goud, V.V.	Thermal and co-pyrolysis of rubber seed cake with waste polystyrene for bio-oil production	2019	Journal of Analytical and Applied Pyrolysis	139	333
969	Jha, S., Das, J., Sharma, A., Hazra, B., Goyal, M.K.	Probabilistic evaluation of vegetation drought likelihood and its implications to resilience across India	2019	Global and Planetary Change	176	23
970	Raju, T.B., Gopikrishna, P., Vaghasiya, J.V., Soni, S.S., Iyer, P.K.	The solvatochromism and aggregation-induced enhanced emission of triphenylamine substituted styrene derivatives and its application in dye sensitized solar cells	2019	Journal of Photochemistry and Photobiology A: Chemistry	376	12

971	Rana, P.K., Narayanan, R.G., Kailas, S.V.	Friction stir spot welding of AA5052-H32/HDPE/AA5052-H32 sandwich sheets at varying plunge speeds	2019	Thin-Walled Structures	138	415	429
972	Alom, N., Saha, U.K.	Examining the aerodynamic drag and lift characteristics of a newly developed elliptical-bladed savonius rotor	2019	Journal of Energy Resources Technology, Transactions of the ASME	141	5	
973	Dev, D.S.D., Krishna, E., Das, M.	Development of a non-contact plasma processing technique to mitigate chemical network defects of fused silica with life enhancement of He-Ne laser device	2019	Optics and Laser Technology	113	289	302
974	Ojah, N., Saikia, D., Gogoi, D., Baishya, P., Ahmed, G.A., Ramteke, A., Choudhury, A.J.	Surface modification of core-shell silk/PVA nanofibers by oxygen dielectric barrier discharge plasma: Studies of physico-chemical properties and drug release behavior	2019	Applied Surface Science	475	219	229
975	Choudhury, H., Mandal, S., Prasanna, S.R.M.	Exploiting forced alignment of time-reversed data for improving HMM-based handwriting segmentation	2019	Expert Systems with Applications	121	158	169
976	Kodeeswaran, M., Verma, A., Suresh, R., Senthivelan, S.	Effects of frequency on hysteretic heating and fatigue life of unreinforced injection molded polyamide 66 spur gears	2019	Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications	233	5	781 789
977	Khalil, S., Moursy, A., Saha, A.K., Sil, A.	U (1)R inspired inflation model in no-scale supergravity	2019	Physical Review D	99	9	
978	Li, Y., Yan, Y., Chen, W., Bose, S.K., Shen, G.	Strategies and benefits of deploying ultralow-loss fiber links in an elastic optical network	2019	Journal of Optical Communications and Networking	11	5	238 249
979	Sen, S., Borah, S.N., Kandimalla, R., Borra, A., Deka, S.	Efficacy of a rhamnolipid biosurfactant to inhibit <i>Trichophyton rubrum</i> in vitro and in a mice model of dermatophytosis	2019	Experimental Dermatology	28	5	601 608
980	Medhi, B.J., Singh, A., Thokchom, A.K., Mahapatra, S.	Experimental and computational study on flow over stepped spillway	2019	Journal of Mechanical Science and Technology	33	5	210 2112

981	Rawat, B., Vinaya, M.M., Paily, R.	Transition Metal Dichalcogenide-Based Field-Effect Transistors for Analog/Mixed-Signal Applications	2019 IEEE Transactions on Electron Devices	66	5	2424	2430
982	Dammala, P.K., Jalbi, S., Krishna, A.M., Bhattacharya, S., Bouzid, D.A.	Impedance functions for double-D-shaped cavity foundations	2019 Journal of Testing and Evaluation	47	3		
983	Kumar, N., Uppala, P., Duddu, K., Sreedhar, H., Varma, V., Guzman, G., Walsh, M., Sethi, A.	Hyperspectral tissue image segmentation using semi-supervised NMF and hierarchical clustering	2019 IEEE Transactions on Medical Imaging	38	5	1304	1313
984	Randive, P., Datal, A., Mukherjee, P.P.	Probing the influence of confinement and wettability on droplet displacement behavior: A mesoscale analysis	2019 European Journal of Mechanics, B/Fluids	75		327	338
985	Biswas, A., Choubey, S., Covi, L., Khan, S.	Common origin of baryon asymmetry, Dark Matter and neutrino mass	2019 Journal of High Energy Physics	2019	5		
986	Kunnumakara, A.B., Bordoloi, D., Sailo, B.L., Roy, N.K., Thakur, K.K., Banik, K., Shakibaei, M., Gupta, S.C., Aggarwal, B.B.	Cancer drug development: The missing links	2019 Experimental Biology and Medicine	244	8	663	689
987	Bora, S., Bhalerao, Y., Goyal, A., Chakrabarti, D., Chen, D., Bao, N., Niu, X., Garg, A.	Computation of safety design indexes of industry vehicle operators based on the reach angle, the distance from elbow to ground and the popliteal height	2019 International Journal of Industrial Ergonomics	71		155	164
988	Singh, V.K., Kumar, P., Nishant, S.	Feedback spillover dynamics of crude oil and global assets indicators: A system-wide network perspective	2019 Energy Economics	80		321	335
989	Pal, B., Adachi, I., Adamczyk, K., Aihara, H., Asner, D.M., Atmacan, H., Aulchenko, V., Aushev, T., Ayad, R., Babu, V., et al	Evidence for the decay $B_0 \rightarrow p \pi^0$	2019 Physical Review D	99	9		
990	Sapkai, R., Parmar, D.	State, market and labour: A dalit perspective	2019 Perspectives on Neoliberalism, Labour and Globalization in India: Essays In Honour of Lalit K. Deshpande	299		322	

991	Bhandari, S., Pramanik, S., Biswas, N.K., Roy, S., Pan, U.N.	Enhanced Luminescence of a Quantum Dot Complex following Interaction with Protein for Applications in Cellular Imaging, Sensing, and	2019 ACS Applied Nano Materials	2	4	2358	2366
992	Paul, S., Paul, S.	Inhibitory Effect of Choline- O-sulfate on A β $\leq 16-22$ Peptide Aggregation: A Molecular Dynamics Simulation Study	2019 Journal of Physical Chemistry B	123	16	3475	3489
993	Dutta, S., Ghosh, A., Pattader, P.S.G., Bandyopadhyay, D.	Electric field mediated von Kármán vortices in stratified microflows: Transition from linear instabilities to coherent mixing	2019 Journal of Fluid Mechanics	865		169	211
994	Wang, Q., Li, Z., Garg, A., Hazra, B., Xie, Z.	Effects of tuned mass damper on correlation of wind-induced responses and combination coefficients of equivalent static wind loads of high-rise buildings	2019 Structural Design of Tall and Special Buildings	28	6		
995	Borah, J., Nandan Bora, S.	Existence of mild solution of a class of nonlocal fractional order differential equation with not instantaneous impulses	2019 Fractional Calculus and Applied Analysis	22	2	495	508
996	Mitra, S., Mukherjee, S., Ghosh, A., Bandyopadhyay, D.	Effects of Fluid-Structure-Interaction and Surface Heterogeneity on the Electrophoresis of Microparticles	2019 Industrial and Engineering Chemistry Research	58	16	6756	6766
997	Mukhopadhyay, S., Pan, S.C.	Organocatalytic Asymmetric Mannich Reaction of Dihydro-3-carboalkoxy-2-quinolones with Preformed N-Boc Imines	2019 European Journal of Organic Chemistry	2019	15	2639	2642
998	Ghosh, J., Ghosh, R., Giri, P.K.	Strong Cathodoluminescence and Fast Photoresponse from Embedded CH≤ 3 Nanoparticles	2019 ACS Applied Materials and Interfaces	11	16	14917	14931
999	Mohan, M., Sharma, M., Sharma, V.K., Kumar, E.A., Satheesh, A., Muthukumar, P.	Performance analysis of metal hydride based simultaneous cooling and heat transformation system	2019 International Journal of Hydrogen Energy	44	21	10906	10915
1000	Das, K., Mondal, A., Pal, D., Srivastava, H.K., Srimani, D.	Phosphine-Free Well-Defined Mn(II) Complex-Catalyzed Synthesis of Amine, Imine, and 2,3-Dihydro-1 H-pyrimidine via Hydrogen Auto-transfer or Acceptorless Dehydrogenative	2019 Organometallics	38	8	1815	1825

1001	Kumar, A., Mukherjee, D., Satpati, P.	Mutations in Parkinson's Disease Associated Protein DJ-1 Alter the Energetics of DJ-1 Dimerization	2019	Journal of Chemical Information and Modeling	59	4	1497	1507
1002	Ding, S., Fu, X., Jiang, B., Bose, S.K., Shen, G.	Spectrum Trading between Virtual Optical Networks Embedded in an Elastic Optical Network	2019	2019 Optical Fiber Communications Conference and Exhibition, OFC				
1003	Zhao, Z., Kwon, H., Kuhar, S., Sheng, W., Mao, Z., Krishna, T.	MRNA: Enabling Efficient Mapping Space Exploration for a Reconfiguration Neural Accelerator	2019	2019 - Proceedings IEEE International Symposium on Performance Analysis of Systems and Software, ISPASS 2019	282			292
1004	Halder, S., Samanta, S., Das, G.	Exploring the potential of a urea derivative: An AIE-luminogen and its interaction with human serum albumin in aqueous medium	2019	Analyst	144	8	2696	2703
1005	Ajmani, A., Shahnaz, T., Narayanan, S., Narayanaswamy, S.	Equilibrium, kinetics and thermodynamics of hexavalent chromium biosorption on pristine and zinc chloride activated	2019	Chemistry and Ecology	35	4	379	396
1006	Wang, P., Guo, H., Hu, J., Kota, S.H., Ying, Q., Zhang, H.	Responses of PM _{2.5} and O ₃ concentrations to changes of meteorology and emissions in	2019	Science of the Total Environment	662		297	306
1007	Paul, A., Majumdar, D., Banik, A.D.	Signatures of synchrotron radiation from the annihilation of dark matter at the Galactic Centre	2019	Journal of Cosmology and Astroparticle Physics	2019	5		
1008	Ghosh, T., Teramoto, Y., Katiyar, V.	Influence of Nontoxic Magnetic Cellulose Nanofibers on Chitosan Based Edible Nanocoating: A Candidate for Improved Mechanical, Thermal, Optical, and Texture Properties	2019	Journal of Agricultural and Food Chemistry	67	15	4289	4299
1009	Basu, S., Chattopadhyay, A.	Room-Temperature Delayed Fluorescence of Gold Nanoclusters in Zinc-Mediated Two-Dimensional Crystalline	2019	Langmuir	35	15	5264	5270
1010	Pal, A., Ahmad, K., Dutta, D., Chattopadhyay, A.	Boron Doped Carbon Dots with Unusually High Photoluminescence Quantum Yield for Ratiometric Intracellular pH Sensing	2019	ChemPhysChem	20	8	1018	1027

1011	Balha, M., Soni, C., Pan, S.C.	Organocatalytic Asymmetric Synthesis of Bridged O,O-Ketals with Spirooxindole Motif	2019	European Journal of Organic Chemistry	14	2552	2559
1012	Pramanik, P., Ghosh, S., Yanda, P., Joshi, D.C., Pittala, S., Sundaresan, A., Mishra, P.K., Thota, S., Seehra, M.S.	Magnetic ground state, field-induced transitions, electronic structure, and optical band gap of the frustrated antiferromagnet GeCo ₂ O ₄	2019	Physical Review B	13	99	
1013	Mehrotra, S., Moses, J.C., Bandyopadhyay, A., Mandal, B.B.	3D Printing/Bioprinting Based Tailoring of in Vitro Tissue Models: Recent Advances and Challenges	2019	ACS Applied Bio Materials	4	1385	1405
1014	Ghosh, B., Pekkat, S.	An Appraisal on the Interpolation Methods Used for Predicting Spatial Variability of Field Hydraulic Conductivity	2019	Water Resources Management	6	2175	2190
1015	Shome, A., Rather, A.M., Ghosal, A., Bhunia, B.K., Mandal, B.B., Manna, U.	Rational Chemical Engineering in Natural Protein Derived Functional Interface	2019	ACS Sustainable Chemistry and Engineering	7	7502	7509
1016	Mishra, R.K., Iyer, J.S., Mohanty, K.	Conversion of waste biomass and waste nitrile gloves into renewable fuel	2019	Waste Management	89	397	407
1017	Rathore, P., Dhaka, K., Bose, S.K.	Network coding assisted multicasting in multi-hop wireless networks	2019	Computer Communications	138	45	53
1018	Kanneboina, V., Agarwal, P.	Role of Hydrogen Flow Rate on Microstructure of a-Si:H (n) Films: Spectroscopic Ellipsometry Studies	2019	Journal of Electronic Materials	48	2404	2410
1019	Nagireddi, S., Golder, A.K., Uppaluri, R.	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	2019	International Journal of Biological Macromolecules	127	320	329
1020	Parmananda, M., Dalal, A., Natarajan, G.	Numerical appraisal of three low Mach number algorithms for radiative-convective flows in enclosures	2019	Computers and Mathematics with Applications	77	2162	2181

1021	Borgohain, M.P., Haridhasapavalan, K.K., Dey, C., Adhikari, P., Thummer, R.P.	An Insight into DNA-free Reprogramming Approaches to Generate Integration-free Induced Pluripotent Stem Cells for Prospective Biomedical Applications	2019	Stem Cell Reviews and Reports	15	2	286	313
1022	Kotoky, N., Dutta, A., Deb, S.K.	Comparative study on seismic vulnerability of highway bridge with conventional and HyFRC piers	2019	Bulletin of Earthquake Engineering	17	4	2281	2306
1023	Choudhury, H., Prasanna, S.R.M.	Handwriting recognition using sinusoidal model parameters	2019	Pattern Recognition Letters	121		87	96
1024	Das, A., Anbu, N., Sk, M., Dhakshinamoorthy, A., Biswas, S.	Highly Active Urea-Functionalized Zr(IV)-UiO-67 Metal-Organic Framework as Hydrogen Bonding Heterogeneous Catalyst for Friedel-Crafts Alkylation	2019	Inorganic Chemistry	58	8	5163	5172
1025	Das, R.K., Jelli, S., Prasanna, S.R.M.	Exploring Text-Constraint Models and Source Information for Long-Enrollment with Short-Test Speaker Verification	2019	Circuits, Systems, and Signal Processing	38	4	1775	1792
1026	Alom, N., Saha, U.K.	Influence of blade profiles on Savonius rotor performance: Numerical simulation and experimental validation	2019	Energy Conversion and Management	186		267	277
1027	Basha, S.H., Kaushik, H.B.	A novel macromodel for prediction of shear failure in columns of masonry infilled RC frames under earthquake loading	2019	Bulletin of Earthquake Engineering	17	4	2219	2244
1028	Bhowmik, B., Biswas, S., Deka, J.K., Bhattacharya, B.B.	A Low-Cost Test Solution for Reliable Communication in Networks-on-Chip	2019	Journal of Electronic Testing: Theory and Applications (JETTA)	35	2	215	243
1029	Taki, K., Gogoi, A., Mazumder, P., Bhattacharya, S.S., Kumar, M.	Efficacy of vermitechnology integration with Upflow Anaerobic Sludge Blanket (UASB) and activated sludge for metal stabilization: A compliance study on fractionation and biosorption	2019	Journal of Environmental Management	236		603	612
1030	Mahanta, U.J., Borah, M., Bhattacharyya, N.S., Gogoi, J.P.	High-Performance Broadband Microwave Absorbers Using Multilayer Dual-Phase Dielectric Composites	2019	Journal of Electronic Materials	48	4	2438	2448

1031	Dihingia, I.K., Das, S., Nandi, A.	Low angular momentum relativistic hot accretion flow around Kerr black holes with variable adiabatic index	2019	Monthly Notices of the Royal Astronomical	484	3	3209	3218
1032	Dehyadegari, A., Majhi, B.R., Sheykhi, A., Montakhab, A.	Universality class of alternative phase space and Van der Waals criticality	2019	Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics	791		30	35
1033	Singh, A.K., Reddy, U., Prabhakar, K.K., Kumar, P.	Selection of Reference Flux Linkage for Direct Torque Control Based Induction Motor Drive in Electric Vehicle Applications	2019	SAE International Journal of Alternative Powertrains	8	1		
1034	Misra, A., Pandey, P.M., Dixit, U.S., Roy, A., Silberschmidt, V.V.	Multi-objective optimization of ultrasonic-assisted magnetic abrasive finishing process	2019	International Journal of Advanced Manufacturing Technology	101	05-Aug	1661	1670
1035	Muthukumar, P., Naik, B.K., Goswami, A.	Performance Evaluation of a Mechanical Draft Cross Flow Cooling Towers Employed in a Subtropical Region	2019	Journal of The Institution of Engineers (India): Series C	100	2	333	341
1036	Sharma, D., Barakat, N.	Evolutionary Bi-objective Optimization for Bulldozer and its Blade in Soil Cutting	2019	Journal of The Institution of Engineers (India): Series C	100	2	295	310
1037	Nayak, B., Halder, S., Das, G.	Terminal Substituent Induced Differential Anion Coordination and Self-Assembly: Case Study of Flexible Linear Bis-	2019	Crystal Growth and Design	19	4	2298	2307
1038	Barakat, N., Sharma, D.	Evolutionary multi-objective optimization for bulldozer and its blade in soil cutting	2019	International Journal of Management Science and Engineering Management	14	2	102	112
1039	Ascia, G., Catania, V., Monteleone, S., Palesi, M., Patti, D., Jose, J.	Approximate Wireless Networks-on-Chip	2019	Proceedings - 33rd Conference on Design of Circuits and Integrated Systems, DCIS	7	2	116	129
1040	Tamil Selvan, S., Balasubramani, G., Narayananamy, S., Ramamurthy, D.	Evaluation of Multifunctional Potentials of Photosynthetic Microalgae, Neochloris aquatica RDS02 Derived Silver Nanoparticles	2019	Smart Science	7	2	116	129

1041	Parsi, S.S., Rajeev, A., Uddin, A., Sheike, A., Uddin, N.	Probabilistic contact force model for low velocity impact on honeycomb structure	2019	Sustainable and Resili- ent Infrastructure	4	2	51	65
1042	Gogoi, N., Bharadwaj, J.S., Agarwal, P.	Study of laser induced micro-structural changes in reduced graphene oxide	2019	AIP Conference Pro- ceedings	2091			
1043	Abreha, B.G., Mahanta, P., Trivedi, G.	Numerical modeling and simulation of thermal energy stor- age for solar cooking using Comsol multiphysics software	2019	AIP Conference Pro- ceedings	2091			
1044	Kanneboina, V., Basumatary, P., Agarwal, P.	Influence of deposition temperature on indium tin oxide thin films for solar cell applications	2019	AIP Conference Pro- ceedings	2091			
1045	Kumari, J., Ghritlahre, V., Agarwal, P.	Fabrication of MoSe ∞ and ZnO: Al based hetero- junction structure	2019	AIP Conference Pro- ceedings	2091			
1046	Gayen, C., Goswami, U., Gogoi, K., Basu, S., Paul, A.	Crystallization-Induced Emission Enhancement of Nanoclus- ters and One-Step Conversion of "Nanoclusters to Nanoparti- cles" as the Basis for Intracellular Logic Operations	2019	ChemPhysChem	20	7	953	958
1047	Bishnoi, D., Prakash, O., Chaturve- di, H.	Utilizing flared gas for distributed generation: An optimization based approach	2019	AIP Conference Pro- ceedings	2091			
1048	Sarangji, M.K., Kashyap, S.	On Outage in Energy Transfer Using Massive Antenna Arrays With Orthogonal and Shared Pilot Signaling	2019	IEEE Wireless Commu- nications and Net- working Conference, WCNC	2019- April			
1049	Joshi, M.K., Tiwari, T., Bhattachar- jee, R.	Design and Multipactor Analysis of a High Power RF Window	2019	2019 International Vacuum Electronics Conference, IVEC 2019				
1050	Gupta, D., Shekhawat, H.S.	Artificial bandwidth extension using H ∞ optimization and speech production model	2019	2019 29th International Conference Radioel- ektronika, RADIOEL- EKTRONIKA 2019 - Mi- crowave and Radio Electronics Week, MA- REW 2019				

1051	Dowerah, U., Krishnaswamy, S.	A somewhat homomorphic encryption scheme based on multivariate polynomial evaluation	2019	2019 29th International Conference Radioelektronika, RADIOELEKTRONIKA 2019 - Microwave and Radio Electronics Week, MAREW 2019	9	2	271	291
1052	Pandey, S.K., Shekhawat, H.S., Prasanna, S.R.M.	Deep learning techniques for speech emotion recognition: A review	2019	2019 29th International Conference Radioelektronika, RADIOELEKTRONIKA 2019 - Microwave and Radio Electronics Week, MAREW 2019				
1053	Mahato, S., Chakraborty, A.	Sequential clustering of synchrosqueezed wavelet transform coefficients for efficient modal identification	2019	Journal of Civil Structural Health Monitoring	9	2	271	291
1054	Behera, S., Kumari, P.	Analytical piezoelectricity solution for natural frequencies of levy-type piezolaminated plates	2019	International Journal of Applied Mechanics	11	3		
1055	Hussain, M.K., Murthy, K.S.R.K.	Evaluation of mixed mode (I/II) notch stress intensity factors of sharp V-notches using point substitution displacement technique	2019	Frattura ed Integrita Strutturale	13	48	599	610
1056	Sharma, S., Dey, T.N.	Controlled light shaping via phase-dependent electromagnetically induced transparency	2019	Journal of the Optical Society of America B: Optical Physics	36	4	960	965
1057	Nath, B., Biswas, G., Dalal, A.	Influence of electric field on deformation of a drop in shear flow	2019	Physics of Fluids	31	4		
1058	Soni, R.P., Gavara, M.R.	Mixed convection heat transfer of water about a vertical surface of variable heat flux with density inversion	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	4		
1059	Das, B., Pal, S., Bag, S.	Probing defects in friction stir welding process using temperature profile	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	4		
1060	Singh, M.P., Shankar, K., Baruah, J.B.	Study on the interactions of nitrophenols with bis-8-hydroxyquinolinium zinc-2,6-pyridinedicarboxylate	2019	Inorganica Chimica Acta	489		204	210

1061	Lakshmi, S., Ganguly, S.	Multi-objective planning for the allocation of PV-BESS integrated open UPQC for peak load shaving of radial distribution networks	2019 Journal of Energy Storage	22	208	218
1062	Deka, J.P., Sarma, A.K.	Chaotic dynamics and optical power saturation in parity-time (PT) symmetric double-ring resonator	2019 Nonlinear Dynamics	96	1	565 571
1063	Nandi, N., Sahu, K.	Analysis of excited state proton transfer dynamics of HPTS in methanol-water mixtures from time-resolved area-normalised emission spectrum (TRANES)	2019 Journal of Photochemistry and Photobiology A: Chemistry	374	138	144
1064	Shakya, A.K., Ghosh, P.K.	Concurrent removal of nitrate, arsenic and iron from simulated and real-life groundwater to meet drinking water standards: Effects of operational and environmental parameters	2019 Journal of Environmental Management	235	9	18
1065	Rajender, G., Goswami, U., Giri, P.K.	Solvent dependent synthesis of edge-controlled graphene quantum dots with high photoluminescence quantum yield and their application in confocal imaging of cancer cells	2019 Journal of Colloid and Interface Science	541	387	398
1066	Mahesh, R., Naira, V.R., Maiti, S.K.	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	2019 Bioresource Technology	278	231	241
1067	Dave, U., Srivathsan, A., Kumar, S.	Analysis of codon usage pattern in the viral proteins of chicken anaemia virus and its possible biological relevance	2019 Infection, Genetics and Evolution	69	93	106
1068	Lalthazuala, R., Singh, K.D.	Investigations on structural performance of hybrid stainless steel II -beams based on slenderness	2019 Thin-Walled Structures	137	197	212
1069	Hotta, S.K., Sahoo, N., Mohanty, K.	Comparative assessment of a spark ignition engine fueled with gasoline and raw biogas	2019 Renewable Energy	134	1307	1319
1070	Naik, B.K., Bhowmik, M., Muthukumar, P.	Experimental investigation and numerical modelling on the performance assessments of evacuated U – Tube solar collector systems	2019 Renewable Energy	134	1344	1361

1071	Choudhary, T., Bhuyan, M.K., Sharma, L.N.	Orthogonal subspace projection based framework to extract heart cycles from SCG	2019	Biomedical Signal Processing and Control	50	45	51
1072	Prasad, V., Tiwari, R.	Identification of Speed-Dependent Active Magnetic Bearing Parameters and Rotor Balancing in High-Speed Rotor Systems	2019	Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME	141	4	4
1073	Unni, S., Prabhu, A.A., Pandey, R., Hande, R., Veeranki, V.D.	Artificial neural network-genetic algorithm (ANN-GA) based medium optimization for the production of human interferon gamma	2019	Canadian Journal of Chemical Engineering	97	4	843 858
1074	Barman, B., Kumar, B., Sarma, A.K.	Dynamic characterization of the migration of a mining pit in an alluvial channel	2019	International Journal of Sediment Research	34	2	155 165
1075	Das, R.K., Alam, R.	Recovery of minimal bases and minimal indices of rational matrices from Fiedler-like pen-	2019	Linear Algebra and Its Applications	566	34	60
1076	Mallick, S.K., Chakraborty, S.	Bioremediation of wastewater from automobile service station in anoxic-aerobic sequential reactors and microbial analysis	2019	Chemical Engineering Journal	361	982	989
1077	Singh, R., Yadav, V.S.K., Purkait, M.K.	Cu ²⁺ photocatalyst modified antifouling polysulfone mixed matrix membrane for ultrafiltration of protein and visible light driven photocatalytic pharmaceutical re-	2019	Separation and Purification Technology	212	191	204
1078	Dutt, S., Pidanic, J., Nemeč, Z., Nandi, S., Trivedi, G.	Integrated ABB and DVS: A post-silicon tuning approach for parametric yield enhancement in sub-45nm CMOS technology	2019	2019 29th International Conference Radioelektronika, RADIOELEKTRONIKA 2019 - Microwave and Radio Electronics Week, MAREW 2019			
1079	Shukla, S., Tiwari, P., Jan, P., Nemeč, Z., Trivedi, G.	Object oriented EMT simulation framework for on-grid centralized microgrid	2019	2019 29th International Conference Radioelektronika, RADIOELEKTRONIKA 2019 - Microwave and Radio Electronics Week, MAREW 2019			
1080	Paul, B., Trivedi, G., Jan, P., Nemeč, Z.	Efficient PRNG design and implementation for various high throughput cryptographic and low power security applications	2019	2019 29th International Conference Radioelektronika, RADIOELEKTRONIKA 2019 - Microwave and Radio Electronics Week, MAREW 2019			

1081	Chattopadhyay, S., Chatterjee, S., Aloe: An Elastic Auto-Scaled and Self-stabilized Orchestration Framework for IoT Applications	2019 Proceedings - IEEE International Conference on Systems, Man, and Cybernetics (SMC)	2019-April	802	810
1082	Gorain, B., Mandal, P.S. Approximation Algorithms for Barrier Sweep Coverage	2019 International Journal of Foundations of Computer Science	30	3	425 448
1083	Kaushik, S., Dasgupta, K. Seismic behavior of slab-structural wall junction of RC building	2019 Earthquake Engineering and Engineering Vibration	18	2	331 349
1084	Rai, S., Tripathy, P., Nayak, S.K. Using sparsity to estimate oscillatory mode from ambient data	2019 Sadhana - Academy Proceedings in Engineering Sciences	44	4	
1085	Soni, B., Das, P.K., Thounaojam, D.M. Geometric transformation invariant block based copy-move forgery detection using fast and efficient hybrid local features	2019 Journal of Information Security and Applications	45	44	51
1086	Shukla, A., Naik, S.N., Goud, V.V., Das, C. Supercritical CO ₂ extraction and online fractionation of dry ginger for production of high-quality volatile oil and gingerols enriched oleoresin	2019 Industrial Crops and Products	130		352 362
1087	Malani, R.S., Shinde, V., Ayachit, S., Goyal, A., Moholkar, V.S. Ultrasound-assisted biodiesel production using heterogeneous base catalyst and mixed non-edible oils	2019 Ultrasonics Sonochemistry	52		232 243
1088	Barua, V.B., Rathore, V., Kalamdhad, A.S. Anaerobic co-digestion of water hyacinth and banana peels with and without thermal pretreatment	2019 Renewable Energy	134		103 112
1089	Gajrani, K.K., Suvin, P.S., Kailas, S.V., Mamilla, R.S. Thermal, rheological, wettability and hard machining performance of MoS ₂ and CaF ₂ based minimum quantity hybrid nano-green cutting fluids	2019 Journal of Materials Processing Technology	266		125 139
1090	Gowrisankar, S., Natesan, S. An efficient robust numerical method for singularly perturbed Burgers' equation	2019 Applied Mathematics and Computation	346		385 394

1091	Reddy, G.M.M., Sinha, R.K., Cuminato, J.A.	A Posteriori Error Analysis of the Crank–Nicolson Finite Element Method for Parabolic Integro-Differential Equations	2019 Journal of Scientific Computing	79	1	414	441
1092	Acheenta, G.B., Jyoti, C.P., Himangshu, R., Dharithree, S., Uttam, R., Chandrani, G.	Epidemiological studies on porcine trichinellosis in five states of north east India	2019 Iranian Journal of Parasitology	14	2	303	309
1093	Joshi, M.K., Vyas, S.K., Tiwari, T., Pidanic, J., Nemecek, Z., Bhattacharjee, R.	Identification and Suppression of Slot Modes in a Coaxial Magnetron	2019 2019 Conference on Microwave Techniques, COMITE 2019 - Microwave and Radio Electronics Week, MA-REW 2019				
1094	Chowdhury, S., Nirsanametla, Y., Muralidhar, M., Bag, S., Patra, S.K.	Influence of weld parameters on weld regimes and vaporization rate in electron beam welding of Ti6Al4V alloy	2019 Journal of the Brazilian Society of Mechanical Sciences and Engineering	41	4		
1095	Mukherjee, G., Aliji, A., Barman, P., Kumar, D., Sastri, C.V., de Visser, S.P.	Interplay Between Steric and Electronic Effects: A Joint Spectroscopy and Computational Study of Nonheme Iron(IV)-Oxo Complexes	2019 Chemistry - A European Journal	25	19	5086	5098
1096	Hinge, G., Surampalli, R.Y., Goyal, M.K.	Effects of Land Use and Soil Management on Soil Quality in India's Northeastern Himalayas	2019 Journal of Environmental Engineering (United States)	145	4		
1097	Ratha, B.N., Kar, R.K., Kalita, S., Kalita, S., Raha, S., Singha, A., Garai, K., Mandal, B., Bhunia, A.	Sequence specificity of amylin-insulin interaction: a fragment-based insulin fibrillation inhibition study	2019 Biochimica et Biophysica Acta - Proteins and Proteomics	1867	4	405	415
1098	Kumar, U., Kumar, V., Enamullah	Anisotropic nonlinear optical response of phosphorene	2019 Physica E: Low-Dimensional Systems and Nanostructures	108		288	295
1099	Arapostathis, A., Biswas, A., Saha, S.	Strict monotonicity of principal eigenvalues of elliptic operators in \mathbb{R}^d and risk-sensitive control	2019 Journal des Mathématiques Pures et Appliquées	124		169	219
1100	Dwivedi, K.M., Trivedi, G., Juryca, K., Pidanic, J.	Theoretical Analysis of Slow-light in π -phase-shifted fiber Bragg grating for sensing applications	2019 2019 Conference on Microwave Techniques, COMITE 2019 - Microwave and Radio Electronics Week, MA-REW 2019				

- 1101 Saha, G., Khamar, B.M., Singh, O.P., Sundar, S., Dubey, V.K. Leishmania donovani evades Caspase 1 dependent host defense mechanism during infection 2019 International Journal of Biological Macromolecules 126 392 401
- 1102 Garg, A., Hazra, B., Zhu, H., Wen, Y. A simplified probabilistic analysis of water content and wilting in soil vegetated with non-crop species 2019 Catena 175 123 131
- 1103 Garg, R., Bhardwaj, V., Singh, J.B., Adachi, I., Ahn, J.K., Aihara, H., Al Said, S., Asner, D.M., Aulchenko, V., Aushev, T., *et al* Search for the $B \rightarrow \gamma (4260)K, \gamma (4260) \rightarrow j/\psi\pi^+\pi^-$ decays 2019 Physical Review D 99 7
- 1104 Maity, R., Sahoo, S.C., Pan, S.C. Organocatalytic Asymmetric Michael–AcyI Transfer Reaction of α -Nitroketones with 2-Hydroxybenzylidene Ketones 2019 European Journal of Organic Chemistry 2019 12 2297 2304
- 1105 Karmakar, S., Saxena, V., Chandra, P., Pandey, L.M. Novel therapeutics and diagnostics strategies based on engineered nanobiomaterials 2019 Nanotechnology in Modern Animal Biotechnology: Recent Trends and Future Perspectives 1 27
- 1106 Singh, P., Roy, S., Sanpui, P., Banerjee, A., Jaiswal, A. Gold nanostructures for photothermal therapy 2019 Nanotechnology in Modern Animal Biotechnology: Recent Trends and Future Perspectives 29 65
- 1107 Pramanik, P., Joshi, D.C., Tiwari, N., Sarkar, T., Pittala, S., Salman, O.O., Manga, M.-M., Thota, S. Cationic distribution, exchange interactions, and relaxation dynamics in Zn-diluted $MnCo_{1-x}Zn_xO_4$ nanostructures 2019 Journal of Applied Physics 125 12
- 1108 Roy, S., Chouhan, S. Novel density aware energy efficient (DAEE) routing algorithm for mobile Ad-Hoc networks 2019 2018 International Conference on Computing, Power and Communication Technologies, GUCON 2018 1116 1121
- 1109 Bhargava, N., Lynshing, B.S.W., Rynathiang, T.L., Siddagangaiha, A.K. Laboratory investigation on the effect of emulsion type and additive on microsurfacing mix 2019 Advances in Civil Engineering Materials 8 1
- 1110 Ghosh, S., Tanguturi, R.G., Pramanik, P., Joshi, D.C., Mishra, P.K., Das, S., Thota, S. Low-temperature anomalous spin correlations and Kondo effect in ferromagnetic $SrRuO_3/LaNiO_3/La_{0.7}Sr_{0.3}MnO_3$ trilayers 2019 Physical Review B 99 11

1111	Parveen, S., Paul, K.K., Giri, P.K.	High photoluminescence yield from organometal halide perovskite quantum dots confined in a mesoporous TiO ₂ template grown by rapid thermal annealing	2019 AIP Conference Proceedings	2082
1112	Behera, S., Khare, A.	Linear and nonlinear optical properties of BaTiO ₃ and Ba _{0.5} Sr _{0.5} TiO ₃ thin films fabricated by pulsed laser deposition technique	2019 AIP Conference Proceedings	2082
1113	Paul, K.K., Giri, P.K.	Enhanced visible light photocatalysis by fluorine doped faceted TiO ₂ nanoflowers hierarchically designed with vacancy-rich TiO ₂ nanocrystals grown by vacuum annealing	2019 AIP Conference Proceedings	2082
1114	Dey, P.P., Khare, A.	Tailorable band-tail emissions in PLD α -SiC films	2019 AIP Conference Proceedings	2082
1115	Ghosh, J., Giri, P.K.	Effect of plasmonic metal nanoparticles on the performance of air processed inverted perovskite solar cells	2019 AIP Conference Proceedings	2082
1116	Das, R., Giri, P.K.	Fluorescence based comparative study of interaction of perylene with nitrogen doped graphene quantum dots and graphene oxide sheets	2019 AIP Conference Proceedings	2082
1117	Goswami, S., Sharma, A.K.	Structural and morphological properties of pulsed laser deposited In ₂ O ₃ thin films at various oxygen pressures	2019 AIP Conference Proceedings	2082
1118	Mawlong, L.P.L., Paul, K.K., Giri, P.K.	Simultaneous photoluminescence enhancement in CVD grown single layer MoS ₂ and TiO ₂ NRs in the MoS ₂ @TiO ₂ heterojunction	2019 AIP Conference Proceedings	2082
1119	Sevda, S., Abu-Reesh, I.M.	Improved petroleum refinery wastewater treatment and seawater desalination performance by combining osmotic microbial fuel cell and up-flow microbial desalination cell	2019 Environmental Technology (United Kingdom)	40 7 888 895
1120	Ghosh, S., Pal, S., Rajamanickam, S., Shome, R., Mohanta, P.R., Ghosh, S.S., Patel, B.K.	Access to Multifunctional AEEgens via Ru(II)-Catalyzed Quinoxaline-Directed Oxidative Annulation	2019 ACS Omega	4 3 5565 5577

1121	Kulkarni, V.V., Golder, A.K., Ghosh, P.K.	Production of composite clay bricks: A value-added solution to hazardous sludge through effective heavy metal fixation	2019	Construction and Building Materials	201	391	400
1122	Borkotoky, S.S., Pal, A.K., Katiyar, V.	Poly(lactic acid)/modified chitosan-based microcellular foams: Thermal and crystallization behavior with wettability and porosimetric investigations	2019	Journal of Applied Polymer Science	136	12	
1123	Singh, N.K., Jain, P., Das, S., Goswami, P.	Dye coupled aptamer-captured enzyme catalyzed reaction for detection of pan malaria and p. Falciparum species in laboratory settings and instrument-free paper-based platform	2019	Analytical Chemistry	91	6	4213 4221
1124	Borah, P.P., Sorathia, K.	Natural and intuitive deformation gestures for one-handed landscape mode interaction	2019	TEI 2019 - Proceedings of the 13th International Conference on Tangible, Embedded, and Embodied Interaction	229		236
1125	Singh, N.K., Naira, V.R., Maiti, S.K.	Production of biodiesel by autotrophic Chlorella pyrenoidosa in a sintered disc lab scale bubble column photobioreactor under natural sunlight	2019	Preparative Biochemistry and Biotechnology	49	3	255 269
1126	Patowary, S., Sarma, B., Sarma, A.K.	A Revision of OPTEMP-LS Model for Selecting Optimal EMP Combination for Minimizing Sediment and Water Yield from Hilly Urban Watersheds	2019	Water Resources Management	33	4	1249 1264
1127	Parveen, S., Paul, K.K., Das, R., Giri, P.K.	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	2019	Journal of Colloid and Interface Science	539		619 633
1128	Borkotoky, S.S., Ghosh, T., Bhagabati, P., Katiyar, V.	Poly (lactic acid)/modified gum arabic (MG)based microcellular composite foam: Effect of MG on foam properties, thermal and crystallization behavior	2019	International Journal of Biological Macromolecules	125		159 170
1129	Choudhary, A., Gokhale, S.	Evaluation of emission reduction benefits of traffic flow management and technology upgrade in a congested urban traffic corridor	2019	Clean Technologies and Environmental Policy	21	2	257 273
1130	Jagan Mohan Rao, S., Sarkar, R., Kumar, G., Chowdhury, D.R.	Gradual cross polarization conversion of transmitted waves in near field coupled planar terahertz metamaterials	2019	OSA Continuum	2	3	603 614

1131	Jerath, G., Goyal, R., Trivedi, V., Santhoshkumar, I.R., Ramakrishnan, V.	Syndiotactic peptides for targeted delivery	2019	Acta Biomaterialia	87	130	139
1132	Adiga, N., Prasanna, S.R.M.	Speech synthesis for glottal activity region processing	2019	International Journal of Speech Technology	22	1	79 91
1133	Ni, J.-J., Cheng, Y.-F., Bordoloi, S., Borra, H., Wang, Q.-H., Ng, C.-W.-W., Garg, A.	Investigating plant root effects on soil electrical conductivity: An integrated field monitoring and statistical modelling approach	2019	Earth Surface Processes and Landforms	44	3	825 839
1134	Chandra, N., Biswas, S., Rout, J., Basu, G., Tripathy, U.	Stability of β -turn in LaR2C-N7 peptide for its translation-inhibitory activity against hepatitis C viral infection: A molecular dynamics study	2019	Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy	211	26	33
1135	Srivastava, S.K., Samantaray, B., Bora, T., Ravi, S.	Magnetic and electrical properties of Mn-substituted ($\text{La}_{0.85}\text{Ag}_{0.15}\text{CoO}_3$ compounds)	2019	Journal of Magnetism and Magnetic Materials	474	605	612
1136	Jana, N., Parbat, D., Manna, U.	Rational Use of Dual Chemical Reactivity in a Single Interface for Optimizing Both Superhydrophobicity and Underwater Superoleophobicity	2019	Chemistry of Materials	31	5	1479 1484
1137	Khan, M., Sharma, A., Goyal, M.K.	Assessment of future water provisioning and sediment load under climate and LULC change scenarios in a peninsular river basin, India	2019	Hydrological Sciences Journal	64	4	405 419
1138	Manik, J., Dalal, A., Natarajan, G.	A parametric study on the droplet detachment process from the ceiling under the effect of gravity	2019	Engineering Computations (Swansea, Wales)	36	2	445 465
1139	Moses, J.C., Dey, M., Devi, K.B., Roy, M., Nandi, S.K., Mandal, B.B.	Synergistic Effects of Silicon/Zinc Doped Brushite and Silk Scaffolding in Augmenting the Osteogenic and Angiogenic Potential of Composite Biomimetic Bone Grafts	2019	ACS Biomaterials Science and Engineering	5	3	1462 1475
1140	Sahu, S.K., Zhang, H., Guo, H., Hu, J., Ying, Q., Kota, S.H.	Health risk associated with potential source regions of PM _{2.5} in Indian cities	2019	Air Quality, Atmosphere and Health	12	3	327 340

1141	Annadanam, S.K., Kota, S.H.	Emission of greenhouse gases and criteria pollutants from railways in India estimated using a modified top-down approach	2019 Journal of Cleaner Production	213	610	617
1142	Das, N., Rai, B.K.	On the Power of Vector Linear Network Coding	2019 Proceedings of 2018 International Symposium on Information Theory and Its Applications, ISITA 2018	232	232	236
1143	Kiran Naik, B., Muthukumar, P., Bhattacharyya, C.	Thermal modelling and parametric investigations on coupled heat and mass transfer processes occurred in a packed tower	2019 Heat and Mass Transfer/Waerme- und Stoffuebertragung	55	3	627 644
1144	Mandal, S., Prasanna, S.R.M., Sundaram, S.	An improved discriminative region selection methodology for online handwriting recognition	2019 International Journal on Document Analysis and Recognition	22	1	
1145	Patwa, R., Singh, M., Kumar, A., Katiyar, V.	Kinetic modelling of thermal degradation and non-isothermal crystallization of silk nano-discs reinforced poly (lactic acid) bionanocomposites	2019 Polymer Bulletin	76	3	1349 1382
1146	Kumar, P., Dhaka, K.	Average BER and resource allocation in wireless powered decode-and-forward relay system	2019 IET Communications	13	4	379 386
1147	Mukhopadhyay, S., Pan, S.C.	Organocatalytic Asymmetric Synthesis of 2,5-Disubstituted Oxazolidines	2019 Advanced Synthesis and Catalysis	361	5	1028 1032
1148	Goswami, L., Kumar, R.V., Pakshiran, K., Pugazhenthij, G.	A novel integrated biodegradation—microfiltration system for sustainable wastewater treatment and energy recovery	2019 Journal of Hazardous Materials	365	707	715
1149	Malek, A., Bera, K., Biswas, S., Perumal, G., Das, A.K., Doble, M., Thomas, T., Prasad, E.	Development of a Next-Generation Fluorescent Turn-On Sensor to Simultaneously Detect and Detoxify Mercury in Living Samples	2019 Analytical Chemistry	91	5	3533 3538
1150	Baruch, D., Mallick, D., Kalita, P., Moholkar, V.S.	A Detailed Study of Pyrolysis Kinetics of Elephant Grass Using Thermogravimetric Analysis	2019 2nd International Conference on Energy, Power and Environment: Towards Smart Technology, ICEPE 2018			

1151	Lakshmi, S., Ganguly, S.	Steady-State Model for Open Unified Power Quality Conditioner for Power Quality and Energy Efficiency Improvement	2019	2nd International Conference on Energy, Power and Environment: Towards Smart Technology, ICEPE 2018	4	3	4793	4803
1152	Baruah, N., Maharana, M., Nayak, S.K.	An Electrode Model to Ascertain the Effects of Voltage and Tip Radius with Gap Distance on Electric Field of Trans-	2019	2nd International Conference on Energy, Power and Environment: Towards Smart Technology, ICEPE 2018				
1153	Mallik, D., Baruah, D., Mahanta, P., Moholkar, V.S.	A Comprehensive Kinetic Analysis of Bamboo Waste Using Thermogravimetric Analysis	2019	2nd International Conference on Energy, Power and Environment: Towards Smart Technology, ICEPE 2018				
1154	Pradhan, S., Nayak, S.K.	Winding Dislocation of a Power Transformer and its Analysis to Locate and Estimate the Deformation	2019	2nd International Conference on Energy, Power and Environment: Towards Smart Technology, ICEPE 2018				
1155	Kundu, D., Banerjee, T.	Carboxymethyl Cellulose-Xylan Hydrogel: Synthesis, Characterization, and in	2019	ACS Omega	4	3	4793	4803
1156	Simon, A.T., Dutta, D., Chattopadhyay, A., Ghosh, S.S.	Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Application	2019	ACS Omega	4	3	4697	4706
1157	Goshika, B.K., Majumder, S.K.	Dispersion of liquid-liquid phase by a jet-induced gas-liquid-liquid mixing column developed for separation of or-	2019	Separation Science and Technology (Philadelphia)	54	4	535	548
1158	Adiga, N., Prasanna, S.R.M.	Acoustic Features Modelling for Statistical Parametric Speech Synthesis: A Review	2019	IETE Technical Review (Institution of Electronics and Telecommunication Engineers, India)	36	2	130	149
1159	Rabha, D.K., Muthukumar, P.	Feasibility Study of the Application of a Latent Heat Storage in a Solar Dryer for Drying Green Chili	2019	2nd International Conference on Energy, Power and Environment: Towards Smart Technology, ICEPE 2018				
1160	Das, R.K., Prasanna, S.R.M.	Investigating Text-independent Speaker Verification from Practically Realizable System Perspective	2019	2018 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference, APSIPA ASC 2018 - Proceedings	1483			1487

1161	Kulkarni, S.S., Kumar Nayak, S.	Ring Fractal Patch Antenna for GPS Applications	2019 IEEE 5th International Conference for Convergence in Technology, I2CT 2019		
1162	Dutta, S.J., Bhattacharjee, R.	Integration of Virtual Laboratories: A Step Toward Enhancing E-learning Technology	2019 IEEE 5th International Conference for Convergence in Technology, I2CT 2019		
1163	Panda, S.K., Bandopadhyay, D.	Bio-inspired underwater undulatory motion by using polypyrrole bimorph actuator	2019 IEEE International Conference on System, Computation, Automation and Networking, ICSCAN 2019		
1164	Sangam, R.S., Kshetrimayum, R.S.	An improved T-junction power divider using linearly tapered microstrip lines	2019 URSI Asia-Pacific Radio Science Conference, AP-RASC 2019		
1165	Chaudhuri, S., Kshetrimayum, R.S., Kumar Sonkar, R.	High Inter-port Isolation Dual Circularly Polarized Modified Franklin Microstrip Antenna	2019 13th European Conference on Antennas and Propagation, EuCAP 2019		
1166	Sonia	Recognizing Humans from Their Behavioral Patterns	2019 IEEE International Conference on Pervasive Computing and Communications Workshops, PerCom Workshops 2019	718	721
1167	Mandal, S.K., Adhikari, R., Sharma, A., Chandravanshi, M., Gogoi, P., Kanaujia, S.P.	Designating ligand specificities to metal uptake ABC transporters in: Thermus thermophilus HB8	2019 Metallomics	11	3 597 612
1168	Rabha, S., Dobbidi, P.	Structural, electrical and dielectric studies on $(1-x)\text{MgTiO}_3-x\text{BaTiO}_3$ composite ceramics for type-II capacitor applications	2019 Journal of Materials Science: Materials in Electronics	30	6 5327 5341
1169	Kanjo, K., Surin, S.I., Gupta, T., Dhansingh, M., Singh, B., Saini, G.K.	Truncated, strong inducible promoter PmII from <i>Metarhizium anisopliae</i>	2019 3 Biotech	9	3
1170	Hazam, P.K., Goyal, R., Ramakrishnan, V.	Peptide based antimicrobials: Design strategies and therapeutic potential	2019 Progress in Biophysics and Molecular Biology	142	10 22

1171	Mishra, D., Sonkar, R.K.	Analysis of a process simulated graded-index strained silicon-germanium optical phase shifter	2019	Optical Materials	89	604	608
1172	Das, V., Dandapat, S., Bora, P.K.	A novel diagnostic information based framework for super-resolution of retinal fundus images	2019	Computerized Medical Imaging and Graphics	72	22	33
1173	Kale, R.C., Ravi, K.	Influence of thermal history on swell pressures of compacted bentonite	2019	Process Safety and Environmental Protection	123	199	205
1174	Behera, P., Ravi, S.	Effect of Ni doping on structural, magnetic and dielectric properties of M-type barium hexaferrite	2019	Solid State Sciences	89	139	149
1175	Ahlawat, S., Kaushal, M., Palabhanvi, B., Muthuraj, M., Goswami, G., Das, D.	Nutrient modulation based process engineering strategy for improved butanol production from Clostridium acetobutylicum	2019	Biotechnology Progress	35	2	
1176	Mahato, K., Chandra, P.	Paper-based miniaturized immunosensor for naked eye ALP detection based on digital image calorimetry integrated with	2019	Biosensors and Bioelectronics	128	9	16
1177	Ravi, Pandey, L.M.	Enhanced adsorption capacity of de-signed bentonite and alginate beads for the effective removal of methylene blue	2019	Applied Clay Science	169	102	111
1178	Ojha, R.K., Dwivedy, S.K.	Dynamic Analysis of Sandwich Plates with Isotropic Skins and Viscoelastic Core	2019	International Journal of Structural Stability and Dynamics	19	3	
1179	Bhagabati, P., Hazarika, D., Katiyar, V.	Tailor-made ultra-crystalline, high molecular weight poly(ϵ -caprolactone) films with improved oxygen gas barrier and optical properties: a facile and scalable approach	2019	International Journal of Biological Macromolecules	124	1040	1052
1180	Prabhu, A.A., Gadela, R., Bharali, B., Deshavath, N.N., Dasu, V.V.	Development of high biomass and lipid yielding medium for newly isolated Rhodotorula mucilaginosa	2019	Fuel	239	874	885

1181	Shakya, P., Sinha, R.K.	A priori and a posteriori error estimates of finite-element approximations for elliptic optimal control problem with measure data	2019 Optimal Control Applications and Methods	40	2	241	264
1182	Kumar, A., Manjgowda, M.C., John Mary, D.J.S., Pal, U., Kumar, S., Limaye, A.M.	Estrogen receptor- α is a determinant of protocadherin-8 expression in breast cancer cells	2019 Gene Reports	14	6	6	11
1183	Chelli, V.R., Golder, A.K.	One pot green synthesis of Pt, Co and Pt@Co core-shell nanoparticles using Sechium edule	2019 Journal of Chemical Technology and Bio-technology	94	3	911	918
1184	Moharana, S., Dutta, S.	Estimation of water stress variability for a rice agriculture system from space-borne hyperion imagery	2019 Agricultural Water Management	213		260	269
1185	Choudhary, A., Gokhale, S.	On-road measurements and modelling of vehicular emissions during traffic interruption and congestion events in an urban traffic corridor	2019 Atmospheric Pollution Research	10	2	480	492
1186	Dutt, S., Dash, S., Nandi, S., Trivedi, G.	Analysis, Modeling and Optimization of Equal Segment Based Approximate Adders	2019 IEEE Transactions on Computers	68	3	314	330
1187	Borah, A.J., Agarwal, M., Goyal, A., Moholkar, V.S.	Physical insights of ultrasound-assisted ethanal production from composite feedstock of invasive weeds	2019 Ultrasonics Sonochemistry	51		378	385
1188	Ramana, K.V., Majhi, S., Gogoi, A.K.	Modeling and Estimation of DC-DC Buck Converter Dynamics Using Relay Feedback Output With Performance Evaluation	2019 IEEE Transactions on Circuits and Systems II: Express Briefs	66	3	427	431
1189	Deb, S., Dandapat, S.	Multiscale Amplitude Feature and Significance of Enhanced Vocal Tract Information for Emotion Classification	2019 IEEE Transactions on Cybernetics	49	3	802	815
1190	Haloi, P., Gadde, P., Bhuyan, M.K.	News video indexing and story unit segmentation using text cue	2019 2019 International Conference on Wireless Communications, Signal Processing and Networking, WISPNET 2019			501	507

1191	Haloi, P., Bordoloi, A.K., Bhuyan, M.K.	Unsupervised Broadcast News Video Shot Segmentation and Classification	2019	Proceedings of 2nd International Conference on Innovations in Electronics, Signal Processing and Communication, IESC-2019	243	251
1192	Narzary, S., Brahma, M., Singha, B., Brahma, R., Dibragede, B., Barman, S., Nandi, S., Som, B.	Attention based english-bodo neural machine translation system for tourism domain	2019	Proceedings of the 3rd International Conference on Computing Methodologies and Communication, ICCMC 2019	335	343
1193	Bhattacharya, S., Nandi, S., Patra, S.K.	$b \rightarrow ctv$ Decays: a catalogue to compare, constrain, and correlate new physics effects	2019	European Physical Journal C	79	3
1194	Das, S., Giri, A., Samanta, S., Kanagaraj, S.	Role of graphene nanofluids on heat transfer enhancement in thermosyphon	2019	Journal of Science: Advanced Materials and Devices	4	1 163 169
1195	Kundu, D., Chakma, S., Pugazhenthi, G., Banerjee, T.	Reactive insights into the hydrogen production from ammonia borane facilitated by phosphonium based ionic liquid	2019	Korean Journal of Chemical Engineering	36	3 456 467
1196	Samal, K., Raj, N., Mohanty, K.	Saponin extracted waste biomass of Sapindus mukorossi for adsorption of methyl violet dye in aqueous system	2019	Surfaces and Interfaces	14	166 174
1197	Lhouvum, K., Balaji, S.N., Ahsan, M.J., Trivedi, V.	Plasmodium falciparum PFI1625c offers an opportunity to design potent anti-malarials: Biochemical characterization and testing potentials in drug discovery	2019	Acta Tropica	191	116 127
1198	Gangsar, P., Tiwari, R.	A support vector machine based fault diagnosis of Induction motors for practical situation of multi-sensor limited data case	2019	Measurement: Journal of the International Measurement Confederation	135	694 711
1199	Das, A.B., Goud, V.V., Das, C.	Microencapsulation of anthocyanin extract from purple rice bran using modified rice starch and its effect on rice dough rheology	2019	International Journal of Biological Macromolecules	124	573 581
1200	Borthakur, M.P., Biswas, G., Bandyopadhyay, D., Sahu, K.C.	Dynamics of an arched liquid jet under the influence of gravity	2019	European Journal of Mechanics, B/Fluids	74	1 9

1201	Phukan, R., Gogoi, S.B., Tiwari, P.	Enhanced oil recovery by alkaline-surfactant-alternated-gas/CO ₂ flooding	2019	Journal of Petroleum Exploration and Production Technology	9	1	247	260
1202	Kothiyari, A., Das, B., Bora, S., Belur, M.N.	On the Distance to Singular Descriptor Dynamical Systems with Impulsive Initial Conditions	2019	IEEE Transactions on Automatic Control	64	3	1137	1149
1203	Choudhary, A., Gokhale, S., Shukla, A., Kumar, P., Singh, A.K.	Variability in emission rate of auto-rickshaw based on real world driving profile: A case study in Guwahati city	2019	2019 URSI Asia-Pacific Radio Science Conference, AP-RASC 2019				
1204	Yadav, A., Agarwal, P., Biswas, R.	Quantum size effects and tunable visible photoluminescence in a-Si:H/nc-Si:H superlattices	2019	Journal of Materials Science: Materials in Electronics	30	5	4696	4704
1205	Bhowmik, B., Krishnan, M., Hazra, B., Pakrashi, V.	Real-time unified single- and multi-channel structural damage detection using recursive singular spectrum analysis	2019	Structural Health Monitoring	18	2	563	589
1206	Buhrmann, C., Yazdi, M., Popper, B., Kunnumakara, A.B., Aggarwal, B.B., Shakibaei, M.	Induction of the epithelial-to-mesenchymal transition of human colorectal cancer by human TNF- β (Lymphotoxin) and its reversal by resveratrol	2019	Nutrients	11	3		
1207	Islam, R., Kumar, M., Rawoof, V.	Higgs boson production in ZZ ^{4ℓ} channel at the LHC	2019	European Physical Journal C	79	3		
1208	Garg, A., Bordoloi, S., Ni, J., Cai, W., Maddibiona, P.G., Mei, G., Poulsen, T.G., Lin, P.	Influence of biochar addition on gas permeability in unsaturated soil	2019	Geotechnique Letters	9	1	66	71
1209	Borah, D., Dev, P.S.B., Kumar, A.	TeV scale leptogenesis, inflaton dark matter, and neutrino mass in a scotogenic model	2019	Physical Review D	99	5		
1210	Banerjee, R., Kumar, S.P.J., Mendale, N., Sevda, S., Garlapati, V.K.	Intervention of microfluidics in biofuel and bio-energy sectors: Technological considerations and future prospects	2019	Renewable and Sustainable Energy Reviews	101		548	558

1211	Modak, R., Srinivasan, A.	Enhanced room temperature magneto-caloric effect in Ni-Mn-In films with Fe/Co	2019 Journal of Applied Physics	125	8
1212	Kenkireth, B.G., Singh, M.	On the minimal alphabet size in multidimensional unreplicative configurations	2019 Discrete Applied Mathematics	255	258 266
1213	Prakash, R., Majumder, S.K., Singh, A.	Particle-Laden Bubble Size and Its Distribution in Microstructured Bubbling Bed in the Presence and Absence of a Surface Active Agent	2019 Industrial and Engineering Chemistry Research	58	8 3499 3522
1214	Sarma, S., Fekas, I., Filintoglou, K., Arvanitidis, J., Christofilos, D., Hatzikraniotis, E., Lidor, O., Mastai, Y., Unal, A., Patsalas, P.	Layer by layer deposition of alternate carbon nanotubes and Ni films for efficient multilayer thin film temperature gauges	2019 Journal of Physics D: Applied Physics	52	9
1215	Lees, J.P., Poireau, V., Tisserand, V., Grauges, E., Palano, A., Eigen, G., Brown, D.N., Kolomensky, Y.G., Fritsch, M.	Observation of the Decay $D_0 \rightarrow k\pi^+e^+e^-$	2019 Physical Review Letters	122	8
1216	Mondal, K., Kadalakar, C.	Ground state phase diagram of kagome Heisenberg antiferromagnet with	2019 AIP Conference Proceedings	2072	
1217	Ganguly, S., Maiti, S.K.	A comparative study of spin polarization between square and triangular antidots	2019 AIP Conference Proceedings	2072	
1218	Ghosh, S., Ghosh, S.	Role of composition, site ordering, and magnetic structure for the structural stability of off-stoichiometric Ni ₂ MnSb alloys	2019 Physical Review B	99	6
1219	Kundu, D., Chakma, S., Saikrishnan, S., Pugazhenthai, G., Banerjee, T.	Molecular modeling and experimental insights for the dehydrogenation of ethylene diamine bisborane using hydrogen sulfate based ionic liquid	2019 Journal of Industrial and Engineering Chemistry	70	472 483
1220	Li, Y.B., Shen, C.P., Yuan, C.Z., Adachi, I., Aihara, H., Al Said, S., Asner, D.M., Aushev, T., Ayad, R., Badhrees, I., et al	First measurements of absolute branching fractions of the Ξ_c on Belle	2019 Physical Review Letters	122	8

1221 Kayal, S., Manna, U., Das, G.	Fixation of atmospheric CO ₂ and recognition of anions/hydrated anions: Differential binding mode in protonated vs. neutral tripodal urea/thiourea receptors	2019 Inorganica Chimica Acta	486	576	581
1222 Das, C.R., Dutta, T., Ray, M.	Effect of ligand and bridge substitution on chiral recognition of 1-phenylethylammonium cation by an anionic	2019 Inorganica Chimica Acta	486	367	376
1223 Paul, G.C., Sarkar, P., Mukherjee, C.	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	2019 Inorganica Chimica Acta	486	213	220
1224 Shevchenko, E.A., Mitra, S., Ermakov, S.A., Titov, A.G., Ermakov, A.A., Pattader, P.S.G.	Joint mass transfer of two components associated with the spontaneous interfacial convection in the liquid-liquid extraction system	2019 Chemical Engineering Science	195	301	311
1225 Pandey, S., Jelli, S., Prasanna, S.R.M., Shekhawat, H.S.	Speaker Identification Using Tensor Decomposition of Acoustic Models	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2018-October	1484	1488
1226 Singh, P.K., Kumar Jha, S., Nandi, S.K., Nandi, S.	ML-Based Approach to Detect DDoS Attack in V2I Communication under SDN Architecture	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2018-October	144	149
1227 Singh, P.K., Saikamal Tabjul, G., Imran, M., Nandi, S.K., Nandi, S.	Impact of Security Attacks on Cooperative Driving Use Case: CACC Platooning	2019 IEEE Region 10 Annual International Conference, Proceedings/TENCON	2018-October	138	143
1228 Manocha, P., Kumar, A., Khan, J.A., Shin, H.	Korean Traffic Sign Detection Using Deep Learning	2019 Proceedings - International SoC Design Conference 2018, ISOCC 2018	247	247	248
1229 Lees, J.P., Poireau, V., Tisserand, V., Grauges, E., Palano, A., Eigen, G., Brown, D.N., Kolomensky, Yu.G., Fritsch, M., Koch, H., et al	Search for a Stable Six-Quark State at BABAR	2019 Physical Review Letters	122	7	7
1230 Banerjee, S., De, P.B., Pradhan, S., Shah, T.A., Punniyamurthy, T.	Ru ^{II} -Catalysed Regioselective C-N Bond Formation of Indolines and Carbazole with Acyl Azides	2019 European Journal of Organic Chemistry	2019	1677	1684

1231	Agarwal, S., De, S.	Cognitive multihoming system for enhanced cellular experience	2019	Handbook of Cognitive Radio	02-Mar	1445	1481
1232	Sumihama, M., Adachi, I., Ahn, J.K., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., Aushev, T., Ayad, R., Babu, V., et al	Observation of $\Xi(1620)0$ and Evidence for $\Xi(1690)0$ in $\Xi c^+ \rightarrow \Xi^- \pi^+ \pi^+ \pi^0$ Decays	2019	Physical Review Letters	122	7	
1233	Haridhasapavalan, K.K., Borgohain, M.P., Dey, C., Saha, B., Narayan, G., Kumar, S., Thummer, R.P.	An insight into non-integrative gene delivery approaches to generate transgene-free induced pluripotent stem cells	2019	Gene	686	146	159
1234	Gupta, R.K., Sudhakar, A.A.	Perylene-Based Liquid Crystals as Materials for Organic Electronics Applications	2019	Langmuir	35	7	2455 2479
1235	Barman, A., Das, M.	Toolpath generation and finishing of bio-titanium alloy using novel polishing tool in MFAF process	2019	International Journal of Advanced Manufacturing Technology	100	05-Aug	1123 1135
1236	Jain, V.K., Saren, K.K., Raghuram, V., Sankar, M.R.	Force analysis of magnetic abrasive nano-finishing of magnetic and non-magnetic materials	2019	International Journal of Advanced Manufacturing Technology	100	05-Aug	1137 1147
1237	Singh, S., Kumar, D., Ravi Sankar, M., Jain, V.K.	Viscoelastic medium modeling and surface roughness simulation of microholes finished by abrasive flow finishing process	2019	International Journal of Advanced Manufacturing Technology	100	05-Aug	1165 1182
1238	Sankar, M.R., Jain, V.K., Ramkumar, J., Sareen, S.K., Singh, S.	Medium rheological characterization and performance study during rotational abrasive flow finishing (R-AFF) of Al alloy and Al alloy/SiC MMCs	2019	International Journal of Advanced Manufacturing Technology	100	05-Aug	1149 1163
1239	Sleebea, S.Z., Jose, J., Palesi, M., James, R.K., Mini, M.G.	Traffic Aware Deflection Rerouting Mechanism for Mesh Network on Chip	2019	IEEE/IFIP International Conference on VLSI and System-on-Chip, VLSI-Soc	2018-October	25	30
1240	Girisa, S., Shabnam, B., Monisha, J., Fan, L., Halim, C.E., Arfuso, F., Ahn, K.S., Sethi, G., Kunnumakka-	Potential of zerumbone as an anti-cancer agent	2019	Molecules	24	4	

1241	Deka, B., Roy, P.	Weak Galerkin Finite Element Methods for Parabolic Interface Problems with Nonhomogeneous Jump Conditions	2019	Numerical Functional Analysis and Optimization	40	3	259	279
1242	Pal, C., Pradhan, S.	Risk sensitive control of pure jump processes on a general state space	2019	Stochastics	91	2	155	174
1243	Kainthola, J., Shariq, M., Kalamdhad, A.S., Goud, V.V.	Enhanced methane potential of rice straw with microwave assisted pretreatment and its kinetic analysis	2019	Journal of Environmental Management	232		188	196
1244	Mishra, N., Bhui, B., Vairakannu, P.	Comparative evaluation of performance of high and low ash coal fuelled chemical looping combustion integrated combined cycle power generation	2019	Energy	169		305	318
1245	Saxena, V., Sharma, S., Pandey, L.M.	Fe(III) doped ZnO nano-assembly as a potential heterogeneous nano-catalyst for the production of biodiesel	2019	Materials Letters	237		232	235
1246	Roy, A., Tiwari, S., Karmakar, S., Anki Reddy, K., Pandey, L.M.	The effect of the stoichiometric ratio of zinc towards the fibrillation of Bovine Serum Albumin (BSA): A mechanistic insight	2019	International Journal of Biological Macromolecules	123		409	419
1247	Barooah, M., Mandal, B.	Synthesis, characterization and CO ₂ separation performance of novel PVA/PG/ZIF-8 mixed matrix membrane	2019	Journal of Membrane Science	572		198	209
1248	Chowdhury, C., Das, S., Dalui, S., Majhi, B.R.	How robust is the indistinguishability between quantum fluctuation seen from noninertial frame and real thermal bath	2019	Physical Review D	99	4		
1249	Das, A., Natesan, S.	Parameter-uniform numerical method for singularly perturbed 2D delay parabolic convection-diffusion problems on Shishkin mesh	2019	Journal of Applied Mathematics and Computing	59	01-Feb	207	225
1250	Khonglah, B.K., Dey, A., Prasanna, S.R.M.	Speech Enhancement Using Source Information for Phoneme Recognition of Speech with Background Music	2019	Circuits, Systems, and Signal Processing	38	2	643	663

1251	Talukdar, U., Hazarika, S.M., Gan, J.Q.	Motor imagery and mental fatigue: inter-relationship and EEG based estimation	2019 Journal of Computational Neuroscience	46	1	55	76
1252	Shim, J., Kumar, M., Goswami, R., Mazumder, P., Oh, B.-T., Shea, P.J.	Removal of p-cresol and tylosin from water using a novel composite of alginate, recycled MnO ₂ and activated carbon	2019 Journal of Hazardous Materials	364		419	428
1253	Chouksey, R., Karfa, C., Bhaduri, P.	Formal verification of optimizing transformations during high-level synthesis	2019 ACM International Conference Proceeding Series				
1254	Chattaraj, K.G., Paul, S.	How does temperature modulate the structural properties of aggregated melamine in aqueous solution-An answer from classical molecular dynamics simulation	2019 Journal of Chemical Physics	150	6		
1255	Sahoo, S.C., Pan, S.C.	Catalytic Enantioselective Synthesis of 3,4,5-Trisubstituted Isoxazoline N-Oxides and Regioselective Synthesis of 3,4,5-Trisubstituted Isoxazoles	2019 European Journal of Organic Chemistry	2019	6	1385	1389
1256	Kumar, H., Bordoloi, S., Yamsani, S.K., Garg, A., Sekharan, S., Rakesh, R.R.	Erosion potential of compacted surface soils for multilayered cover system	2019 Advances in Civil Engineering Materials	8	1	134	144
1257	Bordoloi, S., Yamsani, S.K., Garg, A., Sekharan, S.	Critical assessment of infiltration measurements for soils with varying fine content using a mini disk infiltrometer	2019 Journal of Testing and Evaluation	47	2	868	888
1258	Alkayem, N.F., Parida, B., Pal, S.	Optimization of friction stir welding process using NSGA-II and DEMO	2019 Neural Computing and Applications	31		947	956
1259	Areda, G.T., Kore, S.D.	Numerical Study and Experimental Investigation on Electromagnetic Crimping for Tube-to-Rod Configuration	2019 International Journal of Precision Engineering and Manufacturing	20	2	181	191
1260	Bhunia, B.K., Mandal, B.B.	Exploring Gelation and Physicochemical Behavior of in Situ Bioresponsive Silk Hydrogels for Disc Degeneration Therapy	2019 ACS Biomaterials Science and Engineering	5	2	870	886

1261	Gupta, P., Moses, J.C., Mandal, B.B.	Surface Patterning and Innate Physicochemical Attributes of Silk Films Concomitantly Govern Vascular Cell Dynamics	2019 ACS Biomaterials Science and Engineering	5	2	933	949
1262	Killi, B.P.R., Rao, S.V.	Towards improving resilience of controller placement with minimum backup capacity in software defined networks	2019 Computer Networks	149		102	114
1263	Borah, D., Karmakar, B.	Linear seesaw for Dirac neutrinos with $A \rightarrow \infty$ flavour symmetry	2019 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics	789		59	70
1264	Bordoloi, S., Gopal, P., Boddu, R., Wang, Q., Cheng, Y.-F., Garg, A., S. S.	Soil-biochar-water interactions: Role of biochar from Eichhornia crassipes in influencing crack propagation and suction in unsaturated soils	2019 Journal of Cleaner Production	210		847	859
1265	Bhasney, S.M., Bhagabati, P., Kumar, A., Katiyar, V.	Morphology and crystalline characteristics of polylactic acid [PLA]/linear low density polyethylene [LLDPE]/microcrystalline cellulose [MCC] fiber composite	2019 Composites Science and Technology	171		54	61
1266	Changmai, M., Pasawan, M., Purkait, M.K.	Treatment of oily wastewater from drilling site using electrocoagulation followed by microfiltration	2019 Separation and Purification Technology	210		463	472
1267	Barakat, N., Sharma, D.	Modelling and Bi-objective Optimization of Soil Cutting and Pushing Process for Bulldozer and its Blade	2019 Journal of The Institution of Engineers (India): Series C	100	1	129	143
1268	Sajith, S., Krishna Murthy, K.S.R., Robi, P.S.	Prediction of Accurate Mixed Mode Fatigue Crack Growth Curves using the Paris' Law	2019 Journal of The Institution of Engineers (India): Series C	100	1	165	174
1269	Middya, S., Bhattacharjee, M., Bandyopadhyay, D.	Reusable nano-BG-FET for point-of-care estimation of ammonia and urea in human urine	2019 Nanotechnology	30	14		
1270	Behera, A., Rakshit, A., Sahoo, A.K., Patel, B.K.	One Pot Sequential Synthesis of N-[2-(Phenylsulfinyl)phenyl]acetamides: A Ring Opening Rearrangement Functionalization (RORF)	2019 European Journal of Organic Chemistry	2019	5	1154	1165

1271	Bhadra, R., Pankaj, P., Biswas, P., Dixit, U.S.	Thermo-Mechanical Analysis of CO <inf>2</inf> Laser Butt Welding on AISI 304 Steel Thin Structures	2019	International Journal of Steel Structures	19	1	14	27
1272	Sahoo, S.C., Maity, R., Pan, S.C.	DBU-Mediated Addition of α -Nitroketones to α -Cyano-enones and α,β -Unsaturated α -Ketoesters: Synthesis of Dihydrofurans and	2019	ACS Omega	4	2	2792	2803
1273	Abdelaziz, A.H.M., Kumar, P., Sarma, A.K.	Effective focusing of a diverging atomic beam by a sequence of alternatively chirped few-cycle pulsed laser fields	2019	Physical Review A	99	2		
1274	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	2019	Proceedings of the Conference on the Industrial and Commercial Use of Energy, 2018			2018-October	
1275	Das, D., Hrishikeshan, V.M., Kumar, C.	Smart Transformer-based Hybrid LVAC and LVDC Interconnected Microgrid	2019	2018 IEEE 4th Southern Power Electronics Conference, SPEC 2018				
1276	Lakshmi, D.V.N., Layek, A., Muthukumar, P.	Evaluation of Convective Heat Transfer Coefficient of Herbs Dried in a Mixed Mode Solar Dryer	2019	Proceedings of the Conference on the Industrial and Commercial Use of Energy, ICUE			2018-October	
1277	Furuta, T., Kumar, S., Reddy, K.A., Nitya, H., Katsuragi, H.	Packing-dependent granular friction exerted on a rod withdrawn from a granular layer: The role of shear jamming	2019	New Journal of Physics	21	2		
1278	Talukdar, A.K., Bhuyan, M.K.	Movement epenthesis detection in continuous fingerspelling from a coarsely sampled motion vector field in H.264/AVC video	2019	2018 IEEE Recent Advances in Intelligent Computational Systems, RAICS 2018			26	30
1279	Borthakur, U., Biswas, S., Saikia, A.K.	Vinylsilanes in Highly Diastereo- and Regio-Selective Synthesis of Dihydropyrans	2019	ACS Omega	4	2	2630	2636
1280	Paul, G.C., Das, K., Maity, S., Begum, S., Srivastava, H.K., Mukherjee, C.	Geometry-Driven Iminosemiquinone Radical to Cu(II) Electron Transfer and Stabilization of an Elusive Five-Coordinate Cu(I) Complex: Synthesis, Characterization, and Reactivity	2019	Inorganic Chemistry	58	3	1782	1793

1281	Lukose, V., Nemade, H.B.	Finite element simulation of one-port surface acoustic wave resonator with thick interdigital transducer for gas sensing	2019	Microsystem Technologies	25	2	441	446
1282	Gopal, P., Bordoloi, S., Ratnam, R., Lin, P., Cai, W., Buragohain, P., Garg, A., Sreedeeep, S.	Investigation of infiltration rate for soil-biochar composites of water hyacinth	2019	Acta Geophysica	67	1	231	246
1283	Ishita, I., Kulkarni, D., Semwal, T., Nair, S.B.	On securing mobile agents using blockchain technology	2019	2019 2nd International Conference on Advanced Computational and Communication Paradigms, ICACCP 2019				
1284	Bakshi, P., Nandi, S.	Secure, privacy enhanced and anonymous communication between vehicle and infrastructure	2019	2019 2nd International Conference on Advanced Computational and Communication Paradigms, ICACCP 2019				
1285	Vijith, K.K.P., Rai, B.K., Jacob, T.	Towards the exact rate memory tradeoff in coded caching	2019	25th National Conference on Communications, NCC 2019				
1286	Prabhakararao, E., Dandapat, S.	A weighted SVM based approach for automatic detection of posterior myocardial infarction using VCG signals	2019	25th National Conference on Communications, NCC 2019				
1287	Hazarika, J., Khan, M.T., Ahamed, S.R., Nemade, H.B.	High performance multiplierless serial pipelined VLSI architecture for real-valued FFT	2019	25th National Conference on Communications, NCC 2019				
1288	Kumar, P., Dhaka, K.	Performance analysis of wireless powered decode-and-forward relay system	2019	25th National Conference on Communications, NCC 2019				
1289	Yarnagula, H.K., Tamarapalli, V.	The HTTP/2 server push and its implications on mobile web quality of experience	2019	25th National Conference on Communications, NCC 2019				
1290	Kapri, P., Basu, S.	Thermopower generation and thermoelectric cooling in a Kane-Mele normal-insulator-superconductor nano-junction	2019	EPL	125	4		

1291	Singh, P., Biswas, P., Kore, S.D.	Influence of traverse speed in self-reacting FSW of AA6061-T6	2019	Journal of Ship Production and Design	35	1	69	79
1292	Maity, R., Bhattacharya, S.	Is My Interface Beautiful? - A Computational Model-Based Approach	2019	IEEE Transactions on Computational Social Systems	6	1	149	161
1293	Jayakrishnan, U., Deka, D., Das, G.	Enhancing the volatile fatty acid production from agro-industrial waste streams through sludge pre-treatment	2019	Environmental Science: Water Research and Technology	5	2	334	345
1294	Venugopal T, V., De, A.K.	Flow periodicity and convection modes in rotating Rayleigh-Bénard convection at low Rayleigh numbers	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	2		
1295	Manne, S.R., Chandra, J., Mandal, B.	Synthesis of o-Nitroarylamines via Ipson Nucleophilic Substitution of Sulfonic Acids	2019	Organic Letters	21	3	636	639
1296	Das, B., Mohanty, K.	A green and facile production of catalysts from waste red mud for the one-pot synthesis of glycerol carbonate from glycerol	2019	Journal of Environmental Chemical Engineering	7	1		
1297	Basavaraju, S., Gaj, S., Sur, A.	Object Memorability Prediction using Deep Learning: Location and Size Bias	2019	Journal of Visual Communication and Image Representation	59		117	127
1298	Bhui, B., Vairakannu, P.	Prospects and issues of integration of co-combustion of solid fuels (coal and biomass) in chemical looping technology	2019	Journal of Environmental Management	231		1241	1256
1299	Naik, B.K., Muthukumar, P.	Experimental investigation and parametric studies on structured packing chamber based liquid desiccant dehumidification and regeneration systems	2019	Building and Environment	149		330	348
1300	Sandeep, P., Jacob, T.	Joint color space GMMs for CFA demosaicking	2019	IEEE Signal Processing Letters	26	2	232	236

1301 Bhowal, A., Kshetrimayum, R.S.	Outage probability bound of decode and forward two-way full-duplex relay employing spatial modulation over cascaded $\alpha - \mu$ channels	2019 International Journal of Communication Systems	32	3
1302 Maity, S., Chaudhuri, J., Mitra, S., Rarotra, S., Bandyopadhyay, D.	Electric field assisted multicomponent reaction in a microfluidic reactor for superior conversion and yield	2019 Electrophoresis	40	3 401 409
1303 Rani, A., Rajulapati, V., Goyal, A.	Antitumor effect of chondroitin AC lyase (PsPL8A) from <i>Pedobacter saltans</i> on melanoma and fibrosarcoma cell lines by in vitro analysis	2019 Pharmacological Reports	71	1 167 174
1304 Biswas, S., Gogoi, A.K.	A wearable piezoresistive microaccelerometer with low cross-axis sensitivity for neurological disease diagnosis	2019 AEU - International Journal of Electronics and Communications	99	177 185
1305 Gupta, C.B., Yamsani, S.K., Prakash, A., Medhi, C.R., Sreedeeep, S.	Appropriate Liquid-to-Solid Ratio for Sorption Studies of Bentonite	2019 Journal of Environmental Engineering (United States)	145	2
1306 Sahu, D.K., Singha, D., Sahu, K.	Sensing of iron (III)-biomolecules by surfactant-free fluorescent copper nanoclusters	2019 Sensing and Bio-Sensing Research	22	
1307 Singh, T.G., Singh, K.D.	Post-fire mechanical properties of YSt-310 cold-formed steel tubular sections	2019 Journal of Constructional Steel Research	153	654 666
1308 Jain, M.S., Kalamdhad, A.S.	Drum composting of nitrogen-rich <i>Hydrilla verticillata</i> with carbon-rich agents: Effects on composting physics and kinetics	2019 Journal of Environmental Management	231	770 779
1309 Sangam, R.S., Poolakkal, S., Palthiya, R., Nallam, N., Kshetrimayum, R.S.	Dual-port, aperture coupled and tapered fed patch antenna for full-duplex ISM applications	2019 Microwave and Optical Technology Letters	61	2 542 545
1310 Mishra, S., Mohanty, K.	Comprehensive characterization of microalgal isolates and lipid-extracted biomass as zero-waste bioenergy feedstock: An integrated bioremediation and biorefinery approach	2019 Bioresource Technology	273	177 184

1311 Shukla, A., Goud, V.V., Das, C.	Antioxidant potential and nutritional compositions of selected ginger varieties found in Northeast India	2019 Industrial Crops and Products	128	167	176
1312 Kamson, A.P., Sharma, L.N., Dandapat, S.	Multi-centroid diastolic duration distribution based HSMM for heart sound segmentation	2019 Biomedical Signal Processing and Control	48	265	272
1313 Sathe, S.S., Mahanta, C.	Groundwater flow and arsenic contamination transport modeling for a multi aquifer terrain: Assessment and mitigation strategies	2019 Journal of Environmental Management	231	166	181
1314 Arunachalam, M., Mondal, C., Singh, G., Karmakar, S.	Motorcycle riding posture: A review	2019 Measurement: Journal of the International Measurement Confederation	134	390	399
1315 Alok, A., Das, M.	Multi-objective optimization of cutting parameters during sustainable dry hard turning of AISI 52100 steel with newly developed HSN ² -coated carbide insert	2019 Measurement: Journal of the International Measurement Confederation	133	288	302
1316 Kumari, S., Kumar, N., Gupta, R.	Flow and heat transfer in slug flow in microchannels: Effect of bubble volume	2019 International Journal of Heat and Mass Transfer	129	812	826
1317 Das, S., Bandyopadhyay, S.	On some sign patterns of algebraically positive matrices	2019 Linear Algebra and Its Applications	562	91	122
1318 Reddy, M.M., Tiwari, P., Singh, A.	Effect of carrier fluid rheology on shear-induced particle migration in asymmetric T-shaped bifurcation channel	2019 International Journal of Multiphase Flow	111	272	284
1319 Shakya, P., Sinha, R.K.	A posteriori error analysis for finite element approximations of parabolic optimal control problems with measure data	2019 Applied Numerical Mathematics	136	23	45
1320 Vishal, B., Ghosh, P.	The effect of silica nanoparticles on the stability of aqueous foams	2019 Journal of Dispersion Science and Technology	40	206	218

1321	Khan, M.T., Shaik, R.A.	Optimal complexity architectures for pipelined distributed arithmetic-based LMS adaptive filter	2019	IEEE Transactions on Circuits and Systems I: Regular Papers	66	2	630	642
1322	Bhaskar Naik, M., Kumar, P., Majhi, S.	Smart public transportation network expansion and its interaction with the grid	2019	International Journal of Electrical Power and Energy Systems	105		365	380
1323	Devaraj, R., Sarkar, A., Biswas, S.	Supervisory control approach and its symbolic computation for power-aware RT scheduling	2019	IEEE Transactions on Industrial Informatics	15	2	787	799
1324	Saikia, T., Baruah, M., Bag, S.	On the effect of heat input in plasma microwelding of maraging steel	2019	Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture	233	3	807	822
1325	Sehgal, B., Shekhawat, H.S., Jana, S.K.	Automatic Target Recognition Using Recurrent Neural Networks	2019	1st International Conference on Range Technology, ICORT 2019				
1326	Saha, M., Saynik, P.B., Borah, A., Malani, R.S., Arya, P., Shivangi, Moholkar, V.S.	Dioxane-based extraction process for production of high quality lignin	2019	Bioresource Technology Reports	5		206	211
1327	Kalita, S., Karmakar, A., Hazarika, S.M.	Human fall detection during activities of daily living using extended CORE9	2019	2019 2nd International Conference on Advanced Computational and Communication Paradigms, ICACCP 2019				
1328	Barnwal, S., Peng, W.	Crowdsensing-based WiFi indoor localization using feed-forward multilayer perceptron regressor	2019	ICCIDS 2019 - 2nd International Conference on Computational Intelligence in Data Science, Proceedings				
1329	Akhtar, N., Gupta, K., Goyal, D., Goyal, A.	Lignocellulosic biomass characteristics for bioenergy application: An overview	2019	Environmental Engineering and Management Journal	18	2	367	383
1330	Gupta, R., Kashyap, S., Pothan, E.V.	Interference violation probability constrained underlay cognitive massive MIMO network under imperfect channel knowledge	2019	25th National Conference on Communications, NCC 2019				

1331	Roy, A., Deb, D., Nemade, H.B., Bhattacharjee, R.	Design of discrete frequency-coding waveforms using phase-coded linear chirp for multiuser and MIMO radar systems	2019	25th National Conference on Communications, NCC 2019		
1332	Deka, A., Sarmah, P., Samudravijaya, K., Prasanna, S.R.M.	Development of assamese text-to-speech system using deep neural network	2019	25th National Conference on Communications, NCC 2019		
1333	Frank, M., Özdal, Ö., Poullose, P.	Relaxing LHC constraints on the WR mass	2019	Physical Review D	99	3
1334	Khan, M.M., Sonkar, R.K.	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	2019	Optical Engineering	58	2
1335	Chowdhury, C., Das, A., Majhi, B.R.	Unruh-DeWitt detector in the presence of multiple scalar fields: A toy model	2019	European Physical Journal Plus	134	2
1336	Bhattacharya, S., Ghosh, P., Sahu, N.	Multiparite dark matter with scalars, fermions and signatures at LHC	2019	Journal of High Energy Physics	2019	2
1337	Gaikwad, H.S., Baghel, P., Sarma, R., Mondal, P.K.	Transport of neutral solutes in a viscoelastic solvent through a porous microchannel	2019	Physics of Fluids	31	2
1338	Sarma, N., Bora, K., Borah, D.	Compatibility of A $\langle \text{inf} \rangle$ flavour symmetric minimal extended seesaw with (3 + 1) neutrino data	2019	European Physical Journal C	79	2
1339	Mal, E., Junjuri, R., Gundawar, M.K., Khare, A.	Optimization of temporal window for application of calibration free-laser induced breakdown spectroscopy (CF-LIBS) on copper alloys in air employing a single line	2019	Journal of Analytical Atomic Spectrometry	34	2
1340	Chaudhuri, S., Chowdhury, C., Loganayagam, R.	Spectral representation of thermal OTO correlators	2019	Journal of High Energy Physics	2019	2

1341	Govindarajan, A., Sarma, A.K., Lakshmanan, M.	Tailoring PT -symmetric soliton switch	2019 Optics Letters	44	3	663	666
1342	Aktar, R., Nandi, A., Das, S.	Accretion-ejection in rotating black holes: a model for 'outliers' track of radio-X-ray correlation in X-ray binaries	2019 Astrophysics and Space Science	364	2		
1343	Gangsar, P., Tiwari, R.	Diagnostics of mechanical and electrical faults in induction motors using wavelet-based features of vibration and current through support vector machine algorithms for various operating conditions	2019 Journal of the Brazilian Society of Mechanical Sciences and Engineering	41	2		
1344	Nanda, S.R., Kulkarni, V., Sahoo, N., Menezes, V.	An innovative approach for prediction of aerodynamic coefficients in shock tunnel testing with soft computing techniques	2019 Measurement: Journal of the International Measurement Confederation	134		773	780
1345	Karmakar, S., Sarkar, N., Pandey, L.M.	Proline functionalized gold nanoparticles modulates lysozyme fibrillation	2019 Colloids and Surfaces B: Biointerfaces	174		401	408
1346	Sharma, P.K., Biswas, S., Mitra, P.	Energy efficient heuristic application mapping for 2-D mesh-based network-on-chip	2019 Microprocessors and Microsystems	64		88	100
1347	Phukan, R., Gogoi, S.B., Tiwari, P.	Alkaline-surfactant-alternated-gas/CO ₂ flooding: Effects of key parameters	2019 Journal of Petroleum Science and Engineering	173		547	557
1348	Lala, H., Karmakar, S., Ganguly, S.	Detection and localization of faults in smart hybrid distributed generation systems: A Stockwell transform and artificial neural network-based approach	2019 International Transactions on Electrical Energy Systems	29	2		
1349	Dutta, S., Mondal, P.K., Goswami, P.	Slipping hydrodynamics of Powell-Eyring fluid in a cylindrical microchannel under electrical double layer phenomenon	2019 Physica Scripta	94	2		
1350	Chopra, R., Murthy, C.R., Suraweera, H.A., Larsson, E.G.	Analysis of Nonorthogonal Training in Massive MIMO under Channel Aging with SIC Receivers	2019 IEEE Signal Processing Letters	26	2	282	286

1351	Shanker, G., Bindushree, A., Chaitra, K., Pratap, P., Gupta, R.K., Achalkumar, tems	Room temperature helical fluids in single-component systems	2019	Journal of Molecular Liquids	275	849	858
1352	Basak, S., Chakrabarty, I., Hedao, V., Shelke, R.G., Rangan, L.	Assessment of genetic variation among wild <i>Alpinia nigra</i> (Zingiberaceae) population: an approach based on micro-	2019	Molecular Biology Reports	46	1	177
1353	Kaushik, P., Mondal, P.K., Kundu, P.K., Wongwises, S.	Rotating electroosmotic flow through a polyelectrolyte-grafted microchannel: An analytical solution	2019	Physics of Fluids	31	2	
1354	Saha, N., Shah, R., Gupta, P., Mandal, B.B., Alexandrova, R., Sikiric, M.D., Saha, compatible scaffold for osseointegration	PVP - CMC hydrogel: An excellent bioinspired and biocompatible scaffold for osseointegration	2019	Materials Science and Engineering C	95	440	449
1355	Khateb, F., Kulej, T., Veldandi, H., Jaikla, W.	Multiple-input bulk-driven quasi-floating-gate MOS transistor for low-voltage low-power integrated circuits	2019	AEU - International Journal of Electronics and Communications	100	32	38
1356	Mahato, K., Nagpal, S., Shah, M.A., Srivastava, A., Maurya, P.K., Roy, S., Jaiswal, A., Singh, R., Chandra, P.	Gold nanoparticle surface engineering strategies and their applications in biomedicine and diagnostics	2019	3 Biotech	9	2	
1357	Sailo, B.L., Banik, K., Girisa, S., Boroloi, D., Fan, L., Halim, C.E., Wang, H., Kumar, A.P., Zheng, D., Mao, X., Sethi, G., Kunnumakkara, A.B.	FBXW7 in cancer: What has been unraveled thus far?	2019	Cancers	11	2	
1358	Singh, Y.P., Girisa, S., Banik, K., Ghosh, S., Swathi, P., Deka, M., Padmavathi, G., Kotoky, J., Sethi, G., Fan, L., Mao, X., Halim, C.E., Arfuso, F., Kunnumakkara, A.B.	Potential application of zerumbone in the prevention and therapy of chronic human diseases	2019	Journal of Functional Foods	53	248	258
1359	Kaliyar, A.B., Behera, P., Mohanty, G.B., Gaur, V., Adachi, I., Ahn, J.K., Aihara, H., Al Said, S., Asner, D.M., Aulchenko, V., et al	Measurements of branching fraction and direct CP asymmetry in $B \rightarrow KS0KS0$ and a search for $B \rightarrow KS0KS0$	2019	Physical Review D	99	3	
1360	Lu, P.-C., Wang, M.-Z., Chistov, R., Chang, P., Adachi, I., Ahn, J.K., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., et al	Observation of $B \rightarrow p \Lambda \bar{K} K$ and $B \rightarrow p \bar{K} K$ OBSERVATION of ... P.-C. LU et al.	2019	Physical Review D	99	3	

1361	Watanuki, S., Ishikawa, A., Adachi, I., Alhara, H., Al Said, S., Asner, D.M., Aushev, T., Ayad, R., Babu, V., Ba-	Measurements of isospin asymmetry and difference of direct CP asymmetries in inclusive $B \rightarrow \text{XSY}$ decays	2019	Physical Review D	99	3
1362	Maity, D., Saha, P.	Minimal plateau inflationary cosmologies and constraints from reheating	2019	Classical and Quantum Gravity	36	4
1363	Dwari, S., Jana, C.K.	Regio- and Enantioselective (Het) arylation of β -Alkenyl Pyrroline to α -Aryl-	2019	ACS Omega	4	1 2445 245 4
1364	Castellanos, N.J., Martinez Rojas, Z., Caramargo, H.A., Biswas, S., Granados-Oliveros, G.	Congo red decomposition by photocatalytic formation of hydroxyl radicals (OH^\bullet) using titanium met-	2019	Transition Metal Chemistry	44	1 77 87
1365	Konidena, S., Reddy, K.A., Singh, A.	Dynamics of bidensity particle suspen-	2019	Physical Review E	99	1
1366	Malhotra, V.M., Anand, A.	Teaching a University-Wide Programming Laboratory: Managing a C Programming Laboratory for a Large Class	2019	ACM International Conference Proceeding Series	1	10
1367	Das, B., Selvaraj, G., Patra, S.	An environmentally sustainable process for remediation of phenol polluted wastewater and simultaneous clean energy generation as by-product	2019	International Journal of Environmental Science and Technology	16	1 147 170
1368	Buragohain, P., Sreedeeep, S., Lin, P., Ni, J., Garg, A.	Influence of soil variability on single and competitive interaction of ammonium and potassium: experimental study on	2019	Journal of Soils and Sediments	19	1 186 197
1369	Santra, B., Mandal, D., Gupta, V., Kalita, P., Kumar, V., Narayanan, R.S., Dey, A., Chrysochos, N., Mohammad, A., Singh, A., Zimmer, M., Dalapati, R., Biswas, S., Schulzke, C., Chandrasekhar, V.,	Structural Diversity in Supramolecular Organization of Anionic Phosphate Monoesters: Role of Cations	2019	ACS Omega	4	1 2118 213 3
1370	Saikia, P., Baruah, R.D.	An Empirical Study on Unsupervised Pre-training Approaches in Regression Problems	2019	Proceedings of the 2018 IEEE Symposium Series on Computational Intelligence, SSCI 2018	342	349

1371	Sarma, N., Singh, S.R., Goswami, D.	Word Level Language Identification in Assamese-Bengali-Hindi-English Code-Mixed Social Media Text	2019	Proceedings of the 2018 International Conference on Asian Language Processing, IALP 2018	261	266
1372	Ravi, B., Bhattacharjee, M., Ghosh, A., Bandyopadhyay, D.	Fabrication of pixelated liquid crystal nanostructures employing the contact	2019	Nanoscale	11	4 1680 1691
1373	Laitonjam, L., Singh, L.G., Singh, S.R.	Transliteration of English Loanwords and Named-Entities to Manipuri: Phoneme vs Grapheme Representation	2019	Proceedings of the 2018 International Conference on Asian Language Processing, IALP 2018	255	260
1374	Hegde, S., Kumar, V., Singh, A.	Risk aware portfolio construction using deep deterministic policy gradients	2019	Proceedings of the 2018 IEEE Symposium Series on Computational Intelligence, SSCI 2018	1861	1867
1375	Varia, N., Dokania, A., Senthinath, J.	DeepExt: A Convolution Neural Network for Road Extraction using RGB images captured by UAV	2019	Proceedings of the 2018 IEEE Symposium Series on Computational Intelligence, SSCI 2018	1890	1895
1376	Dokania, A., Varia, N., Senthinath, J.	EObjCount: An Evolving Spectral and Spatial Approach for Tree Count using Multispectral Satellite Images	2019	Proceedings of the 2018 IEEE Symposium Series on Computational Intelligence, SSCI 2018	1896	1901
1377	Prabhakararao, E., Dandapat, S.	Automatic quality estimation of 12-lead ECG for remote healthcare monitoring systems	2019	2018 IEEE EMBS Conference on Biomedical Engineering and Sciences, IECBES 2018 - Proceedings	554	559
1378	Barman, U., Goswami, N., Ghosh, S.S., Paily, R.P.	Simulation Studies on ZnO Nanoparticle Based FET Device for Possible Biosensing	2019	Proceedings of the IEEE Conference on Nanotechnology	2018-July	
1379	Nag, S.S., Mukherjee, G., Barman, P., Sastri, C.V.	Influence of induced steric on the switchover reactivity of mononuclear	2019	Inorganica Chimica Acta	485	80 85
1380	Nallikuzhy, J.J., Dandapat, S., Khayrul Bashar, M.	Spatially enhanced ECG using patient-specific dictionary learning	2019	2018 IEEE EMBS Conference on Biomedical Engineering and Sciences, IECBES 2018 - Proceedings	360	365

1381	Bashar, M.K., Dandapat, S., Kumazawa, I.	Heart abnormality classification using phonocardiogram (PCG) signals	2019	2018 IEEE EMBS Conference on Biomedical Engineering and Sciences, IECBES 2018 - Proceedings	336	340
1382	Swain, C.K., Sahu, A.	Interference Aware Scheduling of Real Time Tasks in Cloud Environment	2019	Proceedings - 20th International Conference on High Performance Computing and Communications, 16th International Conference on Smart City and 4th International Conference on Data Science and Systems, HPCC/SmartCity/DSS 2018	974	979
1383	Kumar, S., Vishnoi, P., Sarkar, A., Sur, A.	QoE Aware Resource Allocation for Multi-view Video Flows in LTE	2019	Proceedings - 20th International Conference on High Performance Computing and Communications, 16th International Conference on Smart City and 4th International Conference on Data Science and Systems, HPCC/SmartCity/DSS 2018	526	532
1384	Mondal, B., Saha, S., Borah, D., Mazumdar, R., Mondal, B.	Nitric Oxide Dioxigenase Activity of a Nitrosyl Complex of Cobalt(II) Porphyrinate in the Presence of Hydrogen Peroxide via Putative Peroxynitrite Intermediate	2019	Proceedings - 20th International Conference on High Performance Computing and Communications, 16th International Conference on Smart City and 4th International Conference on Data Science and Systems, HPCC/SmartCity/DSS 2018	58	1234 1240
1385	Moulik, S., Devaraj, R., Sarkar, A.	HETERO-SCHED: A Low-Overhead Heterogeneous Multi-core Scheduler for Real-Time Periodic Tasks	2019	Proceedings - 20th International Conference on High Performance Computing and Communications, 16th International Conference on Smart City and 4th International Conference on Data Science and Systems, HPCC/SmartCity/DSS 2018	659	666
1386	Tanwar, A.S., Patidar, S., Ahirwar, S., Dehingia, S., Iyer, P.K.	Receptor free inner filter effect based universal sensors for nitroexplosive picric acid using two polyfluorene derivatives in the solution and solid states	2019	Analyst	144	2 669 676
1387	Singh, R., Das, G.	Turn-on Pb ²⁺ sensing and rapid detection of biothiols in aqueous medium and real samples	2019	Analyst	144	2 567 572
1388	Shakya, A.K., Ghosh, P.K.	Stability against arsenic leaching from biogenic arsenosulphides generated under reduced environment	2019	Journal of Cleaner Production	208	1557 1562
1389	Prjapati, J., Bharadwaj, M., Chatterjee, A., Bhattacharjee, R.	Radiation field analysis of a photoconductive antenna using an improved carrier dynamics	2019	Semiconductor Science and Technology	34	2

1390	Moulik, S., Devaraj, R., Sarkar, A.	COST: A Cluster-Oriented Scheduling Technique for Heterogeneous Multi-cores	2019 Proceedings - 2018 IEEE International Conference on Systems, Man, and Cybernetics, SMC 2018	195	195
				1	7
1391	Pramanik, B., Ahmed, S., Singha, N., Das, B.K., Dowari, P., Das, D.	Unorthodox Combination of Cation- π and Charge-Transfer Interactions within a Donor-Acceptor Pair	2019 Langmuir	35	2 478 488
1392	Das, M., Baro, S., Kumar, S.	Evaluation of imidazole and its derivative against Newcastle disease virus infection in chicken: A drug repurposing approach	2019 Virus Research	260	114 122
1393	Mandal, N., Bhattacharjee, M., Chattopadhyay, A., Bandyopadhyay, D.	Point-of-care-testing of α -amylase activity in human blood serum	2019 Biosensors and Bioelectronics	124-125	75 81
1394	Chakravarty, K., Dalal, D.C.	A Nonlinear Mathematical Model of Drug Delivery from Polymeric Matrix	2019 Bulletin of Mathematical Biology	81	1 105 130
1395	Bera, M., Guru Prem Prasad, M.	Fixed points and dynamics of two-parameter family of hyperbolic cosine like functions	2019 Journal of Mathematical Analysis and Applications	469	2 107 107 0 9
1396	George, R.T., Dar, T.A., Joshi, D.C., Sathe, V., Rathore, A.K., Thota, S.	Thermal hysteresis and vibrational excitations in NiO containing NaNbO_3	2019 Journal of Physics D: Applied Physics	52	11
1397	Deka, J., Saha, K., Konch, T.J., Gogoi, R.K., Saikia, S., Saikia, P.P., Dutta, G.K., Raidongia, K.	Reconstruction of Soil Components into Multifunctional Freestanding Membranes	2019 ACS Omega	4	1 129 129 2 9
1398	Kumar, A., Singh, A.R., Deng, Y., He, X., Kumar, P., Bansal, R.C.	Integrated assessment of a sustainable microgrid for a remote village in hilly region	2019 Energy Conversion and Management	180	442 472
1399	Chen, J.-W., Dai, S.-H., Maity, D., Sun, S., Zhang, Y.-L.	Towards searching for entangled photons in the CMB sky	2019 Physical Review D	99	2
1400	Kumar, S., Dhiman, M., Reddy, K.A.	Magnus effect in granular media	2019 Physical Review E	99	1

1401	Chouhan, D., Mehrotra, S., Majumder, O., Mandal, B.B.	Magnetic Actuator Device Assisted Modulation of Cellular Behavior and Tuning of Drug Release on Silk Platform	2019 ACS Biomaterials Science and Engineering	5	1	92	105
1402	Satheesh, V., Srivastava, H.K., Kumar, S.V., Sengoden, M., Punniyamurthy, T.	Stereospecific Al-Catalysed Tandem C–N/C–Se Bond Formation of Isoselenocyanates with Aziridines: Synthesis and DFT Study	2019 Advanced Synthesis and Catalysis	361	1	55	58
1403	Singh, M.P., Baruah, J.B.	Photophysical Properties of Phthalimide and Pyromellitic Diimide Tethered Imidazolium Nitrophenolate Salts	2019 ChemistrySelect	4	1	10	16
1404	Dixit, A., Middy, S., Mitra, S., Maity, S., Bhattacharjee, M., Bandyopadhyay, D.	Unexplored Pathways to Charge Storage in Supercapacitors	2019 Journal of Physical Chemistry C	123	1	195	204
1405	Dalui, S., Majhi, B.R., Mishra, P.	Presence of horizon makes particle motion chaotic	2019 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics	788		486	493
1406	Singh, K.R., Dutta, R., Kalamdhad, A.S., Kumar, B.	An investigation on water quality variability and identification of ideal monitoring locations by using entropy based disorder indicators	2019 Science of the Total Environment	647		1444	1455
1407	Singh, K., Gangrade, A., Jana, A., Mandal, B.B., Das, N.	Design, Synthesis, Characterization, and Antiproliferative Activity of Organoplatinum Compounds Bearing a 1,2,3-Triazole Ring	2019 ACS Omega	4	1	835	841
1408	Karnalim, O., Budi, S., Santoso, S., Handoyo, E.D., Toba, H., Nguyen, H., Malhotra, V.	FACE-Face at classroom environment: Dataset and exploration	2019 2018 8th International Conference on Image Processing Theory, Tools and Applications, IPTA 2018 - Proceedings				
1409	Arun, R.K., Gupta, V., Singh, P., Biswas, G., Chanda, N.	Selection of Graphite Pencil Grades for the Design of Suitable Electrodes for Stacking Multiple Single-Inlet Paper-Pencil Fuel Cells	2019 ChemistrySelect	4	1	152	159
1410	Prabakar, K., Raghuramaiah, M., Balasubramanian, S., Midhya, S., Avinash, P., Sundari, S.T.	Residual stress in underlying silicon at the fixed end of SiO ₂ microcantilevers - A micro-Raman study	2019 Modern Physics Letters B	33	1		

1411	Datta, D., Kumar, V., Kumar, S., Nagaraj, R., Chaudhary, N.	Hydrogel Formation by an Aromatic Analogue of a β -Amyloid Fragment, β -16-22: A Scaffold for 3D	2019	ACS Omega	4	1	620	627
1412	Anand, R., Agrawal, M., Mattaparthi, V.S.K., Swaminathan, R., Santra, S.B.	Consequences of Heterogeneous Crowding on an Enzymatic Reaction: A Residence Time Monte Carlo Approach	2019	ACS Omega	4	1	727	736
1413	Garaga, R., Avinash, C.K.R., Kota, S.H.	Seasonal variation of airborne allergenic fungal spores in ambient PM ₁₀ —a study in Guwahati, the largest city of north-east India	2019	Air Quality, Atmosphere and Health	12	1	11	20
1414	Ngashangva, L., Bachu, V., Goswami, P.	Development of new methods for determination of bilirubin	2019	Journal of Pharmaceutical and Biomedical Analysis	162		272	285
1415	Najm, M., Tamarapalli, V.	A cost-aware algorithm for placement of enterprise applications in federated cloud data center	2019	ACM International Conference Proceeding Series			510	
1416	Saikia, P., Karmakar, S.	A simple $2(1 - \sup)$ factor distributed approximation algorithm for Steiner tree in the CONGEST model	2019	ACM International Conference Proceeding Series			41	50
1417	Bhowmick, S., Sorathia, K.	Findings of the user study conducted to understand the training of rural ASHAs in India	2019	ACM International Conference Proceeding Series				
1418	Budi, S., Kamalim, O., Handoyo, E.D., Santoso, S., Toba, H., Nguyen, H., Malhotra, V.	IBATS - Image based attendance system: A low cost solution to record student attendance in a classroom	2019	Proceedings - 2018 IEEE International Symposium on Multimedia, ISM 2018			259	266
1419	Seong, I.S., Vahsen, S.E., Aihara, H., AlSaid, S., Asner, D.M., Aulchenko, V., Aushev, T., Ayad, R.,	Search for a Light CP-odd Higgs Boson and Low-Mass Dark Matter at the Belle Experiment	2019	Physical Review Letters	122	1		
1420	Anil, A., Singhal, S., Jain, P., Singh, S.R., Ladhari, A., Singh, S., Chugh, U.	Network sampling using k-hop random walks for heterogeneous network embedding	2019	ACM International Conference Proceeding Series			354	357

1421	Gaikwad, H.S., Roy, A., Mondal, P.K., Chimres, N., Wongwises, S.	Irreversibility analysis in a slip aided electroosmotic flow through an asymmetrically heated microchannel: The effects of joule heating and the conjugate heat transfer	2019	Analytica Chimica Acta	1045	85	97
1422	Venkataraman, P., Konwar, B.	Some issues in understanding spirituality as relational	2019	Journal for the Study of Spirituality	9	1	20 31
1423	Sreeram, G., Sinha, R.	Exploiting Parts-of-Speech for Improved Textual Modeling of Code-Switching Data	2019	2018 24th National Conference on Communications, NCC	2018		
1424	Tasleem Khan, M., Ahamed, S.R.	Enhanced Convergence Distributed Arithmetic based LMS Adaptive Filter using Convex Combination	2019	2018 24th National Conference on Communications, NCC	2018		
1425	Das, V., Dandapat, S., Bora, P.K.	Region Selective Information Augmentation for Retinal Images	2019	2018 24th National Conference on Communications, NCC	2018		
1426	Jyotishi, D., Deb, S., Dandapat, S.	A Novel Feature for Nasalised Vowels and Characteristic Analysis of Nasal Filter	2019	2018 24th National Conference on Communications, NCC	2018		
1427	Roy, A., Sen, S., Nemade, H.B., Bhattacharjee, R.	Multisuser Communication Using Chirp Signals of Equal Chirp Rate	2019	2018 24th National Conference on Communications, NCC	2018		
1428	Mazumdar, A., Jacob, J., Bora, P.K.	Forgery Detection in Digital Images through Lighting Environment Inconsistencies	2019	2018 24th National Conference on Communications, NCC	2018		
1429	Godbole, A., Bhat, S., Guha, P.	Progressively Balanced Multi-class Neural Trees	2019	2018 24th National Conference on Communications, NCC	2018		
1430	Hotta, S.K., Sahoo, N., Mohanty, K.	Ignition advancement study for optimized characteristics of a raw biogas operated spark ignition engine	2019	International Journal of Green Energy	16	1	101 113

1431	Bharti, G.P., Khare, A.	Quenching of visible photoluminescence and observation of two photon absorption-induced photoluminescence in pulsed laser deposited ZnO thin films	2019 Journal of Physics D: Applied Physics	52	1
1432	Prabhu, A.A., Gupta, E., VenkataDasu, V.	Purification of β -galactosidase from recombinant <i>Pichia pastoris</i> using aqueous two-phase separation technique	2019 Separation Science and Technology (Philadelphia)	54	1 59 68
1433	Naik, A.P., Ghosh, B., Pekkatt, S.	Estimating soil hydraulic properties using mini disk infiltrometer	2019 ISH Journal of Hydraulic Engineering	25	1 62 70
1434	Pradhan, C., Chembolu, V., Dutta, S.	Impact of river interventions on alluvial channel morphology	2019 ISH Journal of Hydraulic Engineering	25	1 87 93
1435	Jayaprakash, P., Biswal, J., Kanagaran, S., Prabhu, D., Gogoi, P., Prasad Kanaujia, S., Jeyakanthan, J.	Design of novel PhMTNA inhibitors, targeting neurological disorder through homology modeling, molecular docking, and dynamics approaches	2019 Journal of Receptors and Signal Transduction	39	1 28 38
1436	Tripura, D.D., Singh, K.D.	Axial Load-Capacity of Bamboo-Steel Reinforced Cement Stabilised Rammed Earth Columns	2019 Structural Engineering International	29	1 133 143
1437	Saurabh, S., Sairam, A.S.	Inferring the Deployment of Source Address Validation Filtering using Silence of Path-Backscatter	2019 24th National Conference on Communications, NCC 2018		
1438	Viswanath, V., Alam, S., Kshetrimayum, R.S.	Spectrum Sensing and Collision with Primary Users in MIMO Cognitive Radio	2019 24th National Conference on Communications, NCC 2018		
1439	Kumar, H., Arrawatia, M., Kumar, G.	Broadband Planar Log-Periodic Dipole Array Antenna Based RF-Energy Harvesting System	2019 IETE Journal of Research	65	1 39 43
1440	Biswas, A., Murali Krishna, A.	Behaviour of circular footing resting on layered foundation: sand overlying clay of varying strengths	2019 International Journal of Geotechnical Engineering	13	1 9 24

1441	Samanta, D., Ganguly, A., Gupta, A., Kundu, D.	On classical and Bayesian order restricted inference for multiple exponential step stress model	2019	Statistics	53	1	177	195
1442	Bhowmik, M., Haldar, S., Dharmalingam, K., Muthukumar, P., Anandalakshmi, R.	Evaluation of thermo-kinetic and absorption characteristics of pure desiccants and desiccant mix-	2019	Materials Today: Proceedings	26		1967	1971
1443	Gupta, A., Reddy, R.S., Panda, S., Kumar, N.	Damping treatment of beam with unconstrained/constrained 1-3 smart viscoelastic composite layer	2019	Materials Today: Proceedings	26		956	962
1444	Gupta, A., Panda, S., Reddy, R.S.	Design of graded laminated composite beam under moving load	2019	Materials Today: Proceedings	26		1572	1579
1445	Kumar, S.	Avian paramyxoviruses	2019	Recent Advances in Animal Virology			339	349
1446	Prabhu, A.A., Venkatadasu, V.	Systems and synthetic biology approach to understand the importance of host-pathogen interaction	2019	Microbial Interventions in Agriculture and Environment: Volume 3: Soil and Crop Health Management			433	446
1447	Verma, P., Chaturvedi, R.	In vitro plant cell cultures: A route to production of natural molecules and systematic in vitro assays for their biological properties	2019	Medicinal Plants: From Farm to Pharmacy			215	241
1448	Minz, M., Mishra, D., Sonkar, R.K.	Design of a hybrid mode and polarization division multiplexer	2019	Optics InfoBase Conference Papers		Part F138-ACPC		
1449	Monikuntala, D.A.S., Das, A.K.	Craft education in design	2019	Proceedings of the 21st International Conference on Engineering and Product Design Education: Towards a New Innovation Landscape, E and PDE 2019				
1450	Dutta, J., Bora, U.	Rhizosphere microbiome and plant probiotics	2019	New and Future Developments in Microbial Biotechnology and Bioengineering: Microbes in Soil, Crop and Environmental Sustainability			273	281

1451	Roy, S., Basu, S.	Interplay of off-diagonal random disorder and quasiperiodic potential in a one-dimensional Aubry-André model	2019 EPL	128	4
1452	Dey, A.K., Paul, B.	Some variations of em algorithms for marshall-olkin bivariate pareto distribution with location and scale	2019 Journal of Statistical Theory and Practice	13	1
1453	Bala, E., Singha, S., Patra, S.	Polysaccharides from leafy vegetables	2019 Natural Polysaccharides in Drug Delivery and Biomedical Applications	567	588
1454	Aakansha, Ravi, S.	Investigation of negative magnetization and impedance spectroscopy of Sm-substituted gadolinium iron garnets	2019 Materials Research Express	6	12
1455	Dhar, S., Dasgupta, K.	Seismic analysis of an integral bridge with retrofitted rc pile foundation in different foundation soils using simplified ssi	2019 Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions- Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, 2019	2111	2119
1456	Dammala, P.K., Krishna, A.M.	Kinematic response of pile foundations in liquefiable soils	2019 Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions- Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, 2019	1944	1951
1457	Mahanta, D., Borah, D.	Fermion dark matter with $N=2$ leptogenesis in minimal scotogenic model	2019 Journal of Cosmology and Astroparticle Physics	201	119
1458	Rout, A.K., Sahoo, N., Kalita, P., Kulkarni, V.	Transient response characteristics of a surface junction probe	2019 ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1	
1459	Kumar, A., Kumar Kakoty, S.	Analysis of static and dynamic performance parameters of two-lobe journal bearing operating with non-Newtonian lubricant	2019 ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1	
1460	Kashyap, D., Dass, A.K.	Entropy generation analysis of mixed convection flow in a nanofluid filled porous cavity using a two-component lattice Boltzmann method	2019 ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1	

1461	Sarmah, N., Tiwari, R.	Experimental investigation of active control of cracked rotor-bearing system equipped with magnetic bearing	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1
1462	Roy, D.K., Tiwari, R.	Finite element model based full spectrum response analysis of a cracked rotor with internal and external damping	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1
1463	Kumar, P., Tiwari, R.	A numerical study on the effect of unbalance and mis-alignment fault parameters in a rigid rotor levitated by active magnetic bearings	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1
1464	Verma, A., Kulkarni, V.	Experimental study of self-Adjustable flap for fixed wing May	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	2
1465	Devi, S., Sahoo, N., Muthukumar, P.	Experimental analysis of biogas combustion with different foam materials in a porous media burner	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	2
1466	Agrawal, A., Kansagara, D.D., Sharma, D., Saha, U.K.	Savonius wind turbine blade profile optimization by coupling CFD simulations with simplex search technique	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	2
1467	Kamal, A., Das, G.C., Kulkarni, V., Sahoo, N.	Comparative study of force prediction techniques using multi component accelerometer force balance for high enthalpy ground testing	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1
1468	Siram, O., Sahoo, N.	Near wake regime study on wind turbine blade tip vortex	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	2
1469	Selva Kumar, K.K., Kulkarni, V., Sahoo, N.	Investigation on flow characteristics and performance of a vertical axis wind turbine with deflector plates	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	2
1470	Deshavath, N.N., Veeranki, V.D., Goud, V.V.	Lignocellulosic feedstocks for the production of bioethanol: Availability, structure, and composition	2019	Sustainable Bioenergy: Advances and Im-	1

1471	Ngo, T.V., Deb, S.K., Dutta, A.	Effect of shear modulus and shape factor on the performance of prototype un-bonded fibre reinforced elastomeric isolators	2019 Advances in Engineering Materials, Structures and Systems: Innovations, Mechanics and Applications - Proceedings of the 7th International Conference on Structural Engineering, Mechanics and Computation, 2019	197	202
1472	Prabhu, A.A., Kumar, J.P., Mandal, B.B., Veeranki, V.D.	Glucose-methanol-based fed-batch fermentation for the production of recombinant human interferon gamma (rhIFN- γ) and evaluation of its antitumor potential	2019 Biotechnology and Applied Biochemistry		
1473	Baig, M.G.A.H., Kesh, D.	Improved Bounds for Two Query Adaptive Bitprobe Schemes Storing Five Elements	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	13	25
1474	Agrawal, R., Kothari, P.	CoPASample: A Heuristics Based Covariance Preserving Data Augmentation	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	308	320
1475	Roy, D.K., Tiwari, R.	Experimental identification of rotating and stationary damping in a cracked rotor system with an offset disc	2019 Archive of Mechanical Engineering	66	4 447 474
1476	Reddy, R.S., Gupta, A., Panda, S.	The effective properties of the electro-viscoelastic composite using energy method	2019 Materials Today: Proceedings	18	4164 4175
1477	Reddy, R.S., Panda, S.	The energy-based method for effective dynamic properties of viscoelastic composite	2019 Materials Today: Proceedings	18	4190 4200
1478	Sridhar, P.V.S.S., Biswas, P., Mahanta, P.	Influence of welding current on bead profile and mechanical properties of double sided submerged arc	2019 Materials Today: Proceedings	19	831 836
1479	Panigrahi, P., Jha, R.K., Karfa, C.	User Guided Register Manipulation in Digital Circuits	2019 Communications in Computer and Information Science	1066	468 481
1480	Kainthola, J., Shariq, M., Kalamdhad, A.S., Goud, V.V.	Comparative study of different thermal pretreatment techniques for accelerated methane production	2019 Biomass Conversion and Bio-refinery		

1481	Mazumdar, A., Singh, J., Tomar, Y.S., Bora, P.K.	Detection of Image Manipulations Using Siamese Convolutional Neural Networks	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	226	233
1482	Karthik, K., Katika, B.R.	Identity Independent Face Anti-spoofing Based on Random Scan Patterns	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	3	12
1483	Tiwari, S.K., Mazumdar, A., Bora, P.K.	Detection of Splicing Forgery Using CNN-Extracted Camera-Specific Features	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	473	481
1484	Singh, B., Sharma, P.K., Saxena, R., Sur, A., Mitra, P.	A New Steganalysis Method Using Densely Connected ConvNets	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	277	285
1485	Pattanayak, D., Ramesh, H., Mandal, P.S.	Chauffeur-ing a crashed robot from a disk	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11931 LNCS	177	191
1486	Vishwakarma, A., Bhuyan, M.K., Sarma, D., Bora, K.	Multi-focus Image Fusion Using Sparse Representation and Modified Difference	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	482	489
1487	Purwar, P., Bhuyan, M.K., Bora, K., Sarma, D.	Modified Parallel Tracking and Mapping for Augmented Reality as an Alcohol Deterrent	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	587	595
1488	Basavaraju, S., Bahuguna, S., Gaj, S., Sur, A.	Deep CNN for Single Image Super Resolution Using Skip Connections	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	218	225
1489	Saikia, P., Nankani, D., Baruah, R.D.	Seismic Signal Interpretation for Reservoir Facies Classification	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS	409	417
1490	Jyotishi, D., Dandapat, S.	Inverse Filtering Based Feature for Analysis of Vowel Nasalization	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS	454	461

1491	Sahoo, S., Dandapat, S.	Analysis of Speech Source Signals for Detection of Out-of-breath Condition	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 418	426
1492	Goyal, D., Kumar, K., Sharma, K., Goyal, A.	Small-angle X-ray scattering based structure, modeling and molecular dynamics analyses of a family 5 glycoside hydrolase first endomannanase named as RfGH5_7 from Rumi-	ics		
1493	Nakum, G., Guha, P., Baruah, R.D.	Visual Object Tracking Using Perceptron Forests and Optical Flow	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 525	532
1494	Barnwal, S., Das, V., Bora, P.K.	Deep Learning Based Fully Automated Decision Making for Intravitreal Anti-VEGF Therapy	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 147	155
1495	Anil, A., Chugh, U., Singh, S.R.	On Applying Meta-path for Network Embedding in Mining Heterogeneous DBLP Network	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 249	257
1496	Kumar, D., Singh, S.R.	Prioritized Named Entity Driven LDA for Document Clustering	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 294	301
1497	Mandloi, A., Jaisingh, H.R., Hazarika, S.M.	Perception Based Navigation for Autonomous Ground Vehicles	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 369	376
1498	Jena, S.K., Biswas, S., Deka, J.K.	Systematic Design of Approximate Adder Using Significance Based Gate-Level Pruning (SGLP) for Image Processing Application	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 561	570
1499	Majumder, G., Tiwari, R.	Vibration control of spur geared rotor systems with transmission errors by active mag-	2019 Proceedings of the ASME Design Engineering Technical Conference	10	
1500	Ghosh, S., Jana, C.K.	Metal free biomimetic deaminative direct C-C coupling of unprotected primary amines	2019 Organic and Biomolecular Chemistry	17	48 1015 1015
				3	7

1501	Shukla, S., Kumar, A., Das, D., Satpati, P.	Principle of DNA recognition by sporulation-regulatory protein (Spo0A) in <i>Bacillus subtilis</i>	2019	Journal of Biomolecular Structure and Dynamics	41	56
1502	Katla, S., Sivaprakasam, S.	Yeasts as Microbial Factories for Production of Recombinant Human Interferon Alpha 2b of Therapeutic Importance	2019	ACS Symposium Series	1329	41
1503	Singh, R., Das, G.	Towards Fluorogenic and Chromogenic Sensing of Heavy Metal Ions in Aqueous Medium: A Mini-Review	2019	Springer Proceedings in Physics	236	57
1504	Sahu, D.K., Sarkar, P., Singha, D., Sahu, K.	Protein-activated transformation of silver nanoparticles into blue and red-emitting nanoclusters	2019	RSC Advances	9	67
1505	Shakya, P., Sinha, R.K.	Finite element approximations of parabolic optimal control problem with measure data in time	2019	Applicable Analysis	39405	39409
1506	Nayak, B., Halder, S., De, S., Das, G.	Binding consistency of anions by the effect of aromatic: Meta-substitution of bis-urea receptors: Entrapment of hexafluorosilicate clusters	2019	CrystEngComm	21	46
1507	Devi Khwairakpam, A., Monisha, J., Roy, N.K., Bordoloi, D., Padmavathi, G., Banik, K., Khatoon, E., Kunnumakkara, A.B.	Vietnamese coriander inhibits cell proliferation, survival and migration via suppression of Akt/mTOR pathway in oral squamous cell carcinoma	2019	Journal of Basic and Clinical Physiology and Pharmacology	7172	7181
1508	Dowari, P., Das, S., Pramanik, B., Das, D.	PH clock instructed transient supramolecular peptide amphiphile and its vesicular assembly	2019	Chemical Communications	55	94
1509	Moi, C.T., Gogoi, G., Sahu, T.K., Gogoi, D., Peela, N.R., Qureshi, M.	Design of noble metal free hierarchical VS ₃ onto WO ₃ nanoflakes as an effective heterojunction strategy for enhanced photoelectrochemical water oxidation	2019	Sustainable Energy and Fuels	3	12
1510	Barkataki, M.P., Singh, T.	Plant-nanoparticle interactions: Mechanisms, effects, and approaches	2019	Comprehensive Analytical Chemistry	87	55

1511	Dolla, T., Laishram, B.	Bundling/unbundling decision in PPP infrastructure projects – the case of Guwahati city, India	2019	International Journal of Managing Projects in Business			
1512	Borgohain, R., Mandal, B.	High-speed CO ₂ /transport channel containing carboxymethyl chitosan/hydralcite membrane for CO ₂ separation	2019	Journal of Applied Polymer Science		3421	3425
1513	Gupta, D., Shekhawat, H.S.	Artificial bandwidth extension using H [∞] optimization	2019	Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH	2019-September		
1514	Singha, N., Das, B.K., Pramanik, B., Das, S., Das, D.	Freeze the dynamicity: Charge transfer complexation assisted control over the reaction pathway	2019	Chemical Science	10	43	10035 10039
1515	Shakya, A.K., Ghosh, P.K.	Biological attenuation of arsenic and nitrate in a suspended growth denitrifying-sulphidogenic bioreactor and stability check of arsenic-laden biosolids	2019	Environmental Technology (United Kingdom)			
1516	Lalhminglui, W., Terhijja, V., Sarma, P.	Vowel-tone interaction in two Tibeto-Burman languages	2019	Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH	2019-September	3970	3974
1517	Palsaniya, S., Nemade, H.B., Dasmahapatra, A.K.	Heterostructured Layer Growth of Polyaniline by Vacuum Thermal Evaporation and Fabrication of Thin-Film Capacitors	2019	Journal of Physical Chemistry C			
1518	Bhattacharjee, D., Sufian, A., Mahato, S.K., Begum, S., Banerjee, K., De, S., Srivastava, H.K., Bhabak, K.P.	Trisulfides over disulfides: Highly selective synthetic strategies, anti-proliferative activities and sustained H ₂ O ₂ release profiles	2019	Chemical Communications	55	90	13534 13537
1519	Tiwari, S., Gogoi, A., Reddy, K.A.	What governs the nature of fouling in forward osmosis (FO) and reverse osmosis (RO)? A molecular dynamics study	2019	Physical Chemistry Chemical Physics	21	43	24165 24176
1520	Barman, D., Mishra, A.K.	Influence of salt and initial conditions on the shrinkage limit of bentonite	2019	International Journal of Geotechnical Engineering			

1521	Singh, T., Bharali, B., Barkataki, M.P., Kalita, J.J., Chetia, H., Mosahari, P.V., Kabiraj, D., Bora, U.	Recent advances in phytanotechnology	2019	Comprehensive Analytical Chemistry				
1522	Ghosh, S., Jana, C.K.	Rapid access to cinnamamides and piper amides: Via three component coupling of arylaldehydes, amines, and Meldrum's acid	2019	Green Chemistry	21	21	5803	5807
1523	Borah, N., Nayak, B., Gogoi, A., Das, G.	A benzimidazole-based non-symmetrical tripodal receptor for the ratiometric fluorescence sensing of fluoride ions and solid state recognition of sulfate ions	2019	New Journal of Chemistry	43	42	16497	16505
1524	Mali, S., Singh, B.	3D Numerical Modeling of Large Piled-Raft Foundation on Clayey Soils for Different Loadings and Pile-Raft Configurations	2019	Studia Geotechnica et Mechanica				
1525	Pattanaik, M.L., Choudhary, R., Kumar, B.	Moisture Susceptibility of Open-Graded Friction Course Mixes with EAF Steel Slag and Modified Binders	2019	Advances in Civil Engineering Materials	8	1	248	266
1526	Fahad, M.K., Prakash, R., Majumder, S.K., Ghosh, P.	Frictional pressure drop in a flotation column: An experimental investigation in continuous mode and its prediction by a general model	2019	Multiphase Science and Technology	31	3	235	254
1527	Fatma, T., Banerjee, T.	Wet Beneficiation Characteristics of Indian Bituminous Coal with Low Cost Choline Chloride based Deep Eutectic Solvents	2019	International Journal of Coal Preparation and Utilization				
1528	Mondal, B., Borah, D., Mazumdar, R., Mondal, B.	Nitric Oxide Dioxigenase Activity of a Nitrosyl Complex of Mn(II)-Porphyrinate in the Presence of Superoxide: Formation of a Mn(IV)-oxo Species through a Putative Peroxynitrite Intermediate	2019	Inorganic Chemistry	58	21	14701	14707
1529	Fahad, M.K., Prakash, R., Majumder, S.K., Ghosh, P.	Gas holdup in the gas-liquid-coal slurry flow in a flotation column in presence of surface active agent	2019	Multiphase Science and Technology	31	3	199	214
1530	Brahma, R., Singh, M.P., Baruah, J.B.	Stacking among the clips of the poly-aromatic rings of phenazine with hydroxy-aromatics and photophysical properties	2019	RSC Advances	9	57	33403	33412

1531	Anoop, P., Bhattacharjee, R.	Investigation on a new compact wideband rhombic dielectric resonator antenna	2019 International Journal of RF and Microwave Computer-Aided Engineering	29	9
1532	Verma, A.M., Kishore, N.	First-principles study on the gas-phase decomposition of bio-oil oxygenated compounds over the palladium catalyst surface	2019 Physical Chemistry Chemical Physics	21	40 22320 22330
1533	Chakraborty, S., Saha, P.	Synthesis of cadmium sulphide nanoparticles through liquid membrane pathway	2019 International Journal of Nanoparticles	11	3 202 216
1534	Gupta, S., Dasmahapatra, A.K.	Caffeine destabilizes preformed A β protofibrils: Insights from all atom molecular dynamics simulations	2019 Physical Chemistry Chemical Physics	21	39 22067 22080
1535	Basu, S., Nawaj, M.W., Gayen, C., Paul, A.	Photo induced chemical modification of surface ligands for aggregation and luminescence modulation of copper nanoclusters in the presence of oxygen	2019 Physical Chemistry Chemical Physics	21	39 21776 21781
1536	Kumar, J.P., Mandal, B.B.	The inhibitory effect of silk sericin against ultraviolet-induced melanogenesis and its potential use in cosmetics as an anti-hyperpigmentation compound	2019 Photochemical and Photobiological Sciences	18	10 2497 2508
1537	Saxena, V., Pandey, L.M.	Synthesis, characterization and antibacterial activity of	2019 Materials Today: Proceedings	18	1388 1400
1538	Tikadar, S., Bhattacharya, S.	A Novel Method to Build and Validate an Affective State Prediction Model from Touch-Typing	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11749 LNCS	99 119
1539	Mathur, A., Bhowmick, S., Sorathiya, K.	A Study of Outbound Automated Call Preferences for DOTS Adherence in Rural India	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11748 LNCS	24 33
1540	Tikadar, S., Bhattacharya, S.	How Do They Use Their Smartphones: A Study on Smartphone Usage by Indian Students	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11748 LNCS	132 151

1541	Giri, R.S., Mandal, B.	Formation of supramolecular single and double helix-like structures from designed tripeptides	2019	CrystEngComm	21	37	5618	5625
1542	Shravankumar, C., Tiwari, R.	Experimental identification of cracked rotor system parameters from the forward and backward whirl responses	2019	Archive of Mechanical Engineering	66	3	326	353
1543	Gogoi, R.K., Neog, A.B., Sarmah, N., Raidongia, K.	Preparation of responsive bilayer membrane through morphological tuning of nano-scale building blocks	2019	Journal of Materials Chemistry A	7	37	21157	21167
1544	Saha, R., Sharma, A., Uppaluri, R.V.S., Tiwari, P.	Interfacial interaction and emulsification of crude oil to enhance oil recovery	2019	International Journal of Oil, Gas and Coal Technology	22	1	1	15
1545	Das, N.M., Singh, A.K., Ghosh, D., Bandyopadhyay, D.	Graphene oxide nanohybrids for electron transfer-mediated antimicrobial activity	2019	Nanoscale Advances	1	9	3727	3740
1546	Kumar, A., Purohit, B., Mahato, K., Chandra, P.	CHAPTER 11: Advance Engineered Nanomaterials in Point-of-care Immunosensing for Biomedical Diagnostics	2019	RSC Detection Science	2019- January	14	238	266
1547	Halder, S., Manna, U., Das, G.	Tuning the aggregation performance by varying the substituent position: Comparative study of neutral bis-urea derivatives in aqueous medium	2019	New Journal of Chemistry	43	35	14112	14119
1548	Shome, A., Rather, A.M., Manna, U.	Chemically reactive protein nanoparticles for synthesis of a durable and deformable superhydrophobic material	2019	Nanoscale Advances	1	5	1746	1753
1549	Bhattacharjee, M., Timung, S., Mandal, T.K., Bandyopadhyay, D.	Microfluidic Schottky-junction photovoltaics with superior efficiency stimulated by plasmonic nanoparticles and streaming potential	2019	Nanoscale Advances	1	3	1155	1164
1550	Gogoi, A., Koneru, A., Anki Reddy, K.	Effect of graphene oxide (GO) nanosheet sizes, pinhole defects and non-ideal lamellar stacking on the performance of layered GO membranes: An atomistic investigation	2019	Nanoscale Advances	1	8	3023	3035

1551	Dey, A., Wagh, V.	The module of derivations of certain hypersurfaces	2019 Journal of Algebra and its Applications	2	229	255
1552	Roy, D.K., Tiwari, R.	Development of identification procedure for the internal and external damping in a cracked rotor system undergoing forward and backward whirls	2019 Archive of Mechanical Engineering	66	2	229
1553	Mondal, B., Balha, M., Pan, S.C.	Organocatalytic asymmetric spirocyclization reactions of cyclic 2,4-dienones with cyanoketones: Synthesis of spiro-dihydropyrano cyclohexanones	2019 Organic and Bio-molecular Chemistry	17	34	7849 7853
1554	Bakshi, P., Nandi, S.	Using Privacy Enhancing and Fine-Grained Access Controlled eKYC to implement Privacy Aware eSign	2019 Advances in Science, Technology and Engineering Systems	4	4	347 358
1555	Banerjee, R., Deb, R., Roy, K., Chatterjee, S., Nagotu, S.	Uptake and intracellular fate of nona-arginine peptide in yeast	2019 Peptide Science	111	4	
1556	Saikia, M.	Location Determinants of Indian Multinationals: A Multilevel Analysis	2019 Global Business Review			
1557	Deka, A., Gulati, V., Barua, A.	Transboundary Water Sharing Issues in International and National Perspectives	2019 Water Resources Development and Management		99	114
1558	Devi, K.M., Kumar, G., Sarma, A.K.	Surface polaritonic solitons and breathers in a planar plasmonic waveguide structure via electromagnetically induced transparency	2019 Journal of the Optical Society of America B: Optical Physics	36	8	2160 2166
1559	Saha, B., Sathyan, A., Kalamdhad, A.S., Khwairakpam, M.	Anaerobic biodegradability test for Lantana camara to optimize the appropriate food to microorganism (F/M) ratio	2019 Environmental Technology (United Kingdom)			
1560	Ingtipi, K., Moholkar, V.S.	Sonochemically synthesized lignin nanoparticles and its application in the development of nanocomposite hydrogel	2019 Materials Today: Proceedings	17	362	370

1561	Sk, M., Khan, M.R.U.Z., Das, A., Nandi, S., Trivedi, V., Biswas, S.	A phthalimide-functionalized UiO-66 metal-organic framework for the fluorogenic detection of hydrazine in live cells	2019	Dalton Transactions	48	33	12615	12621
1562	Singh, M.P., Tarai, A., Baruah, J.B.	Photo-physical properties of salts of a di-topic imidazole-tethered anthracene derivative in solid and solution	2019	CrystEngComm	21	33	4898	4909
1563	Ojha, R.K., Dwivedy, S.K.	Dynamic Analysis of a Three-Layered Sandwich Plate with Composite Layers and Leptadenia Pyrotechnica Rheological Elastomer-Based Viscoelastic Core	2019	Journal of Vibrational Engineering and Technologies				
1564	Jain, M.S., Daga, M., Kalamdhad, A.S.	Variation in the key indicators during composting of municipal solid organic wastes	2019	Sustainable Environment Research	1	1		
1565	Singh, M.P., Baruah, J.B.	Combinations of tautomeric forms and neutral-cationic forms in the cocrystals of sulfamethazine with carboxylic acids	2019	ACS Omega	4	7	11609	11620
1566	Kumar, M., Natarajan, G.	The non-boussinesq algorithm for high temperature gradient thermobuoyant flows with magnetic field	2019	Computational Thermal Sciences	11	01-	177	187
1567	Shit, S., Devi, N., Devi, N.R., Saikia, A.K.	Stereoselective synthesis of hexahydrofuro[3,4-B] furan-4-ol and its dimer via tandem Prins and pinacol rearrangement	2019	Organic and Biomolecular Chemistry	17	31	7398	7407
1568	Dolla, T., Laishram, B.	Prequalification in municipal solid waste management public-private partnerships of India	2019	Construction Economics and Building	19	1		
1569	Dey, A., Singh, A., Dutta, D., Ghosh, S.S., Iyer, P.K.	Rapid and label-free bacteria detection using a hybrid tri-layer dielectric integrated n-type organic field effect transistor	2019	Journal of Materials Chemistry A	7	31	18330	18337
1570	Kumar Goshika, B., Kumar Majumder, S.	Frictional pressure drop of gas-liquid-liquid dispersion in an ejector-induced downflow column	2019	Multiphase Science and Technology	31	2	151	174

1571	Bhattacharjee, S., Inkulu, R.	Geodesic Fault-Tolerant Additive Weighted Spanners	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11653 LNCS	38	51
1572	Baig, M.G.A.H., Kesh, D., Sodani, C.	An Improved Scheme in the Two Query Adaptive Bitprobe Model	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11638 LNCS	22	34
1573	Gupta, R.R., Karmakar, S.	Incremental algorithm for minimum cut and edge connectivity in hypergraph	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11638 LNCS	237	250
1574	Mishra, D., Sonkar, R.K.	Analysis of germanium-doped silicon vertical PN junction optical phase shifter	2019	Journal of the Optical Society of America B: Optical Physics	36	5	1348 1354
1575	Kumar, U.	The effective role of Dirac mass in nonlinear optical spectra of silicene	2019	Journal of the Optical Society of America B: Optical Physics	36	5	1222 1232
1576	Bhowmik, B., Hazra, B.	Real time structural damage detection in the presence of deterministic operational power line noise	2019	8th IOMAC - International Operational Modal Analysis Conference, Proceedings		213	221
1577	Das, M., Sahu, S., Krishnamoorthy, G.	Tweaking the proton transfer triggered proton transfer of 3,5-bis(2-hydroxyphenyl)-1,2,4-triazole	2019	Physical Chemistry Chemical Physics	21	28	15669 15677
1578	Deka, S.J., Trivedi, V.	Potentials of PKC in cancer progression and anticancer drug development	2019	Current Drug Discovery Technologies	16	2	135 147
1579	Akhtar, N., Pradhan, N., Saha, A., Kumar, V., Biswas, O., Dey, S., Shah, M., Kumar, S., Manna, D.	Tuning the solubility of ionophores: Glutathione-mediated transport of chloride ions across hydrophobic membranes	2019	Chemical Communications	55	58	8482 8485
1580	Agarwal, S., Kapoor, H.K.	Lifetime Enhancement of Non-Volatile Caches by Exploiting Dynamic Associativity Management Techniques	2019	IFIP Advances in Information and Communication Technology	500	46	71

1581	Das, B., Bora, S.	Vector spaces of generalized linearizations for rectangular matrix polynomials	2019 Electronic Journal of Linear Algebra	35	1	116	155
1582	Balha, M., Mondal, B., Pan, S.C.	Organocatalytic asymmetric synthesis of dihydrofuran-spirooxindoles from benzylidene malonitriles and dioxindoles	2019 Organic and Bio-molecular Chemistry	17	27	6557	6561
1583	Dalapati, R., Biswas, S.	Aqueous Phase Sensing of Fe ³⁺ and Ascorbic Acid by a Metal–Organic Framework and Its Implication in the Construction of Multiple Logic Gates	2019 Chemistry - An Asian Journal	14	16	2822	2830
1584	Ketan Das, B., Pradhan, S., Pun-niyamurthy, T.	Stereospecific assembly of tetrahydroquinolines: Via tandem ring-opening/oxidative cyclization of donor-acceptor cyclopropanes with N -alkyl anilines	2019 Chemical Communications	55	56	8083	8086
1585	Borah, B., Pathak, D., Sarmah, P., Som, B., Nandi, S.	Survey of Textbased Chatbot in Perspective of Recent Technologies	2019 Communications in Computer and Information Science	1031		84	96
1586	Rakshit, A., Sau, P., Ghosh, S., Patel, B.K.	One-Pot Sequential Synthesis of Fused Isoquinolines via Intramolecular Cyclization/Annulation and their Photophysical Investigation	2019 Advanced Synthesis and Catalysis	361	16	3824	3836
1587	Modi, A., Sau, P., Chakraborty, N., Patel, B.K.	A “Thiocarbonyl-Directed” Regiospecific CH/S _H Annulation of Quinoline-4(1H)-thiones with Alkynes	2019 Advanced Synthesis and Catalysis	361	6	1368	1375
1588	Das, R.J., Mahata, K.	Mutualistic benefit in the self-sorted co-aggregates of: Peri - naphthoindigo and a 4-amino-1,8-naphthalimide derivative	2019 Soft Matter	15	26	5282	5286
1589	Agrawal, V., Gautam, S.S.	Higher order Hermite enriched contact finite elements for adhesive contact problems	2019 International Journal of Materials and Structural Integrity	13	01-Mar	16	31
1590	Pattanaik, M.L., Choudhary, R., Kumar, B.	Prediction of frictional characteristics of bituminous mixes using group method of data handling and multigene symbolic genetic programming	2019 Engineering with Computers				

1591	Nandii, S., Biswas, S.	A recyclable post-synthetically modified Al(iii) based metal-organic framework for fast and selective fluorogenic recognition of bilirubin in human biofluids	2019 Dalton Transactions	48	25	9266	9275
1592	Verma, K., Kashyap, N.	Sleep deprivation enhances false memory on the Deese-Roediger-McDermott (DRM) task	2019 Psychological Thought	12	1	120	130
1593	Harinarayan, N.H., Kumar, A.	Estimation of source and site characteristics in the north-west Himalaya and its adjoining area using generalized inversion method	2019 Annals of Geophysics	62			
1594	Purkait, A., Jana, C.K.	N-Aminations of Benzylamines and Alicyclic Amines with Nitrosoarenes to Hydrazones and Hydrazides	2019 Synthesis (Germany)	51	13	2687	2696
1595	Saha, R., Uppaluri, R., Tiwari, P.	Surfactant and polymer-nanoparticle interaction with heavy crude oil	2019 Proceedings of the International Conference on Industrial Engineering and Operations Management	2019 MAR	3419	3419	3419
1596	Saha, A., Akhtar, N., Kumar, V., Kumar, S., Srivastava, H.K., Kumar, S., Manna, D.	PH-Regulated anion transport activities of bis(imino) derivatives across the cell and vesicle membrane	2019 Organic and Biomolecular Chemistry	17	23	5779	5788
1597	Raturi, V., Abhishek, K., Jana, S., Bag, S.S., Trivedi, V.	Virtual screening, molecular modelling and biochemical studies to exploit PF14_0660 as a target to identify novel anti-malarials	2019 Letters in Drug Design and Discovery	16	4	417	426
1598	Kumar, R., Kore, S.D.	Numerical study on electromagnetic crimping of tubes	2019 International Journal of Materials and Product Technology	58	4	288	304
1599	Dash, S., Joshi, D., Dey, S., Janveja, M., Trivedi, G.	Stormoptimus: A single objective constrained optimizer based on brainstorming process for VLSI circuits	2019 Adaptation, Learning, and Optimization	23	221	243	
1600	Pattanaik, M.L., Choudhary, R., Kumar, B., Kumar, A.	Mechanical properties of open graded friction course mixtures with different contents of electric arc furnace steel slag as an alternative aggregate from steel industries	2019 Road Materials and Pavement Design				

1601	Gouravaraju, S., Gautam, S.S.	Nonlinear finite element analysis of a gecko spatula adhesion on a rigid substrate	2019 Lecture Notes in Mechanical Engineering	471	479
1602	Das, I., Nallam, N.	Systematic generation of flicker and thermal noise canceling circuits	2019 Proceedings - IEEE International Symposium on Circuits and Systems	2019-May	
1603	Sharma, P.K., Nallam, N.	Linearity and NF tradeoff in input-matched n-path mixer-first receivers with shunt-feedback TIAs	2019 Proceedings - IEEE International Symposium on Circuits and Systems	2019-May	
1604	Reddy, K.N., Krishna, A.M.	Stability Assessment of Rock Slope and Design of Rock Slope Reinforcement	2019 Lecture Notes in Civil Engineering	28	651 661
1605	Aswathi, C.K., Jana, A., Dey, A., Sreedeeep, S.	Stability Assessment of Reinforced Rock Slope Based on Two-Dimensional Finite Element Approach: A Himalayan Case	2019 Lecture Notes in Civil Engineering	28	639 650
1606	Gharui, C., Pan, S.C.	Employment of α -nitroketones in organic synthesis	2019 Organic and Biomolecular Chemistry	17	21 5190 5211
1607	Shah, A.K., Sahu, T.K., Banik, A., Gogoi, D., Peela, N.R., Qureshi, M.	Reduced graphene oxide modified CuBi ₄ cathode for superior photoelectrochemical hydrogen production as an efficient and noble metal free photocathode	2019 Sustainable Energy and Fuels	3	6 1554 1561
1608	Kumar, A., Mallick, S.	Marker-Assisted Selection (MAS) in Rice Biotechnology Research in India	2019 Perspectives on Global Development and Technology	18	3 286 307
1609	Nath, K., Dutta, A., Hazra, B.	An iterative polynomial chaos approach toward stochastic elastostatic structural analysis with non-Gaussian randomness in Engineering	2019 International Journal for Numerical Methods in Engineering	119	11 1126 1160
1610	Ray, S., Mishra, A.K., Kalamdhad, A.	Influence of various concentration of lead on consolidation parameters of bentonite	2019 International Journal of Geotechnical Engineering		

1611	Sharma, K., Rajulapati, V., Goyal, A.	Green synthesis of arabinoxyloglucan coated antimicrobial copper nanoparticles	2019	Trends in Carbohydrate Research	11	1	22	30
1612	Dey, A., Acharyya, R., Alammyan, A.	Bearing capacity and failure mechanism of shallow footings on unreinforced slopes: a state-of-the-art review	2019	International Journal of Geotechnical Engineering	11	1	22	30
1613	Baruah, P.K., Sharma, A.K., Khare, A.	Role of confining liquids on the properties of Cu@Cu ₂ O nanoparticles synthesized by pulsed laser ablation and a correlative ablation study of the target surface	2019	RSC Advances	9	26	15124	15139
1614	Kumar, J.P., Mandal, B.B.	Inhibitory role of silk cocoon extract against elastase, hyaluronidase and UV radiation-induced matrix metalloproteinase expression in human dermal fibroblasts and keratinocytes	2019	Photochemical and Photobiological Sciences	18	5	1259	1274
1615	Biswas, N., Das, K., Sardar, B., Srivastava, D.	Accepterless dehydrogenative construction of CN and CC bonds through catalytic aza-Wittig and Wittig reactions in the presence of an air-stable ruthenium pincer	2019	Dalton Transactions	48	19	6501	6512
1616	Joshi, M.K., Bhattacharjee, R.	Design of a rectangular waveguide to cylindrical cavity mode launcher for TE ₀₁₁ mode with maximum quality-factor	2019	International Journal of RF and Microwave Computer-Aided Engineering	29	9		
1617	Dey, S., Kumar, A., Sawarkar, M., Singh, P.K., Nandi, S.	EvadePDF: Towards evading machine learning based PDF malware classifiers	2019	Communications in Computer and Information Science	939		140	150
1618	Singh, P.K., Gupta, S., Vashistha, R., Nandi, S.K., Nandi, S.	Machine learning based approach to detect position falsification attack in VANETs	2019	Communications in Computer and Information Science	939		166	178
1619	Manohar, S.S., Kapoor, H.K.	Refresh optimised embedded-DRAM caches based on zero data detection	2019	Proceedings of the ACM Symposium on Applied Computing	Part F147772		635	642
1620	Pal, S., Paul, S.	Effect of hydrated and nonhydrated choline chloride-urea deep eutectic solvent (Reline) on thrombin-binding G-quadruplex aptamer (TBA): A classical molecular dynamics simulation study	2019	Journal of Physical Chemistry C				

1621	Agrawal, V., Gautam, S.S.	An isogeometric-based study of mortar contact algorithm for frictionless sliding	2019 Lecture Notes in Mechanical Engineering	655	662
1622	Chouhan, D., Mandal, B.B.	Silk-ecm composite 3d printed constructs for burn wound healing	2019 Transactions of the Annual Meeting of the Society for Biomaterials and the Annual International Biomaterials Symposium	40	594
1623	Sahu, A., Thakur, R.K., Agarwal, V., Gautam, S.S.	A comparative study of five explicit time integration algorithms for non-linear dynamic systems	2019 Lecture Notes in Mechanical Engineering	675	683
1624	Pradhan, G., Dey, P.P., Sharma, A.K.	Anomalous kinetic roughening in growth of MoS_2 films under pulsed laser deposition	2019 RSC Advances	9	23
1625	Mondal, T., Mandal, B.	Engineered peptidic constructs metabolize amyloid β by self-assembly-driven reactions	2019 Chemical Communications	55	34
1626	Singh, M.K., Natesan, S.	Numerical Analysis of Singularly Perturbed System of Parabolic Convection–Diffusion Problem with Regular Boundary Layers	2019 Differential Equations and Dynamical Systems	7	17
1627	Gogoi, R.K., Neog, A.B., Konch, T.J., Sarmah, N., Raidongia, K.	A two-dimensional ion-pump of a vanadium pentoxide nanofluidic membrane	2019 Journal of Materials Chemistry A	7	10552
1628	Bhargava, N., Siddagangaiah, A.K., Ryntathiang, T.L.	State of the art review on design and performance of microsurfacing	2019 Road Materials and Pavement Design	8	10560
1629	Ghosh, S., Ghosh, S.	Half-Metallicity in Quaternary Heusler Alloys with 3d and 4d Elements: Observations and Insights from DFT Calculations	2019 Physica Status Solidi (B) Basic Research	256	8
1630	Suresh, K., Pugazhenthii, G., Uppaluri, R.	Properties of polystyrene (PS)/Co-Al LDH nanocomposites prepared by melt intercalation	2019 Materials Today: Proceedings	9	333

1631	Jana, N., Parbat, D., Mondal, B., Das, S., Manna, U.	A biodegradable polymer-based common chemical avenue for optimizing switchable, chemically reactive and tunable adhesive superhydrophobicity	2019 Journal of Materials Chemistry A	7	15	9120	9129
1632	Das, K., Kumar, A.	Alkane dehydrogenation reactions catalyzed by pincer-metal complexes	2019 Advances in Organometallic Chemistry	72	1	57	
1633	Bharat, T.V., Ubaid, M.	Analytical model for consolidation settlements under centrifuge environment	2019 Canadian Geotechnical Journal	56	4	484	494
1634	Bhattacharya, K., Majhi, B.R.	Abbott-Deser-Tekin like conserved quantities in Lanczos-Lovelock gravity: Beyond Killing diffeomorphisms	2019 Classical and Quantum Gravity	36	6		
1635	Singh, M.K., Natesan, S.	A robust computational method for singularly perturbed system of 2D parabolic convection-diffusion problems	2019 International Journal of Mathematical Modelling and Numerical Optimisation	9	2	127	157
1636	Devi, S., Sahoo, N., Muthukumar, P.	Combustion of biogas in Porous Radiant Burner: Low emission combustion	2019 Energy Procedia	158		1116	1121
1637	Sodhi, G.S., Vigneshwaran, K., Jaiswal, A.K., Muthukumar, P.	Assessment of heat transfer characteristics of a latent heat thermal energy storage system: Multi tube design	2019 Energy Procedia	158		4677	4683
1638	Kaushik, L.K., Muthukumar, P.	Performance assessment of a porous radiant cook stove fueled with blend of waste vegetable oil (WVO) and kerosene	2019 Energy Procedia	158		2391	2396
1639	Raju, N.N., Kumar, A., Malleswararao, K., Muthukumar, P.	Parametric studies on LaNi _{4.7} -Al _{0.3} -based hydrogen storage reactor with embedded cooling tubes	2019 Energy Procedia	158		2384	2390
1640	Bhattacharjee, S., Inkulu, R.	Fault-tolerant additive weighted geometric spanners	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11394 LNCS	29	41	

1641	Singh, O.P., Sinha, R.	Sparse Coding of Bottleneck Features-Based i-Vector Representation for Language Recognition	2019	Lecture Notes in Electrical Engineering	537	337	347
1642	Choudhury, T., Inkulu, R.	Maintaining the visibility graph of a dynamic simple polygon	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11394 LNCS	42	52
1643	Shakya, A.K., Bhande, R., Ghosh, P.K.	A practical approach on reuse of drinking water treatment plant residuals for fluoride removal	2019	Environmental Technology (United Kingdom)			
1644	Akansha, Ravi, S.	Study of impedance, dielectric and magnetic properties in $Y_{1-x}Fe_xO_{12}$ ($x = 0-0.2$)	2019	Journal of Materials Science: Materials in Electronics			
1645	Sharma, D., Basha, S.Z., Kumar, S.A.	Diversity over dominance approach for many-objective optimization on reference-points-based framework	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11411 LNCS	278	290
1646	Kesarwani, R., Dey, P.P., Khare, A.	Correlation between surface scaling behavior and surface plasmon resonance properties of semitransparent nanostructured Cu thin films deposited via	2019	RSC Advances	9	14	7967 7974
1647	Roy, K., Ghosh, S., Chetia, M., Satpati, P., Chatterjee, S.	Dicyclohexylurea derivatives of amino acids as dye absorbent organogels and anion sensors	2019	Organic and Biomolecular Chemistry	17	11	3026 3039
1648	Gogoi, P., Kanaujia, S.P.	Role of Structural Features in Oligomerization, Active-Site Integrity and Ligand Binding of Ribose-1,5-Bisphosphate Isomerase	2019	Computational and Structural Biotechnology Journal	17	333	344
1649	Singh, V., Sharma, A., Goyal, M.K.	Projection of hydro-climatological changes over eastern Himalayan catchment by the evaluation of RegCM4 RCM and CMIP5 GCM models	2019	Hydrology Research	50	1	117 137
1650	Mishra, P.K., Jena, S.K., Das, G.K., Rao, S.V.	Capacitated Discrete Unit Disk Cover	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11355 LNCS	407	418

1651	Baig, M.G.A.H., Kesh, D., Sodani, C.	A Two Query Adaptive Bitprobe Scheme Storing Five Elements	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11355 LNCS	317	328
1652	Ratha, R., Afroz, M.A., Gupta, R.K., Iyer, P.K.	Functionalizing benzothiadiazole with non-conjugating ester groups as side chains in a donor-acceptor polymer improves solar cell performance	2019	New Journal of Chemistry	43	10	4242 4252
1653	Tarai, A., Baruah, J.B.	Separation or combination of non-covalently linked partners provides polymorphs of N-(aryl)-2-(propan-2-ylidene)hydrazine carbothioamides	2019	CrystEngComm	21	9	1397 1406
1654	Pandey, G., Morla, S., Nemade, H.B., Kumar, S., Ramakrishnan, V.	Modulation of aggregation with an electric field; Scientific roadmap for a potential non-invasive therapy against tauopathies	2019	RSC Advances	9	9	4744 4750
1655	Talukdar, K., Roy, S., Bag, R., Purniyamurthy, T.	Rh-Catalyzed tandem C-C/C-N bond formation of quinoxalines with alkynes leading to heterocyclic ammonium salts	2019	Organic and Biomolecular Chemistry	17	8	2148 2152
1656	Bania, N., Pan, S.C.	Organocatalytic asymmetric Michael/hemiketalization/acyl transfer reaction of 1,3-propanediones with (E)-2-(2-nitrovinyl)phenols	2019	Organic and Biomolecular Chemistry	17	7	1718 1721
1657	Haldar, S., Jana, C.K.	Direct (het)arylation of tetrahydroisoquinolines: Via a metal and oxidant free C(sp ³)-H functionalization enabled three component reaction	2019	Organic and Biomolecular Chemistry	17	7	1800 1804
1658	Barik, S., Dalal, D.C.	Multi-scale analysis for concentration distribution in an oscillatory Couette flow	2019	Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences	475	222	1
1659	Killi, B.P.R., Reddy, E.A., Rao, S.V.	Game theory based network partitioning approaches for controller placement in SDN	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11227 LNCS	245	267
1660	Singh, K.R., Goswami, A.P., Kalamdhad, A.S., Kumar, B.	Assessment of surface water quality of Pagladia, Beki and Kolong rivers (Assam, India) using multivariate statistical techniques	2019	International Journal of River Basin Management			

1661	Ray, S., Chowdhury, B.R., Mishra, A.K., Kalamdhad, A.S.	Impact of heavy metals on consolidation properties of bentonite	2019 Environmental Science and Engineering	567	574
1662	Chaudhari, A.J., Hotta, S.K., Sahoo, N., Kulkarni, V.	Combined impact of compression ratio and re-circulated exhaust gas on the performance of a biogas fueled spark ignition engine	2019 Journal of Renewable and Sustainable Energy	11	1
1663	Jain, S., Pradhan, B.	Corrosion performance of steel in self-compacting concrete exposed to chloride environment	2019 Lecture Notes in Civil Engineering	12	549 558
1664	Singh, T.G., Singh, K.D.	Semi-elliptical IJSS hollow stub columns under axial compression	2019 Lecture Notes in Civil Engineering	11	327 337
1665	Shende, A., Das, A.K.	Out-of-the-bucket thinking among students with heterogeneous background while solving creative problem by using combinatorial tool	2019 Smart Innovation, Systems and Technologies	135	49 61
1666	Kaushik, S., Dasgupta, K.	Seismic behaviour of RC slab-shear wall assemblage using nonlinear static and dynamic analyses	2019 Lecture Notes in Civil Engineering	12	219 231
1667	Punekar, R.M., Shende, A.	Do we have the right candidate? reflections on the selection processes for admission to the design program in India	2019 Smart Innovation, Systems and Technologies	135	100 1010
1668	Das, A., Das, A.K.	Visual culture of urban spectacles: a discourse on festivals in the light of urban semantics	2019 Smart Innovation, Systems and Technologies	135	315 326
1669	Sarkar, S., Das, A.K.	Modular assistive devices for elderly people to overcome age-related problems	2019 Smart Innovation, Systems and Technologies	135	463 474
1670	Rani, P., Udaya Kumar, D.	Defining the concept of visual space in mural art traditions of rural eastern Jharkhand	2019 Smart Innovation, Systems and Technologies	135	259 269

1671	Nayak, B.K., Karmakar, S.	A review of eye tracking studies related to visual aesthetic experience: A bottom-up approach	2019 Smart Innovation, Systems and Technologies	135	391	403
1672	Jee, A.A., Pradhan, B.	Durability of fly ash added reinforced concrete in chloride and composite chloride-sulfate environment	2019 Lecture Notes in Civil Engineering	11	773	785
1673	Nath, S., Kalita, T., Arunachalam, M., Tiwari, R., Karmakar, S.	Association between adopted posture and perceived vibrational discomfort among stone polishing workers	2019 Smart Innovation, Systems and Technologies	135	549	561
1674	Banerjee, S., Upadhyay, P., Purnekar, R.M.	Teaching design for sustainability for socioeconomic ecosystems—Three case studies	2019 Smart Innovation, Systems and Technologies	135	935	946
1675	Kumari, P., Singh, A.	Three-dimensional analytical solution for FGM plate with varying material properties in in-plane directions using extended Kantorovich	2019 Lecture Notes in Civil Engineering	11	611	621
1676	Jadhav, S.S., Kalita, P.C., Das, A.K.	Design management intervention in product-service system of water supply	2019 Smart Innovation, Systems and Technologies	135	185	196
1677	Mehta, P., Kumar, S., Kumar, V., Bandawala, S., Dasgupta, K.	Location of balance points on design and actual P-M interaction curve for RC sections	2019 Lecture Notes in Civil Engineering	11	217	231
1678	Kaur, A., Agrawal, A., Yammiyavar, P.	Exploring 3D interactions for number entry and menu selection in virtual reality environment	2019 Smart Innovation, Systems and Technologies	135	781	791
1679	Laskar, S.M., Talukdar, S.	Effect of addition of fly ash and superplasticizer on ultra-fine slag based geopolymer mortar	2019 Lecture Notes in Civil Engineering	11	693	702
1680	Ojha, S.P., Yammiyavar, P.	A fuzzy-based approach to identify tacit knowledge in craft objects	2019 Smart Innovation, Systems and Technologies	135	197	210

1681	Kotoky, N., Dutta, A., Deb, S.K.	Hybrid testing of concrete bridge piers with different detailing at column–foundation interface	2019	Lecture Notes in Civil Engineering	12	39	51
1682	Choudhury, T., Kaushik, H.B.	Seismic fragility of reinforced concrete frames with vertical irregularities	2019	Lecture Notes in Civil Engineering	12	571	583
1683	Verma, S.K., Punekar, R.M.	Observing nature—What designers can learn from biologists	2019	Smart Innovation, Systems and Technologies	135	887	899
1684	Bhattacharjya, B.R., Kakoty, S.K.	A study on the anthropometry of the hira community of assam: Its use in redesigning a pottery wheel	2019	Smart Innovation, Systems and Technologies	135	417	426
1685	Hani, U., Das, A.K.	Eri-culture: The drive from tradition to innovation	2019	Smart Innovation, Systems and Technologies	135	835	845
1686	Kintada, M., Singh, A.K.	Failure analysis of composite cylindrical shells using continuum damage mechanics	2019	Lecture Notes in Civil Engineering	11	487	502
1687	Datta, S., Bhanja Chaudhuri, N., Dhar, D.	Redefining news delivery—A case study of communication strategies using HCI-based approach	2019	Smart Innovation, Systems and Technologies	135	677	689
1688	Sharma, N., Dasgupta, K., Dey, A.	Importance of inclusion of soil–structure interaction studies in design codes	2019	Lecture Notes in Civil Engineering	12	233	244
1689	Bhattacharjee, A., Pal, S.	Attention of viewers while viewing paintings changes with the different ccts of exhibition light: A quantitative approach with eye-tracking method	2019	Smart Innovation, Systems and Technologies	135	487	496
1690	Monga, C., Das, A.K.	Semiotic analysis: A study to identify the design elements of namghar in Assam	2019	Smart Innovation, Systems and Technologies	135	343	354

1691	Dhar, S., Dasgupta, K.	Comparison of modal behaviour of integral abutment bridge with and without soil–structure interaction	2019 Lecture Notes in Civil Engineering	12	245	253
1692	Deb, T.K., Singh, B.	Behaviour of bucket foundations in sandy bed subjected to eccentric lateral loading	2019 Lecture Notes in Civil Engineering	13	313	321
1693	Chatterjee, D., Murali Krishna, A.	Stability analysis of non-homogeneous soil slopes using numerical techniques	2019 Lecture Notes in Civil Engineering	13	219	227
1694	Patel, S.K., Singh, B.	Investigation of glass fiber reinforcement effect on the CBR strength of cohesive soil	2019 Lecture Notes in Civil Engineering	14	67	75
1695	Das, P., Man Parvesh, S.R., Bharat, T.V.	Experimental analysis of salt diffusion in compacted clays by through-diffusion and half cell technique	2019 Lecture Notes in Civil Engineering	16	179	186
1696	Satpute, P., Punekar, R.M., Shende, A.	Opportunity areas for industrial designers to explore new applications of product-integrated photovoltaics (PIPV) for rural communities of India	2019 Smart Innovation, Systems and Technologies	134	413	422
1697	Nagpal, B., Bathina, L., Das, S.	Redesign of indian games: A case study of traditional indian games gilli danda (tip cat) and gatte ka khel (game of five stones)	2019 Smart Innovation, Systems and Technologies	134	689	701
1698	Kumar, S.S., Murali Krishna, A., Dey, A.	Local strain measurements in triaxial tests using on-sample transducers	2019 Lecture Notes in Civil Engineering	16	93	101
1699	Das Rabha, J., Rabha, R.	Manual width and thickness sizer for bamboo	2019 Smart Innovation, Systems and Technologies	134	677	687
1700	Pachauri, S., Indu Priya, M., Garg, A.	Comparative analysis of strength characteristics of soil reinforced with coir and polypropylene fibers	2019 Lecture Notes in Civil Engineering	14	355	361

1701	Sarma, C.P., Murali Krishna, A., Dey, A.	Geotechnical characterization of hillslope soils of guwahati region	2019	Lecture Notes in Civil Engineering	16	103	110
1702	Gupta, S., Upadhyay, P.	Social sustainability of online instant messaging platform—whatsapp	2019	Smart Innovation, Systems and Technologies	134	473	482
1703	Kharkongor, W.B., Chatterjee, A., Chakrabarti, D.	Application of existing cultural frameworks in the design of a cultural place: A case study of meghalaya	2019	Smart Innovation, Systems and Technologies	134	793	805
1704	Reddy, S.B., Krishna, A.M.	Mitigation of dynamic loading effects on retaining walls using recycled tire chips	2019	Lecture Notes in Civil Engineering	15	141	148
1705	Jana, A., Pushpan, M., Dey, A., Sreedeep, S., Murali	Static and dynamic slope stability assessment of a himalayan rock slope	2019	Lecture Notes in Civil Engineering	13	231	239
1706	Mahato, K.K., Kalita, P.C., Das, A.K.	Design and development of affordable tool for metal handicraft	2019	Smart Innovation, Systems and Technologies	134	357	367
1707	Basu, D., Dey, A.	Nonlinear 1d ground response analysis of soil profile using different procedures	2019	Lecture Notes in Civil Engineering	15	31	39
1708	Mahato, M., Das, A.K.	Design and development of a semiautomatic handloom in alternative material	2019	Smart Innovation, Systems and Technologies	134	725	734
1709	Das, S., Rijas, M.P., Das, A.K.	Design of a space-saving furniture with prototype-driven innovation approach	2019	Smart Innovation, Systems and Technologies	134	745	755
1710	Kumar, A., Baro, O.	Indirect Estimation of Local Soil Response in Light of Past as well as Recent Earthquakes in the Shillong Plateau	2019	Lecture Notes in Civil Engineering	15	67	73

1711	Seid, K., Das, A.K.	Conceptual design and evaluation of a novel self-transfer-assistive device	2019	Smart Innovation, Systems and Technologies	134	919	928
1712	Upadhyay, P., Puneekar, R.M.	A framework for understanding the context and evaluating solutions in design for base of the economic pyramid	2019	Smart Innovation, Systems and Technologies	134	769	779
1713	Srikanth, V., Mishra, A.K.	Atterberg limits of sand-bentonite mixes and the influence of sand composition	2019	Lecture Notes in Civil Engineering	16	139	145
1714	Angelus Khoh, M., Das, A.K.	A review of the agricultural tools and implements of the northeastern region of India from design perspective	2019	Smart Innovation, Systems and Technologies	134	909	918
1715	Lingannavar, R., Yammiyavar, P.	Product innovation index using linkograph analysis	2019	Smart Innovation, Systems and Technologies	134	297	306
1716	Talukdar, P., Dey, A.	Effect of varying geometrical configuration of sheet piles on exit gradient and uplift pressure	2019	Lecture Notes in Civil Engineering	13	135	142
1717	Kcp, P., Sharma, N., Salve, U.R.	Multi-utility fantasy bed: Experimental design	2019	Smart Innovation, Systems and Technologies	134	871	886
1718	Saikia, S.B., Chakrabarti, D.	Experiential design intervention to motivate tourist local interaction and connect with unexplored landscape—a case study of North Guwahati	2019	Smart Innovation, Systems and Technologies	134	757	767
1719	Basu, D., Boga, M., Dey, A.	A time-domain nonlinear effective-stress non-Masing approach of ground response analysis of Guwahati city, India	2019	Earthquake Engineering and Engineering Vibration	18	1	61
1720	Das, A., Das, S., Trivedi, V., Biswas, S.	A dual functional MOF-based fluorescent sensor for intracellular phosphate and extracellular 4-	2019	Dalton Transactions	48	4	1332

1721	Singh, P.K., Monsy, A.V., Garg, R., Dey, S., Nandi, S.	JSpongeGen: A pseudo random generator for low resource devices	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11319 LNCS	410	421
1722	Singh, P.K., Vij, P., Vyas, A., Nandi, S.K., Nandi, S.	Elliptic curve cryptography based mechanism for secure Wi-Fi connectivity	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11319 LNCS	422	439
1723	Yammiyavar, P., Deepshikha	Exploring potential of traditionally crafted textiles to transform into e-wearables for use in socio-cultural space	2019	IFIP Advances in Information and Communication Technology	544	123	139
1724	Srivastava, A., Yammiyavar, P.	Automating engineering educational practical electronics laboratories for designing engaging learning experiences	2019	IFIP Advances in Information and Communication Technology	544	85	102
1725	Naik, B.K., Muthukumar, P.	Performance assessment of evacuated U-tube solar collector: a numerical study	2019	Sadhana - Academy Proceedings in Engineering Sciences	44	1	
1726	Shah, T.A., De, P.B., Pradhan, S., Punniyamurthy, T.	Transition-metal-catalyzed site-selective C7-functionalization of indoles: advancement and future prospects	2019	Chemical Communications	55	5	587
1727	Giri, R.S., Mandal, B.	Unique crystallographic signatures of Boc-Gly-Phe-Phe-OMe and Boc-Gly-Phe-Phe-OMe and their self-	2019	CrystEngComm	21	2	243
1728	De, S., Majhi, B.R.	Fluid description of gravity on a timelike cut-off surface: beyond Navier-Stokes equation	2019	Journal of High Energy Physics	2019	1	
1729	Rather, A.M., Shome, A., Bhunia, B.K., Panuganti, A., Mandal, B.B., Manna, U.	Correction: Simultaneous and controlled release of two different bioactive small molecules from nature inspired single material (Journal of Materials Chemistry	2019	Journal of Materials Chemistry B	7	2	346
1730	Singh, K.R., Dutta, R., Kalamdhad, A.S., Kumar, B.	Information entropy as a tool in surface water quality assessment	2019	Environmental Earth Sciences	78	1	

1731	Roy, S., Bhandari, S., Manna, M., De, S., Chattopadhyay, A.	The nature of binding of quinolate complex on the surface of ZnS quantum dots	2019	Physical Chemistry Chemical Physics	21	2	589	596
1732	Gattu, R., Mondal, S., Ali, S., Khan, A.T.	Iodine monobromide catalysed regioselective synthesis of 3-aryloquinolines from α -aminoacetophenones and: Trans β -nitrostyrenes	2019	Organic and Biomolecular Chemistry	17	2	347	353
1733	Bharadwaj, M., Prajapati, J., Bhattacharjee, R.	Novel graphene based antennas for the terahertz region	2019	Semiconductor Science and Technology	34	1		
1734	Brahmachary, S., Natarajan, G., Kulkarni, V., Sahoo, N., Nanda, S.R.	Application of greedy and heuristic algorithm-based optimisation methods towards aerodynamic shape optimisation	2019	Advances in Intelligent Systems and Computing	816		937	948
1735	Manna, U., Das, G.	Halo-phenyl based linear dipodal receptors for entrapment of anions/anionic associations with- Experimental and kinetic studies on in-situ CO ₂ gasification based chemical looping combustion of low ash coal using Fe as the oxygen carrier	2019	CrystEngComm	21	1	65	76
1736	Bhui, B., Vairakannu, P.	Production of microbial biomass feedstock via co-cultivation of microalgae-bacteria consortium coupled with effective wastewater treatment	2019	Journal of CO2 Utilization	29		103	116
1737	Makut, B.B., Das, D., Goswami, G.	Neuronal SNARE complex: A protein folding system with intricate protein-protein interactions, and its common neuropathological hallmark,	2019	Algal Research	37		228	239
1738	Karmakar, S., Sharma, L.G., Roy, A., Patel, A., Pandey, L.M.	Enhanced lipid content in <i>Chlorella</i> sp. FC2 IITG via high energy irradiation mutagenesis	2019	Neurochemistry International	122		196	207
1739	Muthuraj, M., Selvaraj, B., Palabhanvi, B., Kumar, V., Das, D.	Structural insights into the catalytic mechanism of 5-methylthioribose 1-phosphate isomerase	2019	Korean Journal of Chemical Engineering	36	1	63	70
1740	Gogoi, P., Mordina, P., Kanaujia, S.P.	Structural insights into the catalytic mechanism of 5-methylthioribose 1-phosphate isomerase	2019	Journal of Structural Biology	205	1	67	77

1741	Baranwal, P.K., Rajaraman, P.V.	Electrochemical investigation on effect of sodium thiosulfate (Na ₂ S ₂ O ₃) and ammonium chloride (NH ₄ Cl) on carbon steel corrosion	2019	Journal of Materials Research and Technology	8	1	1366	1378
1742	Bhattacharjee, M., Bandyopadhyay, D.	Mechanisms of humidity sensing on a CdS nanoparticle coated paper sensor	2019	Sensors and Actuators, A: Physical	285		241	247
1743	Singh, P.K., Sharma, S., Nandi, S.K., Nandi, S.	Multipath TCP for V2I communication in SDN controlled small cell deployment of smart city	2019	Vehicular Communications	15	1	1	15
1744	Kumar, J.P., Mandal, B.B.	Silk sericin induced pro-oxidative stress leads to apoptosis in human cancer cells	2019	Food and Chemical Toxicology	123		275	287
1745	Jain, M.S., Paul, S., Kalamdhad, A.S.	Utilization of Biochar as an amendment during lignocellulose waste composting: Impact on composting physics and Realization (probability) amongst physical properties	2019	Process Safety and Environmental Protection	121		229	238
1746	Sarkar, A., Bora, S.N.	Hydrodynamic forces due to water wave interaction with a bottom-mounted surface-piercing compound porous cylinder	2019	Ocean Engineering	171		59	70
1747	Ramteke, R.R., Kishore, N.	Combined effects of thermal jump and momentum slip on heat transfer phenomena of unbounded spherical particles	2019	Acta Mechanica	230	1	201	211
1748	Leichombam, S., Bhattacharjya, R.K.	New hybrid optimization methodology to identify pollution sources considering the source locations and source flux as unknown	2019	Journal of Hazardous, Toxic, and Radioactive Waste	23	1		
1749	Kumari, P., Kar, S.	Static behavior of arbitrarily supported composite laminated cylindrical shell panels: An analytical 3D elasticity approach	2019	Composite Structures	207		949	965
1750	Borah, A.J., Roy, K., Goyal, A., Moholkar, V.S.	Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds	2019	Bioresource Technology	272		389	397

1751	Horo, H., Das, S., Mandal, B., Kundu, L.M.	Development of a photoresponsive chitosan conjugated prodrug nano-carrier for controlled delivery of antitumor drug 5-fluorouracil	2019 International Journal of Biological Macromolecules	121	1070	1076
1752	Sarma, N., Singh, S.R., Goswami, D.	Influence of social conversational features on language identification in highly multilingual online conversations	2019 Information Processing and Management	56	151	166
1753	Pattanayak, D., Mondal, K., Ramesh, H., Mandal, P.S.	Gathering of mobile robots with weak multiplicity detection in presence of crash-faults	2019 Journal of Parallel and Distributed Computing	123	145	155
1754	Pal, S., Paul, S.	Conformational deviation of Thrombin binding G-quadruplex aptamer (TBA) in presence of divalent cation Sr ²⁺ : A classical molecular dynamics simulation study	2019 International Journal of Biological Macromolecules	121	350	363
1755	Prakash, A., Hazra, B., Sreedep, S.	Probabilistic analysis of unsaturated fly ash slope	2019 Journal of Hazardous, Toxic, and Radioactive Waste	23	1	
1756	Ghosh, B., Pekkati, S.	A critical evaluation of measurement induced variability in infiltration characteristics for a river sub-catchment	2019 Measurement: Journal of the International Measurement Confederation	132	47	59
1757	Agrawal, V., Gautam, S.S.	Investigation of contact pressure oscillations with different segment-to-segment based isogeometric contact formulations	2019 Lecture Notes in Mechanical Engineering		90	103
1758	Arunachalam, M., Karmakar, S.	Ergonomic Design and Evaluation of Innovative MainStand of Motor-cycle	2019 Advances in Intelligent Systems and Computing	824	1099	1111
1759	Jyotishi, D., Deb, S., Abhishek, A., Dandapat, S.	Experimental analysis on effect of nasal tract on nasalised vowels	2019 Advances in Intelligent Systems and Computing	748	727	737
1760	Abhishek, A., Deb, S., Dandapat, S.	Analysis of breathy, emergency and pathological stress classes	2019 Advances in Intelligent Systems and Computing	748	497	508

1761	Bora, S., Chakrabarti, D., Chatterjee, A.	Occupational well-being of policewomen in India and China: Scope of ergonomic design interventions	2019	Advances in Intelligent Systems and Computing	826	233	244
1762	Rapur, J.S., Tiwari, R.	Multi Fault Diagnosis of Centrifugal Pumps with Time, Frequency and Wavelet-Based Features Using Support Vector Machines	2019	Mechanisms and Machine Science	61	43	57
1763	Sarmah, N., Tiwari, R.	Identification of Crack and Internal Damping Parameters Using Full Spectrum Responses from a Jeffcott Rotor Incorporated with an	2019	Mechanisms and Machine Science	62	34	48
1764	Bordoloi, D.J., Tiwari, R.	Monitoring of Induction Motor Mechanical and Electrical Faults by Optimum Multiclass-Support Vector Machine Algorithms Using Ge-	2019	Mechanisms and Machine Science	61	120	132
1765	Kharkongor, W.B., Chatterjee, A., Chakrabarti, D.	Meghalaya tourism: A study on women's attitudes and perceptions towards the cultural exposure and interaction in the context of Meghalaya tourism	2019	Advances in Intelligent Systems and Computing	826	313	326
1766	Salve, U., Jadhav, G.	Analysis of posture adopted by female kolhapuri chappal (footwear) manufacturing workers India	2019	Advances in Intelligent Systems and Computing	826	278	286
1767	Kainthola, J., Kalamdhad, A.S., Goud, V.V.	Optimization of methane production during anaerobic co-digestion of rice straw and hydrilla verticillata using response sur-	2019	Fuel	235	92	99
1768	Yammiyavar, P., Lingannavar, R.	Analysis using linkograph to identify product features for innovation: A human centered usability engineering approach	2019	Advances in Intelligent Systems and Computing	777	359	369
1769	Bhattacharjee, A., Pal, S.	Attention of viewers while viewing paintings depends on different types of exhibition light: A quantitative approach with eye-tracking method	2019	Advances in Intelligent Systems and Computing	777	328	336
1770	Nayak, B.K., Karmakar, S.	Eye tracking based objective evaluation of visual aesthetics: A review	2019	Advances in Intelligent Systems and Computing	777	370	381

1771	Glingston, R.S., Deb, R., Kumar, S., Nagotu, S.	Organelle dynamics and viral infections: at cross roads	2019	Microbes and Infection	21	1	20	32
1772	Punnathanam, V., Kotecha, P.	Optimization of multi-objective dynamic optimization problems with front-based yin-yang-pair optimization	2019	Advances in Intelligent Systems and Computing	669		377	386
1773	Kommadath, R., Kotecha, P.	Evaluation of teaching learning based optimization with focused learning on expensive optimization problems (CEC2017)	2019	Advances in Intelligent Systems and Computing	669		435	445
1774	Maharana, D., Maheshka, S., Kotecha, P.	Multi-objective league championship algorithms and its applications to optimal control problems	2019	Advances in Intelligent Systems and Computing	669		35	46
1775	Kommadath, R., Kotecha, P.	Optimization of stirling engine systems using single phase multi-group teaching learning based optimization and genetic algorithm	2019	Advances in Intelligent Systems and Computing	669		447	458
1776	Punnathanam, V., Kotecha, P.	Front-based yin-yang-pair optimization and its performance on CEC2009 benchmark problems	2019	Advances in Intelligent Systems and Computing	669		387	397
1777	Maharana, D., Kotecha, P.	Optimization of job shop scheduling problem with grey wolf optimizer and JAYA algorithm	2019	Advances in Intelligent Systems and Computing	669		47	58
1778	Chauhan, S.S., Kotecha, P.	Performance evaluation of grey wolf optimizer and symbiotic organisms search for multi-level production planning with adaptive penalty	2019	Advances in Intelligent Systems and Computing	669		459	470
1779	Ravi, K.K., Narayanan, R.G., Rana, P.K.	Friction Stir Spot Welding of Al6082-T6/HDPE/Al6082-T6/HDPE/Al6082-T6 sandwich sheets: Hook formation and lap shear test performance	2019	Journal of Materials Research and Technology	8	1	615	622
1780	Gajrani, K.K., Pavan Kumar Reddy, R., Ravi Sankar, M.	Tribo-mechanical and surface morphological comparison of untextured, mechanical micro-textured (M μ T), and coated-M μ T cutting tools during machining	2019	Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology	233	1	95	111

1781	Mitra, A., Awekar, A.	On low overlap among search results of academic search engines	2019	26th International World Wide Web Conference 2017, WWW 2017 Companion	823	824
1782	Selvaraju, S., Ramba, V., Subbiha, S., Uppaluri, R., Dubey, P.K., Musale, A.	An innovative system architecture for real-time monitoring and alarming for cutting transport in oil well drilling	2019	Society of Petroleum Engineers - Abu Dhabi International Petroleum Exhibition and Conference 2019, ADIP 2019	51	74
1783	Sarkar, A., Sarkar, A.	On the lead-lag relationship between market capitalization ratio and per capita growth	2019	Opportunities and Challenges in Development: Essays for Sar-mila Banerjee	5	139
1784	Rajkhowa, R., Bhagabati, P., Al-lardyce, B., Whyte, D.J., Katiyar, V., Wang, X.	Protein fiber powder for 3D printed biodegradable products	2019	Fiber Society's Fall 2019 Technical Meeting and Conference: Revitalizing the Textile Industry Through Innovative Research, Education, and Entrepreneurship	8	71
1785	Kulkarni, R., Rastogi, P.	Measurement of Displacement and Its Derivatives from a Phase Fringe Pattern	2019	Structural Integrity	5	144
1786	Kulkarni, R., Rastogi, P.	Monogenic Filtering Based Automatic Defect Detection from a Single Fringe Pattern	2019	Structural Integrity	8	71
1787	Purohit, B., Kumar, A., Mahato, K., Roy, S., Chandra, P.	Cancer cytosensing approaches in miniaturized settings based on advanced nanomaterials and biosensors	2019	Nanotechnology in Modern Animal Biotechnology: Concepts and Applications	133	147
1788	Borah, D., Dasgupta, A., Kang, S.K.	Leptogenesis from Dark Matter Annihilations in Scotogenic Model	2019	Proceedings of Science	340	
1789	Singh, G., Landau, L., Feltweis, G.	Finite length reconstructible ask-sequences received with 1-bit quantization and oversampling	2019	SCC 2015 - 10th International ITG Conference on Systems, Communications and Coding		
1790	Bhowmik, B., Hazra, B., Pakrashi, V.	Real time structural damage detection using recursive singular spectrum analysis	2019	13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP 2019		

1791	Amalraj, A., Sukumaran, N.P., Kunnumakkara, A.B., Gopi, S.	The chemistry and biological activities of curcuminoids: Impacts on neurological disorders	2019	Curcumin for Neurological and Psychiatric Disorders: Neurochemical and Pharmacological Properties	105	127
1792	Patil, R.C., Suryawanshi, P.G., Katakai, R., Goud, V.V.	Current challenges and advances in butanol production	2019	Sustainable Bioenergy: Advances and Impacts	225	256
1793	Bhuyan, N., Sut, D., Gogoi, L., Katakai, R., Goud, V.V.	Rural biorefinery: A viable solution for production of fuel and chemicals in rural india	2019	Sustainable Bioenergy: Advances and Impacts	21	47
1794	Saxena, V., Shukla, I., Pandey, P.M.	Hydroxyapatite: An inorganic ceramic for biomedical applications	2019	Materials for Biomedical Engineering: Nanobiomaterials in Tissue Engineering	205	249
1795	Halder, S., Mondal, J.K., Kumar, A.	Empirical correlations for strain dependent linear 1d ground response analysis for guwahati, india based on detailed analyses	2019	Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions- Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, 2019	2779	2786
1796	Basu, D., Dey, A.	Nonlinear ground response analysis based on non-masing rules: A case study of gra at iit guwahati, india	2019	Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions- Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, 2019	1362	1369
1797	Alom, N., Saha, U.K.	Determining the optimal location of vent augmenters in an elliptical-bladed Savonius rotor	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	2	
1798	Basumatary, K.K., Kalita, K., Karkoty, S.K., Garvey, S.D.	Vibration mitigation of rotors suspended on low-cost hybrid gas foil bearing	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019	1	
1799	Chakraborty, D., Saikia, A.	On a conjecture of Mordell	2019	Rocky Mountain Journal of Mathematics	49	8 2545 2556
1800	Mishra, D., Minz, M., Sonkar, R.K., Khan, M.M.	Bandwidth optimization of germanium-doped silicon optical modulator for high-speed applications	2019	Proceedings of SPIE - The International Society for Optical Engineering	11193	

1801	Minz, M., Mishra, D., Sonkar, R.K., Khan, M.M.	Grating-assisted MDM-PDM hybrid (de) multiplexer for optical interconnect applications	2019 Proceedings of SPIE - The International Society for Optical Engineering	11193
1802	Khan, M.M., Sonkar, R.K.	Numerical modeling and simulations on splitting of chirped optical pulses in heavily doped thulium fiber amplifiers through	2019 Proceedings of SPIE - The International Society for Optical Engineering	11195
1803	Bag, S., Ruhl Amin, M.	Development of an arbitrary adaptive volumetric heat source model for keyhole mode laser welding process	2019 ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE)	8
1804	Khan, M.M., Sonkar, R.K.	An ion-ion interaction analysis-based performance estimation of thulium-doped fiber amplifiers in s-band including amplified	2019 Proceedings of SPIE - The International Society for Optical Engineering	11184
1805	Sinha, G.S., Muthukumar, P.	Material characterization role in porous media combustion stability and performance	2019 Materials Today: Proceedings	18
1806	Chattopadhyay, A., Sain, D., Senapati, T.	Characterization of symmetric points in	2019 Linear and Multilinear Algebra	5063
1807	Naasekpan, V., Bhowmick, A., Hazarika, S.M.	Superpixel Correspondence for Non-parametric Scene Parsing of Natural Images	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS 614 622
1808	Singh, K.R., Dutta, R., Kalamdhad, A.S., Kumar, B.	Review of existing heavy metal contamination indices and development of an entropy	2019 Environment, Development and Sustainability	472
1809	Baghel, S., Bhattacharjee, M., Prasanna, S.R.M., Guha, P.	Shouted and Normal Speech Classification Using 1D CNN	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 472 480
1810	Paul, M., Anand, A., Pyne, S.	Impact of the Continuous Evolution of Gene Ontology on Similarity Measures	2019 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS 122 129

1811	Goswami, G., Kumar, R., Sinha, A., Maifi, S.K., Dutta, B.C., Singh, H., Das,	A low-cost and scalable process for harvesting mi- croalgae using commercial-grade flocculant	2019 RSC Advances	9	67	39011	39024
1812	Kumar, A., Mallik, S.	Contentions and confirmations over genetically modified technology: Socio-political construal of innovations in rice biotechnology research in India	2019 Asian Journal of Social Science	47	04-May	607	630
1813	Sahoo, A., Dwivedy, S.K., Robi, P.S.	Development of a pid control strategy for a com- pact autonomous underwater vehicle	2019 Proceedings of the International Confer- ence on Offshore Me- chanics and Arctic Engineering - OMAE	7B-2019			
1814	Sil, G., Nama, S., Maji, A., Maurya, A.K.	Effect of horizontal curve geometry on vehicle speed distribution: a four-lane divided highway	2019 Transportation Letters				
1815	Das, A., Anbu, N., Sk, M., Dhakshina- moorthy, A., Biswas, S.	A functionalized UiO-66 MOF for turn-on fluore- cence sensing of superoxide in water and efficient catalysis for Knoevenagel condensation	2019 Dalton Transactions	48	46	17371	17380
1816	Gahtori, J., Pant, S., Srivastava, H.K.	Modeling antimalarial and antihuman African try- panosomiasis compounds: a ligand- and structure- based approaches	2019 Molecular Diversity				
1817	Bharali, B., Chetia, H., Kalita, J.J., Mo- sahari, P.V., Chhillar, A.K., Bora, U.	Engineered nanomaterials in plants: Sensors, carri- ers, and bio-imaging	2019 Comprehensive Ana- lytical Chemistry	87		133	157
1818	Wayal, V., T G, S.	Geo-electric assessment of the compacted sand- bentonite mixes	2019 International Journal of Geotechnical Engi- neering				
1819	Khair, K.C., Patel, S., Gavande, P.V., Moholkar, V.A.S., Goyal, A.	Extremophilic Biofilms: Exploring the Prospects	2019 ACS Symposium Series	1323		141	157
1820	Dubey, A.K., Mahadeva Prasanna, S.R., Dandapat, S.	Hypernatality severity detection using constant Q cepstral coefficients	2019 Proceedings of the Annual Conference of the International Speech Communica- tion Association, INTER- SPEECH	2019-September	4554	4558	

1821	Sudro, P.N., Mahadeva Prasanna, S.R.	Modification of devoicing error in cleft lip and palate speech	2019	Proceedings of the Annual Conference of the International Speech Communication Association, INTER-SPEECH	2019-September	4519	4523
1822	Bora, D., Kumar, M., Gautam, S.S.	Ductile fracture in tube impact problem using a Lode angle dependent failure criterion	2019	Procedia Structural Integrity	14	537	543
1823	Sil, G., Maji, A., Nama, S., Maurya, A.K.	Operating speed prediction model as a tool for consistency based geometric design of four-lane	2019	Transport	34	4	425 436
1824	Dihingia, I.K., Das, S., Maity, D., Nandi, A.	Shocks in relativistic viscous accretion flows around Kerr black holes	2019	Monthly Notices of the Royal Astronomical Society	488	2	2412 2422
1825	Bagchi, S., Chhibber, T., Lahooti, B., Verma, A., Borse, V., Jayant, R.D.	In-vitro blood-brain barrier models for drug screening and permeation studies: An overview	2019	Drug Design, Development and Therapy	13	3591	3605
1826	Datapati, R., Nandi, S., Van Hecke, K., Biswas, S.	Fluorescence Modulation of an Aggregation-Induced Emission Active Ligand via Rigidification in a Coordination Polymer and Its Application in	2019	Crystal Growth and Design	19	11	6388 6397
1827	Das, J., Debnath, C., Nath, H., Saxena, R.	Antibacterial effect of activated carbons prepared from some biomasses available in North East India	2019	Energy Sources, Part A: Recovery, Utilization and Environmental Effects	11748	LNCS	112 131
1828	Sim, G., Shrivastava, A., Horton, M., Agarwal, S., Haasini, P.S., Kondeti, C.S., McKnight, L.	Child-Generated Personas to Aid Design Across Cultures	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	21	119	135
1829	Hassan, M., Bora, S.N.	Diffraction of water waves by a finite circular hollow cylinder in water of infinite depth	2019	Applied Sciences	2446	16	23
1830	Abhishek, Azad, A.P., Ganesan, B., Anand, A., Awekar, A.	Collective learning from diverse datasets for entity typing in the wild	2019	CEUR Workshop Proceedings			

1831	Sarkar, R., Anil, K.C., Kumbhakar, P., Mandal, T.	Aqueous synthesis and antibacterial activity of silver nanoparticles against <i>Pseudomonas putida</i>	2019	Materials Today: Proceedings	11	686	694
1832	Bharadwaj, M., Prajapati, J., Bhattacharjee, R.	Analytical Modelling of Terahertz Photomixing Antennas	2019	IETE Journal of Research			
1833	Purushothaman Nair, P., Sarkar, A., Biswas, S.	Fault-tolerant Real-time Fair Scheduling on Multiprocessor Systems with Cold-standby	2019	IEEE Transactions on Dependable and Secure Computing			
1834	De, N., Singh, A.	Numerical simulation of particle migration in suspension flow through heterogeneous porous media	2019	Particulate Science and Technology			
1835	Alam, R., Ahmad, S.K.S.	Sensitivity analysis of nonlinear eigenproblems	2019	SIAM Journal on Matrix Analysis and Applications	40	2	672 695
1836	Sah, P., Mallick, S.	Violence of science and development: Withering away of the displaced Van Gujjars in and around Rajaji National Park, Uttarakhand	2019	African Journal of Science, Technology, Innovation and Development			
1837	Bhowmik, B., Tripura, T., Hazra, B., Pakrashi, V.	First-Order Eigen-Perturbation Techniques for Real-Time Damage Detection of Vibrating Systems: Theory and Applications	2019	Applied Mechanics Reviews	71	6	
1838	Sebastian, T., Yammiyavar, P.G., Jones, S.	Role of product experience in product purchase: Indian users	2019	SCMS Journal of Indian Management	16	1	95 104
1839	Biswas, P., Sahu, D.K., Sahu, K., Banerjee, R.	Spectroscopic studies of asparaginyl-tRNA synthetase from <i>Entamoeba histolytica</i>	2019	Protein and Peptide Letters	26	6	435 448
1840	Bhowmik, B., Tripura, T., Hazra, B., Pakrashi, V.	Damage detection under progressive operational degradation of structures in real time	2019	8th IOMAC - International Operational Modal Analysis Conference, Proceedings			137 145

1841	Sundaram, S., Harit, G.	Preface	2019 Communications in Computer and Infor- mation Science	1020	v
1842	Basu, D., Das, D.	Assam: BJP's consolidation, Congress's lost opportunities	2019 Economic and Political Weekly	54	25 15 17
1843	Rana, S., Gaj, S., Sur, A., Bora, P.K.	Classification of Real 3D and Fake 3D Video	2019 IETE Journal of Re- search		
1844	Bhattacharjee, A., Pal, S.	Effect of color temperature on appearance of paintings ex- hibited under LED lighting	2019 Color Research and Application	44	5 762 771
1845	Sikdar, D., Ma, Y., Kucernak, A.R., Edel, J.B., Kornyshev, A.A.	Nanoplasmonic metamaterial devices as electrically switcha- ble perfect mirrors and perfect absorbers	2019 Optics InfoBase Con- ference Papers	Part F128- CLEO_QELS 2019	
1846	Biswas, R., Banerjee, T., Ghosh, P., Ali, S.M.	Stripping and recycling of metal ions in aqueous nitric acid solutions: Experimental and molecular dynamics insights	2019 AIChE Journal	65	9
1847	Datta, D., Kumar, V., Kumar, S., Naga- raj, R., Chaudhary, N.	Limpid hydrogels from β -turn motif-connected tandem re- peats of A β	2019 Soft Matter	15	24 4827 4835
1848	Kumar, R., Singh, R.M.	Metal-free POC promoted stereoselective hydro- chlorination of ethynylated azaheterocycles	2019 Organic and Bio- molecular Chemistry	17	24 5990 5996
1849	Taye, J., Barman, J., Patel, M., Kumar, B.	Turbulent characteristics of sinuous river bend	2019 ISH Journal of Hydraul- ic Engineering		
1850	Singha, N., Srivastava, A., Pramanik, B., Ahmed, S., Dowari, P., Chowdhuri, S., Das, B.K., Debnath, A., Das, D.	Unusual confinement properties of a water insoluble small peptide hydrogel	2019 Chemical Science	10	23 5920 5928

1851	Karmakar, M., Parui, A.	These were made-to-order babies: Reterritorialised Kinship, Neoliberal Eugenics and Artificial Reproductive Technology in Kishwar Desai's <i>Origins of Love</i>	2019	Medical Humanities			
1852	Chakraborty, R., Dey, A.	A Comparison of 1D and 2D Spatial Variability in Probabilistic Slope Stability Analysis	2019	Lecture Notes in Civil Engineering	28	541	553
1853	Sarsen, A., Bilal, A., Ravi Sankar, M., Talamona, D., Perveen, A.	Assistive electro discharge machining of plain ceramics	2019	Materials Science Forum	947 MSF	109	113
1854	B. P, A., K. M, G., D. R, T., Bhat, V.S., Vijayakumar, A., Y. R, A., Jose, J.	Implementation of a Novel Fault Tolerant Routing Technique for Mesh Network on Chip	2019	Communications in Computer and Information Science	892	495	506
1855	Midhula, K.S., Babu, S., Jose, J., Jose, S.	Performance Enhancement of NoCs Using Single Cycle Deflection Routers and Adaptive Priority Schemes	2019	Communications in Computer and Information Science	892	460	472
1856	S, A., G, S.S.K.M., Rao, S.S., Shaunk, S.B., H K, K., Y R, A., Jose, J.	Source Hotspot Management in a Mesh Network on Chip	2019	Communications in Computer and Information Science	892	619	630
1857	Roy, S., Chawla, H., Sairam, A.S.	IP traceback in dynamic networks	2019	Communications in Computer and Information Science	939	153	165
1858	Bora, D., Kumar, M., Gautam, S.S.	Continuum damage mechanics based simulation of ductile fracture of cylindrical tubes	2019	Lecture Notes in Mechanical Engineering		65	71
1859	Tawalare, A., Laishram, B.	Relational contracting in public sector construction organisations: Evidence from India	2019	International Journal of Public Sector Performance Management	5	2	206 221
1860	Devanga, A., Yamauchi, K.	Collaborative learning of human and computer: Supervised Actor-Critic based Collaboration Scheme	2019	ICPRAM 2019 - Proceedings of the 8th International Conference on Pattern Recognition Applications and Methods		794	801

1861	Kumar, U., Kumar, V., Enamullah, Setlur, G.S.	Quantized transient nonlinear rabi frequency response in Weyl semimetals	2019	Materials Today: Proceedings	9	422	427
1862	MacHale, J., Majumder, S.K., Ghosh, P., Sen, T.K.	Role of chemical additives and their rheological properties in enhanced oil recovery	2019	Reviews in Chemical Engineering			
1863	Barman, R., Komatsu, T.	Lehmer's generalized euler numbers in hypergeometric functions	2019	Journal of the Korean Mathematical Society	56	2	485 505
1864	Vigneshwaran, K., Sodhi, G.S., Muthukumar, P., Arvind, V.K., Balamurugan, G., Sriram, S., Senthilmurugan, S.	Experimental investigation of a cast-steel based thermal energy storage system	2019	Energy Procedia	158		4664 4670
1865	Biswal, D.K., Bandopadhyaya, D., Dwivedy, S.K.	A non-linear dynamic model of ionic polymer-metal composite (IPMC) cantilever actuator	2019	International Journal of Automotive and Mechanical Engineering	16	1	6332 6347
1866	Kesh, D., Sharma, V.S.	On the bitprobe complexity of two probe adaptive schemes storing two elements	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11394 LNCS	53	64
1867	Mugundhan, R., Dasmahapatra, A.K.	Bulk heterojunction organic photovoltaic cells attained by polymer (GO/PeDOT:PSS) as hole transport layer	2019	Indian Journal of Environmental Protection	39	1	61 68
1868	Biswas, A., Borah, D., Dasgupta, A.	UV complete framework of freeze-in massive particle	2019	Physical Review D	99	1	
1869	Buragohain, M., Sarma, N.	PKHSN: A bilinear pairing based key management scheme for heterogeneous sensor networks	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11227 LNCS	102	125
1870	Gogoi, C., Yousufuddin, M., Biswas, S.	A new 3D luminescent Zn(ii)-organic framework containing a quinoline-2,6-dicarboxylate linker for the	2019	Dalton Transactions	48	5	1766 1773

1871	Gadi, V.K., 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	2019	Environmental Science and Engineering	393	400
1872	Kumar, H., Bordoloi, S., Steedee, S., Garg, A.	Effect of initial compaction state on erosion potential for cover liner	2019	Environmental Science and Engineering	589	597
1873	Tzudir, T., Jamir, T., Sharma, S.	Analysis of iron ore, iron slag and soils of termite nest from Wujilage, Nagaland, India	2019	Current Science	116	319
1874	Ji, S., Punekar, R.M.	A critical study of choke point in sustainable recycling of household waste in an assamese village setting	2019	Smart Innovation, Systems and Technologies	135	173
1875	Gogoi, A., Bhuyan, B., Sharma, N., Dasgupta, K.	Nonlinear static behaviour of rc frame buildings during construction stages	2019	Lecture Notes in Civil Engineering	12	24
1876	Lobo, S., Sharma, S., Hirrom, U., Mahamuni, R., Khambete, P.	Extending service blueprint for new age services	2019	Smart Innovation, Systems and Technologies	135	809
1877	Sachidananda, K., Singh, K.D.	Numerical study of the effect of boundary conditions on buckling behaviour of flat oval lds stub column under axial compression	2019	Lecture Notes in Civil Engineering	11	523
1878	Maurya, C.M., Maurya, N., Das, A.K.	Awareness, availability, and accessibility of assistive technologies for the elderly in India: A review	2019	Smart Innovation, Systems and Technologies	135	537
1879	Sasupilli, M., Bokil, P., Wagle, P.	Designing a learning aid for dyslexic children	2019	Smart Innovation, Systems and Technologies	135	703
1880	Majumdar, P., Banerjee, S., Diehl, J.-C., van Engelen, J.M.L.	Motivation for do-it-yourself in rural base of the pyramid communities and the changing landscape	2019	Smart Innovation, Systems and Technologies	135	611

1881	Indu Priya, M., Chaduvula, U., Viswanadham, B.V.S.	Studies on desiccation cracking behavior of geofiber reinforced clay	2019 Lecture Notes in Civil Engineering	16	265	271	
1882	Majumdar, P., Banerjee, S., Diehl, J.-C., Van Engelen, J.M.L.	Connected us! how social motives determine di behaviorism in rural base of the pyramid communities	2019 Smart Innovation, Systems and Technologies	134	807	819	
1883	Choudhuri, A., Upadhyay, P., Yevalkar, A.	A comparison of practical and computational approaches to design modular product architecture for products with medium complexity: A case study on computer numerical control machine	2019 Smart Innovation, Systems and Technologies	134	735	744	
1884	Kakati, V., Das, A.K.	Application of design knowledge in practice: Performance evaluation of single operator handheld battery powered tea harvesting	2019 Smart Innovation, Systems and Technologies	134	287	296	
1885	Chakraborty, R., Dey, A.	Effect of toe cutting on hillslope stability	2019 Lecture Notes in Civil Engineering	13	191	198	
412	1886	Ji, S., Punekar, R.M.	The ethno-cultural influences on "Assam type" building typology—a case of barduwa, Assam	2019 Smart Innovation, Systems and Technologies	134	15	26
1887	Padun, A., Das, A.K.	Study of assamese letterform and its structure: An exploratory approach	2019 Smart Innovation, Systems and Technologies	134	143	155	
1888	Dhiman, B., Rituraj, G., Chaudhury, M.K., Chakrabarti, D.	Design optimization tool for development of solar photovoltaic system in rural household context	2019 Smart Innovation, Systems and Technologies	134	255	264	
1889	Sasupilli, M., Bokil, P., Punekar, R.M.	Game design frameworks and evaluating techniques for educational games: A review	2019 Smart Innovation, Systems and Technologies	134	277	286	
1890	Mukherjee, S., Dey, A.	Analysis of laterally loaded fixed-headed single pile in multilayered soil using P-Y ap-	2019 Lecture Notes in Civil Engineering	13	41	50	

1891	Deka, H., Biswas, G., Chakraborty, S., Dalal, A.	Coalescence dynamics of unequal sized drops	2019 Physics of Fluids	31	1
1892	Nair, A., Amalraj, A., Jacob, J., Kunnumakkara, A.B., Gopi, S.	Non-curcuminoids from turmeric and their potential in cancer therapy and anti-cancer drug delivery formulations	2019 Biomolecules	9	1
1893	Modak, R., Raja, M.M., Srinivasan, A.	Enhanced magneto-caloric effect upon fourth element (Cu, Fe, Co) substitution in Ni-Mn-Sn thin films	2019 Applied Physics A: Materials Science and Processing	Ma-125	1
1894	Wang, N., Shen, G., Bose, S.K., Shao, W.	Zone-Based Cooperative Content Caching and Delivery for Radio Access Network with Mobile Edge Computing	2019 IEEE Access	7	4031 4044
1895	Julaganti, A., Choudhary, R., Kumar, A.	Permanent Deformation Characteristics of Warm Asphalt Binders under Reduced Aging Conditions	2019 KSCE Journal of Civil Engineering	23	1 160 172
1896	Gadi, V.K., Hussain, R., Bordoloi, S., Hossain, S., Singh, S.R., Garg, A., Sekharan, S., Karangat, R., Lingaraj, S.	Relating stomatal conductance and surface area with evapotranspiration induced suction in a heterogeneous grass cover	2019 Journal of Hydrology	568	867 876
1897	Verma, K., Saha, G., Kundu, L.M., Dubey, V.K.	Biochemical characterization of a stable azoreductase enzyme from Chromobacterium violaceum: Application in industrial effluent dye degradation	2019 International Journal of Biological Macromolecules	121	1011 1018
1898	Gajrani, K.K., Suvini, P.S., Kailas, S.V., Sankar, M.R.	Hard machining performance of indigenously developed green cutting fluid using flood cooling and minimum quantity cutting fluid	2019 Journal of Cleaner Production	206	108 123
1899	Deb, D., Jose, J., Das, S., Kapoor, H.K.	Cost effective routing techniques in 2D mesh NoC using on-chip transmission lines	2019 Journal of Parallel and Distributed Computing	123	118 129
1900	Singh, N.K., Thungon, P.D., Estrela, P., Goswami, P.	Development of an aptamer-based field effect transistor biosensor for quantitative detection of <i>Plasmodium falciparum</i> glutamate dehydrogenase in serum samples	2019 Biosensors and Bioelectronics	123	30 35

1901	Bebina Devi, T., Sharma, A., Kumar, B.	Flow characteristics in a partly vegetated channel with emergent vegetation and seepage	2019	Ecology and Hydrobiology	19	1	93	108
1902	Kumar, V., Dixit, U.S., Zhang, J.	Determination of thermal conductivity, absorptivity and heat transfer coefficient during laser-based manufacturing	2019	Measurement: Journal of the International Measurement Confederation	131		319	328
1903	Pankaj Kumar, Y., Pandey, S., Samal, M., Sraban Kumar, M.	Nearest neighbor-based clustering algorithm for large data sets	2019	Advances in Intelligent Systems and Computing	760		73	84
1904	Siva Srinivas, R., Tiwari, R., Kannababu, C.	Identification of Coupling Parameters in Flexibly Coupled Jeffcott Rotor Systems with Angular Misalignment and Integrated Through Active Magnetic Bearing	2019	Mechanisms and Machine Science	62		221	235
1905	Gangsar, P., Tiwari, R.	Performance Analysis of Support Vector Machine and Wavelet Packet Transform Based Fault Diagnostics of Induction Motor at Various Operating Conditions	2019	Mechanisms and Machine Science	61		32	42
1906	Kumar, B., Bag, S., Paul, C.P.	Influence of heat input on welding induced distortion for Yb-fibre laser welded thin sheets	2019	Materials Today: Proceedings	26		2040	2046
1907	Dwivedi, S., Kumar, B., Bhoi, S.R., Tripathy, S.R., Pattanaik, S., Prasad, S., Behera, R.	To investigate the influence of weld time on joint characteristics of Hastelloy X weldments fabricated by RSW process	2019	Materials Today: Proceedings	26		2763	2769
1908	Ding, S., Fu, X., Jiang, B., Bose, S.K., Shen, G.	Spectrum trading between virtual optical networks embedded in an elastic optical network	2019	Optics InfoBase Conference Papers	Part F160-OFC 2019			
1909	Biswas, S., Gavra, V.B., Das, A.K., Tripathy, U.	Biophotonics in disease diagnosis and therapy	2019	Biomedical Engineering and its Applications in Healthcare			65	86
1910	Arya, A., Gangwar, A., Kumar, A.	Biosensors in animal biotechnology	2019	Nanotechnology in Modern Animal Biotechnology: Concepts and Applications			75	95

1911	Tang, F., Bose, S.K., Klinkowski, M., Shen, G.	Minimizing inter-core crosstalk jointly in spatial, frequency, and time domains for scheduled lightpath demands in a multi-core fiber optical network	2019	Optics InfoBase Conference Papers	Part F138-ACPC 2019	16	v
1912	Mishra, D.K., Yang, X.-S., Unal, A.	Preface	2019	Lecture Notes on Data Engineering and Communications Technologies		16	v
1913	Kunnumakara, A.B., Thakur, K.K., Rana, V., Bora, B., Banik, K., Khatoon, E., Sailo, B.L., Shabnam, B., Girisa, S., Gupta, S.C., Aggarwal, B.B.	Upside and downside of tumor necrosis factor blockers for treatment of immune/inflammatory diseases	2019	Critical Reviews in Immunology		39	6 439 479
1914	Masuti, S.K., Saloni, K.	On the finiteness of the set of hilbert coefficients	2019	Journal of Commutative Algebra		11	4 573 604
1915	Kumar, A., Roy, S., Srivastava, A., Naikwade, M.M., Purohit, B., Mahato, K., Naidu, V.G.M., Chandra, P.	Nanotherapeutics	2019	Nanotechnology in Modern Animal Biotechnology: Concepts and Applications			149 161
1916	Alom, N., Das, R., Saha, U.K.	A differential evolution-based inverse method to optimize blade configurations in elliptical-bladed Savonius wind turbines	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019		2	
1917	Alom, N., Das, R., Saha, U.K.	Optimization of aerodynamic parameters of an elliptical-bladed Savonius wind rotor using multi-objective genetic algorithms	2019	ASME 2019 Gas Turbine India Conference, GTINDIA 2019		2	
1918	Sharma, K., Fontes, C.M.G.A., Najmudin, S., Goyal, A.	Small angle X-ray scattering based structure, modeling and molecular dynamics analyses of family 43 glycoside hydrolase α -L-arabinofuranosidase from <i>Clostridium thermocellum</i>	2019	Journal of Biomolecular Structure and Dynamics			
1919	Das, P.K., Gani, A.B., Kharb, L., Chahal, D.	Preface	2019	Communications in Computer and Information Science	1025 CCIS		V
1920	Das, J., Banik, S.R., Reddy, S.R.S.K., Sankar, M.R., Robi, P.S.	Review on process parameters effect on fatigue crack growth rate in friction stir welding	2019	Materials Today: Proceedings		18	3061 3070

1921	Maji, P., Deka, B., Mitra, S., Bhattacharyya, D.K., Bora, P.K., Pal, S.K.	Preface	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	vii	xiii
1922	Mitra, S., Bhattacharyya, D.K., Bora, P.K.	Foreword	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence)	11941 LNCS	v	vi
1923	Bhowmick, A., Saharia, S., Hazarika, S.M.	Encoding High-Order Statistics in VLAD for Scalable Image Retrieval	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11941 LNCS	559	566
1924	Sasmal, P., Bhuyan, M.K., Bora, K., Iwahori, Y., Kasugai, K.	Colonoscopic Image Polyp Classification Using Texture Features	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS	96	101
1925	Maji, P., Deka, B., Mitra, S., Bhattacharyya, D.K., Bora, P.K., Pal, S.K.	Preface	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS	vii	xiii
1926	Mitra, S., Bhattacharyya, D.K., Bora, P.K.	Foreword	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence)	11942 LNCS	v	vi
1927	Mahanta, L.B., Bora, K., Kalita, S.J., Yogi, P.	Automated Counting of Platelets and White Blood Cells from Blood Smear Images	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11942 LNCS	13	20
1928	Alom, N., Kumar, N., Saha, U.K.	Analyzing the effect of shaft and end-plates of a newly developed elliptical-bladed savonius rotor from wind tunnel tests	2019	Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering - OMAE	10		
1929	Changmai, P., Nayak, S.K., Metya, S.K.	Mathematical model to estimate the maximum power output of a total cross tied connected PV array during partial shading condition	2019	IET Renewable Power Generation	13	14	2647 2655
1930	Kancharlappalli, S., Natarajan, S., Ghanty, T.K.	Confinement-Directed Adsorption of Noble Gases (Xe/Kr) in MFM-300(M)-Based Metal-Organic Framework Materials	2019	Journal of Physical Chemistry C			

1931	Dixit, U.S., Pandey, P.M., Verma, G.C.	Ultrasonic-assisted machining processes: A review	2019	International Journal of Mechatronics and Manufacturing Systems	12	03-Apr	227	254
1932	Sikdar, D., Kornyshev, A.A.	An electro-tunable Fabry-Perot interferometer based on dual mirror-on-mirror nanoplasmonic metamaterials	2019	Nanophotonics				
1933	Jelli, S., Shrivastava, A., Das, R.K., Prasanna, S.R.M., Sinha, R.	SpeechMarker: A voice based multi-level attendance application	2019	Proceedings of the Annual Conference of the International Speech Communication Association, INTER-SPEECH	2019-September		3665	3666
1934	Kolathayar, S., Aravind, C.A., TG, S.	Model Tests and Analytical Studies on Performance of Areca Leaf Cells as Cellular Confinement in Soil	2019	Geomechanics and Geoengineering				
1935	El-Naggar, M.H., Abdel Bar, F.M., Choudhary, H., Javadi, M., Shimizu, K., Kunnumakkara, A.B., Badrifa, F.A.	Synthesis of new selective cytotoxic ricinine analogues against oral squamous cell carcinoma	2019	Natural Product Research				
1936	Pandian, S., Desikan, S.L.N., Niranjan, S.	Onset of transient shock interaction with cavity shear layer	2019	AIAA Journal	57	9	3773	3778
1937	Dey, S., Kumar, H., Sinha, S.K., Goud, V.V., Das, S.	Bacterial biofilm-based nitrate and phosphate removal from rubber latex wastewater for sustainable water usage	2019	Water and Environment Journal				
1938	Chavan, R., Gualtieri, P., Kumar, B.	Turbulent flow structures and scour hole characteristics around circular bridge piers over non-uniform sand bed channels with downward seepage	2019	Water (Switzerland)	11	8		
1939	Neog, K., Dutta, D., Das, B., Gogoi, P.	Aryne insertion into the PO bond: One-pot synthesis of quaternary phosphonium triflates	2019	Organic and Biomolecular Chemistry	17	26	6450	6460
1940	Kumar, S., Poulouse, P., Rahaman, R., Singh, R.K.	Measuring Higgs self-couplings in the presence of v H and v H H at the ILC	2019	International Journal of Modern Physics A				

1941	Dey, L.K., Kumam, P., Senapati, T.	Fixed point results concerning α -f-contraction mappings in metric spaces	2019	Applied General Topology	20	1	81	95
1942	Borra, S., Borkotoky, L., Newar, U.D., Kalwar, A., Das, B., Maurya, R.A.	Visible light triggered photo-decomposition of vinyl azides to (E)-stilbene derivatives via 1,2-acyl migration	2019	Organic and Bio-molecular Chemistry	17	24	5971	5981
1943	Arun, S., Marbaniang, B., Borgohain, B., Kanagaraj, S.	Rehabilitation evaluation of the newly developed polymeric based passive polycentric knee joint	2019	Disability and Rehabilitation: Assistive Technology				
1944	Singh, P.K., Singh, R., Nandi, S.K., Nandi, S.	Smart contract based decentralized parking management in ITS	2019	Communications in Computer and Information Science	1041		66	77
1945	Singh, P.K., Singh, R., Nandi, S.K., Nandi, S.	Managing smart home appliances with proof of authority and blockchain	2019	Communications in Computer and Information Science	1041		221	232
1946	Sikdar, D., Zhu, W.	Editorial: A special issue on plasmonic metamaterials	2019	Journal of Physics Condensed Matter	31		31	
1947	Sharma, A., Herrera-Granados, O., Kumar, B.	Bedload transport and temporal variation of non-uniform sediment in a seepage-affected alluvial channel	2019	Hydrological Sciences Journal				
1948	Kumar, S., Sivastav, S., Fatima, M., Giri, R.S., Mandal, B., Mondal, A.C.	A Synthetic Pro-Drug Peptide Reverses Amyloid- β -Induced Toxicity in the Rat Model of Alzheimer's Disease	2019	Journal of Alzheimer's Disease	69	2	499	512
1949	Li, Y., Li, C., Li, S., Su, B., Han, L., Mandal, B.	Graphene oxide (GO)-interlayered thin-film nanocomposite (TFN) membranes with high solvent resistance for or-	2019	Journal of Materials Chemistry A	7	21	13315	13330
1950	Bhowmik, B., Biswas, S., Deka, J.K., Bhattacharya, B.B.	A Low-Cost Test Solution for Reliable Communication in Networks-on-Chip	2019	Journal of Electronic Testing: Theory and Applications (JETTA)				

1951	Saurabh, Prakash, S., Singh, P.K., Nandi, S.K., Is QUIC Quicker Than TCP?: A Performance Evaluation	2019	Advances in Intelligent Systems and Computing	927	129	138
1952	Singh, P.K., Gupta, R.R., Nandi, S.K., Nandi, S. Machine Learning Based Approach to Detect Wormhole Attack in VANETs	2019	Advances in Intelligent Systems and Computing	927	651	661
1953	Kabra, A., Iwahori, Y., Usami, H., Bhuyan, M.K., Ogasawara, N., Kasugai, K. Polyp classification and clustering from endoscopic images using competitive and convolutional neural networks	2019	ICPRAM 2019 - Proceedings of the 8th International Conference on Pattern Recognition Applications and Methods	446	446	452
1954	Pramanik, S., Roy, S., Mondal, A., Bhandari, S. A two-target responsive reversible ratiometric pH nanoprobe: A white light emitting quantum	2019	Chemical Communications	55	30	4331 4334
1955	Das, G.K., Mandal, P.S., Mukhopadhyaya, K., Nakano, S.-I. Preface	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11355 LNCS	v	vi
1956	Cengizci, S., Nafesan, S., Atay, M.T. An asymptotic-numerical hybrid method for singularly perturbed system of two-point reaction-diffusion boundary-value problems	2019	Turkish Journal of Mathematics	43	1	460 472
1957	Li, S., Li, C., Song, X., Su, B., Mandal, B., Prasad, B., Gao, X., Gao, C. Graphene Quantum Dots-Doped Thin Film Nanocomposite Polyimide Membranes with Enhanced Solvent Resistance for Solvent-Resistant	2019	ACS Applied Materials and Interfaces			
1958	Zhang, Y., Zhou, X., Deng, N., Bose, S.K., Shen, G. Exploiting efficiency of ultra-dense wavelength switched network for carrying metro network	2019	Photonic Network Communications			
1959	Garg, A., Gadi, V.K., 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	2019	Environmental Science and Engineering	377		384
1960	Rajitha, K.V., Mishra, C., Dey, T.N., Panigrahi, P.K. Phase-controlled stable solitons in nonlinear fibers	2019	Journal of the Optical Society of America B: Optical Physics	36	1	1 6

1961	Shukla, S., Salve, S., Yammiyavar, P.	Does emotion modulation influence speed–Accuracy trade-off in numerical data entry	2019 Smart Innovation, Systems and Technologies	135	497	507
1962	Mahamuni, R., Khambete, P., Punekar, R.-M.	Behaviour progression framework for designing sustained behaviour change	2019 Smart Innovation, Systems and Technologies	134	39	50
1963	Wagle, P.R., Mahamuni, R., Mehta, K.	Products and services—strangers or siamese twins?	2019 Smart Innovation, Systems and Technologies	134	75	85
1964	Dhiman, B., Chaudhury, M.K., Mahapatra, S., Chakrabarti, D.	Socially constructed design in context of small-scale solar photovoltaic home system	2019 Smart Innovation, Systems and Technologies	134	391	401
1965	Prakash, J., Yadav, S., Saha, G., Chiranjivi, A.K., Kumar, S., Sasidharan, S., Saudagar, P., Dubey, V.K.	Episomal expression of human glutathione reductase (HuGR) in Leishmania sheds light on evolutionary pressure for unique redox metabolism pathway: Impaired stress tolerance ability of Leishmania donovani	2019 International Journal of Biological Macromolecules	121	498	507
1966	Borah, P.P., Talukdar, G., Baruah, A.	WSD for Assamese Language	2019 Advances in Intelligent Systems and Computing	740	119	128
1967	Misra, A., Pandey, P.M., Dixit, U.S., Roy, A., Silberschmidt, V.V.	Modeling of finishing force and torque in ultrasonic-assisted magnetic abrasive finishing process	2019 Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture	233	2	411
1968	Garhyan, J., Das, B., Bhatnagar, R.	Mesenchymal stem cells: A hidden arsenal for mtb persistence, resuscitation, and reactivation	2019 Mycobacterium Tuberculosis: Molecular Infection Biology, Pathogenesis, Diagnostics and New Interventions		301	314
1969	Kalita, P., Roy, P.K., Sen, S.	Agarwood: Medicinal side of the fragrant plant	2019 Herbal Medicine in India: Indigenous Knowledge, Practice, Innovation and its Value		223	236
1970	Furusato, E., Bhuyan, J.K., Marteinsen, M., Nixdorf, B., Imamoto, H.	Critical depth model (modified Sverdrup equation) —Design method for bubble cir-	2019 Journal of Japan Society of Civil Engineers	7	1	185
						192

1971	Kunthara, R.G., Neethu, K., James, R.K., Sleeba, S.Z., Warrier, T.S., Jose, J.	2L-2D Routing for Buffered Mesh Network-on-Chip	2019	Communications in Computer and Information Science	1066	308	320
1972	Dutta, H., Das, R.K., Nandi, S., Prasanna, S.R.M.	An Overview of Digital Audio Steganography	2019	IETE Technical Review (Institution of Electronics and Telecommunication Engineers, India)	159	1576	1583
1973	Nakao, R., Iwahori, Y., Adachi, Y., Wang, A., Bhuyan, M.K., Kijirikul, B.	Detecting and removing specular reflectance components based on image linearization	2019	Procedia Computer Science	159	1479	1488
1974	Das, S., Deka, A., Iwahori, Y., Bhuyan, M.K., Iwamoto, T., Ueda, J.	Contour-aware residual W-Net for nuclei segmentation	2019	Procedia Computer Science	159	1479	1488
1975	Deb, S., Gao, X.-Z., Tammi, K., Kalita, K., Mahanta, P.	Nature-Inspired Optimization Algorithms Applied for Solving Charging Station Placement Problem: Overview and Comparison	2019	Archives of Computational Methods in Engineering	18	1174	1180
1976	Vatsyayan, R., Singh, R., Settipalli, V., Paily, R.	Adsorption of Phosgene on Titanium Doped Graphene Nanoribbons: A DFT Study	2019	IEEE Transactions on Nanotechnology	20	11	3437 3446
1977	Bordoloi, D., Monisha, J., Roy, N.K., Padmavathi, G., Banik, K., Harsha, C., Wang, H., Kumar, A.P., Arfuso, F., Kunnumakkara, A.B.	An investigation on the therapeutic potential of butein, a tetrahydrochalcone against human oral squamous cell carcinoma	2019	Asian Pacific Journal of Cancer Prevention	14	119	126
1978	Das, S., Raman, R.K., Devarani, N., Joshi, S.N.	Surface alloying of titanium di-boride (TiB ₂) and silicon carbide (SiC) on aluminium at 5052 using electric discharge processing	2019	New Journal of Chemistry	43	39	15575 15584
1979	Sharma, V.S., Singh, H.K., Sharma, A.S., Shah, A.P., Shah, P.A.	Bowl-shaped fluorescent liquid crystals derived from 4-tert butyl calix[4]arene and trans cinnamic acid derivatives	2019	Baltic Journal of Road and Bridge Engineering	14	2	208 226
1980	Deori, S., Choudhary, R., Tiwari, D., Kumar, A.	HDM-4 deterioration modelling: Validation and adoption for flexible pavements with modified bituminous road surfacing	2019	Baltic Journal of Road and Bridge Engineering	14	2	208 226

1981	Bhattacharya, S., Ghosh, P., Sahoo, N., Sahu, N.	Mini review on vector-like leptonic dark matter, Neutrino mass, and collider signatures	2019	Frontiers in Physics	7	MAY	
1982	Dineshbabu, G., Uma, V.S., Shylajanaciyar, M., Rashmi, V., Prabhakaran, D., Uma, L.	The differential carbon-fixing and nitrogen-assimilating enzyme activities of oscillatory marine cyanobacterium <i>Phormidium valderianum</i> BDU 20041	2019	Photosynthetica	57	2	475 482
1983	Das, S., Pahari, S., Sarmah, S., Rohman, M.A., Paul, D., Jana, M., Singha Roy, A.	Lysozyme-luteolin binding: Molecular insights into the complexation process and the inhibitory effects of luteolin towards protein modification	2019	Physical Chemistry Chemical Physics	21	23	12649 12666
1984	Karmakar, S., Biswas, S., Das, K.P., Tripathy, U.	Surface plasmon resonance study of the interaction of 4,4'-dianilino-1,1'-binaphthyl-5,5'-disulfonic acid dipotassium salt (bis-ANS) and adenosine triphosphate (ATP) with oligomeric recombinant human lens α -crystallin	2019	Canadian Journal of Chemistry	97	6	504 511
1985	Nandi, S., Jiwala, D., Singh, V., Laxmi, V., Gaur, M.S., Faruki, P.	Preface	2019	Communications in Computer and Information Science	939	v	vi
1986	Vinafi, A., Rene, E.R., Pakshirajan, K., Behera, S.K.	Activated red mud as a permeable reactive barrier material for fluoride removal from groundwater: parameter optimisation and physico-chemical characterization	2019	Environmental Technology (United Kingdom)			
1987	Barman, M.P., Dahekar, K., Anshuman, A., Awekar, A.	It's only words and words are all I have	2019	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	11438 LNCS	30	36
1988	Usami, H., Iwahori, Y., Bhuyan, M.K., Wang, A., Ogasawara, N., Kasugai, K.	Polyp shape recovery using vascular border from single colonoscopy image	2019	BIOIMAGING 2019 - 6th International Conference on Bioimaging, Proceedings; Part of 12th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2019			104 111
1989	Usami, H., Iwahori, Y., Wang, A., Bhuyan, M.K., Ogasawara, N., Kasugai, K.	Polyp shape recovery from single endoscopy image using medical suture	2019	Open Bioinformatics Journal	12	1	1 17

1990	Kumar, A., Meena, N.K., Singh, A.R., Deng, Y., He, X., Bansal, R.C., Kumar, P.	Strategic allocation and energy management of BESS for the provision of ancillary services in active distribution networks	2019	Energy Procedia	158	2972	2978
1991	Garg, A., Gadi, V.K., Feng, Y.-C., Lin, P., Qinhua, W., Ganesan, S., Mei, G.	Dynamics of soil water content using field monitoring and AI: A case study of a vegetated soil in an urban environment in China	2019	Sustainable Computing: Informatics and Systems			
1992	Li, L., Zhang, Y., Chen, W., Bose, S.K., Zukerman, M., Shen, G.	Naïve Bayes classifier-assisted least loaded routing for circuit-switched networks	2019	IEEE Access	7	1185	1186
1993	Dinesh, P., Behera, M.R., Ranjith, P.G., Muthu, N.	Application of an efficient numerical model for CO ₂ sequestration in deep saline aquifers	2019	Lecture Notes in Civil Engineering	22	685	708
1994	Priya, M.I., Garg, A., Sreedeeep, S., Sarmah, A., Daud, N.N.N.	Prediction of vegetation-induced soil suction using numerical modelling and AI	2019	Environmental Science and Engineering		351	358
1995	Bhowmik, B., Kumar Deka, J., Biswas, S., Bhattacharya, B.B.	Performance-aware test scheduling for diagnosing coexistent channel faults in topology-agnostic networks-on-chip	2019	ACM Transactions on Design Automation of Electronic Systems	24	2	
1996	Maruthanila, V.L., Elancheran, R., Roy, N.K., Bhattacharya, A., Kunnumakkara, A.B., Kabilan, S., Koto-ky, J.	In silico molecular modelling of selected natural ligands and their binding features with estrogen receptor alpha	2019	Current Computer-Aided Drug Design	15	1	96
1997	Ni, J., Sanandam, B., Garg, A., Shao, W., Sreedeeep, S.	Simple Model on Water Retention and Permeability in Soil Mixed with Lignocellulose Fibres	2019	KSCE Journal of Civil Engineering	23	1	138 146
1998	Dinesh, P., Behera, M.R., Ranjith, P.G., Muthu, N.	An element-free Galerkin method using vertically integrated multiphase flow model for carbon sequestration	2019	Computers and Geotechnics	105		195 210
1999	Singh, D., Shyam, S., Mehta, B., Aster, M., Alshairate, A.S.	Exploring heat transfer characteristics of ferrofluid in the presence of magnetic field for cooling of solar photovoltaic systems	2019	Journal of Thermal Science and Engineering Applications	11	4	
2000	Sankar, M.R., Saxena, S., Banik, S.R., Iqbal, I.M., Nath, R., Bora, L.J., Gajrani, K.K.	Experimental study and artificial neural network modeling of machining with minimum quantity cutting fluid	2019	Materials Today: Proceedings	18	4921	4931

2001	Banik, S.R., Iqbal, I.M., Nath, R., Bora, L.J., Singh, B.K., Mandal, N.,	State of the art on zirconia toughened alumina cutting tools	2019	Materials Today: Proceedings	18	2632	2641
2002	Saleheen, M., Verma, A.M., Mamun, O., Lu, J., Heyden, A.	Investigation of solvent effects on the hydrodeoxygenation of guaiacol over Ru catalysts	2019	Catalysis Science and Technology	9	6253	6273
2003	Okuda, T., Singh, C.B., Santabrita, D.A.S., Aktar, R., Nandi, A., de GouveiaDal Pino, E.M.	A possible model for the long-term flares of Sgr A*	2019	Publications of the Astronomical Society of Japan	71	3	3
2004	Meena, N.K., Kumar, A., Singh, A.R., Swarnkar, A., Gupta, N., Niazí, K.R., Kumar, P., Bansal, R.C.	Optimal planning of hybrid energy conversion systems for annual energy cost minimization in Indian residential buildings	2019	Energy Procedia	158	2979	2985
2005	Humphrey, A., Villar-Martín, M., Binette, L., Raj, R.	Photoionization models for extreme Ly α 1216 and HeII λ 1640 line ratios in quasar halos, and PopIII vs.	2019	Astronomy and Astrophysics	621		
2006	Singh, D.P., Agrahari, K., Achalkumar, A.S., Yelamaggad, C.V., Manohar, R., Deprfester, M.	Preparation and photophysical properties of soft-nano composites comprising guest anatase TiO ₂ nanoparticle and host hekaates mesogens	2019	Journal of Luminescence	205	304	309
2007	Shyamala, S., Arul Manikandan, N., Pakshirajan, K., Tang, V.T., Rene, E.R., Park, H.-S., Behera, S.K.	Phytoremediation of nitrate contaminated water using ornamental plants	2019	Journal of Water Supply: Research and Technology - AQUA	68	8	743
2008	Azharuddin, M., Zhu, G.H., Das, D., Ozgur, E., Uzun, L., Turner, A.P.F., Patra, H.K.	A repertoire of biomedical applications of noble metal nanoparticles	2019	Chemical Communications	55	49	6996
2009	Barua, A., ter Horst, R., Sehring, J., Bréthaut, C., Salamé, L., Wolf, A., Pawlettta, B.J., Manzungu, E., Nic-	Universities' partnership: the role of academic institutions in water cooperation and diplomacy	2019	International Journal of Water Resources Development			
2010	Patel, R., Santhosh, M., Dash, J.K., Karpoornmath, R., Jha, A., Kwak, J., Patel, M., Kim, J.H.	Ile-Lys-Val-ala-Val (IKVAV) peptide for neuronal tissue engineering	2019	Polymers for Advanced Technologies	30	1	12

- 2011 Giri, J., Lach, R., Grellmann, W., Susan, M.A.B.H., Saifer, J.-M., Henning, S., Katiyar, V., Adhikari, R. Compostable composites of wheat stalk micro- and nanocrystalline cellulose and poly(butylene adipate-co-terephthalate): Surface properties and degradation behavior 2019 Journal of Applied Polymer Science 136 43
- 2012 Lalwani, K., Aihara, H., Aziz, T., Bacher, S., Bahinipati, S., Barberio, E., Baroncelli, T., Baroncelli, T., Basith, A.K., Batignani, G., *et al* Performance of the Belle II SVD 2019 Springer Proceedings in Physics 234 87 92
- 2013 Kim, J.B., Won, E., Adachi, I., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., Aulchenko, V., Aushev, T., Babu, V., *et al* Search for CP violation with kinematic asymmetries in the $D^0 \rightarrow K^+K^-\pi^+\pi^-$ decay 2019 Physical Review D 99 1
- 2014 Yusa, Y., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., Aulchenko, V., Aushev, T., Ayad, R., Babu, V., Badhrees, I., Bahinipati, S., *et al* Measurement of time-dependent CP violation in $B^0 \rightarrow K_S^0 \pi^0 \pi^0$ decays 2019 Physical Review D 99 1
- 2015 Guan, Y., Vossen, A., Adachi, I., Adamczyk, K., Ahn, J.K., Aihara, H., Al Said, S., Asner, D.M., Atmacan, H., Aulchenko, V., *et al* Observation of Transverse Λ / Λ Hyperon Polarization in e^+e^- Annihilation at Belle 2019 Physical Review Letters 122 4

DETAILS OF RESEARCH AND DEVELOPMENT PROJECTS

New Research projects received during the reporting year

Project Title	Principal Investigator	Funding Agency	Dept./ Centre	Amount Sanctioned (Rs.)	Duration in Year
Development of a framework for in-depth analysis of accident data	Akhilesh Kumar Maurya	Office of the Commissioner of Transport, Assam	Civil Engineering	0	1
Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	Animes Kumar Golder	SERB	Chemical Engineering	9663060	36
Tailor Made Peptidomimetics Designing Against Human Islet Amyloid Polypeptide (hIAPP) Aggregation: A Therapeutic Approach Associated with Type-2 Diabetes	Bhubaneswar Mandal	DBT	Chemistry	2487456	36
Nano-enhanced adsorptive microporous membranes for effective removal of heavy metals from water sources	Chandan Das	DST	Chemical Engineering	56666	1
Removal of methylene blue dye from aqueous medium by biochar adsorbent prepared from bio-sludge of Indian Standard Natural Rubber plant in Tripura	Chandan Das	DBT	Environment	945875	24
EVALUATION OF BAMBOO HOUSES FOR EARTHQUAKE RESISTANCE	Hemant B. Kaushik	Ministry of Environment, Forest and Climate Change, GOI	Civil Engineering	1498420	36
Seismic Strengthening of Unreinforced Masonry Buildings using Ferrocement Bands	Hemant B. Kaushik	CSIR	Civil Engineering	1696000	36
Coherent Control of Wave Front Engineering	Tarak Nath Dey	SERB	Physics	2346850	36
Synthesis of Heterocycles and Their Biological and Photo-Physical Studies	Abu Taleb Khan	DST	Chemistry	5942990	36

Understanding the sexual dysfunction in parkinson's disease subjects through Drosophila model and therapeutic intervention	Ajaikumar Bahulayan Kunnumakka- ra	NECBH	Biosciences and Bioengi- neering	1564000	30
Design of Efficient, Recyclable and Sustainable Immobilised Molecular-Pincer Group (VIII) Metal Catalytic Systems for Fine Chemical Synthesis Via Direct Functionalization of Carbon Dioxide	Akshai Kumar Alape Seetharam	MHRD	Nanotech- nology	4992000	36
Soliton Dynamics of the Generalized Nonlinear Schrödinger Models In Parity--Time (PT) Symmetric potentials	Amarendra Kumar Sarma	SERB	Physics	660000	36
Functional Mechanism of CRISPR RNA Maturation in an Atypical CRISPR-Cas Adaptive Immune System	Anand Baskaran	SERB	Biosciences and Bioengi- neering	7448760	36
Synthesis of heterocyclic compounds via activation of C-H, allylic-OH and alkynes by organic and metallic reagents	Anil Kumar Saikia	CSIR	Chemistry	1390000	36
DNA methylation in the upstream CpG island of GPER1 and its association with GPER1 expression in colon cancer: a pre-clinical proof of concept study in colon cancer cell lines	Anil Mukund Limaye	ICMR	Biosciences and Bioengi- neering	3011112	24
Studies on genetic and epigenetic alterations on Kera- toconus patients from Assam, India.	Anil Mukund Limaye	Indian Insti- tute Of Tech- nology Guwahati	Biosciences and Bioengi- neering	1598500	30
Life Cycle and Performance Assessment of Roads Con- structed Using Cold Mix Technology	Anjan Kumar Siddagangai- ah	NRRDA	Civil Engi- neering	3322000	18
Assessment of Recycled Ma- terials Interaction and its Ef- fect on Durability of Cold Bi- tuminous Mixes	Anjan Kumar Siddagangai- ah	SERB	Civil Engi- neering	2836022	36

Dynamics of wake behind 3D tapered and circular cylinder in vortex induced vibration subject to planar and span-wise shear	Arnab Kr. De	SERB	Mechanical Engineering	660000	36
Numerical investigation on the effect of surface roughness and tilt angle on turbulent Rayleigh-Bénard convection	Arnab Kr. De	SERB	Mechanical Engineering	1582000	24
Assembly of Nanoscale Particles for Theranostic and Energy Applications					
Sanction order no JCB/2019/000039	Arun Chattopadhyay	SERB	Nanotechnology	9500000	60
Trace Formulae and Multivariable Operator Theory	Arup Chattopadhyay	SERB	Mathematics	660000	36
Two-Day Brain Storming Workshop on River-research to Evolve Sustainable-projects for People with Ecofriendly Climate-resilient Technology (RESPECT)	Arup Kumar Sarma	PSA - Gol	Civil Engineering	1904160	3
DESIGN OF AN AUTOMATIC COMMUNICATION SYSTEM THROUGH CLOUD COMPUTING USING SENSOR BASED AUTOMATED INPUT FOR EFFICIENT OPERATION OF RANGANADI HEP WITH DUE EMPHASIS ON DOWNSTREAM CONCERNS UPTO CONFLUENCE WITH SUBANSIRI RIVER	Arup Kumar Sarma	NEEPCO	Civil Engineering	6193824	36
Integrated software for analyzing single-cell RNA sequencing	Ashish Anand	DBT	Computer Sciences and Engineering	75000	24
Studies on the crystallization of crystalline/crystalline binary polymer blends	Ashok Kumar Dasmahapatra	SERB	Nanotechnology	5383000	36
Uncloaking Covert Networks: Identification and Analysis	Ashok Singh Sairam	Elint Technologies, Subsidiary of Se-clabs & Systems Private Ltd., Noida, UP	Mathematics	1407600	18
A study on highly acyclic matrices with special emphasis on the role of graph labelling in solving some inverse eigenvalue problems for such matrices	Bhaba Kumar Sarma	SERB	Mathematics	1005000	36

Probing Annulations in Multi Directing Systems and Development of Multifunctional AIEgens	Bhisma Kumar Patel	CSIR	Chemistry	800000	36
Indian Institutions-Fermi Lab Collaboration in Neutrino Physics.	Bipul Bhuyan	DST	Physics	16054000	60
Targeting mechanosensitive ion channel Piezo1 in metastatic breast cancer	Bithiah Grace Jagannathan	ICMR	Biosciences and Bioengineering	2149100	36
To study the mechanosensitive cell surface protein Piezo1 as a target for metastatic colorectal cancer	Bithiah Grace Jagannathan	SERB	Biosciences and Bioengineering	3982000	36
Design, operation, and control of distributed generation (DG) integrated unified power quality conditioner (UPQC) in electric grid	Chandan Kumar	Centre for power research ins	Electronics and Electrical Engineering	3228000	24
Metal Free Simultaneous C(sp ³)-H and C(sp ²)-H Functionalizations of Aliphatic Amines/Amino Acids and Nitrosoarenes to Indoles and Perophoramidine's Analogs	Chandan Kumar Jana	SERB	Chemistry	6029760	36
Chemical and Structural Intricacies in the Formation, Stability and Reactivity of Metal-Oxygen Adducts in Non-Heme Synthetic Scaffolds	Chivukula Vasudeva Sastri	SERB	Chemistry	4782230	36
Data driven neuro-behavioral clusters in adults who were born very preterm using multivariate analysis	Cota Navin Gupta	MHRD	Biosciences and Bioengineering	4442900	24
Multivariate Intrinsic mode functions for Electroencephalogram signals using single channel	Cota Navin Gupta	MHRD	Biosciences and Bioengineering	150000	30
Interaction of Cuminaldehyde and Gingerol present in spices, with Bovine Serum Albumin and Human Serum Albumin	Debasis Manna	DBT	Chemistry	461150	24
Development of biologically active ferroelectric Ca ₁₀ (PO ₄) ₆ (OH) ₂ -K _{0.5} Na _{0.5} NbO ₃ composite thin films for biomedical applications	Dobbidi Pamu	SERB	Nanotechnology	53099	36

An Energy Efficient IOT Processor built using an Optimized Near-Threshold Voltage Standard Cell Library	Gaurav Trivedi	SERB	Electronics and Electrical Engineering	4895000	36
Technology for Large scale development of textile fibres for wearable electro-optic devices	Harsh Chaturvedi	MHRD	Energy	80.6	24
Approximate Computing Techniques for Resource Constrained Edge Devices	John Jose	MHRD	Computer Sciences and Engineering	7748935	24
An examination on use of the quarter point elements for the accurate determination of notch stress intensity factors	K S R Krishna Murthy	SERB	Mechanical Engineering	1899415	24
Design and Synthesis of Free-standing Ion-Selective Membranes from Peptide Modified Two-Dimensional Nanomaterials	Kalyan Raidongia	CSIR	Chemistry	800000	36
Innovative Algae Platform for Industrial Wastewater Valorization (InWAP)	Kaustubha Mohanty	DBT	Energy	119.0252	36
Design and Development of Virtual Reality Zone at the Guwahati Planetarium	Keyur Babulal Sorathia	Govt. of Assam	Design	3240000	6
Construction of a minigene to analyze the alternative splicing regulation of UPF3B variable exon	Kusum Kumari Singh	CSIR	Biosciences and Bioengineering	2000000	36
Deciphering the assembly of RNPS1 into the spliceosomal machinery	Kusum Kumari Singh	SERB	Biosciences and Bioengineering	4548740	36
Development of multifunctional rare earth based nanomaterial for biomedical applications in reference to magnetic hyperthermia and imaging	Lalit Mohan Pandey	DBT	Biosciences and Bioengineering	50000	30
Design of IoT Trans-receiver integrated with compact MIMO/Diversity antenna scheme	Mahima Arrawatia	DST	Electronics and Electrical Engineering	2592000	36

Design and development of a novel plasma processing set up for uniform nano-polishing of Prism and any freeform surfaces of fused silica	Manas Das	SERB	Mechanical Engineering	4983000	36
Adaptive Cell Scheduling Function of 6TiSCH Network for Efficient Data Communication in Industrial Internet of Things	Manas Khatua	SERB	Computer Sciences and Engineering	2050400	24
Generation of DNA vaccine with a mutated capsid gene of porcine circovirus type 2 and evaluation of its immunepotential	Manish Kumar	DBT	Biosciences and Bioengineering	70000	48
Biochemical characterization of seminal gel and its application for biostimulation in pigs	Manish Kumar	DBT	Biosciences and Bioengineering	1179900	24
Composting/vermicomposting of Mikania micrantha kunth and it's effect on soil properties	Meena Khwairakpam	DST	Centre for Rural Technology	4398434	36
Study of presence of surface active agents in the inlet stream of Sureka Projects	Mihir Kumar Purkait	Sureka Project Ltd	Environment	12272	1
Development of catalysts and a prototype device for conversion of CO ₂ to fuels/chemicals	Mihir Kumar Purkait	DST	Environment	1674000	36
Classification of water for domestic use	Mihir Kumar Purkait	POWERGRID CORPORATION OF INDIA	Environment	24780	1
Combined Catalytic Reforming and Upgrading Technique for Production of Biofuels in Circulating Fluidized Bed Reactor	Nanda Kishore	SERB	Chemical Engineering	3630000	36
Computational and Experimental study of damage and failure in carbon/glass fiber reinforced composite materials.	Nelson Muthu	SERB	Mechanical Engineering	4959350	36
Stress Wave Force Balance (SWFB) Technique: An Alternative Method of Accurate Force Measurement	Niranjan Sahoo	ISRO	Mechanical Engineering	2807000	18
Isolation, synthesis, and structure-function analysis of frog and toad-skin derived antimicrobial, anticancer, and wound-healing peptides	Nitin Chaudhary	DBT	Biosciences and Bioengineering	4801240	36
Effect of Lead poisoning in Anatomical and Molecular Changes in Certain Visceral Organs in Adult Pati Ducks of Assam	Nitin Chaudhary	DBT	Biosciences and Bioengineering	10000	24

Metal hydride materials and systems for the increase of efficiency in renewable and hydrogen energy	P. Muthukumar	DST	Energy	3516400	36
DST-Energy Storage Platform on Hydrogen	P. Muthukumar	DST	Mechanical Engineering	16594920	60
Hybrid Organic-Inorganic Perovskites for Solar Energy Conversion	Parameswar K Iyer	Indian Institute Of Technology Guwahati	Chemistry	2639450	24
Organic Nanomaterials Based Portable Device for Biosensing and Disease Diagnostic	Parameswar K Iyer	MHRD	Nanotechnology	2639450	24
Fault-tolerance in Priority Evacuation and Mutual Visibility of Mobile Robots	Partha Sarathi Mandal	SERB	Mathematics	660000	36
Investigation of the dynamics of charged particle/ macromolecules in gel electrophoresis in presence of external noise	Partho Sarathi Gooh Pat-tader	SERB	Chemical Engineering	4664000	36
Synthesis of 1-C, 2-C, 3-C-Branched Pyranosides and Heptanosides, Higher-Carbon Sugars, L-Sugars and All the Epimers of Sialic acids and KDN Non-Ulosinic acids from Perlin Aldehydes	Pavan Kumar Kancharla	SERB	Chemistry	4684648	36
Experimental and theoretical studies of thermo-elastic response of axially graded beams	Poonam Kumari	SERB	Mechanical Engineering	1800000	36
Development of three-dimensional analytical solutions for elastic laminated and piezoelectric shells subjected to Levy-type boundary conditions using Extended Kantorovich Method	Poonam Kumari	SERB	Mechanical Engineering	660000	36
Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel utilization	Prabu Vairakannu	DST	Chemical Engineerng	7402047	36
Development of a Cloud Computing Based Wireless Sensor for Patient Monitoring System in Health Care Engineering	Pranab Goswami	DBT	Energy	120000	24

Implementation of electronic resistance in vaginal mucus (ERVM) technology to improve reproductive performance of crossbreed cow	Pranab Goswami	DBT	Biosciences and Bioengineering	45000	24
In-silico characterization and biological validation of potential peptide vaccines for SalmonellaTyphi using the outer membrane	Priyadarshi Satpati	DBT	Biosciences and Bioengineering	10000	24
Thermal food processing optimization for simultaneous multi-product sterilization	R Anandalakshmi	MHRD	Chemical Engineering	5300635	24
Impact of Climate Change on the Integrated Flood Vulnerability Index of Hilly terrain	Rajib Kumar Bhattacharjya	DST	Civil Engineering	2132000	24
Establishment of a cell-permeant recombinant protein toolbox for the conversion of adult human somatic cells to insulin-producing β -cells	Rajkumar Parshottambhai Thummer	DBT	Biosciences and Bioengineering	230000	30
Survey of Morbidity and Mortality Rates among Tea Garden Workers of Assam	Rajshree Bedamatta	Directorate of Economics and Statistics, Government of Assam	Humanities and Social Science	3138000	10
Identifying bacterial wilt resistant cultivars of tomato from the commercially available accessions using simple tomato seedling assay	Ranjan Tamuli	DBT	Biosciences and Bioengineering	20000	24
RISK ASSESSMENT OF FLOATING DEBRIS DOMINATED FLASH FLOODS IN TRANS-BOUNDARY UPPER HIMALAYAN CATCHMENTS	Rishikesh Bharti	DTRL	Civil Engineering	13495020	36
Assessment of male infertility using infrared digital thermography in livestock	Sachin Kumar	DBT	Biosciences and Bioengineering	434700	24
Development of ELISA kit for differential diagnosis of Japanese encephalitis virus within the flavivirus serological group	Sachin Kumar	DBT	Biosciences and Bioengineering	1597350	30
Functionality Enhancement through Design and Development of Advanced Finite Element Algorithms for STRTOOLS	Sachin Singh Gautam	SERB	Mechanical Engineering	6610692	36
Experimental study on seismic evaluation of performance of 3 storeyed test structure isolated by U-FREIs	Sajal Kanti Deb	Arunachal Pradesh, PWD	Civil Engineering	200000	36
Experimental study on cyclic horizontal force-displacement characteristics of prototype U-FREIs with and without rotation	Sajal Kanti Deb	APWD	Civil Engineering	2833600	36

Study of in-depth genetic heterogeneity with respect to resistance and compensatory adaptation of MDR Mtb clinical strains inside BM? Mesenchymal stem cells circulating in the North East Region	Sanjukta Patra	DBT	Biosciences and Bioengineering	6841000	36
Formal Methods for Modeling and Verification of Intrusion Detection System in Wireless Networks.	Santosh Biswas	DST	Computer Sciences and Engineering	2674400	36
Bioengineered bilayer 3D printlets for segregated compartmental delivery of fixed dose antitubercular drug combinations	Santosha Kumar Dwivedy	DBT	Mechanical Engineering	1190250	24
Drudgery Reduction of Tribal Women through S&T Intervention in Betel nut Cutting	Sashindra Kumar Kakoty	DST	Centre for Rural Technology	1980000	12
Sustainable production of algal biomass for production of biofuels: A holistic approach with bioremediation & economical harvesting technique	Selvaraju Narayanasamy	DBT	Biosciences and Bioengineering	240000	36
Process Analytical Technology (PAT) control tools for high cell density cultivation of glycoengineered Pichia pastoris for Human Interferon Alpha 2b production	Senthilkumar Sivaprakasam	SERB	Biosciences and Bioengineering	4301264	36
LOW-cost innovative Technology for water quality monitoring and water resources management for Urban and rural water Systems in India (LOTUS)	Senthilmurugan Subbiah	DST	Chemical Engineering	23271000	48
Development of Non-invasive diagnostic method and Pharmacological intervention strategies to modulate EMT pathway for detection and amelioration of PM2.5/PM10 (collected from NE India) induced lung fibrosis models in rodents.	Sharad Bhaurao Gokhale	Indian Institute Of Technology Guwahati	Civil Engineering	150000	30
Eigenvalues of Linear and Non-linear Matrix Valued Functions: A Study of Inclusion Regions, Pseudospectra and Low Rank Perturbations	Shreemayee Bora	SERB	Mathematics	660000	36
Five Fingered Bionic Prosthetic Hand	Shyamanta Moni Hazarika	DST	Mechanical Engineering	2600422	24

Development of A tactile sensory based grasping controller for electromyographic prosthetic hand	Shyamanta Moni Hazarika	DBT	Mechanical Engineering	10000	30
Development of a low cost multi-stage platform for microbial analysis of solid food samples	Siddhartha Singha	DST	Centre for Rural Technology	1252040	24
Stochastic Models for Chronic Myeloid Leukemia	Siddhartha Pratim Chakrabarty	SERB	Mathematics	660000	36
Development of non-edible green vegetable oil as a potential liquid dielectric for power/distribution transformer from the renewable source.	Sisir Kumar Nayak	SERB	Electronics and Electrical Engineering	6870461	36
Process intensified production of lignocellulosic liquid biofuel by cyclic shifting of the process parameters in a single bioreactor	Soumen Kumar Maiti	SERB	Biosciences and Bioengineering	2995920	36
Study of the heavy flavour observables for an indirect detection of physics beyond the Standard Model	Soumitra Nandi	SERB	Physics	2320560	36
Proximal Femoral Locking Plates (PFLP): Biomechanical Exploration of Design Variants for North Eastern (NE) Population	Souptick Chanda	SERB	Biosciences and Bioengineering	2297270	24
Investigation on the Influence of Ferromagnetic Coating on Bone Ingrowth in Hip Stems Made of Composite Titanium-Tantalum (Ti-Ta) Foam	Souptick Chanda	MHRD	Biosciences and Bioengineering	2726893	24
Multipartite Dark Matter at Direct and Collider Searches	Subhaditya Bhattacharya	DST	Physics	3105300	36
Development of new generation Acetabular Socket Linear and Femoral Head Prototypes with unique 3D microstructures and better fracture resistance for Osteoporosis and Osteoarthritis treatment	Subramani Kanagaraj	MHRD	Mechanical Engineering	2134008	36
Farmers? friendly innovative mechanical devices for boosting profitable pig production and improving animal welfare in rural North Eastern States of India	Subramani Kanagaraj	Indian Institute Of Technology Guwahati	Mechanical Engineering	265000	24

Development of a novel endotracheal tube holder for better management of invasive ventilation	Subramani Kanagaraj	NPIU	Mechanical Engineering	1700000	16
"Greenhouse gas emission, mitigation & adaptation: strategies for better inventory and management of such gases in rice ecosystems of two agro-climatic zones of Assam	Sudip Mitra	DBT	Centre for Rural Technology	5471856	36
Prospects of biochars as amendment in various types of soil present in North East India	Sudip Mitra	DBT	Centre for Rural Technology	24000	24
Archiving, Modelling and Visualization of the Eco-Cultural Heritage of the Majuli River Island of Assam	Sukumar Nandi	DST	Centre for Linguistic Studies	4950000	36
Dynamics and Control of Two and Three-dimensional Excitation Waves	Sumana Dutta	SERB	Chemistry	7719154	36
Game Theory based Intrusion Detection System (IDS) for Cyber Physical System.	Sushanta Karmakar	DST	Computer Sciences and Engineering	30.601	36
Design and Analysis of Some Fast Steiner Tree Algorithms	Sushanta Karmakar	SERB	Computer Sciences and Engineering	720000	36
Study of nonlocal elliptic and parabolic problems with variable exponents	Sweta Tiwari	SERB	Mathematics	600000	36
Deep Eutectic Solvent for Remediation of Antifungal and Antibiotics in Waste water	Tamal Banerjee	MHRD	Chemical Engineering	5179584	24
Development of Novel Deep Eutectic Solvents for the Extraction of Aromatics to Produce Food/Pharma Grade Hexane and Speciality Products Using COSMO-SAC Screening	Tamal Banerjee	HPCL GREEN	Chemical Engineering	2792790	24
Deep Eutectic Mixtures with Graphene Functionalized Nanofluids for Indirect Solar Desalination using Multistage Flash Approach	Tamal Banerjee	DST	Chemical Engineering	4040220	36
Experimental and numerical research on contact friction in the process of plastic deformation by means of compression with torsion	Uday Shanker Dixit	DST	Mechanical Engineering	2629152	24

Exploration, extraction and standardization of plant-based natural Dye for dyeing eri silk yarn by ethnic people and with special reference to quality eri silk products in Assam	Utpal Bora	Indian Institute Of Technology Guwahati	Biosciences and Bioengineering	155000	24
Enhanced carbonate precipitation of ureolytic and nitrifying microbe treated rubber wastewater	Vaibhav Vasant Goud	DBT	Energy	3756520	36
Bioconversion of organic wastes and de-oiled algal residue into biodiesel and value added products (carotenoids etc.) using oleaginous microbes	Vaibhav Vasant Goud	DBT	Energy	170000	24
Design and Characterization of peptide based cell targeting domains with live cell and animal imaging methods	Vibin Ramakrishnan	DBT	Biosciences and Bioengineering	4306240	36
Search of potent inhibitors against target from L donovani (Visceral Leishmaniasis) using Systems Biology, Virtual Screening and Molecular Dynamics	Vibin Ramakrishnan	DBT	Biosciences and Bioengineering	50000	30
Development of PLA Tape Yarn	Vimal Katiyar	GAIL	Chemical Engineering	840000	3
Development for Guar Gum based Additives for Biodegradable Polymers for Enhance Compostability and Gas Barrier Properties	Vimal Katiyar	TATA STEEL, Jamshedpur	Chemical Engineering	996000	12
NRL-Centre of Excellence on Sustainable Materials [NRL-COE-SUSMAT] for Development of Biodegradable Plastics from Oil and Bio-Refinery Streams	Vimal Katiyar	Numaligarh Refinery, PSU	Chemical Engineering	4000000	24
Experimental studies on finiteness of a wing	Vinayak Narayan Kulkarni	ARDB	Mechanical Engineering	3554000	24

Major consultancy projects received during the reporting year:

Project Title	Principal Investigator	Clients
Online Application for Teaching and Non-Teaching Recruitment Process	MR. SANJOY DAS	NIPER GHY
Evaluation of Concrete Mix Design M25 with Different Construction Materials for Construction of New Medical College & Hospital at Tinsukia, Assam?	DR. ARUN CH. BORSAIKIA	M/s NCC Ltd.
Evaluation of Concrete Mix Design M25 with Different Construction Materials for Construction of New Medical College & Hospital at Tinsukia, Assam?	DR. ARUN CH. BORSAIKIA	HSCC (India) Ltd.
Tests on physical and mechanical properties of ballast sample	DR. ARUN CH. BORSAIKIA	N.F. Railways
Expert Opinion for Construction of Hospital Project at Sibasagar, Assam including geotechnical investigation	DR. ARUN CH. BORSAIKIA	DR. BABASAHEB AMBEDKAR VAIDYAKIYA PRATISHTHAN, SIVASAGAR
Design, Engineering, Procurement and Construction (EPC) including Operation & Maintenance of All India Institute of Medical Sciences at Guwahati (Assam), India- Testing of Reinforcement TMT Bars?	DR. ARUN CH. BORSAIKIA	M/S HLL INFRA TECH SERVICES LIMITED, NOIDA
Nondestructive Evaluation of Deck Slab of Obligatory Span of composite structure (steel & concrete) over ROB at Ch. 1028+506 Km (LHS and RHS) at Bijni end	DR. A. BORSAIKIA	NHAI, Assam`
Evaluation of RCC quality of existing pile foundation of tower of 400 KV D/c Ranganadi- BNC Transmission Line	DR. ARUN CH. BORSAIKIA	Power Grid Corporation of India Limited, Assam
Proof checking of Structural Design of Research Park Building at IIT Guwahati	DR. A. CHAKRABORTY	M/s Wadia Techno-Engineering Services Limited, Kolkata
Passenger Ropeway across River Brahmaputra at Guwahati-Anchor Frame Analysis and Re-vetting of drawings	DR. A. CHAKRABORTY	M/s Samir Damodar Ropeway Pvt. Ltd. (RITES)
Vetting of Design and Drawings against MMLP, Paradeo, Odisha	DR. A. CHAKRABORTY	Gangadhar Jena, C/o BCC & AVR IPL (JV), HIG-23, Gourav Vihar, Madhuban, Paradeep, Odisha
Proof checking of design and drawings of RCC bridge over Kalnagini connecting west side of Taktipur mouza of Bapuji GP and east side of Manmathpur mauza of Rabindra GP, West Bengal	DR. ANJAN DUTTA	M/s Mackintosh Burn Limited

Proof checking of design and drawings for superstructure of major bridge no.340	DR. A. DUTTA	CDC consulting design engg. Centre (p) Ltd.
Proof-check Consultancy services of 03 nos. of ROB's including approach viaducts at Ch.143+659, 145+587 and 150+835 in West Bengal	DR. A. DUTTA	M/s Simplex infrastructure ltd.
Proof checking of design and drawing of staging and shuttering arrangement for casting of beams and slab between pier PP61 and PP63 for metro viaduct at Dakshineswar station	DR. A. DUTTA	M/s Simplex infrastructure ltd.
Proof Checking of Detailed Design & Drawing of Foundation, Substructure & Superstructure of Approach Viaduct (North End & South End) of Rail Cum Road Bridge over River Ganga at Ghazipur	DR. A. DUTTA	Rail Vikas Nigam Limited, Varanasi
Proof checking of designs and drawing provided by the Detail Design consultant M/s SYSTRA in connection with Construction of Rake maintenance Depot at Joka	DR. A. DUTTA	Rail Vikas Nigam Limited, kolkata
Proof consultancy for the design and drawing in connection with construction of Ballast less track over embankment and viaduct for Noapara-Dakshineswar Metro Project	DR. A. DUTTA	Rail Vikas Nigam Limited, kolkata
Proof consultancy for retrofitting scheme of a joint of an open web girder of 60m span ROB at Bilaspur, Chattisgarh	DR. A. DUTTA	Centex (India) Engineers (p) Ltd., Kolkata-1
Proof checking design and drawings of ROB's at Memari & Simlagarh	DR. A. DUTTA	Mackintosh Burn Limited
Proof checking design and drawings for Construction of Bailey Bridge at Ultadanga in between Bangur Subway & Lake Town Foot Bridge on VIP Road (Kolkata Flank) of KMDA	DR. A. DUTTA	Mackintosh Burn Limited
Proof checking of designs and drawing for ROB at Samudragarh-Nabadwip Dham, West Bengal	DR. ANJAN DUTTA	Rail Vikas Nigam Limited
Proof checking of design and drgs. of Open web Girder of CHAMPA ROB	PROF. ANJAN DUTTA	Centex (India) Engineers (p) Ltd., Kolkata-1
Proof Checking for works related to Illam Bazar bridge project T-1, West Bengal	DR. A. DUTTA	ROYAL INFRACONSTRU LTD.
Proof checking of superstructure only for LALKHADAN ROB.	DR. A. DUTTA	Centex (India) Engineers (p) Ltd., Kolkata-1

Proof Checking of investigation report submitted by AECOM India Private Limited for rehabilitation and repair works of Railway Over Bridge (ROB -15A,15B and 15C) on the Howrah Approach of Second Vivekananda Bridge	DR. A. DUTTA	Second Vivekananda Bridge Tollway Company Pvt. Ltd.
Vetting of Erection Schemes at Dholpur	DR. ANJAN DUTTA	GPT Infraprojects Limited
Execution of health study, at stages, effect of construction induced operations, report preparations, suggestive application of remedial measures and post construction health of the existing Mahishbathan Bridge due to the construction of metro	DR. ANJAN DUTTA	GDCL (GANNON DUNKERLEY & CO. Ltd)
Proof checking/Vetting of Structural drawings & Design for 72M span Bow String Truss Bridge Superstructure for proposed ROB near Jagi Road station	DR. A. DUTTA	EIS PLANNERS & ENGINEERS, KOLKATA
Regarding site visit of Administrative Block of NEPA (North East Police Academy), Umiam, Umsaw, Meghalaya in respect of retrofication measures of the building	DR. A. DUTTA	North East Police Academy
Proof checking of design and drawings of steel open web girder for 62 m span ROB at Silchar-Badarpur section	DR. A. DUTTA	M/S Shree Gautam Construction Company Limited Guwahati-1
Proof checking of designs and drawing of three lane ROB at Jorhat town in replacement of railway LC Gate no. FM-58	DR. A. DUTTA	M/s M. P. Agarwalla
Analyzing the report of Health check-up of old major bridges of 6-laning of Chandikhole-Jagatpur-Bhubaneswar section, NH-5, Odisha	DR. A. DUTTA	Shree Jagannath Expressways Pvt Ltd
Proof checking of design and drawing of staging and shuttering arrangement for casting of beams and slab between pier PP61 and PP63 for metro viaduct at Dakshineswar station	DR. A. DUTTA	M/S Simplex Infrastructures Ltd.
Proof checking designs & engineering drawings for 2 x 9 MVA FeSi Furnace Project, at Arunachal Pradesh	DR. A. Dutta	GHALSASI SMELTING PVT. LTD.
Proof Checking of Design and Drawings of Proposed 2-lane Flyover at the Supermarket Intersection on G S Road in Guwahati City under SOPD for the year 2019-20.	DR. A. DUTTA	MR. ANIL DAS
Proof checking of Design and Drawings of Kalighat Skywalk	Dr. A. Dutta	Kolkata Municipal Corporation

Proof Checking of design and drawings submitted by Stup Consultants Pvt. Ltd. for bridge no. 40 on river Tista (20x45.70 m, OWG) for modification of tilted well at P2 location	DR. A. DUTTA	BIMAL ROY, Jalpaiguri
Proof consultancy for the design and drawing in connection with construction of double line Ballast less track for elevated viaduct from approach of Joka Depot to beyond Majerhat Metro Station in the city of Kolkata	DR. A. DUTTA	RVNL
Proof checking of design and drawing of a ROB at Bagdogra	DR. A. DUTTA	TIPPL-GRD
Preparation of Detail Project Report and estimate of Bio mining of Tinsukia dumping site	DR. A. KALAMDHAD	Tinsukia Municipal Board
Evaluation of 02 number of Bituminous Samples of NH-39 in the state of Manipur	DR. AKHILESH KUMAR MAURYA	PWD Manipur
Bituminous Mix Evaluation of core samples	DR. A. K. MAURYA	PWD Manipur
Bituminous Mix Evaluation of Core Samples (Set2)	DR. A.K. MAURYA	M/s HVS Construction Materials Pvt. Ltd. , Manipur
Evaluation of Bitument, Cement and aggregate Samples	A.K. MAURYA	BHARATIA INFRA PROJECTS LTD.
Analyzing the shear strength parameters and CBR of soil	DR. ANIL KUMAR MISHRA	Gannon Dunkerley & Co Ltd, Haute Street, Kolkata
Review and Suggestion for Siltation Issue of C3 Water Intake Point, Khaghuli	DR. ARUP KR. SARMA	JWIL INFRA LIMITED GUWAHATI WATER SUPPLY PROJECTS
Barbhag Drainage Development	DR. A. K. SARMA	Government - Brahmaputra Board Ghy
Vetting of wall less Intake proposal for Contract Package C-01 at North Guwahati	DR. ARUP KUMAR SARMA	JWIL
Water Quality Improvement in Dighalipukhuri, Guwahati	DR. A. K. SARMA	Assam Tourism Dev Corp, Govt of Assam
Protection of Brahmaputra River Front from Bharalumukh to Sukleswer Temple	DR. ARUP KUMAR SARMA	PWD, Govt of Assam
Dam Break Analysis of Kapili HE Plant	DR. A.K. SARMA	NEEPCO
Consultancy services for pavement condition assessment	Dr.Anjan Kumar S	Simplex Infrastructures Limited, Kolkata
Design and Strengthening of Road Pavement for Road LGG to MUKTO-TELI	DR. ANJAN KUMAR s.	BORDER ROADS TASK FORCE
Numerical analysis and experiment for design of blanket thickness for railway formation	DR. ARINDAM DEY	Genstru Consultants Pvt. Ltd., Wakad, Pune-411057
Proof checking of design of Br. No. 7 (RAHA-PUY)	DR. AMIT SHELKE	Pawan Kumar Agarwal, Trades and Cons

Construction of Two Laning of Existing Hunti-Anini Road on EPC basic from design km 53.500 to Km 92.500 {Existing km 56.320 to km 97.650) in the state of Arunachal Pradesh under S[RDP-Nr. Reearidine proof checkins of Maior Bridges.	DR. A. SHELKE	NHIDCL
Transient analysis	Dr. B. Kumar	Bhoorathnom Construction Co. (P) Limited
Geotechnical study for causes of landslide & assessment of slope stability for EWS Housing at Durtland under UD&PA Deptt., Mizoram.	DR. B. SINGH	NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED
Investigation of Rock Samples	DR. CHANDAN MAHANTA	M/s Manaranjan Brahma, Nagaland
Consultation on policy for energy and climate change	DR. CHANDAN MAHANTA	Integrated Research and Action for Development (IRADe), C-80 Shivalik, Malviya Nagar, New Delhi - 110017
Physical and Bacteriological testing of water for drinking purpose as per I.S: 10500	DR. CHANDAN MAHANTA	Sri Narayan Deka
State Specific Action Plan on Water Resources of Assam	DR. CHANDAN MAHANTA	North Eastern Regional Institute of Water and Land Management
Evaluation of water sample for construction purposes	DR. C. MAHANTA	M/s MBECL
Physical and Bacteriological testing of water for drinking purpose as per I.S: 10,500	DR. CHANDAN MAHANTA	Sri Narayan Deka, Amingaon, Guwahati-31
Re-examination of Valuation Report on 4.7 MW Bordikorai H E Project	DR. CHANDAN MAHANTA	Government - APGC, Guwahati
Evaluation of water sample for construction purposes	DR. CHANDAN MAHANTA	CREDIBLE ENGINEERING CONSTRUCTION PROJECTS LIMITED
Analysis of water and sediment samples for Yammeng Hydro Project (15 MW) in upper Siang district of Arunachal Pradesh	DR. CHANDAN MAHANTA	YAMMENG GREEN ENERGY PRIVATE LIMITED
Analysis of effluent samples of the sewage treatment plant in IITG Campus	DR. CHANDAN MAHANTA	D.P. TRADERS, ASSAM
Proof Checking of detailed structural design and drawing for Construction of ROB at the intersection of Koshikotra ? Basugaon - Talguri PWD Road and N.F. Railway Track at Basugaon Town Replacing Gate No. NN-146 under construction of ROB on 50:50 cost	DR. H. SHARMA	HITECH CONSTRUCTION
Proof Checking of Structural Design for Proposed ?G+8? R.C.C. Residential Building at Ganesh Turning, Kahilipara, Guwahati- 19, Kamrup	DR. H. SHARMA	M/s Teron Constructions Pvt. Ltd., Guwahati

Proof Checking of Structural Design for Proposed ?G+8? R.C.C. Residential Building at Odalbakra, Tetletol, Kahilipara Main Road, Guwahati 781034	DR. H. SHARMA	M/s Shivam Residency, Guwahati-7810034
Proof Checking of Structural Design for Proposed Arunachal Bhawan ? Basement +G+6? R.C.C. Residential Building at Jonakpur, Rupnagar, Guwahati 781005	DR. H. SHARMA	M/s Activ Consulting Engineers (I) Pvt. Ltd., guwahati
Proof Checking of Structural Design for Proposed RCC Chief Ministers Residential Bungalow (G+1) and Office building (G+2) at Itanagar, Arunachal Pradesh	DR. H. SHARMA	M/s Banka and Associates
Proof Checking of Structural Design for TEMPLE TOWER ? Proposed `Basement +G+7-RCC Residential Apartment Building at Radha Nagar, VIP Road Bye Lane, Near Sai Baba Temple, Guwahati	DR. H. SHARMA	M/s Garg Associate, Guwahati
Design of CPWD Buildings	DR. H. SHARMA	CPWD, AGARTALA, TRIPURA
Design of CPWD Buildings	Dr. Hrishikesh Sharma	CPWD, GUWAHATI-15
Characteristics of Virgin Soils and Treated soils with Admixtures & OPC Grd.43 for Cementitious Base(CTB) Layers in accordance with relevant Clauses of IRC37.2018 and IRC-SP-89:2018 for the soil samples received from BCT Road stretc	DR. H. SHARMA	The commandar, HQ 42BRTF(GREF), C/o- 99 APO
Third Party Quality Assurance of Civil Engg. Works for CPWD	DR. H. SHARMA	CPWD, GARCHUK, GUWAHATI
Proof checking of structural design and drwawings for substructure and foundation of bridge over river Golo-so in Arunachal Pradesh	DR. K. DASGUPTA	Geo Techno Consulting solutions
Safety Audit of Hospital Building at NEIGRIHMS, Shillong, Meghalaya	DR. K. D. SINGH	North Estern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong
Evaluation of Concrete Mix Design M30 and M 35 with Different Construction Materials for Construction of Flyover at the Intersection of Ganeshguri over Bishnu Rabha Flyover connecting GNB Road & RP Road at Guwahati, Assam	Dr. K.D. Singh	Shree Gautam Construction Company Limited, Guwahati
Evaluation of Construction Materials as per Applicable Standards for Guwahati Medical College	DR. L. B. SINGH	M/s Rites Ltd.
Evaluation of OPC Cement	DR. L. B. SINGH	M/s Joysree Cement Industries, Guwahati
Mix Design of M20 and M30 grade concrete for construction of ITBP road from Thangu to Muguthang in the state of Sikkim	Dr. L.B. Singh	Jugalkishor Ramkishan Agrawal Infrastructure Pvt. Ltd.

Evaluation of compressive and flexural strength of cement concrete for cement concrete work at FSD, New Guwahati	DR. L. BOEING SINGH	Food Corporation of India, Assam Region
Evaluation of Construction Materials as per Applicable Standards for Assam Medical College	DR. L. BOEING SINGH	M/S KMV PROJECTS LIMITED
Design Mix for PQC for Infrastructure Development Work at different Air Force Station in Assam and West Bengal	DR. L.B. SINGH	M/s Varindera Construction Limit
Design mix for M30 Grade Concrete for Construction of Research Park Building in IIT Guwahati Campus	DR. L. B. SINGH	Ganapati Construction Limited
Inspection of Wire Rope Suspension Bridge over SIE River at Rete Putu under Basar, Arunachal Pradesh	DR. L. B. Singh	Rural works Department, Itanagar/ EXECUTIVE ENGINEERS OFFICE
Evaluation of compressive strength and flexural strength of cement concrete for cement concrete works at FSD, New Guwahati	DR. L.B. SINGH	TABA ABANG (FCI, Paltan Bazar)
Evaluation of compressive and flexural strength of cement concrete for cement concrete works at FSD, New Guwahati	DR. L.B. SINGH	TABA ABANG (FCI, Paltan Bazar)
Mix Design of M30 Grade Concrete for FSD Ramnagar	DR. L.B. SINGH	FCI, Guwahati
Mix design for M35 grade concrete	DR. L.B. SINGH	PURBANCHAL CEMENT LIMITED, Ghy
Mix design of M30 grade concrete for pile work and other in IITG Research Park Building	DR. L. B. SINGH	GANPATI CONSTRUCTION COMPANY, Ghy
Mix design of M25 and M30 for construction of CET Building at IITG	DR. L. B. SINGH	UTTAR PRADESH RAJKIYA NIRMAN NIGAM LIMITED
Mix Design of concrete grade M25 and M30 for construction of single line BG tunnel between Jiribam-Tupul	DR. L. BOEING SINGH	NORTH EAST FRONTIER RAILWAY
Mix design of PQC - M-30 using OPC 53 grade for construction of rigid pavement of Digaru-Hojai Railway Doubling project of N.F. Railway	DR. L. BOEING SINGH	S.M. Interior Pvt Ltd
Mix design of M-30 grade concrete for NF Railway, Maligaon	DR. L. BOEING SINGH	SS RAIL WORKS PRIVATE LIMITED
Safety Audit of Mawlai Bypass for Meghalaya PWD	DR. MALLIKARJUNA C.	Meghalaya PWD
Evaluation of parameters of bituminous pavement layers	DR. RAJAN CHOUDHURY	QA/QC- GSRP, LARSEN & TOUBRO LIMITED
Evaluation of Bituminous Wearing and Base Course Specimens	DR. RAJAN CHOUDHURY	GHV (India) Pvt. Ltd., Mumbai
Vetting of U-bracket design on crash barrier	DR. SANDIP DAS	Lampadaire Engineering & Infrastructure Pvt. Ltd., New Delhi

Technical Recommendations on Seepage Control in International Terminal building Infrastructure, Guwahati Airport	Dr. S. Dutta	Shapoorji Pallonji And Company Private Limited (SPCPL)
Digital Processing of the entire lease area laid down in environmental clearance serial no. A under specific conditions of serial no. (XIII)	DR. S. DUTTA	M/s Lafarge Umiam Pvt. Ltd. Meghalaya
Proof checking of design & detailing of POT / PTFE Bi-axial Bearing	DR. S. K. DEB	M/s PCC-MSC-VLI(JV)
Proof checking of design and drawings of bridge over river Zocha, Mizoram	DR. S. K. DEB	Mizoram PWD
Proof checking of design & detailing of Spherical Bearings for Katra-Quazikund Project	DR. S. K. DEB	P&R Infraprojects Ltd
Proof checking of slope stability analysis and scheme for remedial measures to protect deep cutting in Km 30 to Km 51.300 in connection with the construction of Bairabi-Sairang New BG, NFR project, Mizoram	DR. SREEDEEP S.	Genstru Consultants Pvt. Ltd.
Proof checking of slope stability analysis and cut and cover tunnels in connection with construction of Bhairabi-Sairang New BG line NFR project, Mizoram	DR. SREEDEEP S.	Genstru Consultants Pvt. Ltd.
Proof Checking of geotechnical capacity of pile foundation of bridges	DR. SREEDEEP S.	SIMPLEX INFRASTRUCTURE LIMITED
ANALYSIS AND DESIGN FOR VALLEY 1, VALLEY 2 AND VALLEY 3? prepared for analysis and design of slope restoration and stabilization measure of filled up slopes at Mangalore International airport	DR. S. SREEDEEP	Dr. Sreedeeep S., Professor, Dept. of Civil Engg.
Proof checking of valley side stabilization between Dhasaru-Gangothri section at Nalupani from ch.123.140 to 123.850km	DR. SREEDEEP S.	Chaudhary Construction Co. Pvt. Ltd.
Vetting of structural Design of Institute building (Bank, Post office, commercial complex etc) at IIM Shillong	DR. S. TALUKDAR	IIM SHILOONG
Vetting of structural Design of Phase II and Phase III of the Institute Buildings (Hostel, Annexure Bldg, auditorium etc) at IIM Shillong`	DR. S. TALUKDAR	IIM Shillong
Proof checking of Structural Design of Sewage Treatment Tank and Waterworks at IIM Shillong.	DR. S. TALUKDAR	IIM Shillong
Slope Stability Analysis for widening of approaches with Friction slab at the outer edges on existing embankment of NH-79 in the state of Rajasthan Package-2 under NHDP Phase V on BOT (Toll)	DR. T. G. SITHARAM	IRB INFRASTRUCTURE DEVELOPERS LIMITED

Providing consultancy for review & design of 2M high bund (U/S) of the dam area (This will include stability analysis and release of construction drawings)and site requirement to provide further guidance to HZL team.	DR. T.G. SITHARAM	Hindustan Zinc Limited, Udaipur
Identification of Bitumen Type	DR. T. LYNDOR.	B K Sons Infrastructure Limited
Job Mix Formula and Mix Design of GSB, WMM and SDAC	DR. T. LYNDOR.	M/s Varindra Construction Ltd., Janak Puri, New Delhi
Design Mix for: WMM (Wet Mix Macadam)	DR. T. LYNDOR	M/s Lumos Infra Pvt. Ltd., Lucknow
Quality Test of ESMUL COLD BINDER - Grade SS2	DR. T. LYNDOR	ESBEE ROAD PRODUCTS
Determination of UCS of Six (6) Core Samples	DR. LYNDOR	Mr. Prashant Kr. Singh, EE (Civil), Officer Commanding, 91 Road Constr Coy, C/O 99 APO, Pin-930091
Determining UCS of 10 Core Samples	DR. T. LYNDOR	Mr. Prashant Kr. Singh, EE (Civil), Officer Commanding, 91 Road Constr Coy, C/O 99 APO, Pin-930091
Job Mix Formula Relating to the use of Plastic Cell Cement Concrete Technology for Pavement	DR. T. LYNDOR	Smti Bistilin Kharkongor, Meghalaya
Determining the Hardness of the Rock	DR. TEIBORLANG L. RYNTATHIANG	Hindustan Steelworks Construction Limited
Stability Analysis of Northwest Side Slope of the Athletic Ground at SAI Campus, NEHU, Shillong	DR. T.V. BHARAT	Central Public Works Department, Shillong
Soil testing	DR. T. V. BHARAT	Competent Infrastructure and Consulting Pvt. Ltd
Academic Monitoring of RAA- Arunachal Pradesh	DR. HARSH CHATURVEDI	UNISED, IIT Kanpur
Testing of compost generating unit (organic Digester) and characterization of compost	DR. P. KALITA	M/s Hygiea Service, Gujrat-388001
Oil Removing Membrane with Embedded Lotus Leaf Inspired Wettability	DR. UTTAM MANNA	Mangalore Refinery and Petrochemicals Limited
GCV Analysis of Coal Samples	DR. BP MANDAL	Singareni Collieries Company Limited
Sampling and Analysis of Coal Samples of North Eastern Coalfields	DR. BISHNUPADA MANDAL	North Eastern Coalfields Assam
Adequacy Study of ETP of Numaligarh Refinery Limited (NRL) (7099)	PROF. K. MOHANTY	Numaligarh Refinery Limited, Assam, India
To perform Different Laboratories studies for chemical and CO2 EOR flooding schemes to maximize recovery from the reservoir in OIL operational area	DR. P. TIWARI	Oil India Limited, Ghy, Assam
Evaluation of corrosion inhibitor properties and its corrosion rate inhibition efficiency	DR. PRASANNA V. R	Chemtex Speciality Limited

Testing of microplastic (MPs) removal efficiency by RO, UV, RO +UV, RO +UV+UF, MF and UF based water purifiers	DR. S. SUBBIAH	Eureka Forbes Ltd
Validation of DMA 1-4 of Guwahati water distribution network (JNNURUM south west zone project) performance and certification	DR. SENTHILMURUGAN S.	M/s Gammon Engineers and Contractor Private Limited
Ultra-fines recovery by Optimization of HRT in BCPP	DR. R. D. BARUAH	TATA STEEL, Jamshedpur
Addressing the bottlenecks of peer review systems for authors, editors and reviewers	DR. A. ANAND	M/s DigiScape Tech Solutions Ltd.
Project 1. To Determine handle actuation force specifications, human factor data and leverage ergonomic data for Spy basket/Snare handle. Project 2. To identify key ergonomic and bio mechanical factors involved while performing ERCP.	DR. URMI R. SALVE	M/s Boston Scientific
Workshop on policy design and exercise on design thinking	DR. K. SORATHIA	AS-CFMS, Assam Society for comprehensive Financial management System, Dispur, Ghy
Diagnostic Study on Weaver's need in respect of Eri and Muga Silk	DR. P.C KALITA	Director of Handloom & Textiles, Assam
Design of a 4G Jammer	DR. MAHIMA ARRAWATI	ACCESS TELEMATICS SYSTEMS
Design of dual pole motor for EV Drivetrain for Revolo e-Bus	DR. P. KUMAR	KPIT Engineering Ltd., Pune
Smart Designer Phase I	DR. P. KUMAR	TMEIC Japan, Tokyo
Non-orthogonal multicarrier modem algorithm and simulation for satellite communication applications	DR. R. BHATTACHARJEE	Central Research Laboratory, BEL Bangalore
Testing of two Kulsu river water samples-Reg	DR. DEEPMONI DEKA BARMAN	ms ATVI Infotainment Private Limited, ghy
Science communication for water diplomacy in the Brahmaputra	DR. A. BARUA	DGIS- IHE Delft Programmatic Cooperation (DUPC2)
Proof Checking of Structural Design for Proposed '2BF+GF+MF+8' R.C.C. Commercial Cum Residential Building at Sawkuchi, Lokhra Road, Guwahati, Dist: Kamrup	DR. HRISHIKESH SHARMA	M/s Achyut Promoters & Builders Pvt. Ltd.
Complementary Feeding Practices among Children aged 6 months to 2 years in the Tea Garden Areas of Udalguri district in Assam	DR. RAJSHREE DEDAMATI	Centre for Sustainable Development Goals
Survey of Nutritional Status of Children in Select Districts of Assam	DR. RAJSHREE BEDAMATI	Transformation and Development Department, Govt. of Assam
Synthesis of Scalable and Durable slippery Coatings	DR. UTTAM MANNA	MRPL

Completed Projects during 2019-2020

Sl. No.	Title of the Project	Department/ Centre	Principal Investigator	Co-investigators	Sponsoring Agency	Duration	Sanctioned Amount (Rs.)	Grant Received during the FY 2019-2020 (Rs.)
1	Liposome Encapsulated Azadiradione for Triple Negative Breast Cancer Treatment	Biosciences and Bioengineering	Dr. A. B. Kunnumakkara	-	DST	2 Yrs	630000	0
2	Cloning, Expression, Biochemical and in vitro Analysis of Therapeutic Chondroitin Lyase Oligosaccharides from Pedobacter sal-tans	Biosciences and Bioengineering	Dr. A. Goyal	-	CSIR	3 Yrs	2196000	0
3	Investigation into estrogen regulation of cystatin a expression in Breast Cancer cells and its role in proliferation and migration	Biosciences and Bioengineering	Dr. Anil Mukund Limaye	Dr. Sachin Kumar	DBT	3 Yrs	2485000	2485000
4	Investigation to understand cell signaling in Noisy Environment	Biosciences and Bioengineering	Dr. Biplob Bose	Prof. S.S. Ghosh	ICMR	3 Yrs	3058675	3058675
5	Diphtheria toxin derived peptides for possible therapeutic uses	Biosciences and Bioengineering	Dr. Biplob Bose	Dr. Bhubaneswar Mandal	SERB	3 Yrs	4738000	2979000
6	BMP signalling in Osteolytic bone metastasis of breast cancer	Biosciences and Bioengineering	Dr. Bithiah Grace Jagannathan	Dr. Anil Mukund Limaye	ICMR	3 Yrs	1967400	1646150
7	Study of cancer promoting role of CD90/THY1 in leukemia associated stroma	Biosciences and Bioengineering	Dr. Bithiah Grace Jagannathan	Dr. Anil M Limaye	DBT	3Yrs	2500000	2500000
8	To investigate how Apoptosis and Splicing-Associated Protein (ASAP) complex interface with splicing and connects Exon Junction Complex (EJC)	Biosciences and Bioengineering	Dr. Kusum Kumari Singh	Dr. Shankar Prasad Kanaujia	SERB	3Yrs	4296145	0
9	Study on Caseinolytic proteases of Leptospira interrogans, a promising target for treating bacterial infection	Biosciences and Bioengineering	Dr. Manish Kumar	Dr. S.P. Kanaujia	SERB	3 Yrs	6997500	0

10	Development of electrocatalytic aptamer-nanosensor for bacterial exotoxin detection	Biosciences and Bioengineering	Dr. Pranjal Chandra	-	SERB	5 Yrs	3800000	0
11	Nanoenzymatic aptamer based electrocatalytic biomedical device prototype for diagnostic and therapeutic	Biosciences and Bioengineering	Dr. Pranjal Chandra	Dr. Anil Mukund Limaye	SERB	3 Yrs	4714600	0
12	Development of electrochemical sensor integrated microfluidic system for label free multiplex detection of neurotransmitters in neuronal cell line	Biosciences and Bioengineering	Dr. Pranjal Chandra	Dr. Shirisha Nagotu	DBT	3 Yrs	5978000	0
13	Peroxisomes and inter-organellar communication in a cell	Biosciences and Bioengineering	Dr. Shirisha Nagotu	Dr. Rajkumar P. Thummer	SERB	3Yrs	3194950	2322582
14	Protein Stability prediction of Lipases -In silico studies	Biosciences and Bioengineering	Dr. S. Patra	Dr. V. K. Dubey	DEITY	2 Yrs	4089000	3401000
15	Purification of Caffeine from waste tea leaves and their transformation to potent pharmaceutical molecules	Biosciences and Bioengineering	Dr. S. Patra	-	DBT	3 Yrs	4660000	0
16	A novel process for thermo-stable gene prospecting from thermophilic metagenome	Biosciences and Bioengineering	Dr. S. Patra	-	CSIR	3 Yrs	2992000	1332000
17	Event Based Flood Forecasting Model for Flood Hazard Mitigation	Civil Engineering	Dr. A.K. Sarma	Dr. Rajib Bhattacharya, NIT Silchar	AICTE	2 Yrs	50000	40000
18	Evaluation of a strengthening scheme for unreinforced masonry building using steel bands	Civil Engineering	Dr. H. B. Kaushik	Dr. K. Mohanty	SERB	3Yrs	2520000	1170000
19	Development of BHISM for Blast and Impact Resistant Design and Testing of Products (UAY)	Civil Engineering	Dr. Hrishikesh Sharma	Dr. Amit Shelke	MHRD	3 Yrs	12500000	2387520

20	Developing a sustainable construction practice to improve the resiliency of embankments of Brahmaputra using Bio-Mediated soil treatment and its impact on Sismic design criteria for RC structures considering Mainshock sequence for Northeastern India	Civil Engineering	Dr. Ravi K	-	SERB	3 Yrs	4446670	0
21	Urban Black Carbon Global Impacts and Local Mitigations	Civil Engineering	Dr. S. Das	Dr. H. B. Kaushik	DST	3Yrs	2314614	1149014
22	An investigation on the effect of multiple contaminant migration in soils	Civil Engineering	Dr. Sharad B. Gokhale	-	SERB	3Yrs	4910000	4210000
23	Design and evaluation of closure cap system for near surface radioactive waste disposal facility	Civil Engineering	Dr. Sreedeeep S	-	DST	2 yrs	978000	0
24	Development of a cost effective process for biodiesel production through direct trans esterification of wet algal biomass from high density heterotrophic cultivation	Civil Engineering	Dr. S. Sreedeeep	-	BRNS	3 Yrs	2473613	1972013
25	Investigating the effect of co-digestion and advance sludge pretreatment methods on the anaerobic conversion potential of the organic waste (RGY)	ENERGY	Dr. Debasish Das	-	DST	4Yrs	5000000	3925000
26	Metal and Oxidant Free Stereoselective sp ³ C-H Arylation: Facile Access to Optically Active Disubstituted N-heterocycles and Their Applications in Synthesis	ENERGY	Dr. V.V. Goud	-	DBT	3 Yrs	689000	343000
27		CHEMISTRY	Dr. Chandan K. Jana	-	SERB	3Yrs	3090000	0

28	Synthesis, Characterization and Utilization of Radical-Containing Transition metal complexes for mechanistic understanding and catalysis	CHEMISTRY	Dr. Chandan Mukherjee	-	SERB	3 Yrs	4840000	0
29	Structure-Reactivity Correlations of High Valent Metal Intermediates Bearing Structurally Tunable Coordination Spheres	CHEMISTRY	Dr. C.V. Sastri	-	SERB	3Yrs	4690000	3690000
30	Bioinspired Semi-conductive Peptides: Self-assembly, Nano-structures and Application in Organic-electronics	CHEMISTRY	Dr. Debapratim Das	-	SERB	3 Yrs	4895000	3565000
31	N-Heterocyclic Nitrenium Based Pincer Ligand and their Transition Metal Complexes: Exploring Potential Catalytic Application	CHEMISTRY	Dr. Dipankar Srimani	-	SERB	3Yrs	4730000	4543000
32	Dissecting the mechanistic understanding of sialic acid glycosylations utilizing @-2-phenylcyanoethane as a novel multipurpose protecting group: Application towards the synthesis of Legionaminic acid and its glycosides	CHEMISTRY	Dr. Pavan Kumar Kancharla	-	SERB	3Yrs	5673000	0
33	Asymmetric synthesis of five membered heterocycles using chiral epoxide and aziridines	CHEMISTRY	Dr. T. Punniyamurthy	-	CSIR	3Yrs	1582000	0
34	Chiral and Achiral Hydrofunctionalization of Olefins via iron and Cobalt Catalyzed X-H (X:C and O) Activation Reactions: Access to High value Fuels, Organic Materials and Commodity Chemicals	CHEMISTRY	Dr. Akshai Kumar Alape Seetharam	-	SERB	3 Yrs	2310000	2290000

35	Treatment of contaminated drinking water using a hybrid low-cost process	CHEMICAL	Dr. Mihir Kumar Purkait	-	DBT	3Yrs	4217200	560000
36	Experimental and Numerical Study on Upgradation of Bio-oil using Catalytic Hydrodeoxygenation	CHEMICAL	Dr. Nanda Kishore	-	BRNS	3Yrs	2479000	0
37	Carbohydrates (Cellulose, Glucose and Fructose) conversion to 5-Hydroxymethylfurfural using ionic liquid encapsulated mesoporous zeolite catalysts	CHEMICAL	Dr. Nageswara Rao Peela	-	SERB	3 Yrs	3170000	0
38	Design and fabrication of an integrated optofluidic device for solar irradiated water-splitting using bio-synthesized metal/TiO ₂ photocatalysts	CHEMICAL	Dr. Nageswara Rao Peela	Dr. Animes Kumar Golder	DST	3Yrs	4419200	0
39	removal of arsenic from drinking water using liquid membrane based separation technique	CHEMICAL	Dr. P. Saha	Dr. A. K. Ghosal	DST	3Yrs	2617200	2942800
40	Pyrolysis and combustion studies of waste plastics to yield targeted value added chemicals	CHEMICAL	Dr. Pankaj Tiwari	-	SERB	3 Yrs	2280982	0
41	Transport Processes in slug-annular flow regimes in microchannels	CHEMICAL	Dr. Raghendra Gupta	-	SERB	2 Yrs	2289000	0
42	Shot based Video Water-marking for Very low bit Rate Video	Computer Science and Engineering	Dr. Arijit Sur	-	SERB	2 Yrs	640000	460000
43	Design intervention to reduce muscular fatigue during backpack mode of load carriage by Indian Army	DESIGN	Dr. Sougata Karmakar	Dr. Urmi R. Salve	DRDO	2 Yrs	975000	0
44	Development of ESD I/O Pads for CCD Image Sensor for 0.18 μ m SCL Foundry	Electronics and Electrical Engineering	Dr. Gaurav Trivedi	Dr. Amitabh Chatterjee (Visiting Asst.Professor)	ISRO	2 Yrs	1936000	0

45	Navigation & path planning of mobile robots and extension to multi-agent system	Electronics and Electrical Engineering	Dr. Indrani Kar	-	SERB	3 Yrs	1344000	1140000
46	Design of CMOS integrated circuits for an in-band full-duplex radio	Electronics and Electrical Engineering	Dr. Nagarjuna Nallam	-	SERB	3 Yrs	3190000	3110000
47	Development of prototype fuel-cell battery hybrid energy system for DC traction motor	Electronics and Electrical Engineering	Dr. Sanjib Ganguly	-	SERB	3 Yrs	2222000	0
48	Whole genome sequencing and functional genomics of golden silk moth <i>Antheraea assamensis</i>	ENVIRONMENT	Dr. Utpal Bora	-	Central Silk Board	3 Yrs	330000	330000
49	Numerical analysis and computational methods for hyperbolic conservation laws	Mathematics	Dr. Sudarshan Kumar Kenetinkara	-	SERB	2 Yrs	660000	200000
50	Numerical Investigation of Turbulent rotating rayleigh-benard convection in Cylindrical cell	Mechanical Engineering	Dr. Arnab Kumar De	-	SERB	3 Yrs	1050000	890000
51	J. C. Bose Fellowship Award	Mechanical Engineering	Dr. G. Biswas	-	SERB	2 months 7 months	3958061	2598061
52	Active Vibration Control in Electrical Machines using Build-in-Actuator	Mechanical Engineering	Dr. K. Kalita	-	SERB	3 Yrs	3500000	3050000
53	Development of a 1-D thermal Hydraulic Code for Computation of Unsteady Steam-Water Flow and Supercritical water Flow in Horizontal and Vertical Channel Type Reactors	Mechanical Engineering	Dr. M. Pandey	-	AERB	3 Yrs	1203260	409430
54	Experimental investigation on the roughness-surface wettability coupling in capillary filling in microchannel	Mechanical Engineering	Dr. Pranab Kumar Mondal	Prof. Gautam Biswas	SERB	3Yrs	4839810	0

55	Design and Development of proper bonding mechanism for individual AAC block units in wall system of a structure	Mechanical Engineering	Dr. U.S. Dixit	Dr. Arun Borsalkia	DST	3 Yrs	4098352	2117581
56	Establishing an Institute of Excellence (IOE) for Advanced Studies, Training and Research in Mechanical Engineering	Mechanical Engineering	Dr. U.S. Dixit	Dr. A. K. Dass, Dr. P. S. Robo, Dr. K. M. Pandey and Mr. S. Ray	AICTE	2 Yrs	40000	0
57	Numeric Methods for dynamic analysis of adhesive contact problems	Mechanical Engineering	Dr. Sachin Singh Gautam	-	SERB	3.5 Yrs	3226000	0
58	Preparation and Characterization of Nano-Sized NiO Powders and Thin Films for Spintronic Applications	PHYSICS	Dr. A. Perumal	-	CSIR	3 Yrs	1896000	566000
59	B-Physics at Belle and Belle II experiments at KEK Japan	PHYSICS	Dr. Bipul Bhuyan	-	SERB	3 Yrs	4599200	2550000
60	Exploring the Higgs Sector of Inert Doublet Model in the Presence of Scalar Triplets	PHYSICS	Dr. Poulouse Poulouse	-	SERB	3 Yrs	2508000	0
61	Innovation in Science Pursuit for inspired Research	PHYSICS	Dr. S. Bhattacharya	-	SERB	5 Yrs	3500000	2123787
62	Development of heteroatom doped nanoporous-graphene-gel and its stable nanohybrid for wearable	PHYSICS	Dr. Uday Narayan Maiti	-	SERB	3 Yrs	5190548	3845302
63	Development of renewable energy technology package for clean power generation in remote utility	ENERGY	Dr. Pankaj Kalita	-	SERB	3 Yrs	5165710	0
64	Ionic liquids and deep eutectic solvents as electrolytes for energy efficient electro-chemical double	Chemical Engineering	Dr. Tamal Banerjee	Dr. R. Prasanna Venkatesh	ISRO	2 Yrs	1800000	1720000
65	LEGAL RESPONSES TO DOMESTIC VIOLENCE: A STUDY IN ASSAM	Humanities and Social Sciences	Sawmya Ray	-	MINISTRY OF LAW AND JUSTICE	1 Yr	882000	0

PART IV

APPENDICES

Administrative and Technical Staff (Group A)

Degree Awardees

Progress of Construction Works

Summary of Institute Accounts

ADMINISTRATIVE & TECHNICAL STAFF (Group A)

Administrative Staff (Group A)

Name	Designation	Department/ Centre
S.M. Suresh	Registrar	
Bhuyan, K.	Joint Registrar	Establishment
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	Academic Affairs
Haokip, T. T.	Deputy Registrar	Stores & Purchase
Boishya, D. L.	Assistant Registrar	Finance and Accounts
Borgohain, P.	Assistant Registrar	Faculty Affairs
Choudhury, S.	Assistant Registrar	Research & Development
Das, G.	Assistant Registrar	Medical
Das, K. C.	Assistant Registrar	Administration
Dutta, D. J.	Assistant Registrar	Internal Audit
Kakati, M.	Assistant Registrar	Students' Affairs
Konwar, L. K.	Assistant Registrar	Industrial Interaction & Special Initiative
Mandal, S.	Assistant Registrar (On Deputation)	Research & Development
Phukan, A.	Assistant Registrar	Director's Office
Salhotra, N. D.	Assistant Registrar	Legal Cell
Shynret, A. W.	Assistant Registrar	Alumni & External Relations
Roy, N.	Addl. Superintending Engineer	Infrastructure, Planning & Management
Gogoi, A. K.	Executive Engineer	Infrastructure, Planning & Management
Barman, K.	Assistant Executive Engineer (Electrical)	Infrastructure, Planning & Management

Bhattacharjee, S	Assistant Executive Engineer (Civil)	Infrastructure, Planning & Management
Choudhury, B.	Assistant Executive Engineer (Civil)	Infrastructure, Planning & Management
Dutta, D.	Assistant Executive Engineer (Civil)	Infrastructure, Planning & Management
Sarma, N. K.	Assistant Executive Engineer (Civil)	Infrastructure, Planning & Management
Senapati, S.	Assistant Executive Engineer (Electrical)	Infrastructure, Planning & Management
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, S.	Medical Officer	Medical
Sarmah, P.	Medical Officer	Medical
Gohain, B. B.	Sr. Security Officer	Security
Technical Staff (Group A)		
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	Public Relation, Branding & Ranking
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
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

Sevda, S.	Technical Officer Gr. II (On Lien)	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 Superintendent	Mechanical Engineering
Das, N.	Students' Counsellor	Students' Affairs
Chowdhury, P. B.	Students' Counsellor	Students' Affairs
Rynjah, N. N.	Students' Counsellor	Students' Affairs

DEGREE AWARDEES

GOLD AND SILVER MEDALISTS

President of India Gold Medal

Anup Agarwal
BTech (Computer Science and Engineering)

Silver Medal

Kunal Dhawan
BTech (Electronics and Communication Engineering)

Y Bishal Singha
BTech (Mechanical Engineering)

Shubham Chaudhary
BTech (Civil Engineering)

Ariktha Srivathsan
BTech (Biotechnology)

Pranay Pratap
BTech (Chemical Engineering)

Sahil Thandra
BTech (Electronics and Electrical Engineering)

Hussain Shabbir Rasiwala
BTech (Engineering Physics)

Shubham Sharma
BTech (Chemical Science and Technology)

Remidi Nishanth Reddy
BTech (Mathematics and Computing)

Anupriya Gupta
BDes (Design)

Sanjay Shukla
MSc (Physics)

Debasmita Paul
MSc (Chemistry)

Deepa Antony
MSc (Mathematics and Computing)

Srijani Roy
MA (Development Studies)

Dr. Shankar Dayal Sharma Gold Medal

Sarath Chandra Neriyanuri
BTech (Chemical Engineering)

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	150101001	ABHAY KUMAR
2	150101002	ABHISHEK GOYAL
3	150101003	ABHISHEK KUMAR
4	150101004	ABOTHULA RAKESH
5	150101005	AMAN AGARWAL
6	150101006	ANIRUDH SHARMA
7	150101008	ANKIT VYAS
8	150101009	ANUP AGARWAL
9	150101010	ANURAG RAMTEKE
10	150101012	AYUSH JAIN
11	150101014	AYUSH SONI
12	150101015	BHAVYA BANSAL
13	150101017	BISHWENDRA CHOUDHARY
14	150101018	BOPANA AKHILESH
15	150101019	CHINMOY JYOTI KATHAR
16	150101020	CHINMOY KACHARI
17	150101021	DESHMUKH UDAYRAJ SHRIKANT
18	150101022	DHARMESH CHOURASIYA
19	150101025	GOURIKA BANG
20	150101026	HARSHIT BANSAL
21	150101027	IRALA NARASIMHA REDDY DILIP KUMAR
22	150101028	JIGNYASU RASESH CHASMAWALA
23	150101029	KATTA YATHEENDRA MOULI
24	150101031	KUSHAL K S V S
25	150101032	LAKSHMIREDDY SESA SAI SHOBITH
26	150101033	MAYANK KUMAR AGRAWAL
27	150101034	MAYANK YADAV
28	150101035	MOHIT KUMAR
29	150101036	MUDDADA NITESH KAMAL
30	150101037	MUKKOTI ANIL KUMAR
31	150101038	MUKUL VERMA
32	150101039	N ABHINAV REDDY
33	150101040	NALABOLU RAJENDHAR REDDY
34	150101041	NAYANJYOTI KAKATI

35	150101042	NEEL MITTAL
36	150101043	NIKUNJ MITTAL
37	150101044	PARUCHURU SRIKAR
38	150101045	PATOLIYA MEETKUMAR KRUSH- NADAS
39	150101046	PIYUSH JAIN
40	150101047	PRASHANSI KAMDAR
41	150101050	PULAK KULI
42	150101051	REDDI HAREESH
43	150101052	ROHAN AGGARWAL
44	150101053	ROOPANSH BANSAL
45	150101054	SAKET SANJAY AGRAWAL
46	150101055	SAMAYAMANTHULA N V S RAT- NA KRISHNA PRUDHVI
47	150101057	SARTHAK TRIPATHI
48	150101058	SASWATA DE
49	150101059	SATTI SAI CHANDAN REDDY
50	150101060	SATYA PRAKASH
51	150101062	SAURABH CHUGH
52	150101063	SAURAV KUMAR KEJRIWAL
53	150101064	SHAHWAR FATIMA
54	150101065	SHAILENDRA KUMAR BRAMHE
55	150101066	SHANIGARAM BHARATH CHAN- DRA
56	150101068	SHIVAM GUPTA
57	150101069	SHIVRAM N GOWTHAM
58	150101070	SHRADHA PRUTHI
59	150101071	SHUBHAM JINDAL
60	150101072	SHUBHAM SINGHAL
61	150101073	SHUBHANSHU VERMA
62	150101075	SOWDABOINA SAI HARSHA VARDHAN
63	150101076	SUDHANSHU RANJAN
64	150101077	SUHAS SHIVSHANKAR KANTEKAR
65	150101078	SURABHI GUPTA
66	150101079	TAMILSELVAN S
67	150101080	VADLAMUDI SONY VENKATESH
68	150101081	VAIBHAV PRATAP SINGH
69	150101082	RITVEEKA VASHISTHA
70	150101083	JOY CHOPRA
71	150101084	GAURAV NAKUM
72	150101085	HUDDERAR SHASHANK ANIL
73	150101086	ANKIT KUMAR SINGH
74	150101087	SATYA PRAKASH
75	150101088	PRIYANKAR JAIN

76	11010116	CHERUKU RAMA KRISHNA
77	11010150	PATHAPATI ROHAN REVANTH SAGAR
78	120101044	NAMABA JAMIR
79	130101044	MANDAR KALE
80	140101006	AKASH ARUN DUPARE
81	140101033	KULDEEP SINGH PALAWAT
82	140101050	PRANJAL AGRAWAL
83	140101056	RAJ SHEKHAR
84	140101068	SHANTANU BHARADWAJ

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	150102002	ABHISHEK AGRAWAL
2	150102003	ABHISHEK ANAND
3	150102004	AJEYO DEY
4	150102005	ANI REDDY VAMSHI KRISHNA REDDY
5	150102006	ANKUR DEKA
6	150102007	ASHUTOSH AGRAWAL
7	150102008	ASHUTOSH SHARMA
8	150102009	BANOTHU VIJENDER
9	150102010	BELHE YASH ANAND
10	150102011	BHARATH RAO K N
11	150102012	BHUKYA VENKATESH
12	150102013	BODDA SAI CHARAN
13	150102014	CHINTAPALLI TARUN
14	150102015	DEVESH PRAJAPAT
15	150102016	DIWANSHU JAIN
16	150102017	DOLI SAI DEEKSHITA
17	150102019	GADDABATHINI RAHUL
18	150102021	GONGALE NISHANT SUREN- DRA
19	150102022	GUTTIKONDA YOGANAND
20	150102023	HARSH BHARDWAJ
21	150102024	HARSHIT RAJGADIA
22	150102025	KAMPELLY PRANITH
23	150102026	KANDIMALLA SAI VIKAS
24	150102027	KHAMKAR RAHUL DINESH
25	150102029	KUMMARI DAYANANDA KISHORE

26	150102030	KUNAL DHAWAN
27	150102031	MALOTHU KARTHIK
28	150102033	MAROTHU VENKATA SAI SURYA TEJA
29	150102034	MUKKA HARSHITH
30	150102035	N JAYANTH KUMAR REDDY
31	150102036	NADELLA BALASAI KRISHNA
32	150102037	NAGRE AMAR SHESHRAO
33	150102038	NATRA SANJAY
34	150102039	NAYAB ANJUM
35	150102041	NISHANT BHARTI
36	150102042	NITESH KHICHI
37	150102043	NITYA NAND RAI
38	150102044	NORANG TETARWAL
39	150102046	PAKSHIT SHEKHAWAT
40	150102047	PARSA REVANTH
41	150102049	POREDDY SAI KRUPAL REDDY
42	150102053	PRATIKSHA RAMESH BHERE
43	150102054	RAHUL KUMAR
44	150102055	RAJAT HARLALKA
45	150102056	RANA RANDHEER
46	150102057	RITWIK ABHISHEK
47	150102058	SAGAR KOHLI
48	150102059	SANJAY KUMAR
49	150102060	SAURABH DHALL
50	150102061	SHAIK AAKHIL
51	150102063	SHIVA SHARMA
52	150102064	SHUBHAM LOHIYA
53	150102065	SHUBHAM TULASYAN
54	150102066	SOMYA PARASAR
55	150102067	TUMATI LIKHITHA
56	150102069	VELGAPUNI DEEKSHITH RAYA
57	150102070	VINOD PATIDAR
58	150102071	YASH KHATRI
59	150102072	YERAMANEDI V RUTHVIK RAMASWAMY
60	150102073	YERIKIPATI VENKATA NAGA SARAN
61	150102074	KUMAR PRIYADARSHI
62	150102075	BOLLAM SAI RAMA LAKSHMANA ABHINAV
63	150102076	SOURADIP PAL
64	150102077	KRISHNA PRAVEEN YALAMARTHY
65	150102078	ANIRUDDHA GHOSH
66	150102079	SHUBHAM
67	150102080	CHALADI MOHAN VAMSI
68	150102081	DEEPANSHU AJMERA

69	150102082	VANAMALA NARASIMHA
70	150102083	PENTAPATI SAI KARTHIKEY
71	150102084	DIVYANGI GATWAR
72	130102055	SADEM INDRA TEJA
73	140102003	ADLA PRUDHVIDHAR
74	140102014	BHANU KOTHARI
75	140102053	SAMBIT MALLICK
76	140102056	SHIVAM SONI
77	140102077	SAMANWAYA CHAKRABORTY

List of students who have fulfilled the requirements for award of B.Tech. degree in Mechanical Engineering

Sl.	Roll No.	Name
1	150103001	AASHIT RATHORE
2	150103002	ABHIJEET SINGH
3	150103003	ABHISHEK MISHRA
4	150103004	ABHISHEK SARATHE
5	150103005	AKSHAT MANDLOI
6	150103006	ALANKAR JHA
7	150103007	ALBERT TOMY
8	150103008	AMAN ANAND
9	150103009	AMANDEEP SAHU
10	150103010	AMARJITH VISHNU
11	150103011	ANKUR SHILEDAR
12	150103012	ARUN V KAMMATH
13	150103014	ASHMIL C IBRAHIM
14	150103015	BANDARU MUTYALA NAIDU
15	150103018	BEJAWADA THARUNKUMAR
16	150103019	BHASKAR SNEHI
17	150103020	BHASWATI GOHAIN BARUA
18	150103022	BISHAL RAJ GAYAN
19	150103023	DARBHAMULLA NIHAR BHARDWAJ
20	150103025	DEEPAK NAGAR
21	150103026	DESHMUKH SANDESH NITIN
22	150103027	DEVANSH GUPTA
23	150103028	DHONDE SHUBHAM PRAKASH
24	150103029	DIPTANSHU AGARWAL
25	150103030	DIWAKAR KUMAR
26	150103031	GAJBE UJWAL ASHOK
27	150103032	GAURAV AGARWAL
28	150103034	GURUDAYAL
29	150103035	HIRE RONIT JAISINGH

30	150103037	JASTI MAHESH KUMAR
31	150103039	JITENDER PRAKASH
32	150103040	KATRAVATH VIGNESH
33	150103041	KOTKAR PRANAY SANTOSH
34	150103042	KUSH GUPTA
35	150103045	MANGE SAURABH ASHOK
36	150103046	MUKESH KHOD
37	150103047	MUKESH MALVIYA
38	150103050	PAPPALA DINESH CHANDRA
39	150103051	PARMAR HARSHARAJ SINH BIRENDRASINH
40	150103055	RAJESH KUMAR MANDAL
41	150103057	RISHIRAJ KUMAR THAKUR
42	150103058	ROHAN AGRAWAL
43	150103059	ROHAN KUMAR
44	150103061	SANJAY SOREN
45	150103062	SATYAM SAURABH
46	150103063	SHAIK SULTAN BASHA
47	150103065	SHIVAM SINGH
48	150103067	SOMKUWAR CHIRAG AN-
49	150103068	SOMNATH VATS
50	150103069	SUDARSHAN ANAND KAMATH
51	150103070	SUHAS MASANA
52	150103071	SURAJ SAROJ
53	150103073	TIRPUDE SWAPNIL PYARELAL
54	150103074	UTTAMKUMARSINGH
55	150103075	V VENKATESH
56	150103076	VIPUL KUMAR VIJAY
57	150103077	VISHAK R
58	150103078	VISHAL BANSKUWA
59	150103080	Y BISHAL SINGHA
60	150103081	PROMIT CHAKRABORTI
61	150103082	MEGHDEEP JANA
62	150103083	VAIBHAVI SRIVASTAVA
63	150103084	ABHINANDAN GOGOI
64	150103085	SANDIPAN HALDAR
65	150103086	ARNOB DUTTA
66	150103087	SUBODH KUMAR SINGH
67	120103036	KAKARA PHANINDRA
68	140103008	AMBER SEN
69	140103021	GAMPA SAI VINEETH
70	140103056	RAHUL MEENA

71	140103057	RAMAVATH VENKATA SAI NI- TESH
72	140103064	SHRAV SAMFEL KATOCH
73	140103071	SUMEDH DILIP WANKHADE

**List of students who have fulfilled the requirements
for award of B.Tech. degree in Civil Engineering**

Sl. No.	Roll No.	Name
1	150104001	AAKARSH CHAUHAN
2	150104004	ABHISHEK PATHAK
3	150104005	ADITYA AGARWAL
4	150104008	APOORV TYAGI
5	150104009	ASHOK KUMAR
6	150104011	BHASWATI DEKA
7	150104012	CHEEMALA HIMAJA
8	150104015	DINESH KUMAR
9	150104017	DOKKADI VANDANA
10	150104019	GAURAV SINGH
11	150104020	GOURAV KUMAR
12	150104021	JAMBHULKAR ROHIT GOPAL
13	150104023	JYOTI PRAKASH BAL
14	150104024	KAPIL BHANWARIWAL
15	150104026	KUNAL BHARDWAJ
16	150104027	KUNAL KUMBHKAR
17	150104028	LAKSHAY KHANNA
18	150104029	MANISH KUMAR SINGH
19	150104030	MEHUL BHATIA
20	150104031	MOHD UMAR KHAN
21	150104033	NEERAJ KUMAR JAREDA
22	150104034	NISHANT KAJLA
23	150104035	NITIN KATIYAR
24	150104037	PAKSHAJ BHARDWAJ
25	150104038	PALASH MATHUR
26	150104039	PRANSHU JANGID
27	150104040	PRATEEK CHOURASIA
28	150104041	PRATYAY PRAKASH NIGAM
29	150104043	PUNEET YADAV
30	150104044	RAGHVENDRA SINGH SEN-
31	150104045	RAGHVENDRA SINGH SEN-
32	150104048	RITESH BIDUA

33	150104049	ROHIT YADAV
34	150104052	SHADAB AKHTER
35	150104054	SHASHANK AGGARWAL
36	150104055	SHIVAM
37	150104057	SHIVSHANT TRIPATHI
38	150104058	SHOBHIT ANAND
39	150104059	SHUBHAM CHAUDHARY
40	150104060	SHUBHAM KUMAR
41	150104062	SOUTREYA KUNDU
42	150104064	SUBHASH SAURABH
43	150104065	SUMIT KUMAR BHARTI
44	150104066	SURAJ KUMAR
45	150104067	SUSHUMNA CH
46	150104068	TAMGADGE DHIRAJ RA- JENDRA
47	150104069	TARUN GUPTA
48	150104070	TEJVEER SINGH
49	150104072	UTKARSH UJJWAL
50	150104073	VAIBHAV VISHAL
51	150104074	VIJAY MEENA
52	150104075	VIKRAM AGARWAL
53	130104027	JAYADEVA BHANJA
54	140104003	ABHIJEET SANJAY SHELKE
55	140104004	AJAY C ANTO
56	140104009	AMIT KUMAR CHANDRA- VANSHI
57	140104011	ANIMESH JAIN
58	140104012	ANURAG SINGH
59	140104013	APALA SATYAPAL REDDY
60	140104017	B UDAY KUMAR
61	140104020	BITU KUMAR
62	140104021	BUKKE SIVA PRASAD NAIK
63	140104022	CHADALAVADA RAVI CHANDRA
64	140104030	HARIOM KISHORKUMAR DHOOT
65	140104034	HIMANSHU SWAROOP
66	140104037	JAYANT PANGHAL
67	140104039	LALIT KUMAR MAKSHANA
68	140104040	MEGHAL KUMAR
69	140104043	MOODE TAGORE NAIK
70	140104048	PATI RAHUL
71	140104051	PUSHPENDRA MEENA
72	140104053	RAMESH KUMAR
73	140104054	RAVIKISHAN KUSHWAH

74	140104056	RISHABH WADHWANI
75	140104060	SANDEEP DEORI
76	140104072	SUNIL KUMAR SIHAG
77	140104073	SUNIL PHOGAT

**List of students who have fulfilled the requirements
for award of B.Tech. degree in Biotechnology**

Sl. No.	Roll No.	Name
1	150106001	AABHAS SINGHAL
2	150106002	AKASH SATSANGI
3	150106003	AMAN CHAUDHARY
4	150106004	AMEY MULEY
5	150106005	ANIL SHYAM MANOHAR RATHOUR
6	150106006	ANINDYA BISWAS
7	150106007	ANJANEY SHARMA
8	150106009	ANUPAM BHARDWAJ
9	150106010	ARIKTHA SRIVATHSAN
10	150106012	ASHUTOSH BHAVSAR
11	150106013	AYUSH JAIN
12	150106014	AYUSH KUMAR
13	150106015	CHITRANJAN CHHABA
14	150106016	DAVE URMIL MITHALAL
15	150106017	DHRUV GURURANI
16	150106018	GEDDAPU RAJENDRA BABU
17	150106020	GYAN PRAKASH
18	150106021	HEMANT KUMAR
19	150106022	JITIKA RAJPOOT
20	150106023	JYOTIRMAY SINGH
21	150106024	KASIREDDY UDAY CHANDRA REDDY
22	150106025	KOMAL
23	150106026	MAN MOHIT VERMA
24	150106027	MOHNEESH
25	150106029	NIKHIL GNANAVEL
26	150106030	NIKHIL JHA
27	150106031	POONAM
28	150106033	PRASHANT KACHHAWAHA
29	150106034	PRINCE KUMAR
30	150106036	RAJDITYA SINGH SHAKTAWAT
31	150106038	RAVIKANT GODARA
32	150106039	SALONI VERMA
33	150106040	SAMKIT JAIN

34	150106041	SAMYAK SINGH
35	150106043	SAURABH KUMAR CHAN-
36	150106044	SHUBHAM CHOUDHARY
37	150106051	YACHEE GUPTA
38	120106048	SIDHARTH RAO MIDASALA
39	140106004	AJEET KUMAR

List of students who have fulfilled the requirements for award of B.Tech. degree in Chemical Engineering

Sl.	Roll No.	Name
1	150107001	AABHAS KARNAWAT
2	150107004	AKASH SHANKER
3	150107005	AMAN TIWARI
4	150107006	ANANT VAISHNAV
5	150107008	ANUJA SAINI
6	150107010	AROOSHI BAJAJ
7	150107011	ASHISH AGRAWAL
8	150107012	AYUSH PALLAV
9	150107013	AYUSH RAJ
10	150107014	BHASHKARJYOTI DAS
11	150107015	CHALUMURI GIRISH
12	150107016	DEBASMITA HALDER
13	150107017	DEEPAK KAMAN
14	150107018	DEEPANKAR DEORI BHARALI
15	150107019	DEVADITYA MOHANTY
16	150107020	DEVANSHU NEMA
17	150107021	GANDHE YASH RAJESH
18	150107022	GOPAL KUMAR
19	150107023	HIRAKJYOTI SARMA
20	150107024	KAMAT RUJUTA PRAKASH
21	150107025	KARAN RAMCHIARY
22	150107026	KARANI DHRUVIL DHIREN
23	150107028	KUMAR INDRAMANI
24	150107030	KUNAL
25	150107031	LUCKY KUMAR
26	150107035	MOHIT SACHAN
27	150107036	NARAYAN DEWANGAN
28	150107037	NEHA NARANIYA
29	150107038	NIHARIKA SISHTLA
30	150107039	PALLAPOLU ADITYA BABU
31	150107041	PRANAY PRATAP

32	150107044	PURVA KOTHARI
33	150107045	RAHUL DAYMA
34	150107047	RANCHAL PRAKASH P
35	150107048	ROHAN RAJ
36	150107050	SAHIL CHATURVEDI
37	150107051	SARATH CHANDRA NERIYANURI
38	150107053	SAURABH KUMAR
39	150107054	SHIV KUMAR
40	150107055	SHOBHIT B TAYAL
41	150107056	SHUBHAM KUMAR
42	150107057	SHUBHAM SINGH DHAPOLA
43	150107058	SIDDHARTH AGARWAL
44	150107059	THAKUR SHUBHAM YOGRAJ
45	150107060	TUSHAR GANGWAR
46	150107063	VEDANT RATHORE
47	150107064	VENKATESH S G
48	150107066	VINAY HANUMANT KOPNAR
49	150107067	VISHAL SINGH
50	150107068	VISHAP KUMAR
51	130107058	SIDDHARTH TIKOO
52	140107006	AKHILESH KUMAR
53	140107022	DABBIRU SAI SURAJ
54	140107032	MONU
55	140107067	THAKARE ANIRUDDHA JAGESHWAR

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	150108001	AFZAL AHMAD
2	150108002	AKASH SINGH
3	150108003	AMAN KUMAR
4	150108004	ANUBHAV AGRAWAL
5	150108005	AYUSH YADAV
6	150108006	CHAITANYA NIVSARKAR
7	150108008	DEEPAK KUMAR
8	150108009	DEEPAK MEGHWAL
9	150108010	DESHMANE ATMAN SANJAY
10	150108012	DEVATHA SAI BHASKAR
11	150108013	DUNGARWAL RUTUJA PRAVIN
12	150108014	HARSH SINHA
13	150108015	K ROHIT REDDY
14	150108016	KAPIL KUMAR

15	150108017	KARTIK VIJAYVERGIYA	5	150121008	ASHWANI RAJAN
16	150108018	KRISHNAKANT AHIRWAR	6	150121009	AVISHEK DEB
17	150108019	LAVISH KUMAR BANSLA	7	150121011	BIMLESH KUMAR
18	150108020	MAHAVEER SINGH GEHLOT	8	150121012	SUPRIT BHARAT CHAUDHARI
19	150108021	MOHAMMED ADNAN	9	150121013	GOLLAPALLI NAGA MAHESH
20	150108022	PARTH NITIN PAWAR CSE	10	150121016	HUSSAIN SHABBIR RASIWALA
21	150108023	PRASHANT GAUTAM	11	150121017	K. LIKHITA
22	150108025	PUNEET JANGPANGI	12	150121020	KOMAL DAHIYA
23	150108027	RATIKANT PATIL	13	150121023	MITALI KUMAWAT
24	150108028	RIPUNJAY KUMAR	14	150121025	MUKUND KRISHNA KOTHARI
25	150108030	ROHIT KUMAR	15	150121026	NEETIPALLI RAHUL
26	150108031	SANJEEV DIDEL	16	150121028	OKSIYA AYUSH PURANLAL
27	150108032	SARVESH JHUNJHUNWALA	17	150121029	PALLAB NASKAR
28	150108033	SARVESH RAJ BIJAY KUMAR BARNWAL	18	150121030	PANDEY NILESH PRASAD
29	150108034	SASANK GURAJAPU	19	150121031	PARISMITA DAS
30	150108035	SHASHIKESH RAUSHAN	20	150121032	PARVA SHETH
31	150108037	SURAJ PRAKASH	21	150121034	RIMPLE
32	150108038	SUYASH PATI TRIPATHI	22	150121035	RISHAB RAJ
33	150108040	VAIBHAV JHAJHARIA	23	150121036	ROUNAK SEN
34	150108042	VISHAL KUMAR SINHA	24	150121039	SARTHAK ARORA
35	150108043	VISHAL AGARWAL	25	150121040	SAURABH RAJ
36	150108044	MAHIM GOYAL	26	150121041	SHAKTI PANCHAL
37	150108045	ROSHAN DASH	27	150121042	SHARMA HARSH
38	150108046	SAHIL THANDRA	28	150121044	SIMRAN BARNWAL
39	150108047	PRIYANSH DAUSHALYA	29	150121046	SUBHAJIT ROY
40	150108048	ABHISHEK GUPTA	30	11012121	MESHAM KEVAL KESHAV
41	150108049	SHETKAR AKASH ASHOK	31	130121046	VIVEK KUMAR
42	130108039	PUNARVASU SARKAR	32	140121004	ALOK RANJAN
43	140108020	MALOTHU HARI KISHAN	33	140121010	B.S LOHITH KUMAR
44	140108028	RITU SAGAR	34	140121032	SAKORE ROHAN PRAKASH
45	140108038	UPPALAPATI KRISHNA CHAITANYA CHOWDARY	35	140121033	SAKSHI MEENA
46	140108040	VADUGURU NAGARJUNA			

List of students who have fulfilled the requirements for award of B.Tech. degree in Chemical Science and Technology

List of students who have fulfilled the requirements for award of B.Tech. degree in Engineering Physics

Sl. No.	Roll No.	Name	Sl.	Roll No.	Name
1	150121001	ADIDAMU ANANT SAURABH	1	150122001	ABHIJEET KUMAR
2	150121002	ADITYA CHOUDHARY	2	150122002	ABHINAV PAIGWAR
3	150121004	ANMOL MISHRA	3	150122003	ANSHUL KUMAR
4	150121007	ARPIT SHARMA	4	150122004	ANURAG SONTALIA
			5	150122005	ARCOT YASHWANTH

6	150122008	ARPIT VERMA
7	150122009	BHANUJYA SAIKIA
8	150122011	CHETAN KUMAWAT
9	150122012	DEEPAK KUMAR
10	150122013	DEEPAK MAURYA
11	150122014	DIVYATA JAISWAL
12	150122015	GANGA RAM
13	150122016	ISHAN GROVER
14	150122017	JAY KULSHRESHTHA
15	150122019	DNYANESHWAR RAOSAHEB KSHIRSAGAR
16	150122020	KUMAR SAURAV
17	150122021	LAVISH MAHESHWARI
18	150122022	NIKHA GARG
19	150122023	NIKHIL KUMAR
20	150122025	PRATIK RANJAN
21	150122026	PUSHPENDRA RATHI
22	150122027	RAJA HARSHAVARDHAN
23	150122028	RANJAN BARO
24	150122030	ROHIT RAJ
25	150122031	RUPAL SAXENA
26	150122032	SAPAVAT VENKATESH
27	150122033	SATYAJEET SINGH SANDHU
28	150122034	SHAURYA GUPTA
29	150122035	SHIVAM TIWARI
30	150122036	SHUBHAM SHARMA
31	150122038	SIDDHARTHA JAIN
32	150122039	SOEB HUSSAIN
33	150122040	SUMIT SURESH KALE
34	150122041	SUSHANT TYAGI
35	150122043	UMESH DHAKED
36	150122044	VAIBHAV SUBHASH SABLE
37	120122021	MAHENDRA BHATI

List of students who have fulfilled the requirements for award of B.Tech. degree in Mathematics and

Sl.	Roll No.	Name
1	150123001	ABHINAV GUPTA
2	150123003	ADITYA SINGH RATHORE
3	150123004	AKASH MAHALIK
4	150123005	ARPAN GUPTA

5	150123006	AYUSH GOYAL
6	150123009	DAKSH KUMAR
7	150123010	DEEPAK KUMAR VERMA
8	150123012	DIVIJ CHOPRA
9	150123013	HARSHMEET SINGH
10	150123015	HITEN SETHIYA
11	150123017	KODI DIGVIJAY YADAV
12	150123019	MAMILLA RAJASEKHAR
13	150123020	MANAS DARUKA
14	150123022	MAYANK KAGLIWAL
15	150123023	MD IMTIYAZ
16	150123024	MOHAMMED BILAL GIRACH
17	150123027	NIKITESH SONEJI
18	150123030	PARIDHI KOTHARI
19	150123031	PUNEET KUMAR
20	150123032	RISHABH AGRAWAL
21	150123035	SAI VARDHAN REDDY GOURAVARAM
22	150123037	SANGEET CHANDALIYA
23	150123038	SANJOG AGARWAL
24	150123039	SAVYA SINDHU GUPTA
25	150123040	SUNIL BENIWAL
26	150123041	SYED IMRAN
27	150123043	TARUN GENWA
28	150123044	TURKHADE HRUSHIKESH PRAMOD
29	150123045	VAIBHAV MOTWANI
30	150123046	AYUSH SHARMA
31	150123047	SHASHANK OBEROI
32	150123048	OJASVIN SOOD
33	150123049	ASHISH KUMAR PODDAR
34	150123050	YUGANSH BHATNAGAR
35	150123051	REMIDI NISHANTH REDDY
36	150123052	PRITHVI SRIRAM
37	150123053	ARKADEEP DAS
38	140123019	KORRAPATI HARSHA VARDHAN
39	140123024	PIYUSH CHITTARA
40	140123025	PRIYA MEENA
41	140123028	ROUNAK BARAL

List of students who have fulfilled the requirements for award of B.Des. degree in Design

Sl. No.	Roll No.	Name
1	150205001	ABHISHEK KANTHED
2	150205002	ABHISHEK NARAYAN SINGH
3	150205004	ANKIT CHOWDHURY
4	150205005	ANKIT JAIN
5	150205006	ANUPRIYA GUPTA
6	150205008	ASHOK KUMAR BIWAL
7	150205009	ASHUTOSH AGRAWAL
8	150205010	CHIRAG AGARWAL
9	150205011	DEEPANSHU GUPTA
10	150205012	HAKIM SINGH GURJAR
11	150205013	HARSHIT SHARMA
12	150205014	HIMANGSHU GUPTA
13	150205015	KHUMKAR RUSHIKESH KISHOR
14	150205016	KONDETI SUSHMA CHANDINI
15	150205017	LOKESH FULFAGAR
16	150205018	MAYANK PATIDAR
17	150205019	MUKESH KUMAR RANJAN
18	150205020	NAKUL KASTURE
19	150205021	NAVEEN KUMAR CHAURA-SIYA
20	150205023	NILOTPAL NAYAN
21	150205024	NISHA GUPTA
22	150205025	PAMPANA SAI HAASINI
23	150205027	PRAKHAR JAIN
24	150205030	PURVISH MAHENDRA SHAH
25	150205031	RAHUL RABHA
26	150205033	SAJAL CHAPLOT
27	150205034	SHEVIL PANCHAL
28	150205035	SHIVAM SUNDERAM
29	150205036	SHRUTI TOSHNIWAL
30	150205037	SIMRAN AGARWAL
31	150205038	SUMAN JI
32	150205039	SUMIT NAAG
33	150205040	SUMIT RATHORE
34	150205041	SUNEET SHUKLA
35	150205042	VEERAMALLY AKSHAY
36	150205043	VIDUSHI SINGH PUNDIR
37	150205044	VINIT GARG

38	150205045	VISHAL KUMAR
39	150205047	ARPIT MATHUR
40	150205048	JEMMY SETH
41	150205049	PASUMARTHY RAM SAI SRIKAR
42	150205050	ARPIT JAIN
43	120205031	NILKAMAL RABHA
44	140205032	RATHOD NIKUNJ ABHAY
45	140205040	VAIBHAV GUPTA

List of students who have fulfilled the requirements for award of M.Sc. degree in Physics

Sl.	Roll No.	Name
1	172121001	AKASH DEY
2	172121002	AMALIKA PATRA
3	172121003	ANANDAGOPAL PAL
4	172121004	ANEESHA AVASTHI
5	172121006	ANSHUMAN NIGAM
6	172121007	APARAJITHA KARTHIKEYAN
7	172121008	ARINDAM SAHA
8	172121009	BARNABHA BANDYOPADHYAY
9	172121010	BHUPESH YADAV
10	172121011	DHARMENDRA SINGH SAMOTA
11	172121016	JITENDRA JOSHI
12	172121017	KAUSHALYA KUMARI
13	172121018	KIRAN YADAV
14	172121019	KRISHNENDU PATRA
15	172121020	KULDEEP SINGH CHIKARA
16	172121021	MAHENDER SEHRAWAT
17	172121022	MAHIPAL SINGH RATHORE
18	172121023	MANISH KUMAR
19	172121024	MANODIP ROUTH
20	172121025	MASH HOOD. N. K
21	172121026	MD AFSAR REJA
22	172121027	MD SADDAM HUSSAIN
23	172121028	MODASSER HOSSAIN
24	172121030	MOUSUMI JANA
25	172121031	MUHAMMED SHAFEEQUE
26	172121032	NISHANT MOTLA
27	172121034	RAHULDEB ROY
28	172121035	RAJNANDAN SINGH RAJPUT
29	172121037	RIPPU KAMDAK
30	172121039	SANDEEP KUMAR

31	172121040	SANJAY SHUKLA
32	172121041	SHIVANAND BASAPPA
33	172121042	SIDDHARTHA KARMAKAR
34	172121044	SOUMEN KUMAR MANNA
35	172121045	SUBHODEEP DEY
36	172121048	SWARUP KANTI SARKAR
37	162121016	BRAJESH KUMAR
38	162121031	KUSHAL CHAKRABORTY

List of students who have fulfilled the requirements for award of M.Sc. degree in Chemistry

Sl. No.	Roll No.	Name
1	172122001	AKASH RANA
2	172122002	ALISHA KAMRA
3	172122003	AMAR SARKAR
4	172122004	ANIMESH GHOSH
5	172122005	ANKAN KUMAR SARKAR
6	172122006	ANKIT DHANKHAR
7	172122007	ANKITA MONDAL
8	172122008	ASHAWARI DEWRI
9	172122009	ASHISH KUMAR MAZUMDAR
10	172122010	ASHWINI KUMAR
11	172122011	BARNALI MONDAL
12	172122012	DEBASMITA PAUL
13	172122013	DEEPAK KUMAR PATEL
14	172122014	DEVAYANI SUNIL. P. P
15	172122017	GAURAV YADAV
16	172122018	GOURAB SAHA
17	172122019	HEMANT KUMAR
18	172122020	KARAN MUTREJA
19	172122021	KOMAL KUMARI
20	172122022	KUNIKA GUPTA
21	172122023	MD WASIM NAWAJ
22	172122024	MEGH MONDAL
23	172122025	MOINUL HAQUE SAHANA
24	172122026	NANDA KISHORE ROY
25	172122027	NANDINI SARASWATI
26	172122028	NEMICHAND SHARMA
27	172122029	NIKHIL GUPT
28	172122031	PARAS YADAV
29	172122032	PIYALI MAHAPATRA
30	172122033	PRAVESH TRIPATHI

31	172122036	RIPAN MONDAL
32	172122037	ROHAN JENA
33	172122038	SARUPA ROY
34	172122039	SHRUTI DUTT
35	172122040	SIMARJEET KAUR
36	172122041	SOHINI SAHA
37	172122042	SOUNAK GHOSH
38	172122044	SRESHTHA CHAKI
39	172122045	SUBAL MONDAL
40	172122046	SUBHAJIT GHOSH
41	172122047	SUBHASIS DATTA
42	172122048	SUMAN
43	172122049	SUNIL KUMAR PATEL
44	172122050	TRIPTI MISHRA
45	162122013	IMTIAZ POSWAL
46	162122034	SATYAJIT PATRA
47	162122037	SHUBHAM SOM

List of students who have fulfilled the requirements for award of M.Sc. degree in Mathematics and Computing

Sl.	Roll No.	Name
1	172123001	AAKASH
2	172123002	AANAND KUMAR
3	172123003	ABHISHEK KUMAR SHARMA
4	172123007	ASHISH URANKAR
5	172123008	BITTU KUMAR KESHRI
6	172123009	DEEPA ANTONY
7	172123010	DIVYANSHU RAJ
8	172123011	HARI PRASAD
9	172123012	HIMANSHU PANDEY
10	172123013	HIMANSHU RAI
11	172123015	KUMAR ABHINAV MISHRA
12	172123018	MANIMUGDHA SAIKIA
13	172123021	NITISH SHUKLA
14	172123023	PANKAJ KUMAR YADAV
15	172123024	PANKAJ PATEL
16	172123025	PRABIR CHAKRABORTY
17	172123028	PUSHKAR SINGH
18	172123030	RAGHVENDRA KUMAR
19	172123034	ROHAN SEN
20	172123035	RONIT NEOGY
21	172123037	SAHIL SAREEN

22	172123038	SHABNAM
23	172123039	SHWET NISHA
24	172123040	SUBHRAJYOTI BHATTACHARYYA
25	172123043	SWAPAN JANA
26	162123003	ABHINAY VERMA
27	162123008	ANUPAM KUMAR PANDEY
28	162123010	ASHOK KUMAR SHARMA
29	162123021	MATAP SHANKAR
30	162123029	PAYAL KASHYAP
31	162123032	RAMBABOO KHATANA
32	162123041	SATVEER SINGH
33	162123042	SATYANISHTHA
34	162123048	SUBHRADIP KUNDU

List of students who have fulfilled the requirements for award of M.A. degree in Development Studies

Sl.	Roll No.	Name
1	172241002	ABHISHEK BHATIA
2	172241003	AMRIT ANAND
3	172241006	ANUBHAV SHANKAR GOSWAMI
4	172241009	CHAYANIKA DAS
5	172241010	DEBASHREE HAZARIKA
6	172241011	DEBAYAN HAZRA
7	172241012	DEDCHUNG NARZY
8	172241013	DEEP JYOTI MAHANTA
9	172241015	HEMPHI TERANGPI
10	172241017	JAYASANKAR JAYARAJ
11	172241018	JUSRINGDI DIBRAGEDE
12	172241020	MERLYN MARIA ANTONY
13	172241022	MUHAMMAD IQBAL KK
14	172241023	NAMRATA GOGOI
15	172241024	NG SOURAV SINGHA
16	172241025	PARTHA PRATIM BASUMATARY
17	172241026	PRANAB KUMAR PEGU
18	172241027	PRASHANT KUMAR
19	172241028	PRATYUSH PARAS SARMA
20	172241030	RAJA PRIYATHAM TANGIRALA
21	172241031	RASHMIREKHA PANDIT
22	172241032	ROSHNI BRAHMA
23	172241033	SAJAL
24	172241034	SHUBHAM SACHAN
25	172241035	SRIJANI ROY

26	172241036	SURESH NASKAR
27	172241037	SWARN RAJAN
28	172241038	THANGJAM RISHIKESH SINGH
29	172241039	VIKAS UPADHYAY
30	172241040	VIRAJ MAHESH VIBHUTE

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Computer Science and Engineering

Sl.	Roll No.	Name
1	154101028	PRATEEK YADAV
2	164101003	ABHINAV ANSHUMAN
3	164101010	RAHUL SHARMA
4	164101012	SIBARPIT CHANDAN
5	164101013	RAHUL KUMAR
6	164101023	PIYUSH SINGHAL
7	164101029	ADITYA GAURAV
8	164101048	SUNIT KUMAR NANDI
9	174101004	SORTHIYA PARTH MAN-SUKHBHAI
10	174101006	NADAPANA ASHWANI
11	174101007	RAJESH KUMAR JHA
12	174101011	AYUSHI MATHUR
13	174101015	HEMACHANDRA KUMAR PAKA
14	174101017	ANUJ SHARMA
15	174101018	SUVARIYA AMIT ASHOKBHAI
16	174101019	SACHIN KUMAR MADDHESH-IYA
17	174101020	AKHILESH YADAV
18	174101023	ARPITA YADAV
19	174101025	SUBHA BANERJEE
20	174101026	INDU KUMARI
21	174101027	SYED ZAINUL AABIDIN
22	174101028	TANMOY MONDAL
23	174101029	PANKAJ KUMAR KAUSHIK
24	174101030	MD ZAKI ANWER
25	174101032	ABHINAV ARORA
26	174101034	SAMUJJAL DAS
27	174101035	SALIHUNDAM BABY SAISAMEERA
28	174101040	ISHITA
29	174101042	PRASITA MUKHERJEE
30	174101043	KRISHNA KUMAR

31	174101046	BHUPENDRA SAKWAR
32	174101054	SHAH VIRAL BHARAT
33	174101057	AVINASH YADAV

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Computer Science and Engineering with specialization in Theoretical Computer Science

Sl. No.	Roll No.	Name
1	164101107	ONGFA WAKHET

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Electronics and Electrical Engineering with specialization in Signal Processing

Sl. No.	Roll No.	Name
1	164102073	SENGAR VIJAY RAGHVENDRA SINGH
2	164102086	SUSMIT BHATTACHARYA
3	164102089	SUMIT KUMAR
4	164102090	DEBASISH JYOTISHI
5	164102093	SHIVENDU TIWARI
6	164102095	SHANKHANIL MITRA
7	164102113	SHASHIKANTH KOTAKONDA
8	164102115	GAURAV SHAKYA
9	164102125	TIKESHWAR LAHRE
10	164102127	TENZING THARPA TOTPA
11	164102128	ABHISHEK KUMAR ANTONY
12	164102129	YANGZING LHAMU LEPCHA
13	174102040	SHIV KUMAR TIWARI
14	174102052	KAMALESH SINGH
15	174102053	SHASHWATA GUPTA
16	174102054	GAURAV KUMAR MISHRA
17	174102055	ARUP KUMAR PAL
18	174102056	AMRISH KUMAR
19	174102057	SOMJIT BHOWMICK
20	174102059	PULAMANI BARMAN

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Electronics and Electrical Engineering with specialization in VLSI

Sl.	Roll No.	Name
1	164102074	ANUPAL DEKA
2	164102081	GAURAV AGGARWAL
3	164102119	SRINU NAIK MUDAVATHU
4	174102025	RANENDRA KUMAR SARMA
5	174102028	RAJU AGARWAL

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Electronics and Electrical Engineering with specialization in Communication Engineering

Sl. No.	Roll No.	Name
1	164102050	SANJIB MOG
2	164102072	GK THIYAGASUNDARAM
3	164102091	NAVEED ANJUM
4	164102098	AYUSHMAN SARMA
5	164102099	FAHAD KHAN
6	164102103	ABHISHEK KUMAR
7	164102104	VIPUL CHETNARAYAN MISHRA
8	164102105	GORAKHIYA PARTH HAS-
9	164102106	DUBEY VINAYKUMAR VIJAY-
10	164102118	PIDIDI SUSHMITHA PRIYA
11	164102122	GOURAB FOUZDER
12	164102123	SHYAMSUNDAR JHA
13	164102137	RAJ KUMAR
14	164102138	KARTHIK SANA
15	164102139	BALLA VIJAY BHARGAV
16	174102014	DEEPAK SHARMA
17	174102022	AKANKHYA SARMAH
18	174102041	MOHAN KUMAR SARANGI
19	174102043	RONAK LALANI
20	174102044	ADITI SATSHEEL SAPRE
21	174102050	BIPLAB SENGYUNG

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Electronics and Electrical Engineering with specialization in Power and Control

Sl.	Roll No.	Name
1	164102079	RANJEET SINGH RAJPUT
2	174102034	PRIYA PANDEY
3	174102037	ADITYA AGRAWAL

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Electronics and Electrical Engineering with specialization in RF and Photonics

Sl.	Roll No.	Name
1	164102132	PRIYANKA
2	164102133	GAGAN DEEP SINGH
3	164102134	DHRITIMAN DUTTA BARUAH
4	164102135	PRIYA PRITAM PANDA
5	164102140	SUDHIR KUMAR MEHER
6	164102142	SREENI P

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Mechanical Engineering with specialization in Machine Design

Sl.	Roll No.	Name
1	164103001	CHITRANJAN GOEL
2	164103002	SASANKA KAKATI
3	164103003	ABHINAV SHEKHAR
4	164103004	SONU KUMAR SINGH
5	164103005	SAGAR K
6	164103006	SOUVIK KARMAKAR
7	164103011	ABHAY MISHRA
8	164103017	SAHIL NARWAL
9	164103018	DEEPAK KUMAR
10	164103022	KAILASH
11	164103023	ABDUL SOIF ABDUL MALEK SHAIKH
12	164103027	HAFIZ MAYEEN
13	164103028	RAJA RAM BHAGAT
14	164103029	TALABHAKTULA SASI KIRAN
15	164103031	NEVILLE MAIBANGSA
16	164103032	BIPUL BRAHMA
17	164103040	ANKUR PANT
18	164103042	KUMAR GAURAV
19	164103056	MANJEET RAJ

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Mechanical Engineering with specialization in Fluids and Thermal Engineering

Sl.	Roll No.	Name
1	164103037	KHANDHAR NIHAL VIPULBHAI
2	164103038	ARNAB GHOSH
3	164103041	DONGARE AVINASH PANDIT
4	164103048	VISHAL SETHI
5	164103051	PARASH JYOTI MISHRA
6	164103055	ARVIND KUMAR
7	164103059	BASTAV BORAH
8	164103060	NANDAM SREE VEERA BHARAT KUMAR
9	164103061	SANU MODI
10	164103068	SUMAN MAJI
11	164103069	SHASHIKANT ROY
12	164103071	PANKAJ BORO
13	164103072	SAURABH DHRUW
14	164103073	ALISHA DAIMARI
15	164103074	RAMCHANDRA KUMAR
16	164103079	NITIN DHASMANA
17	164103087	INDRAJEET PANDIT
18	164103101	NITESH KUMAR
19	164103115	ASHUTOSH KUMAR SINGH
20	164103119	DIPANKAR CHETIA
21	164103124	ABDUL KAYUM MANSOORI
22	164103125	JITENDRA KUMAR
23	164103126	ABHISHEK KUMAR JAISWAL
24	164103127	KHEDKAR KAUSTUBH MANIK
25	164103128	NIRMAL KUMAR
26	164103129	VIKASH KUMAR
27	174103012	RIDDHIMAN SAIKIA
28	174103066	KALULE RAMANZANI
29	174103083	MD SHOAB AAMIR
30	174103090	AJITESH KALLA
31	174103093	NAVEEN KUMAR
32	174103095	DEEPAK KUMAR YADAV
33	174103101	SHIVJI PRASAD YADAV
34	174103109	SUMIT KUSHWAHA
35	174103110	KALYAN MAL RANWA
36	174103127	GAGAN CHANDRA DAS

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Mechanical Engineering with specialization in Computer Assisted Manufacturing

Sl. No.	Roll No.	Name
1	164103083	NANDAN KANAN DAS
2	164103090	SHENDE ANKITA KISHOR
3	164103092	ALFA GURIA
4	164103131	VISHAL KUMAR SINGH
5	164103134	PRASANTA KUMAR DAS
6	164103135	VISHNU NAIR
7	164103136	PORIJITA SARMA
8	164103139	KUKREJA GIRISH HARESHKU-
9	164103140	KISHOR PATOWARY
10	164103142	ANUPAM KUMAR
11	164103143	PRNOT KUMAR
12	164103144	AKASH KUMAR DAS
13	164103150	DIPANKAR SAHA
14	164103151	ABHISHEK BHARDWAJ
15	174103067	ARPIT TRIPATHI

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Mechanical Engineering with specialization in Computational Mechanics

Sl.	Roll No.	Name
1	164103145	RUCHA MILIND PENDSE
2	164103147	ANIT SEN
3	164103148	JOSHI LALIT GOVIND
4	164103149	ANJO JOHN
5	164103154	G. VINEETH
6	164103159	DIPANKAR BORA
7	164103160	YASIR AHMED
8	174103140	SHUBHAM KUMAR KUSHWAHA
9	174103143	MILIND SURESH RAMTEKE

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Mechanical Engineering with specialization in Aerodynamics and Propulsion

Sl. No.	Roll No.	Name
1	174103103	PRASOON
2	174103104	SHOBHIT KUMAR SINGH
3	174103136	ABHINAY RAWAT
4	174103141	MANDEEP SAINI
5	174103142	JAY PATEL

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Structural Engineering

Sl. No.	Roll No.	Name
1	164104001	PIYUSH KUMAR
2	164104003	ARIF SARDAR
3	164104004	AHAMED FIDHA SAID
4	164104009	KADIYAM VENKATA KRISHNA
5	164104013	PRABATH. P
6	164104014	PRITOM KUMAR THAKURIA
7	164104015	HUMAYUN REJA
8	164104016	OMMI VENKAT HARISH
9	164104017	VIMLESH KUMAR
10	164104018	JUJJAVARAPU KIRAN KUMAR
11	164104020	TANVEER SINGH
12	164104021	PRINZA PRIYA LOYING
13	164104022	TORI BASAR
14	164104026	V ABHISHEK
15	164104049	PAWAN KUMAR
16	164104108	NABAJIT SARKAR
17	174104032	BHATT DEEP PARESHKUMAR
18	174104076	AHMAD ALMAMO
19	174104082	SUVENDU PARIDA

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Water Resources Engineering and Management

Sl.	Roll No.	Name
1	164104056	PRAJNA PARMITA
2	164104057	JYOTI TAPARIA
3	164104058	ADHADUK MAYANK KISHOR-BHAI
4	164104060	DIPTO DEB
5	164104063	ABHISHEK CHAKRABORTY
6	164104067	KOKKILIGADDA GAN-GADHAR
7	164104068	ATUL JAISWAL
8	164104070	SHASHI KANT
9	164104071	RIDDICK KAKATI
10	164104122	OM PRAKASH VATS

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Geotechnical Engineering

Sl. No.	Roll No.	Name
1	164104023	KALLAM NAVEEN REDDY
2	164104030	MOHAMMAD SAFIK KHAN
3	164104031	MALAVIKA CHANDRAN
4	164104032	DINESH KUMAR VERMA
5	164104036	PRASATH S B
6	164104037	DHARMENDRA BARMAN
7	164104040	SEEMA PEGU
8	164104062	SUMAN HALDAR
9	164104089	DEEPAK PATWA
10	174104078	MELETETSEGA GASHAW
11	174104093	NAYAAB MITTAL
12	174104095	MANNE MANOJ KUMAR
13	174104099	KISHORE KUMAR GHOSH
14	174104104	SHUBHAM MALU
15	174104105	SHREYAS S K
16	174104106	BHARAT RATTAN

List of students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Environmental Engineering

Sl. No.	Roll No.	Name
1	164104066	HIMANSHU SONKESHARIYA
2	164104083	SAURABH AHUJA
3	164104086	BHUPENDRA NAUTIYAL
4	164104087	RAHUL DUTTA
5	164104088	NEELDIP BARMAN
6	164104091	BARUN KANOO
7	164104093	VIPASHA MAHOLIA
8	164104132	MOHD SHARIQ

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Transportation Systems Engineering

Sl.	Roll No.	Name
1	164104041	RAJAT TANEJA
2	164104054	HARIPRASAD T M
3	164104055	BRIGHT STAR WELL LYNSHING
4	164104090	KANAM NAGARAJU
5	164104092	GHAZALI RAHMAN
6	174104035	ANKUSH KUMAR

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Infrastructure Engineering and Management

Sl.	Roll No.	Name
1	164104073	ARPIT SHUKLA
2	164104076	AYUSHI SHARMA
3	164104078	HIMANSHU VERMA
4	164104079	JAMIYA BASUMATARY
5	174104073	ABDUL BASIR
6	174104074	SAYED JAMALUDDIN SADAT
7	174104075	NARDOS SHEFERAW TEKLE-GIORGIS

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Civil Engineering with specialization in Earth System Science and Engineering

Sl.	Roll No.	Name
1	164104097	ABHISHEK DIXIT
2	164104098	KATE RUTUJA RAMESH
3	164104099	L CHANDRASEKHAR REDDY
4	164104100	ARNAB KUMAR PAL
5	164104102	SOURAV KUMAR

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Biotechnology

Sl.	Roll No.	Name
1	164106002	ABHISHEK ROY
2	164106004	AJIT KUMAR
3	164106005	AKHIL R
4	164106019	RAKESH KUMAR SINGH

5	164106022	SADOKPAM SHREEKANT
6	164106024	SARANSH SHUKLA
7	174106001	POULOMI ADHIKARI
8	174106002	V S PAVAN KUMAR
9	174106003	MONALISHA GHOSH DAS-TIDAR
10	174106005	JYOTI PRASAD KAKATI
11	174106009	VIKKURTHI RAJESH
12	174106010	S. MANOJ KUMAR
13	174106011	KUMAR GAURAV
14	174106012	BHARAT BHUSHAN
15	174106018	BISWARANJAN JENA
16	174106023	SHALINI SHOKEEN
17	174106024	NETHI JYOTHIRMAI
18	174106025	NAYAN MANI BANIA
19	174106028	SUJASHA GHOSH
20	174106035	CHHAVI BANSAL
21	174106036	MOHANAPRIYA N
22	174106038	IMNANARO
23	174106040	KAMLESWAR C
24	174106041	PAUSHALI MUKHERJEE
25	174106043	GHADIR NOFAL
26	174106048	DIPANJALI SAHA
27	174106049	GAURANG DILIP GURJAR
28	174106050	MONISHA V
29	174106053	HARSHINI SP
30	174106054	FERRIN ANTONY
31	174106055	JYOTI YADAV
32	174106056	HIRAKJYOTI ROY
33	174106057	GLORY BASUMATA

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Chemical Engineering with specialization in Petroleum Science and Technology

Sl. No.	Roll No.	Name
1	164107002	MURTAZA PIAR
2	164107004	HARPAL SINGH
3	164107005	VARSHA PANDEY
4	164107006	AKSHAY BANDOPANT KUL-
5	164107007	ROHIT KUMAR

6	164107008	JANARDAN SINGH
7	164107010	PRASHANT TYAGI
8	164107011	SWARNOTPAL KASHYAP
9	164107016	NAVNEET MISHRA
10	164107018	MRIGENDRA SWAROOP PATEL
11	164107020	SANKHULA LOKESH
12	164107021	PARMITA ROY
13	164107022	BHARAT SINGH
14	164107024	CHANDRODAI AGARKOTI
15	164107025	MANOJ KUMAR BERIYA
16	164107027	PREETI SINGH
17	164107028	RAVINDER KUMAR
18	164107029	JOY PATAR
19	164107030	SHYAMOLI HAZARIKA
20	164107038	NEILADRI SEKHAR RAY
21	164107040	RICHA GUPTA
22	164107042	PRASFUTITA PAUL
23	164107043	SHRIKANT KASHYAP
24	164107044	AGAM BISHT
25	164107054	MAMLESHWAR KUMAR
26	174107005	ADHWARSHU BHATTACHARYYA
27	174107029	SUBHRADIP GHOSH

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Chemical Engineering with specialization in Materials Science and Technology

Sl.	Roll No.	Name
1	164107031	SUNNY SINGH
2	164107032	PRIYANUJ BHUYAN
3	164107034	SOURAV PRATIM KASHYAP
4	164107037	SOORAJ MOHAN P
5	164107045	KULDEEP SHARMA
6	164107049	ROHIT AGARWAL
7	164107055	RUPAK BHOWMIK
8	164107057	MITHILESH PASAWAN
9	164107060	SOURADIP CHOUDHURY
10	164107061	CHEVULA MOUNIKA
11	164107062	MRITUNJOY ROY
12	164107064	BANALATA KAIBARTA

List of the students who have fulfilled the requirements for the award of the M.Tech. degree in Rural Technology

Sl. No.	Roll No.	Name
1	164154006	ANKIT SONI
2	164154008	SHINJINI PAUL CHOUDHURY
3	164154010	SURANJIT BASUMATARY
4	174154007	SHIRWALKAR RAMA AVINASH
5	174154008	SAJID ALI
6	174154011	ARCHANA PRASAD

List of the students who have fulfilled the requirements for the award of the M.Des. degree in Design

Sl. No.	Roll No.	Name
1	174205001	ADARSH RAJ SHAH
2	174205002	ADEEBA IFRAH
3	174205003	AMANDEEP VERMA
4	174205004	ASHISH SHARMA
5	174205005	BALAPRASANTH S
6	174205006	BHARAT NARAH
7	174205007	BHAVNA NAGPAL
8	174205008	BITOPAN KALITA
9	174205010	HIMANSHU SHARMA
10	174205012	JYOTIRMOY DAS RABHA
11	174205013	LALANA BATHINA
12	174205014	LATIKA JINDAL
13	174205015	MANASH PRATIM BORAH
14	174205016	PAYAL MANOHAR MADKE
15	174205017	PRAKHAR VINYAS
16	174205018	PRATHYUSHA SAJJA
17	174205019	PREETHAM CHANDRA BANDARU
18	174205020	RAKHI KUMARI
19	174205021	RASHIDA KHATOON
20	174205022	RUPESH KUMAR SUDHANSHU
21	174205023	SUBHRAJIT DATTA
22	174205024	SUNANDA SAHU
23	174205025	SURYA RAVEENDRANATH
24	174205026	VISHAKHA GAUTAM

List of the students who have fulfilled the requirements for the award of the M.S. (R) degree in Energy

Sl. No.	Roll No.	Name
1	164351003	PRASHIK TULSIDAS BOBADE
2	164351004	HIMANSU SAHOO
3	164351006	KALIM UDDEEN
4	164351010	TUSHAR SHARMA
5	164351011	RESHMI DAS
6	164351013	RAHUL TIWARI
7	164351014	PAULAMI SARKAR
8	174351004	NIHARIKA GOGOI
9	174351014	ANKIT SINGH
10	174351006	SAPTASWA BISWAS

List of students who have fulfilled the requirements for award of Ph.D. degree in Computer Science and Engineering

Sl. No.	Roll No.	Name
1	09610106	Amrita Bose Paul
2	11610110	Lalatendu Behera
3	11610113	Amit Kumar Srivastava
4	126101003	Basant Subba
5	136101005	Mohit Kumar
6	136101006	Manojit Ghose
7	146101014	Bala Prakasa Rao Killi

List of students who have fulfilled the requirements for award of Ph.D. degree in Electronics and Electrical Engineering

Sl. No.	Roll No.	Name
1	08610209	Om Prakash Singh
2	10610218	Pavan Kumar Manchi
3	10610224	Deepak Joshi
4	10610230	Vinay Kumar Pandey
5	11610202	Karam Singh
6	11610211	Arghya Chakravarty
7	11610225	Sonali Biswas

8	11610227	Bhoopal Rao Gangadari
9	11610229	Gaurav Kumar Yadav
10	11610233	Harikrishna Veldandi
11	11610237	Jiss J. Nallikuzhy
12	11610241	Babita Jajodia
13	11610242	Satyabrata Dash
14	126102002	Venkata Ramana
15	126102018	Ripudaman Singh
16	126102027	Sameer Sadashiv Pawanekar
17	126102030	Jitendra Prajapati
18	136102001	Pawan Kumar
19	136102004	Sunil Dutt
20	146102009	Vivek Venugopal

List of students who have fulfilled the requirements for award of Ph.D. degree in Mechanical Engineering

Sl. No.	Roll No.	Name
1	10610304	Polash Pratim Dutta
2	10610325	Borad M Barkachary
3	11610303	Daya Shankar
4	11610319	Chilaka Ravichandra Rao
5	11610321	Jyoti Kumar Doley
6	11610336	Debarshi Mallick
7	126103008	Subrat Kotoky
8	126103018	Chandan Kumar
9	126103023	Milan Krishna Singha Sarkar
10	126103029	Arun Kumar Kadian
11	126103039	Besufekad Negash Fetene
12	136103018	Susanta Behera
13	136103019	Mukul Parmananda
14	136103020	Kishor Kumar Gajrani
15	136103021	Vinod Pandey
16	136103029	Woldetinsay Gutu Jiru
17	136103040	Soumya Ranjan Nanda
18	136103041	Saurabh Bhardwaj
19	136103042	Nada Barakat
20	146103001	Bukke Kiran Naik
21	146103008	Ramesh Kumar
22	146103018	Rapur Janani Shruti
23	146103023	Manash Pratim Borthakur
24	146103024	Binita Nath

25	146103026	Siddesh Desai
26	146103027	Hiranya Deka
27	146103036	Snehasish Panigrahy
28	146103038	Menelik Walle Mekonen

List of students who have fulfilled the requirements for award of Ph.D. degree in Civil Engineering

Sl. No.	Roll No.	Name
1	10610402	Atop Lego
2	11610401	Jumrik Taipodia
3	11610409	Amit Kumar Rathi
4	126104003	Kulkarni Vihangraj Vijaykumar
5	126104004	Tanmoy Kumar Deb
6	126104008	Sreya Dhar
7	126104012	Subhadeep Chakrabarti
8	126104014	Shreedevi Moharana
9	126104018	Abhay Gopalarao Tawalare
10	126104019	Trishna Choudhury
11	126104021	Leichombam Sophia
12	126104026	Rakhee Das
13	126104036	Smrati Jain
14	126104037	Suchit Kumar Patel
15	136104005	Sudheer Kumar Yamsani
16	136104007	Rana Acharyya
17	136104008	Dooradarshi Chatterjee
18	136104023	Yagom Gapak
19	146104005	Sulaem Musaddiq Laskar
20	146104008	Madhu Lisha Pattanaik
21	146104016	Sagarika Patowary
22	146104022	Olympa Baro
23	146104032	Veluchamy C.
24	146104034	Shovan Kumar Sahu
25	146104038	Uttam Puri Goswami
26	156104004	Mayur Shirish Jain
27	156104005	Kunwar Raghvendra Singh
28	156104012	Bandita Barman
29	156104014	Gaurav Goel
30	156104031	Basuraj Bhowmik

List of students who have fulfilled the requirements for award of Ph.D. degree in Design

Sl. No.	Roll No.	Name
1	08610506	Nishant Sharma
2	136105001	Subhajit Chandra
3	136105002	Anmol Srivastava
4	136105003	Subir Dey
5	136105006	Mohammad Shahid
6	136105008	Shilpi Bora
7	136105011	Alon Weiss
8	146105010	Ravi G. Lingannavar

List of students who have fulfilled the requirements for award of Ph.D. degree in Biosciences and Bioengineering

Sl. No.	Roll No.	Name
1	10610605	Nand Kishor Roy
2	11610627	Prakash Kishore Hazam
3	126106001	Babina Chakma
4	126106004	Praveen Kumar Jadi
5	126106005	Mohd. Ziauddin Ansari
6	126106009	Anuma Singh
7	126106012	Rahul G. Shelke
8	126106017	Manishekhar Kumar
9	126106018	Sandipan Mukherjee
10	126106034	Monisha Javadi
11	126106037	Mohd Faheem Khan Engineering
12	126106038	Anuj Kumar Singh
13	136106003	Rakesh Kumar
14	136106004	Reshmi Das
15	136106007	Padmavathi G
16	136106013	Neha Arora
17	136106020	Arindam Sinharoy
18	146106020	Abshar Hasan
19	146106023	Ishani Chakrabartty
20	146106028	Devivasha Bordoloi

List of students who have fulfilled the requirements for award of Ph.D. degree in Chemical Engineering

Sl. No.	Roll No.	Name
1	126107014	Rupesh Verma
2	126107023	Bhaskar Jyoti Medhi
3	126107035	Sudarshan Konidena
4	126107036	Raj Kumar Das
5	136107003	Badri Vishal
6	136107007	Basudhrity Banerjee
7	136107008	Babul Prasad
8	136107011	Shasanka Sekhar Borkotoky
9	136107020	Randeep Singh
10	136107023	Geeta Kumari
11	136107042	Anand Mohan Verma
12	146107003	Ranjeet Kumar Mishra
13	146107004	Murchana Changmai
14	146107022	Kulbhushan Samal
15	146107023	Sadhana Kumari
16	146107027	Rahul Saha
17	146107028	Rima Biswas
18	146107032	Mood Mohan
19	146107033	Prince Kumar Baranwal
20	156107037	Belachew Zegale Tizazu

List of students who have fulfilled the requirements for award of Ph.D. degree in Physics

Sl.	Roll No.	Name
1	11612109	Ramakrishna Madaka
2	11612113	Himangsu Bhaumik
3	11612114	Kamal Jyoti
4	11612116	Sandeep Sharma
5	11612117	Gyan Prakash Bharti
6	11612118	Biplob Sarkar
7	11612120	Arnab Kumar Das
8	11612121	Nitin Yadav
9	126121001	Abhijit Kumar Saha
10	126121003	Md Ramiz Aktar
11	126121010	Bibhuti Bhusan Dash

12	126121014	Biswaranjan Das
13	126121015	Anabil Gayen
14	126121019	Venkanna Kanneboina
15	126121028	Ram Kumar
16	136121001	Pankaj Saha
17	136121002	Bijita Sarma
18	136121007	Sk Noor Nabi
19	136121011	Srimoy Bhattacharya
20	136121015	Sangkha Borah
21	136121017	Priyadarshini Kapri
22	136121019	Rajkumar Modak
23	136121020	Camelia Das
24	136121028	Kamal Kumar Paul

List of students who have fulfilled the requirements for award of Ph.D. degree in Chemistry

Sl. No.	Roll No.	Name
1	126122006	Keshab Mondal
2	126122007	Surajit Haldar
3	126122011	Radhakrishna Gattu
4	126122015	Saurav Paul
5	126122025	Shilaj Roy
6	126122032	Anindya Sundar Patra
7	126122033	Manashjyoti Deka
8	126122039	Arvin Sain Tanwar
9	136122001	Sabyasachi Pramanik
10	136122006	Raghunath Bag
11	136122007	Subhankar Panda
12	136122008	Ganesh Chandra Paul
13	136122009	Soumendra Nath Mukhopadhyay
14	136122011	Dhriti Mahanta
15	136122014	Ahalya Behera
16	136122015	Mohammad Shaad Ansari
17	136122016	Mahmuda Khannam
18	136122022	Ravindra Kumar Gupta
19	136122026	Balaram Pradhan
20	136122027	Aparajita Phukon
21	136122030	Srinivasa Rao Manne

22	136122034	Arup Tarai
23	136122036	Sujit Sarkar
24	136122037	Buddhadeb Mondal
25	136122039	Jyoti Chandra
26	136122042	Anju Modi
27	146122002	Rana Dalapati
28	146122027	Ashalata Roy
29	146122028	Utsab Manna
30	146122030	Srestha Basu
31	156122014	Prasenjit Sau

List of students who have fulfilled the requirements for award of Ph.D. degree in Mathematics

Sl. No.	Roll No.	Name
1	126123007	Naba Kanta Sarma
2	126123012	Sougata Biswas
3	126123013	Jayanta Borah
4	126123016	Swarup Barik
5	126123020	Balasubramani N
6	136123001	Ramesh Prasad Panda
7	136123003	Madhusudan Bera
8	136123007	Maneesh Kumar
9	136123008	Tamal Pramanick
10	136123009	Pratibha Shakya
11	136123013	Koyel Chakravarty
12	156123014	Biplab Paul
13	166123105	Chiranjit Ray

List of students who have fulfilled the requirements for award of Ph.D. degree in Humanities and Social Sciences

Sl. No.	Roll No.	Name
1	10614103	Hemanta Kumar Saud
2	10614118	Dhrubajyoti Malakar
3	11614115	Ratan Deka
4	126141001	Bhasker Pegu
5	126141002	Nabanita Mitra
6	126141007	Chandita Baruah
7	126141012	Manaswita Bharadwaja

8	126141013	Arfan Hussain
9	136141012	Bankerlang Kharmyliem
10	146141001	Vinit Ghosh
11	146141027	Manali Karmakar

List of students who have fulfilled the requirements for award of Dual Degree (M.Tech. + Ph.D.) in Computer Science and Engineering

Sl. No.	Roll No.	Name
1	10615302	Jitendra Kumar
2	11615302	Amit Kumar Singh

List of students who have fulfilled the requirements for award of Ph.D. degree in Energy

Sl. No.	Roll No.	Name
1	126151002	Asha Yadav
2	126151003	Garima Srivastava
3	126151008	Arup Jyoti Borah
4	136151005	Sharbani Kaushik
5	136151007	Shyamali Sarma
6	146151009	Mrutyunjay Maharana
7	146151011	Ritesh Satyanarayanji Malani

List of students who have fulfilled the requirements for award of Ph.D. degree in the Environment

Sl. No.	Roll No.	Name
1	11615204	Praisyl Terangpi
2	126152005	Narendra Naik Deshavath
3	136152003	Lalit Goswami
4	146152012	Visva Bharati Barua

List of students who have fulfilled the requirements for award of Ph.D. degree in Nanotechnology

Sl. No.	Roll No.	Name
1	10615302	Jitendra Kumar
2	11615302	Amit Kumar Singh
3	126153005	Shyam Trivedi
4	126153007	Upashi Goswami
5	136153001	Mitradip Bhattacharjee
6	136153006	Ujjwol Barman
7	136153007	Deepanjalee Dutta

PROGRESS OF CONSTRUCTION WORKS

Sl. No.	Works	Cost of works (` in lakhs)	Physical progress		Total progress upto 31.03.2020		Remarks
			Up to 31.03.19	During 2019-2020	Physi- cal	Financial (` in lakhs)	
1.	Hostel Building						
	Boys' Hostel 11 1152 capacity with 34785 sqm floor area)	9665.03	75%	10%	85%	883.92	580 rooms are completed and under occupation. Remaining works is expected to be completed by March 2021.
2	Academic Complex						
a)	(Phase – V) DoD, CSE, Physics, Chemical Engg, HSS, Mathematics, And Centre for Nano Technology. (19045 sqm floor area)	6944.74	98%	--	98%	5975.75	Due to fund crunch & Covid 19 the work was stopped from June 2019. The work has resume shortly.
b).	Academic Phase VI (CET building) (6559.00 sqm)	3272.00	--	5%	5%	101.47	Out of 404 piles 259 piles have been installed leading to 65% completion of piling work.
3.	Residential Building						
a)	F-Type (Phase-V)	13686.00	15%	8%	23%	2416.00	Tower 1: Foundation work completed, Parking floor slab completed, work is in progress above parking floor. Tower 2: Foundation work completed, Parking floor work is in progress. Tower 3: Foundation work completed, Parking floor slab completed, work is in progress above parking floor. Tower 4: Piling work 100% completed, Foundation work is 50% completed

4.	Boundary wall Phase-V (3.9 Km)	2340.79	75%	15%	90%	2465.00	Out of 3900 Rm, 3506 Rm completed. Construction of additional 250 Rm boundary wall in the southern part of the campus was also done in this contract. The work is expected to be completed within October 2020.
5.	Dormitory for Guest House (2155 sqm floor area)	488.86	80%	15%	95%	375.19	All works completed except few site development works and minor finishing works. The building is presently taken over by DDMA and is being used as quarantine facility due to Covid-19 pandemic. After evacuation by DDMA the final finishing can be completed.
6.	Estate Office (3000 sqm floor area)	1011.51 RE= 1105.16	80%	20%	100%	888.59	The building (G+2) has been completed and both the Engineering and Maintenance section has been shifted and started functioning from this building since August 2019.
7 .	Research Park(19663 sqm floor area)	5299.26	--	25%	25%	1196.95	Piling work completed and substructure work completed

SUMMARY OF INSTITUTE ACCOUNTS

BALANCE SHEET AS AT 31ST MARCH 2020

SOURCES OF FUNDS	Schedule	Current Year	Previous Year
CORPUS/CAPITAL FUND	1	12,93,62,80,254	13,01,95,45,615
DESIGNATED/ EARMARKED / ENDOWMENT FUNDS	2	1,59,66,49,620	1,25,34,98,929
CURRENT LIABILITIES & PROVISIONS	3	4,94,85,21,850	4,26,23,69,308
TOTAL		19,48,14,51,723	18,53,54,13,853

APPLICATION OF FUNDS	Schedule	Current Year	Previous Year
FIXED ASSETS	4		
Tangible Assets		12,33,43,85,989	11,17,08,26,161
Intangible Assets		8,70,64,128	5,58,19,395
Capital Works-In-Progress		2,13,86,30,488	3,04,63,14,070
INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	5		
Long Term		70,07,53,075	65,63,20,113
Short Term		-	-
INVESTMENTS - OTHERS	6	62,32,07,345	58,27,35,161
CURRENT ASSETS	7	2,98,98,52,092	2,52,41,03,124
LOANS, ADVANCES & DEPOSITS	8	60,75,58,605	49,92,95,830
TOTAL		19,48,14,51,723	18,53,54,13,853

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

Particulars	Schedule	Current Year	Previous Year
INCOME			
Academic Receipts	9	45,22,31,549	2,51,69,754
Grants / Subsidies	10	3,65,19,31,792	3,09,87,00,000
Income from investments	11	10,32,49,834	4,35,09,149
Interest earned	12	1,83,94,487	4,61,659
Other Income	13	10,04,46,956	6,29,45,446
Prior Period Income	14	9,91,852	42,346
TOTAL (A)			
EXPENDITURE			
Staff Payments & Benefits (Establishment expenses)	15	2,06,90,34,768	1,62,86,78,402
Academic Expenses	16	94,58,25,696	83,03,81,342
Administrative and General Expenses	17	47,59,49,047	39,33,18,752
Transportation Expenses	18	2,40,93,450	2,87,60,382
Repairs & Maintenance	19	62,04,42,204	49,45,30,055
Finance costs	20	26,08,663	18,26,579
Depreciation	4	67,65,24,673	71,15,06,827
Other Expenses	21	-	-
Prior Period Expenses	22	5,93,78,293	1,79,37,977
TOTAL (B)			
Balance being excess of Income over Expenditure (A-B)		(42,78,53,740)	(87,61,11,961)
Transfer to / from Designated Fund			
Earmarked / Endowment Funds		(10,41,56,156)	-
Capital Fund		2,00,00,000.0	-
Utilization OF IRG (HEFA and others)		(24,83,77,543)	-
Balance Being Surplus / (Deficit) Carried to Capital Fund		(76,03,87,439)	(87,61,11,961)

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

[Amount in ₹]

RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year
I. Opening Balance			Expenses		
a) Cash Balances	2,55,000	2,61,000	a) Establishment Expenses	1,75,90,28,545	1,39,69,49,482
b) Bank Balance	-	-	b) Academic Expenses	78,03,41,509	65,11,42,287
i. In Current accounts	65,87,07,158	12,13,34,355	c) Administrative Expenses	2,62,45,474	75,14,135
ii. In Savings accounts	1,78,02,63,892	1,29,10,80,944	d) Transportation Expenses	12,45,541	12,69,991
iii. In Deposit accounts	-	-	e) Repairs & Maintenance	5,64,200	1,62,153
Grants Received			f) Prior period expenses	17,455	16,98,557
a) From Government of India	4,20,35,12,652	3,61,04,50,443	g) Finance Cost	32,857	1,03,357
b) From State Government	-	-	Payments against Earmarked/ Endowment Funds	6,16,11,367	93,07,02,800
c) From others	-	-	Payments against Sponsored Projects/Schemes	1,69,42,46,091	-
d) Grants in aid receivable for 16-17 received during the year	-	-	Payments against Sponsored Fellowships/Scholarships	3,15,67,489	2,75,52,947
			Investments and Deposits made		
III. Academic Receipts	69,48,48,407	54,68,83,192	a) Out of Earmarked/ Endowments funds	3,05,68,097	4,98,00,000
Receipts against Earmarked/ Endowment	11,35,60,164	16,03,86,293	b) Out of own funds (Investments- Others}	-	29,00,00,000
Receipts against Sponsored Projects/	1,53,58,68,582	-	Term Deposits with Scheduled Banks	2,79,41,000	43,99,19,617
Receipts against sponsored Fellowships and Scholarships	3,59,24,630	5,78,40,505	Expenditure on Fixed Assets and Capital Works - in-Progress		

	RECEIPTS	Current Year	Previous Year		PAYMENTS	Current Year	Previous Year
VII.	Income on Investments from				a) Fixed Assets	11,82,844	17,94,653
	a) Earmarked/Endowment funds	1,24,04,661	3,24,04,723		b) Capital Works- in- Progress	-	-
	b) Other investments	5,92,72,589	2,41,87,895	VIII.	Other Payments including statutory payments	1,24,31,29,278	2,07,64,37,927
VIII.	Interest received on						
	a) Bank Deposits	-	1,18,31,774	IX.	Refunds of Grants	-	-
	b) Loans and Advances	78,865	12,10,87,831	X.	Deposits and Advances	1,88,57,33,487	3,15,99,81,645
	c) Savings Bank Accounts	1,82,29,094	1,38,47,188	XI.	Other Payments	71,41,407	40,70,66,470
IX.	Investments encashed	27,79,53,544	81,78,50,344	XII.	Closing balances		
X.	Term Deposits with Scheduled Banks encashed	3,27,08,432	79,39,63,761		a) Cash in hand	2,54,000	2,55,000
XI.	Other income (including Prior Period Income)	37,440	83,18,818		b) Bank balances		
XII.	Deposits and Advances	14,89,67,137	2,46,38,26,825		In Current Accounts	2,39,50,63,873	65,87,07,158
XIII.	Miscellaneous Receipts including Statutory Receipts	83,88,24,373	89,28,85,401		In Savings Accounts	52,20,37,102	1,78,02,63,892
XI V	Any Other Receipts - Fixed Asstes/ Direct-Indirect expenses	5,65,34,995	91,28,80,778		In Deposit Accounts	-	-
	TOTAL	10,46,79,51,614	11,88,13,22,069		TOTAL	0,46,79,51,614	11,88,13,22,069



Indian Institute of Technology Guwahati
Guwahati - 781039, Assam, India
Phone: +91361 2584000
Fax: +91361 2690762
Website: www.iitg.ac.in
Email: peeroff@iitg.ac.in



<http://www.facebook.com.iitgwt/>



<http://twitter.com/IITGuwahati/>



<http://www.linkedin.com/school/iitg>



<http://www.instagram.com/iitgwt/>