ANNUAL REPORT
2016-17

भारतीय प्रौद्योगिकी संस्थान रोपड़

INDIAN INSTITUTE OF TECHNOLOGY ROPAR

IIT ROPAR : AT GLANCE

DEPARTMENTS & CENTRES

Departments	:	9
Centers	:	2

STUDENTS ADMITTED IN AY 2016-17

UG Programme	:	151
PG Programme	:	49
PhD	:	85

STUDENTS STRENGTH

UG Programme	:	508
PG Programme	:	89
PhD	:	224

NUMBER OF DEGREE AWARDEES

B.Tech.	:	118
M.Tech.	:	2
M.Sc.	:	18
PhD	:	6

FACULTY & STAFF STATISTICS

Faculty	:	102
New Joining	:	32
Staff	:	67
New Joining	:	1

RESEARCH PRODUCTIVITY

Journals	:	179
Conference	:	81
Book Chapters	:	3

ICSR

Number of Consultancy Projects	:	5
Outlay	:	0.21 Crore
Number of Sponsored Research Projects	:	24
Outlay	:	11.66 Crore

GRANTS (in Crores)

DST	:	5.30
DRDO	:	0.61
CSIR	:	0.36
UAY-MHRD	:	3.32
IMPRINT Scheme	:	1.71
Others	:	0.36
Total	**:**	**11.66**


A dream
destination for
Engineers &
Technology
leaders of
tomorrow
- IIT ROPAR

CONTENT

From the Director Desk

IIT Ropar is entering its 10th year of existence. Starting at IIT Delhi in 2008, IIT Ropar moved to its transit campus at Ropar in 2009. Its own new campus is under construction and its first phase is almost ready for occupation. Within the next couple of months we will begin to move to our new campus. As a precursor to that, we have moved a contingent of our students to a second transit campus in the premises of the leased building of NIELIT just adjacent to our new campus. In the past few years IIT Ropar has awarded Under-Graduate, Post-graduate and Doctoral degrees. This academic year the institute has started taking steps to increase its student strength with an eye to achieve desired strength of 2500 by 2019 as prescribed by MHRD. Currently the institute has 651 UG, 173 PG and 288 PhD students which is an increase of almost 24% from the last academic year.

Although the present transit campus is equipped with a large number of teaching and research facilities, we are moving even faster to acquire state-of-the-art equipment for training our students and scholars in the new campus. The most important ingredient of an academic infrastructure is its faculty strength. Over the last two years IIT Ropar has increased its faculty strength from 65 to 113 taking extraordinary measures such as recruitments abroad with a team visiting UK, Canada, US, Singapore and Australia during 2016-17. In the current year we have started our Chemical Engineering program with an intake of 25 students and the post graduate Biomedical Engineering program with the intake of 10 students. The institute is actively considering in starting Materials Engineering program in the coming year. The current academic session has also seen large increase in all the UG (B.Tech.) programs where our admissions increased from 155 to 260 this year. We have also started M.Tech. program in Electrical Engineering and Computer Science Engineering this year.

Apart from the physical expansion, we have concentrated our efforts towards improving the quality of education and research. Our new curriculum which is based on strong fundamentals, hands-on experience and societal needs has come into operation from this year. We have given our teaching efforts the special care for the students, right from their admission through a uniquely designed induction program for the UG admitting students.

IIT Ropar looks at research as one of its major strengths and goals. I take the pleasure and pride of announcing that till date IIT Ropar has got the highest number of citations per publications (CPP) among the 8 new IITs established in 2008 which is an indicator of its quality of research. To promote this, we have taken conscious steps in supporting researchers. Our aim is to promote better quality and impactful research rather than just increasing the volume of research. To bring out this IIT Ropar has taken a conscious decision to promote risky and difficult research problems giving the young researchers the opportunities to fail rather than playing safe by doing incremental research.

IIT Ropar has adopted a new mission, vision and a strategic plan. This has been adopted with an exercise in collaboration with IIM Kolkata in which a large number of stakeholders including faculty, students, staff, external agencies and individuals took part. It is now our endeavor to implement our strategic plan to be the best among the institutes in the new millennium. This year IIT

Ropar received a creditable 21st rank in Engineering category and 32nd rank in the Overall category where our performance in teaching and learning, outreach and research were commendable. With the new efforts taken for expansion and quality consciousness, we look forward for better performance in the years to come.

IIT has forged some significant collaboration with universities such as Cardiff University, UK, University of Ontario Institute of Technology, Canada, The State University of New York at Binghamton, New York, Technische Universitat Darmstadt, Germany, Simon Fraser University, British Columbia, Canada, etc. through a uniquely designed summer visitation program. 9 Faculty members from IIT Ropar visited reputed labs of the world during the last summers which were completely supported by the institute. We hope this will give a boost to research efforts of the institute. The interactions with industries and external funding opportunities have increased for the institute significantly during the last year. We look forward for further expansion of the activities.

In fine, our institute has entered an exciting phase of expansion with an eye towards defining its position as a globally competitive unique institution in the country. It looks forward for contributing to the society and to the Nation through uniquely designed research by looking at the local problems such as water resources, soil utilization, renewable energy, sustainable manufacturing and affordable healthcare. The institute is on the verge of moving to its new campus which will provide a bigger canvas for painting a bright future in which we can fulfill dream defined by the motto of our institute.

धियो यो नः प्रचोदयात्

(Deploy our intellect on the right path)

Jai Hind

Prof. Sarit K. Das
Director

THE INSTITUTE

Vision Mission

Motto: धियो यो नः प्रचोदयात् (Deploy our intellect on the right path)

Mission: To foster a transformative learning environment and a culture of excellence enabling creation of knowledge and development of socially responsible, enterprising leaders contributing significantly to national progress and humanity.

Vision: To be a trendsetter among the technology universities born in this millennium.

Executive Summary

Indian Institute of Technology Ropar started functioning from the academic year 2008-09 from the campus of IIT Delhi, our mentor institute. The Institute currently operates from the premises of Government Polytechnic College for Women in Ropar. The foundation stone laying ceremony for the permanent campus was held on February 24, 2009. In a few months, the institute will be relocated to its own campus, spread over an area of 500 acres on the banks of the river Satluj.

The Indian Institute of Technology Ropar is being placed at 21st rank amongst engineering institutes and 32nd in overall institutes in the latest national rankings. IIT Ropar is committed to provide state-of-the-art technical education in a variety of fields. The Institute is facilitating transmission of knowledge in keeping with the latest developments in pedagogy. At present, the Institute offers Bachelor of Technology at UG level in Computer Science and Engineering, Electrical Engineering, Mechanical Engineering and Civil Engineering programmes and Chemical Engineering ; M.Sc.-MS (R), MS- (R), M. Tech., and M.Sc. at PG level in Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, Physics, Chemistry and Mathematics. In research, all departments are offering PhD Programmes. The Institute has two inter-disciplinary centers on Biomedical Engineering and Materials & Energy Engineering.

Four batches of undergraduate students have earned their B.Tech. Degrees in the Convocation. In addition, IIT Ropar has awarded several PhD degrees. Presently the Institute has 508 UG, 89 PG and 224 PhD students. The temporary campus for IIT Ropar is equipped with all the required facilities. Classrooms fitted with multimedia, faculty offices and administrative wing are all in place. There are four hostels: three for boys and one for girls. These hostels are equipped with modern dining facilities. Faculty recruitment, creation of laboratories and other support facilities are in full swing. The new campus is under construction and is moving at a fast pace. Campus construction is expected to be completed by mid- 2018. The overall academic system for IIT Ropar is designed to provide science-based engineering education with a view to produce quality engineers and scientists. The curriculum provides broad based knowledge and simultaneously builds a temper for lifelong learning and exploration. The undergraduate programme begins with a set of science and general engineering courses which are reflected in the course plan for the first year. These courses provide a foundation for further discipline-specific topics. The Institute also undertakes a number of research and consultancy projects sponsored by a wide spectrum of funding agencies, including the Government and Industry.

The Institute has undertaken major research activities in areas of national importance such as non-conventional energy, sensors, drug delivery, materials synthesis and their modification, image processing, cloud computing, networks, robotics, pattern recognition, renewable energy systems, microelectronics and nanodevices, mathematical biology, fluid dynamics, pure mathematics, quantum optics and quantum control, soft matter physics, ion beam physics, renewable energy, nanophotonics and metamaterials, surface patterning, sustainable energy, biomechanics, nanofluids, complex fluids, nanocomposites, neuro-cognition, financial mathematics and markets, phonetics, computational fluid dynamics, scientific computing, biophysics, biomass conversion processes, catalysis and chemical reaction engineering, geotechnical engineering, structural engineering, geotechnical engineering, structural engineering, Water resources & hydraulics engineering, geomatics, remote sensing & GIS etc. The Institute provides adequate funds to the departments and faculty members for the upgradation of laboratories and creation of research facilities. This has enabled our faculty to take up research projects in frontier areas of science and technology.

IIT Ropar's research fraternity puts immense emphasis on promoting cutting edge research useful for the country. There are 224 PhD scholars in the Institute last year. 6 PhD scholars have successfully defended their thesis and 85 scholars have joined the PhD programm. This year, as many as 193 papers have been published in various high-impact international journals and the Average Citation Per Paper (ACPP) is 5.96 as per 2016 SCOPUS data. Several sophisticated research equipment have been procured since last year, which regularly cater to a large number of institutions in and around Punjab.

IIT Ropar has hosted several workshops and conferences on Next Generation Laser Technology, Light Matter Interaction, Neutrinoless Double Beta Decay, Advanced Semiconductor Packaging, Differential Equations, etc. and hosted Research Days in the departments of Physics and Mathematics.

For the interaction with the International Universities, an academic tour was organized in 2016. The institute is connecting to International Universities and Research Laboratories in order to develop strong academic and research collaborations. For achieving this, several MoUs have been signed with institutes and companies like The State University of New York at Binghamton, New York, Cardiff University, UOIT, Canada, Sardar Swaran Singh National Institute, National Backward Classes Finance and Development Corporation, Sutlej E-Motive LLP. IIT Ropar delegation visited 8 Universities in UK, US to conduct offshore Faculty interviews and interaction with the Indian diaspora in the form of NRI meet.

The Institute taken initiatives in GIAN Programme. Till date, the institute has conducted five GIAN Courses successfully. Faculty strength has increased from 62 to 102 within the last year due to many faculty recruitment drives in India and offshore.

The Training & Placement cell is actively involved in organizing practical training of the undergraduate students and has been playing a catalytic role in finding placements for its final year students. As a result 83% of the students were placed which includes 83% of Computer Science and 80 % of Electrical and Mechanical Engineering both with the average package of 11.5 lakhs per annum in reputed companies.

A good number of summer internship opportunities were also offered to the students in 2016 by national as well as international organizations. Eleven students of the B.Tech. 2013 entry batch have secured summer internship in prestigious universities/organizations such as University of Southern California (Viterbi), Virginia Tech University, TU Darmstadt, TU Dresden (DAAD), TU Muenchen (DAAD), RWTH Aachen (DAAD), Ruhe University Bochum, Loughbrough University, Hong Kong University of Science & Technology to name a few.

The faculty members of IIT Ropar are actively engaged in various research projects funded by the institute and external funding agencies. Since its inception, research projects have been sponsored to faculty members of the Institute by different funding agencies like DST, CSIR, DRDO, DAE, RuTAG etc. Presently the Institute is running 28 projects with an outlay of Rs. 11.66 crores from April 2016 to March 2017.

IIT Ropar has undertaken the task of redefining its vision and mission and to put a strategic plan to achieve them. It is actively working on overhauling its UG curriculum and introducing new PG courses. In fine, it can be said that IIT Ropar is in the path of a steep growth in the years to come.

A Brief History - Ropar

The town of Ropar (also known as Rupnagar) is of great historical importance. The excavations carried out at Rupnagar have proved that this town was the seat of well developed Indus Valley Civilization. In proto - Historic Punjab, perhaps Rupnagar is the only known excavation site which can claim the status of a small town or city. The founds in recent excavations consists of earthen bares, statues, coins etc. The city dates back to Harrappa - Mohanjodharo civilization located east of Satluj river. The excavated artifacts belong to Chandra Gupta, Kushan, Hoon and Mughal period. Ropar is nested on the foothills of the Shivalik ranges. The weather of Ropar is generally dry with four distinct seasons. It experiences hot summers & cold winters. The city is very close to Sri Anandpur Sahib - The birth place of Sikhism & several scenic hill stations of Himachal Pradesh.

Ranking

In the recently released National Institutional Ranking Framework (NIRF) for 2017 by the Ministry of Human Resource Development, Indian Institute of Technology (IIT) Ropar has improved in the parameter of Outreach and Inclusivity (OI). The institute has also made its place in the top five new IITs as per the rankings. The institute has improved score in Outreach and Inclusivity parameter showed that the institute promoted regional diversity, international outreach, as well as gender inclusivity.

The institute also promoted inclusion of students from economically and socially challenged sections and physically challenged students. The institute is being placed at 21st rank among engineering institutes and 32nd in overall ranking was an achievement for the institute which is only nine years old.

IIT Ropar has improved in comparison to last year and has scored the best in the parameter of

OI. The institute had scored in the parameter 105th rank last year and moved to 11th this year. The National Institutional Rankings Framework (NIRF) is an indigenous ranking framework for higher educational institutions started in 2015-16 by MHRD. The institutes are ranked on various parameters which assess teaching, learning and resources, research and professional practices, graduation outcome, outreach and inclusivity and perception about an institution.

Indian Institutes of Technology are premier institutions for engineering education and research. Currently there are 23 IITs at Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati, Roorkee, Hyderabad, Patna, Bhubaneshwar, Ropar, Jodhpur, Gandhinagar, Indore, Mandi, Varanasi, Tiruppati, Palakkad, Goa, Jammu, Dharwad and Bhilai.

Board of Governors

CHAIRPERSON

Padmashree (Mrs.) Lila Poonawalla
(Chairperson, BoG, IIT Ropar)
Former CMD Alfa Laval-Tetra Pak India
Chairperson Lila Poonawalla
Foundation
Fili Villa, 101/102, Survey No. 23,
Balewadi Baner, Pune-411 045, MH

MEMBERS

Prof. Sarit Kumar Das
Director
Indian Institute of Technology Ropar

Shri Sarvesh Kaushal, IAS
Chief Secretary to Government of Punjab
Room No. 28, 6th Floor
Punjab Civil Secretariat
Chandigarh - 160 001

Prof. N. Sathyamurthy
Director
Indian Institute of Science Education and
Research Mohali
Knowledge City, Sector 81, SAS Nagar
Manauli PO - 140 306, Punjab

Shri Chetan Pahwa
Director
Avon Ispat & Power Ltd.
G.T. Road
Ludhiana-141 014

Dr. V. Sumantran
Plot 67, 19th Street
Venkateswara Nagar
Kottivakkam,
Chennai- 600 041

Shri Sanjiv Goyal
Chairman & Managing Director
Nectar Lifesciences Ltd.
SCO 38-39, Sector 9-D
Chandigarh - 160 009

Prof. S. M. Ishtiaque
Professor
Department of Textile Technology
Indian Institute of Technology Delhi
Hauz Khas, New Delhi-110016

Prof. P. K. Raina
Dean (Academics) & Professor
Indian Institute of Technology Ropar

SPECIAL INVITEES

Ms. Tripti Gurha
Director (IITs)
Ministry of Human Resource
Development,
Department of Higher Education,
Technical Section-1, Shastri Bhawan,
New Delhi.

Prof. V. Ramgopal Rao
Director
Indian Institute of Technology Delhi
Hauz Khas, New Delhi-110 016

Prof. Javagal K. Sridhar
Chairman
Construction Management Group
Indian Institute of Technology Ropar

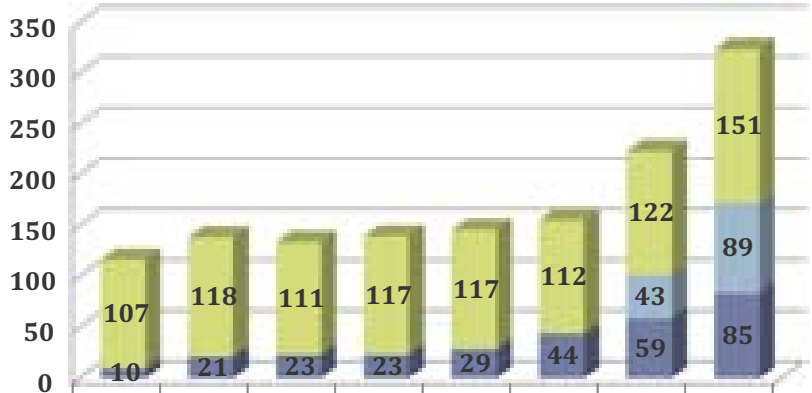
SECRETARY

Sh. Sanjay Bhatnagar
Registrar
Indian Institute of Technology Ropar

ACADEMICS

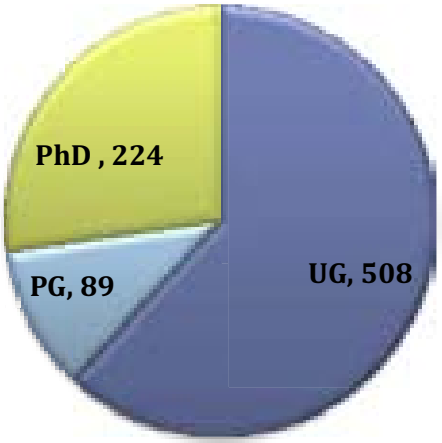
Students Statistics

Programme Wise Admissions

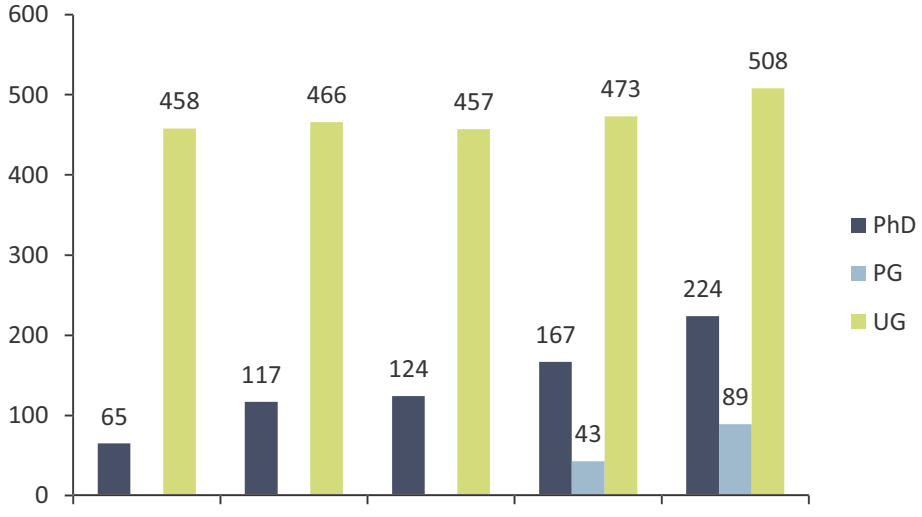


	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
UG	107	118	111	117	117	112	122	151
PG							43	89
PhD	10	21	23	23	29	44	59	85
Total	**117**	**139**	**134**	**140**	**146**	**156**	**224**	**325**

Students Strength (On Roll) 2016-17



On roll students in last five years



Programme	2012-13	2013-14	2014-15	2015-16	2016-17
PhD	65	117	124	167	224
PG				43	89
UG	458	466	457	473	508
Total	523	583	581	683	821

Students Residency Status

Year	Number	Hostel
	Undergraduate Boys	
First Year	138	Neptune (Boys Hostel)
Second Year	115	Jupiter (Boys Hostel)
Third Year	104	Mercury (Boys Hostel)
Fourth Year	112	Mercury (Boys Hostel)
	Undergraduate Girls	
First Year	12	
Second Year	6	Venus (Girls Hostel)
Third Year	8	
Fourth Year	4	
	Undergraduate Back-loggers	
Fifth Year (2012 entry)	1	Venus (Girls Hostel)
Fifth Year (2012 entry)	6	Mercury (Boys Hostel)
	Research Scholars	
Boys	67	Mercury (Boys Hostel) Sun Enclave apartments
Girls	49	Venus (Girls Hostel)
	M. Tech. / M. Sc. / MS	
Boys (Boys Hostel)	66	Mercury & Sun Enclave
Girls Hostel)	18	Venus & Q. No. 17, 18 (Girls
Total	**608 Boys & 98 Girls 706 in all hostels**	
Boys Hostels	4	
Girls Hostels	2	
Total Hostel	**6**	

Life @ IIT Ropar

Student's Activity Center

2nd Election for the Executive Council Positions of Student Council were held on August 28, 2016 under this constitution wherein one student General Secretary and four respective Board Secretaries were elected by the students.

The following are some of the activities conducted by the respective Boards under the ages of Student Affairs:

BOARD OF CULTURAL ACTIVITIES

BOCA organised/celebrated the following events:

1. Lohri & Makarsakranti is celebrated by organizing kite flying competition, boanfire and distributing sweets.
2. Literary Club organized Online Blog competition to filter the top creative writing talents of the Institute.
3. Celebrated Rashtriya Ekta Saptah by organizing series of events like, Drama, Dance, English Essay Competition, Hindi Essay Competition, Slogan Competition.
4. Celebrated Deepawali with great zeal by organizing competition like Mythology Quiz, Dance, English Play, etc.
5. Dandiya Night
6. Gandhi Jayant by organizing Fine Arts Competition, Dance event, Debate Competition etc.
7. Independence Day
8. Every month Samagam is celebrated among the boarders
9. Gudi Padwa by organizing special south Indian Lunch for students and Dinner for all boarders.
10. Eid is celebrated by organizing various cultural events and by organizing Special Dinner for all Boarders
11. Festival of Colour 'Holi' is celebrated by organizing, bonfire, traditional live music (Dhol) and special Lunch for boarders.

IIT Ropar won the second place in the D R Memorial Debate conducted by PCTE Ludhiana, which is their Annual National level British Parliamentary Debate Competition. This competition was India's biggest Inter-varsity British Parliamentary debating championship and had an active participation of about 36 teams which include teams all around the country.

The Board of Cultural Activities (BOCA) has conducted several functions, including Fresher's night and Gandhi Jayanti. BOCA encouraged students to organize various cultural events in the institute one of such mega event is Zeitgeist 2017 which takes place annually. Movie Club IIT Ropar hosts movies every week for the entertainment of the campus community.

It celebrates Annual poetic festival Rashmi with the aim to let the budding poets and connoisseurs of poetry come on stage.

The following SPIC MACAY events were organised on March 22, 2017:

1. Qwaali by Mohd Amedkhan Warsi and his troupe
2. Rajasthani Folk performance by Rahmat Khan Langa and group.

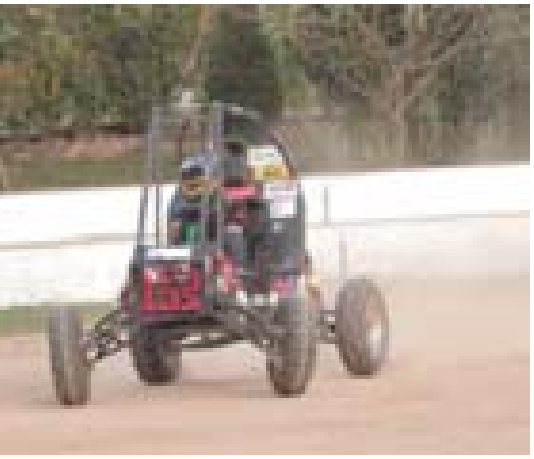
BOARD OF SCIENCE AND TECHNOLOGY

Science and Technology Clubs are set up to kindle and nurture the love for technology, each club with its own specialization and guest lectures by prominent personalities in the world of technology and science. The students can represent IIT Ropar at various national and international competitions and events, bringing laurels to the institute.

Quintessence 2017

Quintessence (Intra Institute Technical Fest, IIT Ropar) was organised by the Board of Science and Technology on the dates of November 4-6, 2016. On the day of Nov 4, Poster design(Online Event) was organised wherein students competed for the best brochure cover page for Advitiya 2017 . The major Attractions of the Event were the Technical Walk-Through, Talk by Mr. Ram Subramanian and Various other competitions organised by technical clubs under BOST.

The objective of the event 'Technical Walk-Through' is to motivate nearby school/college students towards a scientific culture. It was a great opportunity for them to come & experience cutting edge technologies, some of which are only present in few places of our country.



During the Technical Walkthrough, many Labs of our Institute were open to visitors.

Advitiya 2017

Advitiya kicked off on March 22, 2017 with inauguration whose attendees constituted stalwarts in the field of technology like Mr. Tapan Misra – Director/Distinguished Scientist of ISRO applications center and entrepreneurs like Varun Agarwal, Co-founder – Alma Mater.

Advitiya witnessed a wide range of scientific and technical activities and novel events from upcoming fields like Coding, Robotics, Finance, Design and Entrepreneurship with prizes worth as high as 4 lakh Rupees.

The fest was not only a platform for intoxicating mix of talent from colleges, but from schools and companies also by organizing a Technical Exhibition

In addition to above following events were also organised under BOST:

1. Workshop weekend was conducted by organizing workshops like Automobile & IC Engine Design, Embedded System with Arduino, Cyber Disease and Internet of things.
2. Organized Talk on How Social Media is changing the world conducted by Mr. Ram Subramanianon.
3. Organized various competitions under the ages of Quintessence like Robosoccer, Astro Treasure Hunt, Poster design, Startup workshop cum Guest Lecture, Algodoo, Counter Strike, General quiz, puzzling event, code genesis, talk show, and technical walkthrough.

IIT Ropar students also participated in BAJA SAI India event in January 2017. After the successful participation the authorities also decided to organise the same at IIT Ropar in May 2018.

The Board of Science & Technology (BOST) has conducted workshops on Android, Automobile, Androbot, Sparshbot and 3D printing, Intra college manual robot task (Robotics Club) and Monochrome Design. BOST is working towards the establishment of Centre of Innovation which

provides ample opportunities to the students in Science & Technology.

The following were conducted / participated by the students under the ages of BOST:

1. PUNJROBOTICS 2016, A two-day Robotics meet organized by PunjRobotics group in association with Robotics Club, IIT Ropar w.e.f January 16-17, 2016
2. Inter IIT Tech-Meet 2016 at IIT Mandi from January, 29 - 31, 2016. 15 students participated from IIT Ropar participated and IIT Ropar stood 1st in Tech-Quiz held during this meet.
3. Weekend workshop October 15-16, 2016 & IIT Ropar
4. Quintessence, Intra Institute Technical Gala November 5-6 , 2016

BOARD OF SPORTS ACTIVITIES

Board of Sports Activities (BOSA), IIT Ropar supports students to participate in various Inter year and Inter hostel sports activities. National Sports Organization (NSO) classes were organized from July 2016 to April 2017 for the students in various sports i.e. athletics, badminton, basketball, cricket, football, table tennis, tennis, volleyball and gym under the guidance of the professional sports coaches.

Annual Sports Fest "AAROHAN" was organized on March 22, 2017. Mr. Sandeep Singh, Arjuna Awardee and Ex-Captain Indian National Hockey Team graced the occasion as the chief guest. Around 360 players of various reputed educational institutes i.e. IIT Mandi, IISER Mohali, JUIT (Jaypee University of Information Technology), Rayat and Bahra University, PEC university of Technology, Chitkara University, IET Bhadal, Government College Ropar etc. participated in this event.

Every year in December IIT Ropar students participate in the Inter IIT Sports Meet. In the last addition of the inter IIT Sports Meet, December 2016, IIT Ropar secured 3rd position in march past, in athletics. Yoga camp (June 2016) and Sports Camp (July 2016) were also organized for the students of IIT during summer break. IIT Ropar also conducted Inter Batch Cultural Championship (IBCC), a two day mega event, where students belonging to B.Tech, M.Tech and Ph.D scholars fight tooth and nail to win the inter batch trophy. This time it also included talks by two eminent professionals named Mr. Rifat Jawaid and Mr. Ravi Naval.

Students namely Mr. Skthidasan. K, Mr. Raghav Sharma, Mr. Koustav Das and Mr. Manjunath P, participated in this years RBI Policy Challenge and there Essay "Inflation: The Inquitious Tax" have been adjudged as the best entry from this region in the RBI Policy Challenge contest duly organized by the RBI in December 2016.

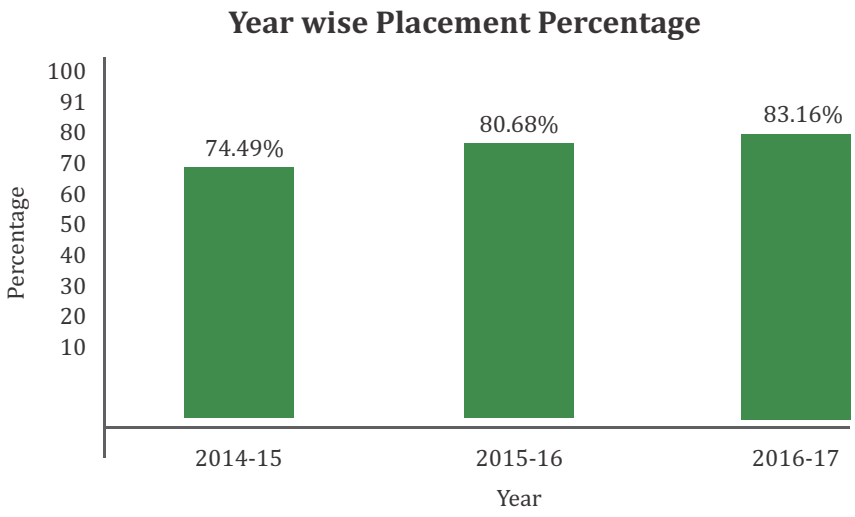
The institute has also started Innovation Club under the ages of BOST wherein the students are encouraged to participate and evolve innovative ideas for implementation.

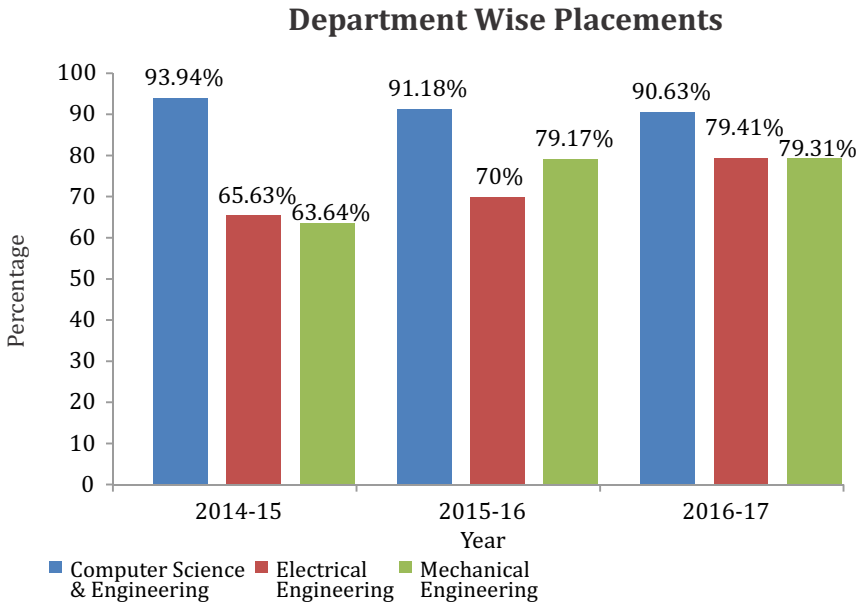
At IIT, Students relished research and extracurricular activities to grow as an aspiring engineer with moral and ethical integrity.

Placements & Internships

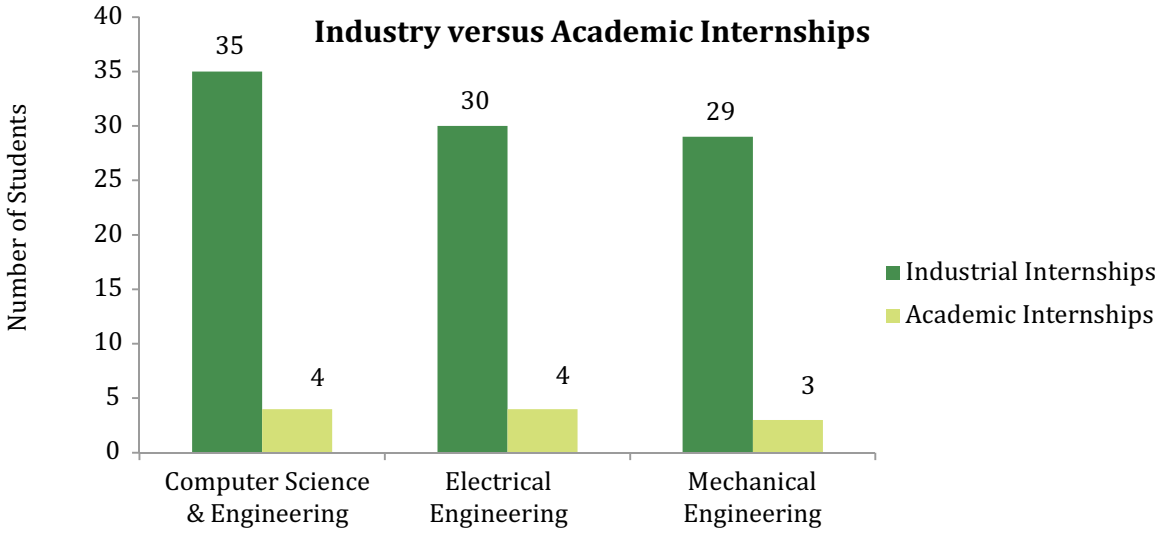
The placement results during October 2016 to March 2017 at IIT Ropar have been very encouraging. An overwhelming response from industry was seen for campus recruitment process as result of which 83% of our students were placed. More than 90% of the Computer Science students, close to 80% of both Electrical Engineering and Mechanical Engineering students have been offered positions in core-technical, consultancy and IT companies. An average package of over 11.5 lakhs per annum was offered to students this year.

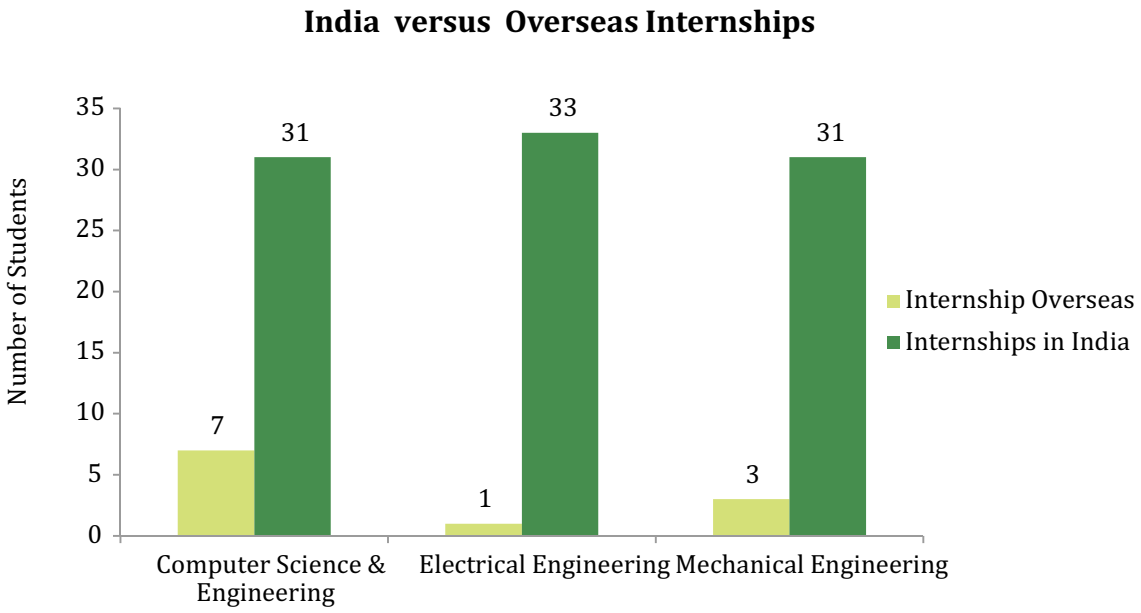
A good number of internship opportunities were also offered to the students this year by national as well as international organizations.





Breakup of internships in year 2016-17





Financial Assistance to Students

Merit cum means scholarship

The merit-cum-means scholarship is given to deserving undergraduate students. These are permissible to about 25% of the students. The present value of merit-cum-means scholarship is Rs. 1000/- per month for general students and the recipient is exempted from paying tuition fee. The criterion of merit for first year is the All India Rank in the JEE.

Institute free studentship

The Institute offers free studentship to 10% of the students on the basis of means alone.

Institute merit prizes & certificates

The Institute offers merit prizes and certificates to top 7% of the students of each 4 year B. Tech. programme for the 1st and 2nd semester. A total amount of Rs. 2500/- and a merit certificate is given to these students.

Free messing

The Institute offers the award of free messing to SC/ST students.

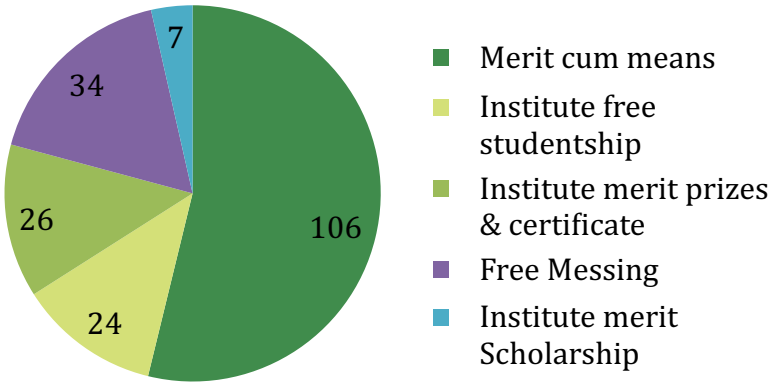
Institute Merit Scholarship

Merit Scholarship equivalent to the tuition fee paid by students having JEE (Advanced) 2016 rank not exceeding 1500 (Open category) will be awarded, who join the B.Tech. programme at IITRopar.

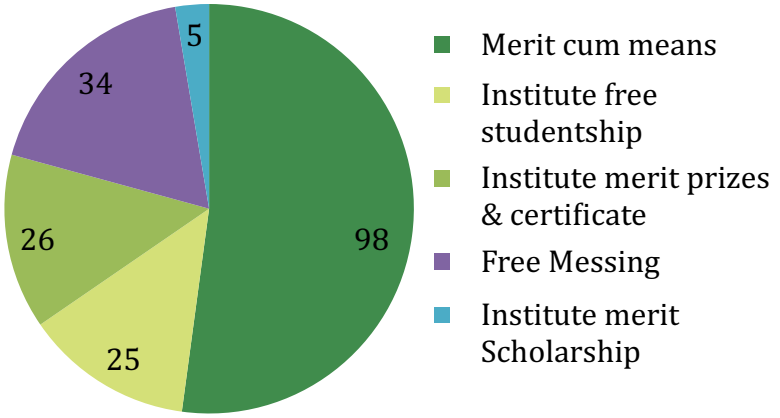
Representation chart of the different scholarships

Scholarship	Semester -1	Semester -2
Merit cum means	106	98
Institute free studentship	24	25
Institute merit prizes & certificate	26	26
Free Messing	34	34
Institute Merit Scholarship	7	5

Semester-1



Semester-2



Total amount spent on financial assistance to students = Rs. 1,28,41,011/-

Convocation 2016

The 5th convocation of IIT Ropar was held on November 21, 2016. The Chief Guest for this event was Prof. Ashutosh Sharma, Secretary Department of Science & Technology to the Government of India. He has been a Professor and Head of Chemical Engineering and founding Coordinator of Nanosciences Centre and Advanced Imaging Centre at IIT Kanpur. He was a recipient of the US Medal of Science from Pennsylvania State University. Prof Sharma has had a broad international experience as a research faculty at SUNY, Buffalo, School of Medicine. His contributions are highly interdisciplinary spanning a wide range in nanotechnology; thin film polymer films; nano-composites and devices in energy, health and environment; functional interfaces; micro/annomechanics of soft matter etc. He is an elected fellow of the Indian National Science Academy, the Indian Academy of Sciences, The National Academy of Sciences and Asia-Pacific Academy of Materials. He has published over 300 peer reviewed papers, filed over 15 patents, given over 100 invited/key note conference presentations and mentored a nanotechnology startup. The function was presided over by Ms. Lila Poonawalla, Chairperson of IIT Ropar's Board of Governors, Chairperson of Lila Poonawalla Foundation and Former CMD Alfa Laval-Tetra Pak, India.

Director Sarit K. Das presented the Institute's report that highlighted major achievements of Institute such as academics transformation, research output, infrastructure development, externally funded projects & industrial consultancy, reorganization of administration and industrial relations, international and alumni affairs etc. He concluded with congratulating the graduating students.

Chairperson BoG, Ms. Lila Poonawalla addressed the gathering congratulating the graduating students where she asked the students to follow values like honesty, integrity, consideration and humility. She also stressed that excellence is by looking at those better than ourselves. For students learning is a

continuous process and they should keep learning as they move ahead in life.

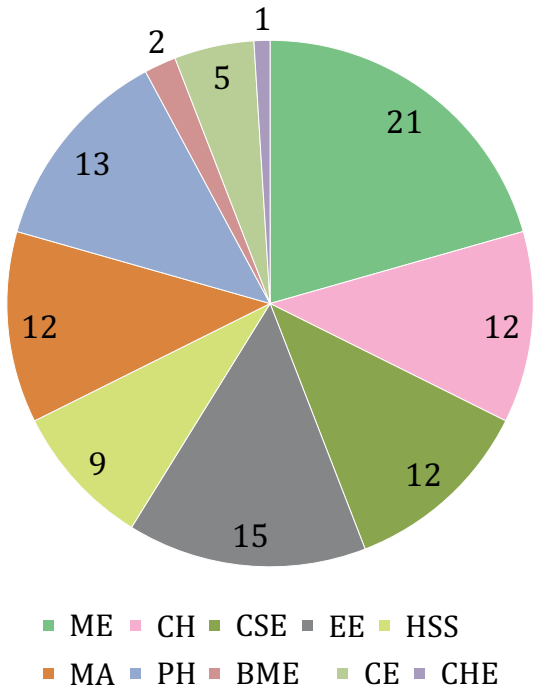
Chief Guest Prof. Sharma shared his thoughts by expressing that true knowledge is not attained by thinking. It is what you are; it is what you become. He narrated the objectives of developing IITs for imparting quality engineering education to our talented youth and how IITs have emerged as globally valued brand with their alumni as leaders in their chosen profession and businesses. He hoped that IIT Ropar will establish its mark by solving some of the complex challenges that leverage the best of global science for developing locally relevant technology solutions.

The Chief Guest's speech was followed by the award of degrees by the Chairman of the Senate. Medals were presented by the Chief Guest and the Chairperson, BoG to the meritorious students. The President of India's Gold Medal for obtaining the highest CGPA amongst the graduating students of B.Tech. in the year 2015-16 was awarded to Mr. Gaurav Mittal of the Department of Computer Science and Engineering. The Director Gold Medal for best all round performance was awarded to Mr. Amogh Agrawal of Department of Electrical Engineering. Institute Silver Medals for obtaining the highest CGPA amongst the students graduating of the B. Tech. programme were awarded to Mr. Amogh Agrawal of the Department of Electrical Engineering and Mr. Nekkanti Akhil of the Department of Mechanical Engineering.

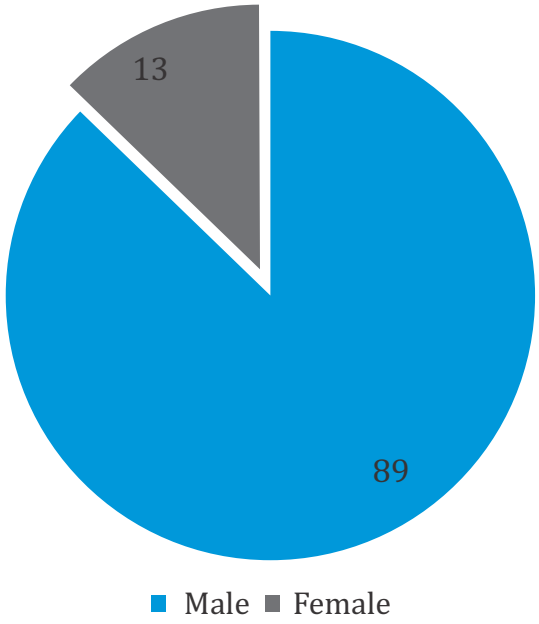
Faculty Statistics

Total faculty =102 (March 31, 2017)

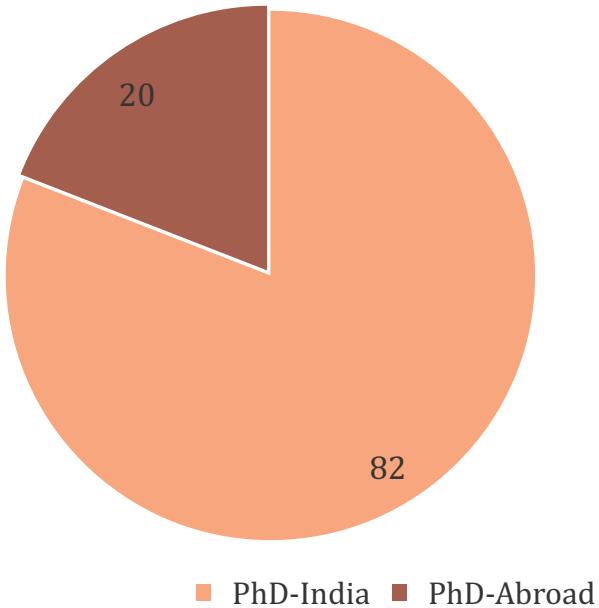
Department wise distribution of faculty



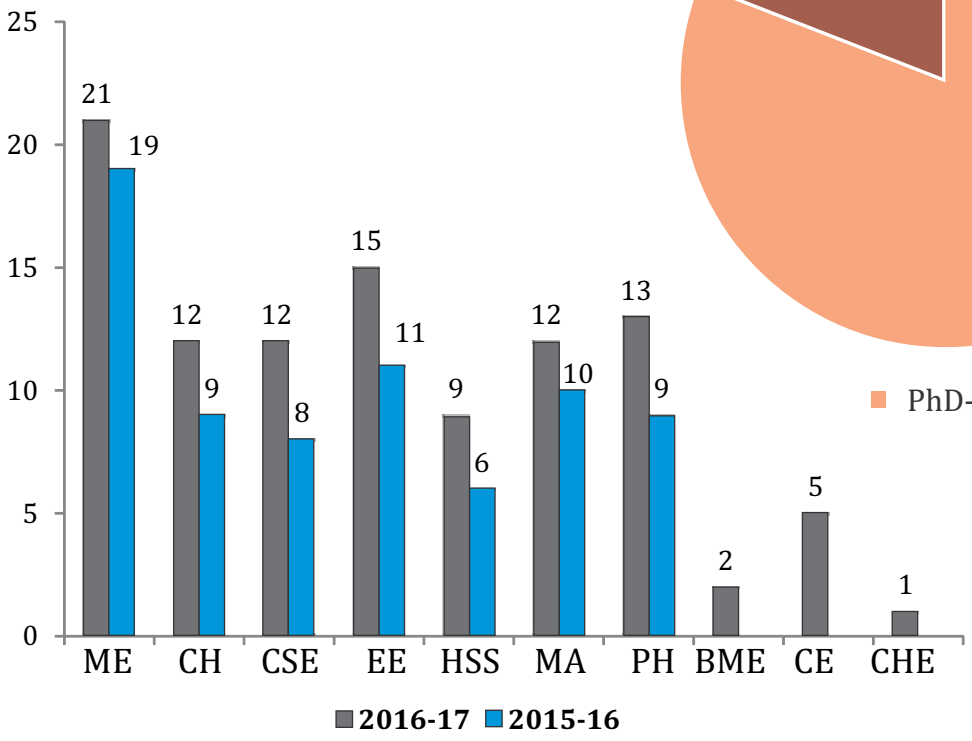
Gender wise distribution of faculty



PhD of Faculty Members



Growth of faculty



ME - Mechanical Engineering | CH - Chemistry | CSE - Computer Science & Engineering | EE- Electrical Engineering
HSS- Humanities & Social Sciences | MA- Mathematics | PH - Physics | BME - Biomedical Engineering
CE - Civil Engineering | CHE - Chemical Engineering

Faculty Joined During 2016-17

S.No.	Name of the Faculty	Designation	Department
1	Dr. Srivatsava Naidu	Assistant Professor	Bio Medical Engineering
2	Dr. Durba Pal	Assistant Professor	Bio Medical Engineering
3	Dr. Tarak Mondal	Assistant Professor	Chemical Engineering
4	Dr. Sudipta Kumar Sinha	Assistant Professor	Chemistry
5	Dr. Manoj Kumar Pandey	Assistant Professor	Chemistry
6	Dr. Indranil Chatterjee	Assistant Professor	Chemistry
7	Dr. Naveen James	Assistant Professor	Civil Engineering
8	Dr. Putul Haldar	Assistant Professor	Civil Engineering
9	Dr. Sagar Rohidas Chavan	Assistant Professor	Civil Engineering
10	Prof. Deepak Kashyap	Visiting Professor	Civil Engineering
11	Dr. Reet Kamal Tiwari	Visiting Faculty	Civil Engineering
12	Dr. Puneet Goyal	Assistant Professor	Computer Science & Engineering
13	Dr. Mukesh Kumar Saini	Assistant Professor	Computer Science & Engineering
14	Dr. Jung Hyun Jun (Peter)	Assistant Professor	Computer Science & Engineering
15	Dr. Abhinav Dhall	Assistant Professor	Computer Science & Engineering
16	Dr. Sujata Pal	Assistant Professor	Computer Science & Engineering
17	Dr. Sam Darshi	Assistant Professor	Electrical Engineering
18	Dr. Brijesh Kumbhani	Assistant Professor	Electrical Engineering
19	Dr. Hande Vinayak Gopal	Assistant Professor	Electrical Engineering
20	Dr. Suman Kumar	Assistant Professor	Electrical Engineering
21	Dr. Shruti Verma	Visiting Faculty	Electrical Engineering
22	Dr. Sreekumar Jayadevan	Assistant Professor	Humanities & Social Sciences
23	Dr. Dipanjan Kumar Dey	Assistant Professor	Humanities & Social Sciences
24	Dr. Amritesh	Assistant Professor	Humanities & Social Sciences
25	Dr. Arti Pandey	Assistant Professor	Mathematics
26	Dr. Arun Kumar	Assistant Professor	Mathematics
27	Dr. Chirodeep Bakli	Assistant Professor	Mechanical Enginering
28	Dr. Purbarun Dhar	Assistant Professor	Mechanical Enginering
29	Dr. Devranjan Samanta	Assistant Professor	Mechanical Enginering
30	Dr. Shankhadeep Chakrabortty	Assistant Professor	Physics
31	Dr. Sandeep Gautam	Assistant Professor	Physics
32	Dr. Sourav Bhattarcharya	Assistant Professor	Physics

Non-teaching Staff Joined During 2016-17

S. No	Name	Designation	Department
1	Sh. Sanjay Bhatnagar	Registrar	Administration

Department of Chemical Engineering

Programmes offered : PhD
Head of the Department : Prof. P. K. Raina

Faculty Members

Dr. Tarak Mondal
Assistant Professor
PhD (Indian Institute of Technology Delhi)
Catalysis (Heterogeneous), Reaction Kinetics and Modeling, Hydrogen Production, Biomass Conversion Processes, Renewable Energy

Department of Chemical Engineering

The Department of Chemical Engineering has been introduced by IIT Ropar from the academic year 2017-18. The newly established department is presently offering UG (B.Tech.) and PG (PhD) programs. The department has dedicated faculty members in all the major areas of chemical engineering such as Fluid Mechanics, Transport Phenomena, Thermodynamics, Catalysis and Chemical Reaction Engineering. The department is actively engaged in cutting – edge research in emerging areas like Complex Fluid Mechanics, Transport Phenomena, Thermodynamics, Scientific Computing, Dynamics of Granular Materials, Catalysis, Reaction Kinetics and Modeling, Biomass Conversion Processes, Renewable Energy and Biophysics. In addition to the conventional core courses, the department will offer state of art such as Computational Fluid Dynamics, Engineering Application of Rheology, Heterogeneous Catalysis and Chemical Reactor Design etc. The upcoming PhD programme will thrust on the traditional chemical engineering aspects.

However, the major focus areas of the department are going to be in Bio/ Micro/ Nano/ technologies of: a) Agro and Food Technologies, b) Energy and Environment Engineering and c) Soil Restoration Methods.

Department of Chemistry

Programmes offered	:	M.Sc. & PhD		
No. of Students	:	M.Sc.	:	17
		PhD	:	37
Head of the Department	:	Dr. Rajendra Srivastava		

Faculty Members

Dr. Avijit Goswami

Assistant Professor

PhD (Heidelberg University, Germany)

Synthetic organic and polymer chemistry

Dr. Debaprasad Mandal

Assistant Professor

PhD (Indian Institute of Technology Kanpur)

Organic and Organometallics chemistry

Dr. Indranil Chatterjee

Assistant Professor

PhD (Westfälische Wilhelms-University, Muenster, Germany)

Synthetic Organic Chemistry, Photoredox Chemistry, Dual Catalysis, Organocatalysis, Asymmetric Synthesis, Total Synthesis

Dr. Manoj Kumar Pandey
Assistant Professor
PhD (Indian Institute of Technology Madras)
Solid-state NMR: Methods and applications

Dr. Nagaraja C. Mallaiah
Assistant Professor
PhD (IISc. Bangalore)
Inorganic, Organometallic and Materials Chemistry

Dr. Narinder Singh
Associate Professor
PhD (Guru Nanak Dev University, Amritsar)
Nano-particles and calix[4] arene and tripodal frameworks for chemo-sensor development

Dr. Prabal Banerjee
Associate Professor
PhD (National Chemical Laboratory, Pune)
Synthetic Organic Chemistry

Dr. Rajendra Srivastava
Associate Professor
PhD (National Chemical Laboratory, Pune)
Design, synthesis, and sustainable catalytic investigation of functional nanoporous materials

Dr. Sudipta Kumar Sinha
Assistant Professor
PhD (Indian Institute of Technology Kharagpur)
Theoretical and computational physical and biophysical chemistry

Dr. T. J. Dhilip Kumar
Associate Professor
PhD (Indian Institute of Technology Madras)
Electronic Structure Calculations, Chemical Kinetics and Reaction Dynamics

Dr. Tharamani C. N.
Assistant Professor
PhD (Bangalore University)
Electrochemistry, fuel cells, nano-structured materials, electrocatalysis, metal finishing

Dr. Yashveer Singh
Assistant Professor
PhD (University of Allahabad)
Polymeric biomaterials, Targeted drug delivery, and Bioconjugate chemistry, with emphasis on HIV-1 prevention, wound healing, breast cancer, and non-small cell lung cancer (NSCLC)

Invited Lectures by Faculty

Dr. C. M. Nagaraja

- "Development of porous metal-organic frameworks for heterogeneous catalysis", TEQIP short term course on Recent Trends in Catalysis, Indian Institute of Technology Guwahati, May 13-14, 2016.
- "Development of multifunctional metal-organic frameworks for heterogeneous catalysis, Sensing and H2 storage applications" Department of Chemistry, Christ University, Bangalore, July 5, 2016.
- "Development of porous metal-organic frameworks for heterogeneous catalysis" Vellore Institute of Technology (VIT) Vellore, July 1, 2016.
- "Design of porous metal organic frameworks (MOFs) for heterogeneous catalysis" 11th Chandigarh Science Congress (CHASCON)-2017, Department of Chemistry, Punjab University, Chandigarh, March 10, 2017.
- "Metal sulfide nanomaterials and their photocatalytic applications" Siddaganga Institute of Technology (SIT), Tumkur, Karnataka, March 11, 2017.

Dr. Debaprasad Mandal

- "New Paradigm in Chemical Sciences: Synthetic and Analytical Perspectives" NPICS: SAP-2017" 9th National Seminar, Department of Chemistry, Punjabi University, Patiala, February 10, 2017.

Dr. Narinder Singh

- "Multi Functional Organic and Hybrid Nano materials and Applications" Chandigarh Engineering College, Landran, Punjab, October 17, 2016.
- "New Paradigm in Chemical Sciences: Synthetic and Analytical Perspectives" NPICS: SAP-2017" 9th National Seminar, February 9-10, 2017.
- Thapar University Patiala to conduct URB meeting, January 24, 2017.
- 20th Punjab Science Congress, IET Bhaddal Technical Campus, Ropar, February 08, 2017.

Dr. Prabal Banerjee

- "International conference on Trend Setting Innovations in Chemical Sciences & Technology-Nature Inspired Chemistry & Engineering (TSCST NICE-16)" Institute of Science & Technology, JNTUH, Hyderabad, October 4-6, 2016.

Dr. Rajendra Srivastava

- "Rational Designing of Catalysis for the Sustainable Production of Fuels and Chemicals" Indo-UK catalysis workshop, Indian Institute of Technology Madras, October 10 - November 02, 2016.
- "Ordered and disordered mesoporous zeolites: present and future prospective" 7th Asia-Pacific Congress on Catalysis (APCAT-7), ICT Mumbai and Catalysis Society of India, Hotel The Lalit, Mumbai, January 19, 2017.
- "Professor Ram Chand Paul National Symposium on Current Advances in Chemical Sciences" Department of Chemistry, Panjab University Chandigarh, February 24, 2017.

Dr. Tharamani C. N.

- "Achievements of Women in Science and Technology: Current Scenario and future Prospects" Panjab University Chandigarh, January 13-14, 2017.
- "New Paradigm in Chemical Sciences:

Synthetic and Analytical Perspectives" NPICS: SAP-2017" 9th National Seminar, Department of Chemistry, Punjabi University, Patiala, February 10, 2017.

Dr. T.J. Dhilip Kumar

- "Strategic Planning for Institution Ranking - Experience of Indian University" Higher Education Forum-2016, Elsevier, New Delhi, September 14, 2016.
- "Metal decorated BN linker in MOF as potential hydrogen storage material" Asian Consortium on Computational Materials Science, Role in Energy Research at SRM University, Kattankulatur, India, September 22-24, 2016.
- "Rotational Quenching Study in Isovalent CO and CS Collisions with H+, H and He" Theoretical Chemistry Symposium (TCS-2016), University of Hyderabad, December 14-17, 2016.
- Participated in National Academic Depository (NAD) conference in New Delhi on September 9, 2016.

Dr. Yashveer Singh

- "Polymeric and self-assembled peptide hydrogels/gels for drug delivery and wound healing applications, Frontiers in Chemical Sciences - 2016 (FICS-2016)" Department of Chemistry, Indian Institute of Technology Guwahati, Guwahati, December 8-10, 2016.
- Harmony Workshop, Indian Institute of Technology BHU, Varanasi, December 28-30, 2016.

Visits abroad by Faculty

Sr. No.	Name of the faculty member	Country	Details of visit
1.	Dr. Debaprasad Mandal	Philadelphia, USA	Presented a research work in 252 American Chemical Society National meeting, August22-29, 2016
2.	Dr. T. J. Dhilip Kumar	Cardiff University, UK	Research proposals envisioned with Prof. Peter Knowles and Dr. Timothy Easun, October 16-22, 2016
3.	Dr. TharamaniC. N.	Philadelphia, USA	Presented a research work in 252 American Chemical Society National meeting, August 22-29, 2016
4.	Dr. Yashveer Singh	Cardiff University, UK	Research proposals envisioned with Prof. Peter Knowles and Dr. Timothy Easun, October 16 – 22 , 2016

Department of Computer Science & Engineering

Programmes offered	:	B. Tech., MS(R), & PhD	
No. of Students	:	B. Tech.	: 174
		MS (R) :	06
		PhD	: 16
Head of the Department	:	Dr. Apurva Mudgal	

Faculty Members

Dr. Abhinav Dhall
Assistant Professor
PhD (Australian National University, Australia)
Computer Vision, Affective Computing and Human Computer Interaction

Dr. Apurva Mudgal
Assistant Professor
PhD (Georgia Tech, USA)
Theoretical Computer Science, Approximation Algorithms, Theoretical Robotics, Computational Geometry

Dr. Balwinder Sodhi
Assistant Professor
PhD (Indian Institute of Technology Kanpur, India)
Cloud computing, Software and its Engineering, Applied Computing

Dr. Deepti R. Bathula
Assistant Professor
PhD (Yale University, USA)
Medical Image Processing and Analysis, Pattern Recognition, Machine Learning and Computer Vision

Dr. Jung Hyun Jun
Assistant Professor
PhD (University of Cincinnati, USA)
Cyber-Physical systems, Mobile Computing, Sensor Networks, Participatory Sensing, Wireless Networks, Energy Management

Dr. Mukesh Saini
Assistant Professor
PhD (National University of Singapore)
Multimedia Systems, Visual Analytics, Surveillance, Privacy

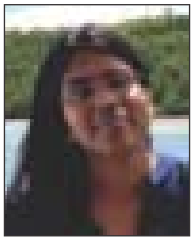
Dr. Narayanan C Krishnan
Assistant Professor
PhD (Arizona State University, USA)
Activity Recognition, Pattern Recognition, Machine Learning, Pervasive and Mobile Computing, Pervasive Health Care, Assistive and Rehabilitative Technology

Dr. Neeraj Goel
Assistant Professor
PhD (Indian Institute of Technology Delhi)
Processor architecture, SoC design and modeling, Low power design, behaviour synthesis, Reconfigurable computing and FPGAs, Retargatable code generation and compiler optimizations

Dr. Nitin Auluck
Associate Professor
PhD (University of Cincinnati, USA)
Scheduling and Resource Allocation in Parallel and Distributed Systems, Real-Time Systems

Dr. Puneet Goyal
Assistant Professor
PhD (Electrical and Computer Engineering, Purdue University, West Lafayette, IN, USA)
Electronic Imaging Systems, Image Processing, Security and Analytics

Dr. Sudarshan Iyengar
Assistant Professor
PhD (Indian Institute of Science, Bangalore)
Network Science, Theoretical Computer Science, Cryptography, Evolutionary Psychology



Dr. Sujata Pal
Assistant Professor
PhD (Indian Institute of Technology Kharagpur, India)
Mobile ad-hoc networks, Delay tolerant networks, Vehicular networks, Content centric networks, Wireless sensor networks.

Ongoing Activities

Teaching and Research in various aspects of Computer Science and Engineering.

Thrust Areas

Parallel and distributed computing
Approximation algorithms
Image processing and pattern recognition
Computational geometry
Cloud computing and software architecture
Performance modeling
Cryptography
Machine learning and artificial intelligence
Network science
Sensor networks
Computer Architecture

Facilities

3 UG labs, 2 PG labs, Department server, HPC facility (Central Facility)

Invited Lectures by Faculty

Dr. S R. Sudarshan Iyengar

- "Flip Teaching: The coming age personal universities" Hans Raj Mahila Maha Vidyalaya College, Jalandhar, April 27, 2016.
- "Skillset Distribution for Accelerated Knowledge Building in Crowdsourced Environments" Indian Institute of Technology Madras, June 10, 2016.
- "Crowdcomputing, The generation next" National Institute of Technology, Kurukshetra, June 27, 2016
- "Diffusion: Information Cascades, Epidemics and Knowledge Networks" ICTCS Bangalore, June 28, 2016.
- "Crowdsourced Technologies: The State of the Art" (IEEE Bombay section), December 21, 2016.
- "Crowdsourcing: little drops of water make the mighty ocean" Central University Bathinda, December 27, 2016.
- "Graphs: Applied and Applicable" BMS, Bangalore, December 30, 2016.
- "Rediscovering Graphs, Networks and Boolean Matrices" Christ University, Bangalore, March 3,4, 2017

Dr. Nitin Auluck

- "Scheduling on Heterogeneous Multiprocessors" UIET, Kurukshetra University, January 24, 2017.

Dr. Narayanan C. Krishnan

- "Kernel Methods for Machine Learning" National Institute of Technology, Calicut, February 2017.

Dr. Puneet Goyal

- "Image Processing and Machine Learning for Pattern Recognition" UIET Chandigarh, July 13, 2017.
- "Using computational intelligence for developing dot-patterns analysis based efficient EP models" National Institute of Technology, Kurukshetra, December 13, 2016.

Lectures by visiting experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1.	Prof. C. Pandu Rangan, Computer Science & Engineering, Indian Institute of Technology Madras, Chennai	"Zero Knowledge Protocols (A Turing Award Winning Idea)"	April 21, 2017
2.	Dr. Rohit Ranchal, Researcher and Senior Software Engineer, IBM	"Essentials of Health Cloud"	Feb ruary 06, 2017

Visits abroad by Faculty

Sr. No.	Name of the faculty member	Country	Details of visit
1.	Dr. Junghyun Peter Jun	South Korea	Visiting Research Scholar
2	Dr. Sujata Pal	University of Waterloo, Canada	Visiting Research Scholar
3	Dr. Nitin Auluck	UK, Canada & USA	Faculty hiring, meeting Diaspora & Research collaborations, May-June 2016
4	Dr. Nitin Auluck	Cardiff University, UK	Research collaboration, October 2016
5	Dr. Narayanan C. Krishnan	USA	Participating and paper presentation in the International Joint Conference on Artificial Intelligence, July 2016
6	Dr. Narayanan C. Krishnan	Germany	Participating and paper presentation in the ACM International Joint Conference on Pervasive and Ubiquitous Computing, September 2016

Department of Civil Engineering

Programmes offered	:	B. Tech. & PhD
No. of Students	:	B. Tech. : 23
		PhD : 3
Head of the Department	:	Prof. Deepak Kashyap

Faculty Members

Prof. Deepak Kashyap
Professor
PhD (Indian Institute of Technology Roorkee)
Water Resources, Groundwater, Modeling and Simulation

Dr. Naveen James
Assistant Professor
PhD (Indian Institute of Science, Bangalore)
Dynamic behaviour of soils, Liquefaction, Seismic Hazard Assessment & Microzonation, Site characterization, Site response studies, Landslide Hazard Assessment, GIS applications in hazard studies

Dr. Putul Haldar

Assistant Professor

PhD (Indian Institute of Technology Roorkee)

Seismic Vulnerability and Risk Evaluation of Structures, Seismic Evaluation and Retrofitting of Structures, Performance-Based Design of Structures Nonlinear Modeling and Analysis of Structures, Structural Engineering and Dynamics

Dr. Sagar Rohidas Chavan

Assistant Professor

PhD (Indian Institute of Science, Bangalore)

Rainfall-runoff modeling, Regionalization of hydrological extremes, Regional frequency analysis of extreme rainfall and floods, Prediction in ungauged basins,Multi-fractal analysis of rainfall and flood, Climate change impacts on hydrological processes, Dam safety analysis and inundation studies

Ongoing Activities

Teaching, Research and Consultancy

Thrust Areas

Water Resources & Environmental Engineering

Structural and Soil Engineering

Facilities

CAD Laboratory

Invited Lectures by Faculty

Prof. Deepak Kashyap

- "Role of Soft Computing in Planning of Ground Water Development" in conference "Numerical Modeling in Geomechanics" at Indian Institute of Technology Roorkee, India, March 2-3, 2017.

Dr. Putul Haldar

- "Seismic Design of Multistory Buildings : IS 1893 vs EC8" at India Habitat Centre, New Delhi, India December 8-10, 2016.
- "Seismic Safety of Structures" at Civil Engineering Department, Malaviya National Institute of Technology, Jaipur, Rajasthan, October 21, 2016.

Lectures by visiting experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1.	Prof. S. L. Dhingra, Indian Institute of Technology Bombay	"Scope and opportunities in Civil Engineering"	February 02, 2017
2.	Mr. Waliul Islam (Associate Vice President, Ernst and Young LLP)	"Infrastructure Project Development and Financing"	January 20, 2017

Department of Electrical Engineering

Programmes offered	:	B. Tech., M. Tech, MS(R), & PhD
No. of Students	:	B. Tech. : 149
		MS(R) : 1
		PhD : 16
Head of the Department	:	Dr. J. S. Sahambi

Faculty Members

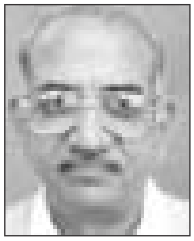
Dr. Bibhu Prasad Padhy
Assistant Professor
PhD (Electrical Engineering, Indian Institute of Technology Kanpur)
Power system dynamics & stability studies, synchrophasor technology & its applications, state estimation in power systems

Dr. Brijesh Kumbhani
Assistant Professor
PhD (Indian Institute of Technology Guwahati)
MIMO wireless communication systems and UWB systems. Current research interests lies in the domains of energy efficient wireless technologies with high spectral efficiency

Dr. C. C. Reddy
Associate Professor
PhD (Electrical Engineering, Indian Institute of Science, Bangalore)
Mechanism of Conduction and Breakdown in Dielectrics, Space Charges in Dielectrics, HVDC Cables and accessories, High Voltage Engineering, Nano Dielectrics

Dr. J. S. Sahambi
Associate Professor
PhD (Indian Institute of Technology Delhi)
Biomedical signal processing, MR image processing

Dr. Kalaiselvi J.
Assistant Professor
PhD (Indian Institute of Technology Madras)
Multilevel Inverters, PWM Techniques, Open end winding Drive



Prof. Ramesh Garg
Professor
PhD (Indian Institute of Technology Kanpur)
Electromagnetics

Dr. Ranjana Sodhi
Assistant Professor
PhD (Indian Institute of Technology Kanpur)
Wide area monitoring and control systems, application of optimization techniques to power systems, voltage stability assessment and control

Dr. Rohit Y. Sharma
Associate Professor
PhD (Jaypee University of Information Technology)
Design of high-speed chip-chip and 3D interconnects, technology development for high-performance electrical connectivity, communication schemes for multi-core architecture

Dr. Ravibabu Mulaveesala
Associate Professor
PhD (Indian Institute of Technology Delhi)
Infrared vision and video processing, Signal and image processing techniques for non-invasive imaging methods, Photo-thermal diagnostics of solids

Dr. Sam Darshi
Assistant Professor
PhD (Indian Institute of Technology Guwahati)
Communication, Ad-hoc networks, Wireless sensor networks, Infrastructure less multihop and relay networks, Co-operative communication, Next generation wireless networks

Prof. Sanjoy Roy
Professor
PhD (University of Calgary, Canada)
Renewable energy systems: planning and economics, Decision making in power network management

Dr. Shruti Verma
Visiting Professor
PhD (Indian Institute of Technology Indore)
Optoelectronic device simulation, fabrication and characterization, durable coatings for photonic circuits and devices

Dr. Suman Kumar
Assistant Professor
PhD (Indian Institute of Technology Madras)
Performance analysis of mobile broadband wireless networks including Frequency reuse, HetNets, Hypergeometric functions, Generalized fading models, Spectrum sharing

Thrust Areas

- Micro and Smart Grids
- Image & Vision Computing
- Next-generation Electronics – Design & Technology
- High Voltage Engineering
- Machine Learning
- Communication Networks
- Non-Destructive Testing (NDT)

Dr. Subrahmanyam Murala
Assistant Professor
PhD (Indian Institute of Technology Roorkee)
Content Based Image Retrieval, Medical Imaging and Object Tracking

Dr. Vinayak Hande
Assistant Professor
PhD (Indian Institute of Technology Bombay)
Low power analog integrated circuit design

Invited Lectures by Faculty

Dr. Brijesh Kumbhani

- "Evolution of Wireless Communication Technologies" Guru Jambheshwar University of Science and Technology, Hisar, Haryana
- "Advanced MIMO systems" at Guru Jambheshwar University of Science and Technology, Hisar, Haryana

Dr. J. S. Sahambi

- "Embedded System Design" MRI denoising, JP University of Information and Technology, Waknaghat, September 30, 2016
- "Architecture of digital signal processors" UIET, Kurukshetra, Haryana, October 21, 2016
- "Medical Image processing", JP Institute of Information & Technology, Waknaghat, September 30, 2016
- "Recent advances in MIMO wireless

Communication Systems" Jawaharlal Nehru Govt. Engineering College, Sundernagar, Dist. Mandi, India

Dr. Sam Darshi

- " Modeling Paradigm: Current & Upcoming Wireless Networks " Department of ECE, Sant Longowal Institute of Engineering & Technology, Longowal, Sangrur, Punjab, September 20, 2016

Dr. Suman Kumar

- "Intercell interference coordination schemes" Guru Jambheshwar University of Science and Technology, Hisar, Haryana
- "Multi-Operator Simultaneously Shared Synchronised Air Interface for Communication" Guru Jambheshwar University of Science and Technology, Hisar, Haryana

Lectures by visiting experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1.	Prof. Tarlochan Singh Sidhu, University of Ontario Institute of Technology (UOIT), Canada	"Research and Training Facilitiesfor Future Power	March 21, 2016
2.	Prof. H. M. Gupta (Adjunct Faculty)	• Communication Lab • Digital Communication lab experiments • M.Tech (Communication & Signal Processing)	March 21-24, 2017
3.	Prof. Swaroop Ganguly, Indian Institute of Technology Bombay	“Nanoscale Device Modeling ”	April 07, 2017
4.	Prof. Nandini Gupta, Indian Institute of Technology Kanpur	“Space charge studies in composite dielectric polymers”	May 02, 2017

Department of Humanities & Social Sciences

Programs offered : PhD
No. of Students : PhD : 12
Head of the Department : Dr. Somdev Kar

Faculty Members

Dr. Amritesh
Assistant Professor
PhD (Indian Institute of Technology Kanpur)
Services marketing, Online Services, Information Science, e-Governance

Dr. Ansu Louis
Assistant Professor
PhD (Indian Institute of Technology Kanpur)
American Literature, Philosophy and Literature, Literary and Critical Theory, Greek Tragedy, and Visual Culture

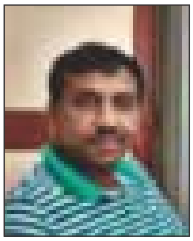
Dr. Dipanjan Kumar Dey
Assistant Professor
PhD (ICFAI Business School Hyderabad)
Research Interests: Corporate Governance, Health and Education, Brand Management, International Marketing

Dr. Kamal Kumar Choudhary
Assistant Professor
PhD (University of Leipzig, Germany)
Psycho/Neurolinguistics, Language and Cognition, Neurocognition/ Neuroscience of Language comprehension

Dr. Smruti Ranjan Behera
Assistant Professor
PhD (Delhi School of Economics, University of Delhi)
Applied Econometrics, Industrial Economics, Open Economy and Macroeconomics, International Economics and Finance

Dr. Rano Ringo
Assistant Professor
PhD (Indian Institute of Technology Roorkee)
Gender studies, Postcolonial studies, and Modern fiction

Dr. Somdev Kar
Assistant Professor
PhD (University of Tübingen, Germany)
Phonetics, Computational Phonology, Optimality Theory, Speech Processing, Natural Language Processing, Morphology



Dr. Samaresh Bardhan
Assistant Professor
PhD (Jadavpur University)
Financial Markets, Credit Related Issues, Industrial Finance, Development Economics, Applied Econometrics

Dr. Sreekumar Jayadevan
Assistant Professor
PhD (University of Hyderabad)
Philosophy of Science, Formal Logic, Aesthetics and Philosophy of Design

Ongoing Activities

Teaching and research activities in the areas of Economics, English literature, Linguistics, Philosophy and Management.

Thrust Areas

Banking and Finance, Development Economics and Finance, Energy and Environmental Economics, International Economics and Finance, North American Literatures, Gender Studies, Visual Culture Studies, Language and cognition, Theoretical Linguistics, Natural Language Processing, Philosophy of Science, Western Epistemology and Metaphysics. Brand Management, Corporate Governance, Financial Literacy, service quality, e-governance, e-services.

Facilities

(A) Cognitive Lab (B) Language and Linguistics Lab

Invited Lectures by Faculty

Dr. Sreekumar Jayadevan

- 'Is Scientific Realism Dependent on History of Science?' at the workshop "Concepts in Philosophy of Science: Confirmation and Realism" organised by the Department of Humanities and Social Sciences, Indian Institute of Technology Kanpur and Philosophy of Science Group in India (PSGI), Indian Institute of Technology Kanpur, January 6-8, 2017.

Dr. Somdev Kar

- "Introduction to Phonetics" at the Department of English, Graphic Era Hill University, Dehradun, September 9-10, 2017.
- "Recent Trends in NLP Research : WHERE DOES UNL stand?", Dev Samaj College for Women, Ferozepur, Punjab, March 19, 2017.

Lectures by visiting experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1.	Dr. Joe Varghese Yeldho National Institute of Science Education and Research, Bhubaneswar	"Pedestrianism, Sound and Harlem Dwelling"	September 9, 2016
2.	Prof. Nirmalangshu Mukherji Indian Council of Philosophical Research	"Human Reality"	March 31, 2017
3.	Dr. Parikshit Ghosh Delhi School of Economics, New Delhi	"How the Sausage Is Made: Markets and Contracts"	December 2, 2016
4.	Prof. P. R. Bhat Indian Institute of Technology Bombay, Mumbai	"The place of Mind in Epistemology"	August 5, 2016
5.	Prof Rajeev Kumra Indian Institute of Management Lucknow, Lucknow	"The Great Engineer Dilemma: Is MBA a Road Ahead?"	August 26, 2016
6.	Dr. Ramesh Kumar Mishra CNCS, University of Hyderabad, Hyderabad	"The Enigma of Being a Bilingual: What We Know andWhat We Should Know"	August 17,2016
7.	Dr. Sadhan Kumar Chattopadhyay Assistant Adviser, Department of Economic and Policy Research, Reserve Bank of India.	"Change in Monetary Policy Framework in India- Issues and Current Debate"	July 26, 2016
8.	Dr. Samar Husain Department of Humanities and Social Sciences, Indian Institute of Technology Delhi	"Processing Hindi Relative Clauses: Implications For Memory Retrieval & Expectation-Based Theories"	April 22, 2016

9.	Prof. Taitiana Oranskaia University ofHamburg, Germany	"Hypotaxis in HindiAn approach to the interplay between semantics, discourse properties and formal structure of complex sentences with adverbial clauses."	February 10, 2017
10.	Prof. Vinish Kathuria Indian Institute of Technology Bombay, Mumbai	"What explains Exit behaviourin Indian Manufacturing Industries?"	February 23, 2017
11.	Dr. Vivek Kant Nanyang Technological University, Singapore	"Cognitive Work Analysis and the embodied, embedded and socially situated dimensions of human behaviour in sociotechnical systems "	January27, 2017

Visits abroad by Faculty

Sr. No.	Name of the faculty member	Country	Details of visit
1.	Dr. Somdev Kar	National Institute of Oriental Languages and Civilisations (INALCO) Paris, France	Presented a paper at the International Conference on Hindi Studies- 2016, September 14-16, 2016

Department of Mathematics

Programmes offered	:	PhD & M.Sc.
No. of Students	:	M. Sc. : 15
		PhD : 25
		Post Doc : 01
Head of the Department	:	Dr. S. C. Martha

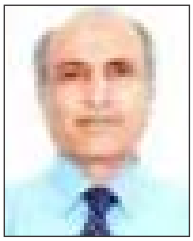
Faculty Members

Dr. Arti Pandey
Assistant Professor
PhD (Indian Institute of Technology Delhi)
Graph Theory, Algorithms, Optimization

Dr. Arun Kumar
Assistant Professor
PhD (Indian Institute of Technology Bombay)
Subordinated Stochastic Processes, Financial Mathematics, Statistics, and Financial Time-Series Modeling

Dr. Arvind Kumar Gupta
Associate Professor
PhD (Indian Institute of Technology Roorkee)
Continuum and lattice hydrodynamic modelling, Exclusion processes & Driven diffusion systems

Dr. Chittaranjan Mishra
Assistant Professor
PhD (University of Antwerp, Belgium)
Computational Finance, Numerical Solution of Financial Option Pricing Equations, Alternating Direction Implicit type schemes



Prof. Javagal K Sridhar
Professor
PhD (Indian Institute of Technology Bombay)
Numerical Analysis, Mathematical Modelling of Dynamic systems,Theory of Elasticity, Systems and Control, Data Analysis

Dr. G. Sankara Raju Kosuru
Assistant Professor
PhD (Indian Institute of Technology Madras)
Functional analysis, Operator theory, Matrix Analysis

Dr. Manju Khan
Associate Professor
PhD (Indian Institute of Technology Delhi)
Algebra

Dr. Tapas Chatterjee
Assistant Professor
PhD (The Institute of Mathematical Sciences, Chennai)
Number Theory, Special values of L-functions

Dr. Manoranjan Mishra
Associate Professor
PhD (Indian Institute of Science, Bangalore)
Fluid dynamics, Scientific computing

Dr. Partha Sharathi Dutta
Assistant Professor
PhD (Indian Institute of Technology Kharagpur)
Nonlinear Dynamics, Mathematical Biology, Theoretical Ecology

Dr. M. Prabhakar
Associate Professor
PhD (Indian Institute of Technology Delhi)
Low-dimensional Topology

Dr. Subash Chandra Martha
Associate Professor
PhD (Indian Institute of Technology Guwahati)
Mathematical modelling on water waves phenomenon, integral equation

Ongoing Activities

- Teaching and Research
- Student Internship
- Faculty Internship
- Department seminars by experts
- Department Research Day: Cynosure (annual)
- Conferences and workshops
- Students seminar series

Thrust Areas

- Algebra
- Dynamical Systems
- Fluid dynamics
- Cellular Automata
- Scientific Computing
- Integral Equation
- Mathematical Modeling
- Low-dimensional modeling
- Theory of Elasticity
- Systems and Control
- Number Theory
- Functional analysis
- Operator theory
- Matrix Analysis
- Computational Finance
- GPU computing

Facilities

- Computational Lab

Invited Lectures by Faculty

Dr. Arun Kumar

- "Mathematical Finance: Theory and Practice" workshop by Department of Mathematics Indian Institute of Technology Madras, Chennai, January 16-21, 2017

Dr. Arvind Kumar Gupta

- "Understanding Stochastic Transport Through Channels Utilizing Vertical Cluster Mean Field Approach" Recent Advances on Theoretical and Computational Partial Differential Equations, Punjab University, Chandigarh, December 05-09, 2016

Dr. Chittaranjan Mishra

- "Black-Scholes model and additional topics" workshop entitled with Mathematical Finance: Theory and Practice, Department of Mathematics Indian Institute of Technology Madras, Chennai, January 16-21, 2017
- "Alternating direction implicit schemes with applications in finance" Recent Advances on Theoretical and Computational Partial Differential Equations, Punjab University, Chandigarh, December 05-09, 2016

Dr. G. S. Raju

- International Conference on Mathematical Analysis and Applications (ICMAA) – 2016, Indian Institute of Technology Roorkee, November 28- December 02, 2016

Dr. Manoranjan Mishra

- "Modeling and simulations of adsorption effects on viscous fingering dynamics" Recent Advances on Theoretical and Computational Partial Differential Equations, Punjab University, Chandigarh, December 05-09, 2016
- "Influence of interfacial curvature and density variation on viscous fingering" International Symopsium on Interfacial Fluid Dynamics, Tokyo University of Agriculture and Technology, Tokyo, October 11, 2016

Dr. Partha S. Dutta

- Lectures on Mathematical Biology at Second NNMCB Instructional School, Indian Institute of Science, Bangalore, May23-31, 2016

Dr. S. C. Martha

- "Mathematical Modelling in Water Wave Scattering" 6th International Conference on Research Trends in Engineering, SGTB Khalsa College, Anandpur Sahib (held at NITTTR, Chandigarh), January 08, 2017
- "Integral Equation Method applied to Nonlinear Flow Problems" Recent Advances on Theoretical and Computational Partial Differential Equations, Punjab University, Chandigarh, December 05-09, 2016

Lectures by visiting experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1.	Prof. T. N. Shorey (S. S. Bhatnagar Awardee, 1987), Retired Professor, School of Mathematics, TIFR Mumbai	"Generalised Laguerre Polynomials"	March 06, 2017
2.	Dr. K. S. Mallikarujna Rao, Associate Professor, Dept. of Industrial Engineering & Operations Research, Indian Institute of Technology Bombay	"Optimal Control and its Application"	February17, 2017
3.	Dr. Pooja Singla, IISc.Bangaluru	"Regular characters of general linear groups over principal ideal local rings"	February10, 2017
4.	Prof. Somdeb Lahiri, School of Petroleum Management, PD Petroleum University,Raisan, Gandhinagar	"On a theorem due to Alan D. Taylor"	February07, 2017
5.	Prof. Aloknath Chakrabarti, Professor and NASI-Senior Scientist Platinum Jubilee Fellow Department of Mathematics, Indian Institute of Science Bangalore	"Green's function technique for Laplace's equation"	November 11, 2016
6.	Dr. Kapil K. Sharma, South Asian University, New Delhi	"Numerical Study of Singularly Perturbed Differential Difference Equations"	October 19, 2016
7.	Prof. Andrei Vesnin Sobolev Institute of Mathematics, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia	"Braids and Fibonacci groups"	October 18, 2016

Sr. No.	Name of the Expert with affiliation	Topic	Date
8.	Prof. Swadhin Pattanayak Founder director of the Institute of Mathematics and Applications	"Random Fourier Series"	October 14, 2016
9.	Prof. Song-Ping Zhu University of Wollongong, Australia	"Pricing variance swaps with stochastic volatility"	October 03, 2016
10.	Prof. Peeyush Chandra Retired Professor, Department of Mathematics, Indian Institute of Technology Kanpur	"Mathematical Biology - an introduction"	September 12, 2016
11.	Dr. S. Sundar Dept. of Mathematics, Indian Institute of Technology Madras	"PDE Based Image Filters"	September 16, 2016
12.	Prof. C. R. Bector University of Manitoba, Canada	"Truncated Probabilities, Generalized Fermi-Dirac Entropy, Truncated Statistical Distributions with an Application in Finance"	September 08, 2016
13.	Dr. Amit kulshrestha, IISER Mohali	"Quadratic forms and special 2-groups"	July 26, 2016
14.	Dr. Krishnendu, IISER Mohali	"Hopf - Rinow Theorem"	April 28, 2016
15.	Prof. R. I. Sujith Professor of Aerospace Engineering, Indian Institute of Technology Madras	"Prognosis of an Impending Combustion Instability"	April 27, 2016

Visits abroad by Faculty

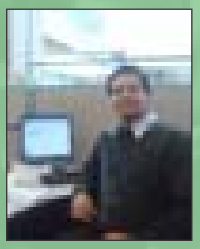
Sr. No.	Name of the faculty member	Country	Details of visit
1.	Dr. Manoranjan Mishra	Tokyo, Japan	Invited as a visiting researcher for establishing the Research Collaboration on the theme of Basic Research on CO2 - Enhanced Oil Recovery under National University Cooperation, Tokyo University of Agriculture and Technology, Tokyo, October 09-15, 2016
2.	Dr. M. Prabhakar	Berlin, Germany	7th European Congress of Mathematics, TU Berlin, Germany, July 18-22, 2016
3.	Dr. Manju Khan	Berlin, Germany	7th European Congress of Mathematics, TU Berlin, Germany, July 18-22, 2016
4.	Dr. Arvind K. Gupta	Leyon, France	STATPHYS 26 at Centre de congres de congres at Leyon, France, July 18 – 22, 2016
5.	Dr. Partha S. Dutta	University of Oldenburg, Germany	Visited University of Oldenburg, Germany from June 10- 25, 2016 under DST-DAAD bilateral project.

Department of Mechanical Engineering

Programmes offered	:	B. Tech., B.Tech.-M.Tech (Dual Degree), M. Tech. & PhD		
No. of Students	:	B.Tech.	:	144
		B.Tech.-M.Tech(Dual Degree)	:	20
		M.Tech.	:	34
		PhD	:	60
Head of the Department	:	Dr Navin Kumar		

Faculty Members

Dr. Anshu Dhar Jayal
Assistant Professor
PhD (University of Utah)
Sustainable manufacturing technologies

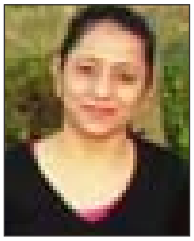


Dr. Anupam Agrawal
Associate Professor
PhD (Indian Institute of Technology Kanpur)
Analysis of Metal Forming Processes, Deformation Analysis, CAD/CAM

Dr. Chirodeep Bakli
Assistant Professor
PhD (Indian Institute of Technology Kharagpur)
Microfluidics and Nanofluidics, Interfacial Phenomena, Electrohydrodynamics, Renewable energy, Thermal and Fluid Sciences

Dr. Devranjan Samanta
Assistant Professor
PhD (Saarbrucken University and Max Planck Institute for dynamics and self Organisation, Goettingen, Germany)
Transition to turbulence, Non- Newtonian flows, Biological flows, heat transfer

Dr. Dhiraj K. Mahajan
Assistant Professor
PhD (Indian Institute of Technology Kanpur)
Simulation and experiment assisted development of high performance elastomeric and polymeric materials, mechanics and physics of polymers, adhesion at polymer-solid interfaces, fatigue failure of polycrystalline metals under aggressive environment with immediate focus on hydrogen based degradation of steels



Dr. Ekta Singla
Assistant Professor
PhD (Indian Institute of Technology Kanpur)
Research Interests: Robotics, redundant manipulators, robot path planning,collision detection, obstacle avoidance, applied optimization methods - classical and evolutionary, optimal mechanical design

Dr. Harpreet Singh
Associate Professor
PhD (Indian Institute of Technology Roorkee)
Surface Engineering-Degradation of Materials, High Temperature Corrosion and its Protection, Slurry Erosion of Hydraulic Turbines and its Control, Biomedical Coatings

Dr. Himanshu Tyagi
Associate Professor
PhD (Arizona State University, USA)
Thermo-fluids, Bio-heat Transfer, Nanofluids, Nanoscale heat transfer, Clean & Sustainable Energy, Solar Energy, Energy Storage, Turbulent Flows, Combustion, Thermodynamics, Biomass Pyrolysis & Gasification, Ignition Properties of Fuels Containing Nano-Particles, Thermal Management and Packaging of Micro-Electronic Devices

Dr. Jitendra Prasad
Assistant Professor
PhD (Michigan State University, USA)
Biomechanics, Bone Fracture Healing, Mechanotransduction, Structural and Multidisciplinary Design Optimization, Computational Mechanics, and Agent Based Modelling

Dr. Navin Kumar
Associate Professor
PhD (Indian Institute of Technology Delhi)
Biomaterials, Biomechanics, Biological and Bio materials characterization, Mechanics of Nano materials, Finite element modeling (FEM), Biomedical Engineering, Biomedical Instrumentation and Bio-implants, Active and passive vibration control, Noise control, Active vibration isolation in MEMS devices, Fault diagnostics and condition-monitoring

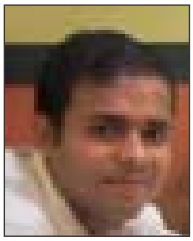
Dr. Prabir Sarkar
Associate Professor
PhD (Indian Institute of Science, Bangalore)
Product design, Sustainability and eco design, Creativity and innovation, Engineering design and industrial design, Manufacturing

Dr. Prabhat K. Agnihotri
Assistant Professor
PhD Indian Institute of Technology Kanpur
Research Interests: Processing, characterization and modelling of nanomaterials, multiscale hybrid composites, fracture mechanics, discrete dislocation plasticity, molecular dynamics simulations

Dr. Purbarun Dhar
Assistant Professor
PhD Indian Institute of Technology Madras
Nanotechnology, Microfluidics, Biomedical Engineering, Applied Multiphysics

Dr Rakesh K Maurya
Assistant Professor
PhD (Indian Institute of Technology Kanpur)
HCCI and Low Temperature Combustion for IC Engines, Alternative fuels, Engine Emission Control, Engine management systems

Dr. Ramjee Repaka
Associate Professor
PhD (Indian Institute of Technology Kharagpur)
Bioheat Transfer, Cancer Diagnosis and Therapy, Heat Transfer, Thermal Engineering

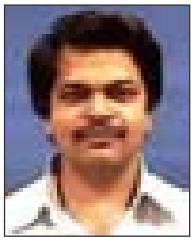


Dr. Ranjan Das
Assistant Professor
PhD (Indian Institute of Technology Guwahati)
Thermal and Fluids Engineering, Optimization, Renewable Energy

Dr. Ravi Mohan Prasad
Assistant Professor
PhD (Technische Universität Darmstadt, Germany)
Polymer-derived porous ceramics and nanocomposites, Ceramic membranes for hydrogen purification, Chemiresistor gas sensors, Photocatalysts for wastewater decontamination, Hydrogen storage materials

Prof. Sarit K. Das
Professor
PhD (Sambalpur University)
Heat Transfer in Nano-Fluids, Micro channel Fluid Flow and Heat Transfer, Heat and Mass Transfer in Biological Systems, Boiling Heat Transfer

Dr. Satwinder Jit Singh
Assistant Professor
PhD (Indian Institute of Science, Bangalore)
Applied Mechanics, Numerical Methods



Dr. Srikant Sekhar Padhee
Assistant Professor
PhD (Department of Aerospace Engineering, IISc, Bangalore)
Variational Asymptotic Method, Multi-functional and Functionally Graded Composites

Dr. Vishwajeet Mehandia
Assistant Professor
PhD (Indian Institute of Science, Bangalore)
Complex fluids (Active suspensions), Dynamics of Granular Materials, Biophysics (Active cellular processes, Physics of Tissue morphology)

Thrust Areas

- Additive manufacturing, combustion
- Energy & Environment
- Health
- Advance Material
- Transport
- Indigenous Technology / Technology for India

Facilities

- Advanced Manufacturing Technology Laboratory (AMTL)
- Product Design & Realization Computer Laboratory
- Biomechanical Creativity and Innovation Lab
- Materials Science Lab (UG, PG & Research Lab)
- Metal Casting Lab (UG, PG & Research Lab)
- Ropar Mechanics of Materials Laboratory (RMML)
- Engine Laboratory
- Thermo-Fluids Laboratory
- Thermal Therapy Lab
- Noise and Vibration Lab
- Biomaterials and Nano Materials Characterization Laboratory
- Indoor Environment Control Laboratory
- Machine Design Lab
- Material Science Lab
- Product Design & Realization Laboratory
- Product Design and Realization Workshop
- Mechatronics with Robotics Applications Lab
- Sustainable Design and Manufacturing Laboratory
- Design Research Laboratory
- Control Lab
  - *25 KN High Frequency Fatigue Testing Machine*
  - *Workshop*
  - *Traditional Machining Section*
  - *CNC Section*
  - *Wire EDM and Rapid Prototyping Section*
  - *Welding Section*
  - *Casting Section*
  - *CMM Section*

Invited Lectures by Faculty

Dr. Himanshu Tyagi

- "Nanotechnology and its Applications in Solar Thermal Engineering", Chandigarh University, July 2016.
- "Current Developments in the Use of Nanotechnology in Thermal & Fluids Engineering", University Institute of Engineering & Technology (UIET) Kurukshetra University, January 2017.
- "Efficient Absorption of Solar Energy Using Nanoparticle-Laden Fluids", Center of Innovative and Applied Bioprocessing (CIAB), Mohali, Punjab, February 2017.
- "Role of Nanotechnology in Optimizing Solar Thermal Energy", Chandigarh University, March 2017.

Dr. Prabir Sarkar

- "Global Initiatives on Academic Networks (GIAN) on Sustainability standards" MNIT Jaipur, December 19-23, 2016.

- "Innovation and manufacturing of Medical devices at Design research lab of IIT Ropar" at Medical Device Innovation Cluster meet, organized by Department of Science & Technology, Centre for Policy Research, Panjab University, Chandigarh at CSIO, Chandigarh, November 12, 2016.
- "A look into the future - Faculty Development Program", organized by Dr.SSB University Institute of Chemical Engineering and Technology, Panjab University under TEQIP-II (A World Bank Project), October 25, 2016.

- "Understanding sustainability in pharmaceuticals companies through a case study" Indo-US dissemination workshop on Design of sustainable systems, Indian Institute of Science, Bangalore, June 20-22, 2016.

Dr. Ramjee Repaka

- "Importance of Heat Transfer in Biological Systems" Ishan Vikas Programme (short-term program), at Indian Institute of Technology Ropar, June 1-10, 2016.

Lectures by visiting experts

Sr. No.	Name of the expert with affilation	Topic of the seminar/talk	Date
1.	Prof. HC Verma, Indian Institute of Technology Kanpur	Guest Lecture organized by SME	January 28, 2017
2.	Prof. Bharat Bhushan, Ohio State University, USA	GIAN course Biomimetics	December 12-16, 2016

Visits abroad by Faculty

Sr. No.	Name of the faculty	Place of visit	Details of visit
1.	Dr. Harpreet Singh	Cardiff University, UK	Official visit during October 15 -23, 2016
2.	Dr. Himanshu Tyagi	France	Future Strategies in Electrochemical Technologies for Efficient Energy Utilisation on "Efficient Energy Transfer & Storage: Utilizing Nanoparticles for Harnessing Solar Energy", the LE Studium Conferences , Nice, France, September 7-9, 2016
3.	Dr. Ramjee Repaka	Spain	Paper presentation at 12th International Conference on "Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT-16)" at Costa del Sol, Malaga, Spain, July 11 – 13, 2016

Department of Physics

Programmes offered	:	M. Sc. -MS (R), PhD
No. of Students	:	M. Sc.-16
		PhD - 30
Head of the Department	:	Dr. Shubhrangshu Dasgupta

Faculty Members

Dr. Asoka Biswas
Assistant Professor
PhD (Physical Research Laboratory, Ahmedabad)
Quantum Computation and Information, Cavity Optomechanics

Dr. Kailash Chandra Jena
Assistant Professor
PhD (Indian Institute of Technology Madras)
Sum Frequency Generation Vibrational Spectroscopy, Interfacial Water Structure (Air/water and Solid/Biopolymer/Water Interfaces), Binding of Ions to Amino Acids, Lipids and Proteins, Molecularly Imprinted Polymers for Bio Sensing, ATR-FTIR Spectroscopy, Bio Mimicking Model Systems, Radiation Induced effects on Light Matter Interaction

Dr. Mukesh Kumar
Assistant Professor
PhD (Indian Institute of Technology Delhi)
Renewable energy materials development, Combinatorial thin films materials and sensors

Prof. P. K. Raina
Professor
PhD (Indian Institute of Technology Kanpur)
Nuclear structure, Neutrino Physics and Astrophysics

Dr. Pushpendra P. Singh
Assistant Professor
PhD (Inter-University Accelerator Center, New Delhi / Aligarh University)
Experimental Nuclear Physics & It's Applications

Dr. Rakesh Kumar
Assistant Professor
PhD (Indian Institute of Technology Bombay)
Experimental Condensed Matter Physics

Dr. Rajesh V. Nair
Assistant Professor
PhD (Indian Institute of Technology Bombay)
Nano-Optics and cavities in nanostructures. Meta-materials, Optics of layered materials

Dr.Sandeep Gautam
Assistant Professor
PhD (Physical Research Laboratory Ahmedabad)
Ultracold quantum gases at zero and finite temperatures (Theory)

Dr.Shankhadeep Chakrabortty
Assistant Professor
Ph.D. (Institute of Physics, Bhubaneswar)
String Theory, AdS/CFT, Gauge/Gravity duality, Quantum Field Theory

Dr. Shubhrangshu Dasgupta
Associate Professor
PhD (Physical Research Laboratory, Ahmedabad)
Physical modeling in quantum optics, nano-systems, and decoherence in physical systems

Dr. Sourav Bhattacharya
Assistant Professor
PhD (S. N. Bose National Centre for Basic Sciences, Kolkata)
General Relativity, Cosmology, Dark Energy, aspects of Quatum Field Theory in Curved Spacetimes

Dr. Subhendu Sarkar
Associate Professor
PhD (Saha Institute of Nuclear Physics, Kolkata)
Low energy ion beam physics, fabrication of nanostructures on semiconductor surfaces using ion beams, and secondary ion mass spectroscopy

Facilities

- Material Synthesis Lab
- M.Sc. Optics Lab : UV-Vis Spectrometer

MDL

- DC/RF magnetron sputtering facility
- Sonicator with heater
- Spin coater
- Balance
- Dip coater
- Ion gun

Graphene lab

- Electrostatic deposition technique set up
- Optical microscope
- Diamond wire saw
- Sonicator, hot plate

Nanoscience lab

- Chemical Vapor deposition set up
- Box furnace
- Hydraulic press

Nanooptics lab

- Frequency tripled nanosecond laser with CCD spectrograph
- InGaAs detector with calibration source
- He-Ne laser at 632 nm and pulsed /CW laser at 640 nm with driver
- Avalanche photodiode (2 Nos) and TCSPC module
- Picosecond laser at 532 nm
- Supercontinuum laser
- Mini-USB spectrometer
- CMOS-imaging camera

Common Material Synthesis lab

- Low temperature oven

Central facility

- UV-Vis-NIR Spectrophotometer

NuStaR Lab

- Ropar Unified Detectors for Radionuclides Analysis (RUDRA): the setup consists of 4 HPGe Detectors coupled with VME-MBS based data acquisition (DAQ) system.
- Low Background Measurement Facility: This facility is developed to perform measurements related to neutrino physics.
- Computing Cube: a high power computing facility for near/off-line data analysis.

FREM Lab

- Combinatorial sputtering system
- Double chamber sputtering unit
- Solar Simulator
- Keithley SMU (6430)
- Thermal CVD
- Miniprobe station
- Hall measurement
- EQE/IQE measurement

NLSB Lab

- Sum Frequency Generation Vibrational Spectrometer
- FTIR Spectrometer
- Small Freez
- Weighing Balance
- Low Power HeNe Lasers (532 (1 mW) and 632 nm (2 mW))

- Homogenizer
- Sonicator
- Fast Frame Rate Scientific Camera
- pH Meter
- Compact Fluorescence Spectrometer (Compact)
- Langmuir-Trough

Invited Lectures by Faculty

Dr Kailash C. Jena

- "Structure and Bonding of Interfacial Water Molecules at Biologically Relevant Interfaces""Frontiers in Attosecond Science and Technology (FAST)", IISER Mohali, March 6, 2017.
- "Nonlinear Vibrational Spectroscopy at Three Dimensional Nano Langmuir Trough", 6th International conference on Perspective in Vibrational Spectroscopy, University of Lucknow, Lucknow, India, November, 5-8, 2016.
- "Photoionization studies of some closed shell atoms and ions", Indian Institute of Technology Mandi, Himachal Pradesh, India, October 5, 2016 .
- "Physics of Atoms and Molecules at the Surface and Interface", Saitama University, Japan, March 28, 2016.
- "Nonlinear Light Scattering and its Relevance for Probing the Hidden Soft and Planar Interfaces" American Association of Pharmaceutical Scientists (AAPS), NIPER Student Chapter, NIPER, Mohali, January 28, 2016.

Dr. Mukesh Kumar

- Indo-USA workshop on Lithium Ion Battery, Indian Institute of Technology Bombay, India, June 17-19, 2016.
- "NanoDev-2016", Department of Electronics & Communication Engineering, PEC University of Technology, Chandigarh, July 15, 2016.
- Conference on Emerging Materials, Materials Research Centre, IISc. Bangalore, July 18-19, 2016.

Dr. Rajesh V. Nair

- "Symmetry-induced optical interactions in photonic crystals", The 13th International Conference on Fibre Optics and Photonics (PHOTONICS-2016), Indian Institute of Technology Kanpur, December 2016.
- "Tailoring light-matter interactions using three-dimensional photonic crystals", International Conference of Young Researchers on Advanced Materials (IUMRS-ICYRAM 2016), IISc. Bangalore, December 2016.
- "Optical Studies on colloidal photonic crystals", The first international workshop on complex photonics, Tata Institute of Fundamental Research, Mumbai, January 2017.

Dr. Shubhrangshu Dasgupta

- "Magento-optical rotation as a probe of vacuum-induced coherence and magnetometry", The 13th International Conference on Fibre Optics and Photonics (PHOTONICS-2016), Indian Institute of Technology Kanpur, December 2016.
- "Probing vacuum-induced coherence via magneto-optical rotation in molecular systems", Recent Trends in Quantum Optics (RTQO), University of Hyderabad, December 10, 2016.

Dr. Pushpendra P. Singh

- "How well do we understand nuclear reactions around the Coulomb barrier – a

few answers & a lot more questions" "International Conference in Nuclear Physics with energetic heavy-ion beams" held at, Punjab University Chandigarh, Conference Proc. I-31, page no. 48, March 15 - 18, 2017.

- "Hindrance or no-hindrance: what do we (don't) know about sub-barrier fusion" "Recent Trends in Nuclear Physics" Department of Physics of Aligarh University, February 15 – 16, 2016.

Dr. Shankhadeep Chakrabortty

- International conference in String Theory, Indian String Meeting(ISM-2016), IISER Pune, December 15-21, 2016.
- International workshop in String Theory , String Attached, Indian Institute of Technology Kanpur, February 20-23, 2017.

Dr. Sourav Bhattacharya

- "Aspects of Gravity and Cosmology", The Inter-University Centre for Astronomy and Astrophysics Pune, India, March07-09, 2017.

Lectures by visiting experts

Sr.No.	Name of the Expert with affiliation	Topic	Date
1	Prof. Palash Baran Pal, Saha Institute of Nuclear Physics, Kolkata	"The history and mystery of Calendars"	October 20, 2016
2	Prof. Palash Baran Pal, Saha Institute of Nuclear Physics, Kolkata	"Unification of forces"	October 21, 2016
3	Dr. Dennis Hore, University of Victoria, Canada	"Molecular Structure at Surfaces through Spectroscopy and Simulations"	November 03, 2016
4	Prof. Subodh R. Shenoy, Tata Institute of Fundamental Research , Hyderabad	"The 2016 Nobel Prize in Physics: A short introduction to the pedagogical overview of some of the work of Kosterlitz, Thouless, and Haldane, focussing on concepts, ideas, and experimental signatures. The common thread is the statistical mechanics of topological variables and constraints"	November 29, 2016
5	Dr. Atikur Rahman , Indian Institute of Science Education and Research, Pune	"3D nanopatterning and applications of block copolymer"	March 22, 2017
6	Prof. Subhasish Dutta Gupta, School of Physics, University of Hyderabad	"Antilasing - Time Reversed La sing"	March 16, 2017

Visits abroad by Faculty

Sr. No.	Name of the faculty member	Country	Details of visit
1	Dr. Kailash C. Jena	Holderness, Boston, USA	"Gordon Research Conference: Water and Aqueous Solutions" at Holderness, Boston, July 31, 2016 to August 05, 2016.
2	Dr. Kailash C. Jena	Saitama University, Japan	Invitation with full financial assistance from Nakabayashi Lab headed by Professor Seiichiro Nakabayashi for a prospective research collaboration, one week visit in the month of March, 2016.

Center for Biomedical Engineering

Programs offered	:	PhD
No. of Students:	:	PhD : 08
Head of the Department	:	Dr. Yashveer Singh

Faculty Members

Dr. Durba Pal
Assistant Professor
PhD (Visva-Bharati University, India)
Tissue engineering and Regenerative medicine

Dr. Srivatsava Naidu
Assistant Professor
PhD (University of Giessen, Germany)
Cancer Biology

Ongoing Activities

The CBME was established in October 2014 to carry out cutting-edge interdisciplinary research and teaching in biomedical engineering, with strong emphasis on biomedical imaging; medical devices; cancer diagnostics and therapy; Biomaterials; and Tissue Engineering. The center is served by two permanent faculty, eight associate faculty (including the HOD), and a full time staff.

Research

To initiate research at the center, we have started recruiting outstanding faculty. As a result of relentless effort, we were able to recruit Dr. Srivatsava Naidu (cancer biology) and Dr. Durba Pal (tissue engineering and regenerative medicine), who joined the center in September 2016 and December 2016. Both have received generous start-up funds from the institute and they are now engaged in establishing research laboratories. Both have submitted extramural grant applications too. To further augment our capabilities in biomedical research, we are going to continue our recruitment drive to attract more outstanding scientists as faculty here, with emphasis on medical devices for hard and soft tissue replacements (implants and prosthesis) and biomaterial-tissue interactions.

Programs

CBME started offering PhD degrees in biomedical engineering from July 2016. Recently, it has also received senate approval for offering an MTech degree in biomedical engineering from July 2017, with an intake of 10 students. We have developed a core course in biology, Biology for Engineers, which will be offered to all BTech students at the institute.

Facilities

To support research, we have established advanced facilities, such as cell culture and microbiology laboratories along with procuring a fluorescence microscope. In addition, we have also established teaching laboratories like general biology, physiology, and image processing / analyses for M. Tech. students. Our current efforts are directed towards establishing additional teaching laboratories: biomechanics, medical devices, electronics and communication.

Thrust Areas

- Biomedical Imaging
- Medical Devices
- Cancer Diagnostics and therapy
- Biomaterials
- Tissue Engineering

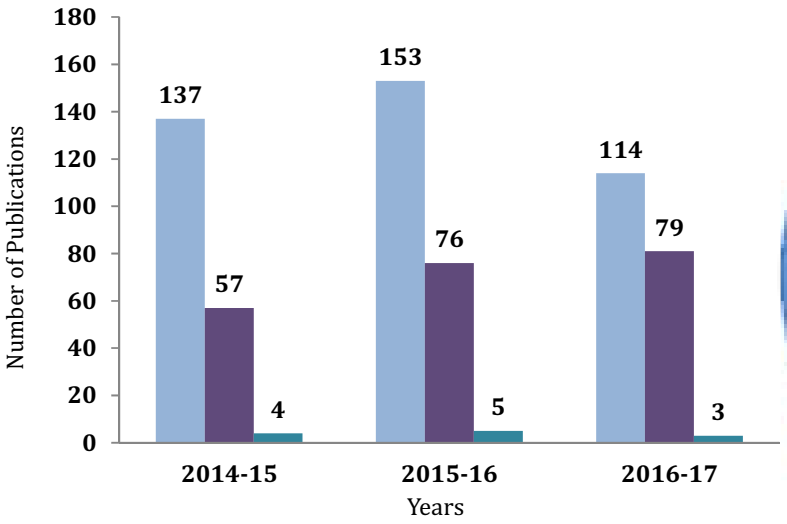
Facilities

- Cell culture facility
- Fluorescence microscope
- PCR
- ChemiDoc
- Microplate reader
- Centrifuge
- Freezer -20
- Bacteriological incubator
- Incubator shaker
- Thermomixer

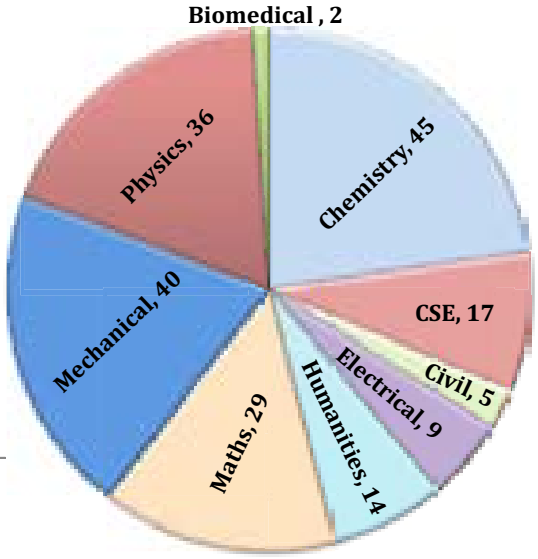
Lectures by visiting experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1	Prof. Sanjay Gupta, Department of Mechanical Engineering, Indian Institute of Technology Kharagpur	"Biomechanicalanalyses of failure mechanisms and design considerations of hip prostheses: numerical and experimental investigations"	July 29, 2016
2	Prof. Sneh Anand, Center for Biomedical Engineering (CBME), Indian Institute of Technology Delhi	"Engineering marvels in healthcare"	September 8, 2016
3	Dr. Ravi Manjithaya, Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR), Bangalore	"Autophagy - A Nobel-theme lecture"	November 17, 2016
4	Dr. Abhay T Sangamwar Assistant Professor, Department of Pharmaceutics, National Institute of Pharmaceutical Education and Research (NIPER), Mohali	"Nanoformulation approaches for delivery of tamoxifen"	February 22, 2017

RESEARCH @ IIT ROPAR



Years	2014-15	2015-16	2016-17
Journals	137	153	114
Conferences	57	76	79
Book Chapters	4	5	3
Total	198	234	193



Publications - Department wise

Department of Chemistry

Journals

1. A. Kaur, R. Kaur, A. Kuwar, N. Singh, and N. Kaur, "Dihydropyrimidones based chloride ion chemosensor functional in aqueous solution under environmentally relevant conditions," Supramol. Chem., vol. 29, no. 7, pp. 506–517, 2017.
2. A. Singh, P. Raj, and N. Singh, "Benzimidazolium-Based Self-Assembled Fluorescent Aggregates for Sensing and Catalytic Degradation of Diethylchlorophosphate," ACS Appl. Mater. Interfaces, vol. 8, no. 42, pp. 28641–28651, 2016.
3. A. Singh, A. Singh, N. Singh, and D. O. Jang, "A 2-mercaptobenzimidazole-based emissive Cu(I) complex for selective determination of iodide with large Stokes shift," Sensors Actuators B Chem., vol. 243, pp. 372–379, 2017.
4. A. Singh, A. Singh, N. Singh, and D. O. Jang, "Selective detection of Hg(II) with benzothiazole-based fluorescent organic cation and the resultant complex as a ratiometric sensor for bromide in water," Tetrahedron, vol. 72, no. 24, pp. 3535–3541, 2016
5. B. K. Billing, P. K. Agnihotri, and N. Singh, "Imine-Linked Electrochemical Sensor for Selective Detection of HSO 4 – Ions in Aqueous Media.," ChemistrySelect, vol. 1, no. 18, pp. 5967–5973, 2016.
6. B. Sarmah, B. Satpati, and R. Srivastava, "Highly efficient and recyclable basic mesoporous zeolite catalyzed condensation, hydroxylation, and cycloaddition reactions," J. Colloid Interface Sci., vol. 493, pp. 307–316, 2017.
7. B. Ugale and C. M. Nagaraja, "Construction of 2D interwoven and 3D metal–organic frameworks (MOFs) of Cd(ii): the effect of ancillary ligands on the structure and the catalytic performance for the Knoevenagel reaction," RSC Adv., vol. 6, no.

34, pp. 28854–28864, 2016.

8. B. Ugale, S. S. Dhankhar, and C. M. Nagaraja, "Construction of 3D homochiral metal-organic frameworks (MOF) of Cd(II): selective CO2 adsorption and catalytic properties for Knoevenagel and Henry reaction," Inorg. Chem. Front, vol. 4, no. 2, pp. 348-359, 2017.
9. B. Ugale, S. S. Dhankhar, and C. M. Nagaraja, "Construction of 3-fold interpenetrated 3D metal-organic frameworks (MOFs) of Ni(II) for highly efficient capture and conversion of Carbon dioxide," Inorg. Chem., vol. 55, no. 19, pp. 9757-9766, 2016.
10. C. A. Huerta-Aguilar, P. Raj, P. Thangarasu, ands N. Singh, "Fluorescent organic nanoparticles (FONs) for selective recognition of Al3+: application to bio-imaging for bacterial sample," RSC Adv., vol. 6, no. 44, pp. 37944–37952, 2016.
11. Deepika, T. J. D. Kumar, N. K. Goel and R. Kumar, "Controlled Smooth Edge Formation of Graphene Nanoribbons," Quantum Matter, vol. 5, pp. 345-347, 2016.
12. F. Sama, I. A. Ansari, M. Raizada, M. Ahmad, C. M. Nagaraja, M. Shahid, A. Kumar, K. Khan, and Z. A. Siddiqi, "Design, structures and study of non-covalent interactions of mono-, di-, and tetranuclear complexes of a bifurcated quadridentate tripod ligand, N-(aminopropyl)-diethanolamine," New J. Chem., vol. 41, pp. 1959–1972, 2017.
13. G. Kaur, T. Raj, N. Kaur, and N. Singh, "A Biginelli-based organic nanoprobe for simultaneous estimation of tyramine and 1,2-diaminopropane: application in real samples," New J. Chem., vol. 40, no. 12, pp. 10536–10544, 2016.
14. H. Chowdhury and A. Goswami, "A Quick Access to 1-(2-Pyridyl)indoles via Solvent-Free Ruthenium(II)-Catalyzed Chemo- and Regioselective [2+2+2] Cycloaddition of α, ω -Diynes and N-Cyanoindoles," Adv. Synth. Catal., vol. 359, no. 2, pp. 314–322, 2017.
15. H. Goh, T. K. Nam, A. Singh, N. Singh, and D. O. Jang, "Dipodal colorimetric sensor for Ag+ and its resultant complex for iodide sensing using a cation displacement approach in water," Tetrahedron Lett., vol. 58, no. 11, pp. 1040–1045, 2017.
16. H. Sharma, N. Kaur, A. Singh, A. Kuwar, and N. Singh, "Optical Chemosensors for Water Sample Analysis," J. Mater. Chem. C, vol. 4, pp. 5154–5194, 2016.
17. J. A. Yadav, K. S. Khomane, S. R. Modi, B. Ugale, R. N. Yadav, C. M. Nagaraja, N. Kumar, and A. K. Bansal, "Correlating Single Crystal Structure, Nanomechanical, and Bulk Compaction Behavior of Febuxostat Polymorphs," Mol. Pharm., vol. 14, no. 3, pp. 866–874, 2017.
18. M. Kaur and C. M. Nagaraja, "Template-free syntheses of hierarchical PbS microstructures using a new sulphur source and their time-dependent morphological evolution and photocatalytic properties," RSC Adv., vol. 6, no. 62, pp. 56790–56799, 2016.
19. M. S. Deenadayalan, N. Sharma, P. K. Verma, and C. M. Nagaraja, "Visible-Light-Assisted Photocatalytic Reduction of Nitroaromatics by Recyclable Ni(II)-Porphyrin Metal-Organic Framework (MOF) at RT," Inorg. Chem., vol. 55, no. 11, pp. 5320–5327, 2016.
20. N. Chatterjee and A. Goswami, "Synthesis and Application of Cyclic Diaryliodonium Salts: A Platform for Bifunctionalization in a Single Step," European J. Org. Chem., no. December 2009, pp. 3023–3032, 2017.
21. N. Chatterjee and A. Goswami, "Diverse Transformations of Boronic Compounds Promoted by Hypervalent Organoiodines(III): Unique Combined

Reactivity of Two Electrophilic Compounds," Adv. Synth. Catal., vol. 359, no. 3, pp. 358–371, 2017.

22. N. Chatterjee, M. Arfeen, P. V. Bharatam, and A. Goswami, "Chemoselective Primary Amination of Boronic Acids," Synfacts, vol. 12, no. 8, pp. 0853–0853, 2016.
23. N. Kaur, S. K. Sharma, D. Y. Kim, and N. Singh, "Highly transparent and lower resistivity of yttrium doped ZnO thin films grown on quartz glass by sol-gel method," Phys. B Condens. Matter, vol. 500, pp. 179–185, 2016.
24. P. Mandal, N. Malviya, M. F. C. Guedes da Silva, S. S. Dhankhar, C. M. Nagaraja, S. M. Mobin, and S. Mukhopadhyay, "Fine tuning through valence bond tautomerization of ancillary ligands in ruthenium(II) arene complexes for better anticancer activity and enzyme inhibition properties," Dalt. Trans., vol. 45, no. 48, pp. 19277–19289, 2016.
25. P. Raj, A. Singh, A. Singh, and N. Singh, "Syntheses, crystal structures and photophysical properties of Cu(II) complexes: fine tuning of a coordination sphere for selective binding of azamethiphos," Dalt. Trans., pp. 985–994, 2017.
26. P. Raj, A. Singh, K. Kaur, T. Aree, A. Singh, and N. Singh, "Fluorescent Chemosensors for Selective and Sensitive Detection of Phosmet/Chlorpyrifos with Octahedral Ni2+ Complexes," Inorg. Chem., vol. 55, no. 10, pp. 4874–4883, 2016.
27. R. Kaur and T. J. Dhilip Kumar, "Ab initio potential energy surfaces of HCS+: A study of the ground and the low-lying excited electronic states," Chem. Phys., vol. 479, pp. 36–41, 2016.
28. R. Kaur and T. J. Dhilip Kumar, "Rotational quenching of CS in ultracold 3He collisions," Chem. Phys. Lett., vol. 659, pp. 304–309, 2016.
29. R. Kaur and T. J. Dhilip Kumar, "Ultracold rotational deexcitation of CO (1+) collision with proton," Chem. Phys. Lett., vol. 660, pp. 43–47, 2016.
30. R. Patil, S. Bhand, V. B. Konkimalla, P. Banerjee, B. Ugale, D. Chadar, S. K. Saha, P. P. Praharaj, C. M. Nagaraja, D. Chakrovarty, and S. Salunke-Gawali, "Molecular association of 2-(n-alkylamino)-1,4-naphthoquinone derivatives: Electrochemical, DFT studies and antiproliferative activity against leukemia cell lines," J. Mol. Struct., vol. 1125, pp. 272–281, 2016.
31. S. Chopra, A. Singh, P. Venugopalan, N. Singh, and N. Kaur, "Organic Nanoparticles for Visual Detection of Spermidine and Spermine in Vapors and Aqueous Phase," ACS Sustain. Chem. Eng., vol. 5, no. 2, pp.1287-1296, 2017
32. S. K. Sharma, N. Kaur, J. Singh, A. Singh, P. Raj, S. Sankar, D. Y. Kim, N. Singh, N. Kaur, and H. Singh, "Salen decorated nanostructured ZnO chemosensor for the detection of mercuric ions (Hg2+)," Sensors Actuators, B Chem., vol. 232, pp. 712–721, 2016.
33. S. Karthik, J. Ajantha, C. M. Nagaraja, S. Easwaramoorthi, and T. Gandhi, "Synthesis and photophysics of extended π-conjugated systems of substituted 10-aryl-pyrenoimidazoles," Org. Biomol. Chem., vol. 14, no. 43, pp. 10255–10266, 2016.
34. S. Kumar and T. J. Dhilip Kumar, "Fundamental Study of Reversible Hydrogen Storage in Titanium- and Lithium-Functionalized Calix[4]arene," J. Phys. Chem. C, vol. 121, no. 16, pp. 8703–8710, 2017.
35. S. S. Dhankhar and C. M. Nagaraja, "Green synthesis, optical and magnetic

properties of a Mn II metal–organic framework (MOF) that exhibits high heat of H 2 adsorption," RSC Adv., vol. 6, no. 89, pp. 86468–86476, 2016.

36. S. Samanta, S. Khilari, D. Pradhan, and R. Srivastava, "An Efficient, Visible Light Driven, Selective Oxidation of Aromatic Alcohols and Amines with O 2 Using BiVO 4 /g-C 3 N 4 Nanocomposite: A Systematic and Comprehensive Study toward the Development of a Photocatalytic Process," ACS Sustain. Chem. Eng., vol. 5, no. 3, pp. 2562–2577, 2017.
37. T. Jain, S. Sheokand, S. R. Modi, B. Ugale, R. N. Yadav, N. Kumar, C. M. Nagaraja, and Arvind K. Bansal, "Effect of differential surface anisotropy on performance of two plate shaped crystals of aspirin form I," E. J. Pharm. Sci., vol. 99, pp. 318–327, 2017.
38. T. Raj, H. Sharma, Mayank, A. Singh, T. Aree, N. Kaur, N. Singh, and D. O. Jang, "'Solvent-Less' Mechanochemical Approach to the Synthesis of Pyrimidine Derivatives," ACS Sustain. Chem. Eng., vol. 5, no. 2, pp. 1468–1475, 2017.

Conferences

1. M. Kaur, C. M. Nagaraja, "Template-free synthesis of CdxZn1-xS nanocrystals for efficient water splitting and reduction of nitroaromatics in water" at international conference on Gordon Research Conference on National Material for application in Energy Technology 2017, Ventura Beach Marriott, CA, USA, February 25 - March 3, 2017.
2. M. Kaur, C. M. Nagaraja, "Template-free synthesis of metal sulfide nanocrystals and their photocatalytic study" at International Conference of Young Researchers in Advanced Materials (IUMRS-ICYRAM 2016), Indian Institute of Science, Bangalore, India, December 11-15, 2016.
3. M. Kaur, C. M. Nagaraja, "Template-free syntheses of CdxZn1-xS nanostructures for efficient photocatalytic reduction of nitroaromatics in water" at National Symposium on Nano Science and Technology (NSNST-2016), CeNSE, Indian Institute of Science, Bangalore, June 29-30 2016.
4. R. Kaur and T. J. Dhilip Kumar, "Rotational Quenching Study in Isovalent H+ + CO and H+ + CS Systems" at 71st International Symposium on Molecular Spectroscopy, University of Illinois, Champaign-Urbana, IL, USA, June 20-24, 2016.
5. R. Kaur and T. J. Dhilip Kumar, "Potential Energy Surfaces: Study of Rotationally Inelastic Collisions in H + CS+ System" at 15th Indian Theoretical Chemistry Symposium-2016, University of Hyderabad, December 14-17, 2016.
6. S. Kumar and T. J. Dhilip Kumar, "Fundamental Study of H2 Storage in MOF with Graphyne Linker Functionalized with Li" at 15th Indian Theoretical Chemistry Symposium-2016, University of Hyderabad, December 14-17, 2016.
7. S. S. Mohammadi, Mathew D. Brennan, A. S. Oberoi, H. A. Vagh, Michelle J.S. Spencer, T. J. Dhilip Kumar, J. Andrews, "Density functional theory and ab initio molecular dynamics investigation of hydronium interactions with graphene" at 1st International Conference on Energy and Power, ICEP2016, RMIT University, Melbourne, Australia, December 14-16, 2016.

Department of Computer Science & Engineering

Journals

1. A. Mudgal and S. Pandit, "Geometric hitting set, set cover and generalized class cover problems with half-strips in opposite directions," Discret. Appl. Math., vol. 211, pp. 143–162, 2016.
2. B. K. Saha, S. Misra, and S. Pal, "SeeR: Simulated Annealing-based Routing in Opportunistic Mobile Networks," IEEE Trans. Mob. Comput., vol. 1233, no. c, pp. 1–1, 2017.

Conferences

1. A. Sikka, G. Mittal, D. B. Reddy and N. C. Krishnan, "Supervised Deep Segmentation Network for Brain Extraction" at International Conference on Computer Vision, Graphics and Image Processing, Guwahati, Assam, India, December 18 - 22, 2016.
2. G. Mittal, K. B. Yagnik, M. Garg and N. C. Krishnan, "Spot Garbage: Smartphone App to Detect Garbage Using Deep Learning" in Proc. of ACM International Joint Conference on Pervasive and Ubiquitous Computing, pp. 940-945, Heidelberg, Germany, September 12 - 16, 2016.
3. J. Singh, A. Gujral, H. Singh, J. Singh and N. Auluck, "Energy Aware Scheduling on Heterogeneous Multiprocessors with DVFS & Duplication" at The 17th IEEE International Conference on Parallel & Distributed Computing, Applications & Technologies, Guangzhou, China, December 16 - 18, 2016.
4. J. Singh, M. Pandey, E. Katiyar, R. Tulasyan, V. Gupta, and N. Auluck, "A Multiobjective Genetic Algorithm to Improve Power and Performance of Heterogeneous Multiprocessors" at The IEEE International Conference on Parallel, Distributed & Grid Computing, Shimla, December 22 - 24, 2016 (second best paper award).
5. J. Singh and N. Auluck, "Real-Time Scheduling on Heterogeneous Multiprocessor Systems" at The IEEE International Conference on Parallel, Distributed & Grid Computing (PDGC 2016), December 22-24, 2016.
6. J. Singh, M. K. Pandey, E. Katiyar, R. Tulasyan, V. Gupta and N. Auluck, "A Multiobjective Genetic Algorithm to improve power and performance of heterogeneous multiprocessors" at IEEE International Workshop on Network Computing and Data Management, Tianjin, China, August 23 - 26, 2016.
7. J. Jun, S. Yeon, T. Kundu, D. P Agrawal and J. Jeong, "CACA: Link-based Channel Allocation Exploiting Capture Effect for Channel Reuse in Wireless Sensor Networks" at IEEE International Conference on Distributed Computing Systems (ICDCS), Nara, Japan, June, 2016.
8. Lee, J. Jeong, T. Oh, J. Jun and S. H. Son, "DCMAC: Data-Oriented Cluster-Based Media Access Control Protocol for Vehicular Networks" at International Conference on Advanced Information Networking and Applications (WAINA), Crans-Montana, 2016.
9. N. Kompala, S. R. S. Iyengar and Y. Gupta, "Are We Birds of the Same Feather?" in Proc. of 18th International Conference on Distributed Computing and Networking, (ICDCN 2017) Hyderabad, India, January 05 - 07, 2017.
10. P. Goyal and J. P. Allebach, "Print Quality Assessment For Stochastic Clustered-Dot Halftones Using Compactness Measures" at IEEE International Conference on Image Processing (IEEE-ICIP), Phoenix,

Arizona, USA, September 25-28, 2016.

11. Raghunath Reddy M and Apurva Mudgal, "Stabbing Line Segments with Disks and Related Problems" in proc. of 28th Canadian Conference on Computational Geometry (CCCG 2016), pp. 201-207, Vancouver, Canada, August 3-5, 2016.
12. S. Sukhija, N. C. Krishnan and G. Singh, "Supervised Heterogeneous Domain Adaptation via Random Forests" in proc. Of IJCAI'16, 25th International Joint Conference on Artificial Intelligence, pp. 2039-2045, New York, USA, July 09 - 15, 2016.
13. S. Sukhija, and N. C. Krishnan, "Supervised Heterogeneous Domain Adaptation via Random Forests" Indian Workshop on Machine Learning, 2016.
14. V. B. Kukkala, J. S. Saini and S. R. S. Iyengar,"Secure Multiparty Construction of a Distributed Social Network" in Proc. of 18th International Conference on Distributed Computing and Networking, (ICDCN 2017) Hyderabad, India, January 05 - 07, 2017.
15. V. B. Kukkala, J. S. Saini, and S. R. S. Iyengar, "Privacy Preserving Network Analysis of Distributed Social Networks," pp. 336–355, 2016.

Department of Civil Engineering

Journals

1. H. Arora, C. S. P. Ojha, and D. Kashyap, "Effect of spatial extent of atmospheric variables on development of statistical downscaling model for monthly precipitation in Yamuna-Hindon Interbasin, India," J. Hydrol. Eng., vol. 21, no. 9, pp. 1–17, 2016.
2. J. Chaubey, and D. Kashyap, "A Data Parsimonious Model for Capturing Snapshots of Groundwater Pollution Source," Elsevier- Journal of Contaminant Hydrology, vol. 197, pp. 17-28, 2017.

Conferences

1. J. Chaubey and D. Kashyap, "Pseudo steady state numerical model for groundwater pollution source identification" AGU Fall Meeting, American Geophysical Union, San Francisco, December 12-16, 2016.
2. N. James "6th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics", Indian Institute of Technology Roorkee, Extension Centre, 20 Knowledge Park II, Greater Noida, India, August 1 – 6, 2016.
3. Y. Singh, P. P. Kumar, V. Rao, S.n Kadam and P. Haldar, "Seismic Evaluation and Retrofitting of Reinforced Concrete and Masonry Buildings" National Workshop on Advances in Repair and Rehabilitation of Concrete Structures, CBRI, Roorkee, India, pp. 23-41, September 22-23, 2016.

Department of Electrical Engineering

Journals

1. Atul Kumar Nishad and Rohit Sharma, "Lithium-intercalated Graphene Interconnects: Prospects for On-chip Applications", IEEE Journal of the Electron Devices Society, vol. 4, no. 6, pp. 485-489, 2016.
2. H. Kaur and J. S. Sahambi, "Vehicle Tracking in Video Using Fractional Feedback Kalman Filter" IEEE Transactions on Computational Imaging, vol. 2, no. 4, pp. 550-561, December 2016.
3. S. Roy, "Uncertainty of optimal generation cost due to integration of renewable energy sources," Energy Syst., vol. 7, no. 3, pp. 365–389, 2016.
4. S. Roy, "Maximum likelihood output curve and modal bounds for active pitch-

regulated wind turbines"IEEE Transactions on Sustainable Energy, vol. 7, no. 2, pp. 554-561, 2016.

5. S. Roy, "Worst-case photovoltaic generation and power change distribution under dense cloud cover"IEEE Transactions on Sustainable Energy, vol. 8, no. 3, pp. 1021-28, 2016.
6. S. Kumar and R. Sharma, "Analytical Modeling and Performance Benchmarking of OnChip Interconnects with Rough Surfaces" IEEE Trasactions on Multiscale Computing Systems, 2017.

Conferences

1. A. Kumar and R. Sharma, "Performance Improvement in Side Contact Multilayer Graphene NanoRibbon Interconnects Using Intercalation Doping", Proceedings of the 66th IEEE Electronic Components and Technology Conference, pp. 2291-2296, Las Vegas, May 2016.
2. S. Kumar and R. Sharma, "Performance Modeling and Broadband Characterization of Chip-to-Chip Interconnects with Rough Surfaces" 18th IEEE Electronics Packaging Technology Conference, pp.629-632 Singapore, November 30- December 03, 2016.
3. J. Kalaiselvi and S. Srinivas, "Design and development of a single CM filter for bearing current and ground current reduction in a dual two level inverter fed open end winding induction motor drive," 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), pp. 1-6, Trivandrum, India, 2016.

Department of Humanities & Social Sciences

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16. S. Singh and R. Repaka, "Efficacy of Convective Cooling in Minimizing Skin Burns during Radiofrequency Ablation of Breast Tumor: A Numerical Study" International Conference on Advances in Scientific Computing (ICASC 2016), Indian Institute of Technology Madras, India, November 28-30, 2016.
17. S. Singh and R. Repaka, "Effects of Target Temperature on Ablation Volume During Temperature-controlled RFA of Breast Tumor" COMSOL Conference, Bangalore, India, Oct 20-21, 2016.
18. A. Bhowmik, R. Repaka, S. C. Mishra, " Role of Short-Pulse Laser for Detection

and Differentiation of Cancer Stages and Benign Lesion Within Human Skin" 12th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Costa del Sol, Spain, July 11 – 13, 2016.

19. S. Singh, R. Repaka, "Thermal assessment of breast tumor ablation using cool-tip and mono-polar electrode - A theoretical comparison", BiTerm-2016, Indian Institute of Technology Delhi, India, April 15-17, 2016.

Center for Biomedical Engineering

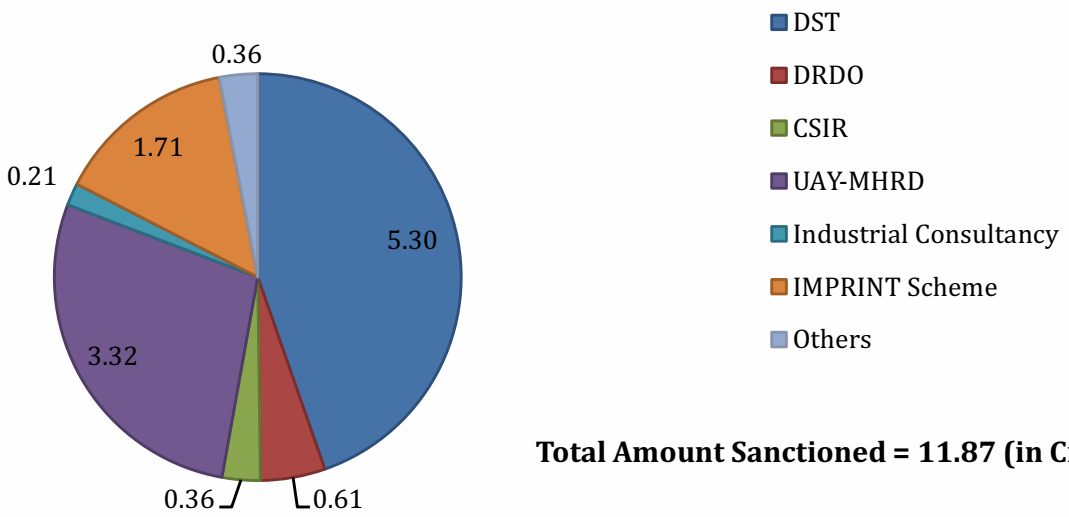
Conferences

1. D. Pal, "Innovation in Biomedical Instruments and Devices", workshop - Third DST-PGIMER, PGI Chandigarh, January 7, 2017.
2. S. Naidu, "Innovation in Biomedical Instruments and Devices", workshop - Third DST-PGIMER, PGI Chandigarh, January 7, 2017.

INDUSTRIAL CONSULTANCY & SPONSORED RESEARCH

External research & consultancy project sanctioned during financial year 2016-17

Total Amount Sanctioned During 2016-17



Total Amount Sanctioned = 11.87 (in Crores)

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount (Rs. In Crores)
1	DST	Dr. Prabhat K. Agnihotri	SMMEE	Developed of A Multiscale Numerical Approach to Investigate the Origin of Indentation Size Effect	0.24
2	DST	Dr Tharamani Chikka Nagaiah	Chemistry	Carbon Nanotubes Based Electrochemical Immunosensor for Small Cell Lung Cancer Diagnosis	0.79
3	CSIR	Dr. Pushpender Pal Singh	Physics	Onset and Strength of Massive Transfer Events in Low Energy Heavy ION Reactions	0.16
4	DST	Dr. Rajendra Srivastva	Chemistry	Design, Synthsis and application of carbon-metal oxide/zeolite-metal oxide hybrid materials	0.50

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount (Rs. In Crores)
5	DST	Dr. Rakesh Das under the mentorship of Dr. Navin Kumar	SMMEE	National Post-Doctoral Fellowship	0.14
6	ISRO SPL, VSSC	Dr. T.J. Dhilip Kumar	Chemistry	Chemical Kinetics of Molecular Collision Processes in Martian Atmosphere	0.21
7	DST	Dr. Shilpi Chaoudhary under the mentorship of Dr. Kailash Chand Jena	Physics	National Post-Doctoral Fellowship	0.19
8	DST	Dr. Prabal Banerjee	Chemistry	Studies of the reactivity of oxaziridine for electrophilic N-transfer and [3+3] cycloaddition with donor-acceptor cyclopropane: Construction of N-containing heterocycles having structural scaffolds of bioactive molecules	0.59
9	DST	Dr. Santanu Kaley (N-PDF) under the mentorship of Dr. S.C. Martha	Mathematics	National Post-Doctoral Fellowship	0.19
10	DST	Dr. RaviShankar Reddy Velampati	Electrical Engineering	Nonvolatile Mamory Devices Using Microwave - Synthesized Metal Nanocrystals	0.18
11	DRDO	Dr. Narinder Singh	Chemistry	Design, synthesis and development of chemosensors for explosive materials, ware - fare chemicals	0.44

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount (Rs. In Crores)
12	MHRD - UAY	Dr. Harpreet Singh	SMMEE	Development of Cold-Spraying Based Additive Manufacturing Process for Industrial Application	2.85
13	MHRD - UAY	Dr. Dhiraj Kumar Mahajan	SMMEE	Development of an Effluent Treatment Plant for Handtool Industries	0.47
14	DST	Dr. Rakesh Kumar Maurya	SMMEE	Soot Particle number Emission Characterization and Invwstigation of Load Constraints in Reactivity Controlled Compression	0.49
15	Industrial Consultancy	Dr. Navin Kumar	SMMEE	Mechanical and Thermal Characterization of Ceramic Packages	0.13
16	CSIR	Dr. Rajesh V Nair	Physics	Investigation of light transport and emission in resonant disordered Nanophotonic structures	0.20
17	DST	Dr. Meenakshi Verma (N-PDF) under the mentorship of Dr. Narinder Verma	Chemistry	National Post-Doctoral Fellowship	0.19
18	DST	Dr. Rajendra Srivastava	Chemistry	Synthesis and catalytic investigations of mesoporous metal-organic framework	0.47
19	Industrial Consultancy	Dr. C.K Narayanan	Computer Science & Engieering	Unrestricted Grant : awarded to Prof. Narayanan C Krishnan for Research Collaborations	0.01

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount (Rs. In Crores)
20	Industrial Consultancy	Prof. Ramesh Garg	Electrical Engineering	Expert for Mobi Antenna Technologies (Shenzhen) Co. Ltd. in C.S. (OS) 1989 of 2010 before Delhi High Court	0.05
21	Indian National Science Academy (INSA)	Rajesh V. Nair	Physics	"Two-dimensional meta-surfaces to mold the light scattering and emission"	0.15
22	DST	Dr. Ranjan Das	SMMEE	Design and Development of a Solar Pond and Biomass Driven Thermoelectric Unit for Domestic Power Generation using Inverse Method	0.49
23	TBRL-DRDO	Dr. Jitendra Prasad	SMMEE	Simulation of MPV and Crew Dynamic against the Blast/Shock load of Mine Explosion	0.17
24	Industrial Consultancy	Dr. Putul halder	Civil Engineering	Vetting of Structural Design for Structural Stability of Boundary Wall Drawing No. S/9/202	0.02
25	Industrial Consultancy	Dr. Ramjee Repaka	SMMEE	Veetting of Air Conditioning Plant Design of ATC Building, Af Station, Ubhampur	0.01
26	DST	Dr. Ravi Mohan Prasad	SMMEE	Selective Gas Detection and Protection of Sensing Layer in Harsh Environments using Silicon Containing Polymer-Derived Ceramic Filters	0.43

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount (Rs. In Crores)
27	DST	Dr. Yashveer Singh	Chemistry	Acemannan-based nanogels to target microbicides to mucosal and sub-mucosal regions of vagina to prevent HIV-1 infection	0.42
28	IMPRINT Scheme	Dr. Harpreet Singh	Mechanical Engineering	Erosion, Corrosion and Deposition Resistant Coatings for Coal-Fired Boilers	0.96
29	IMPRINT Scheme	Dr. Dhiraj Kumar Mahajan (Co-PI)	Mechanical Engineering	Design, development and demonstration of indigenous hydrogen storage and fuel cell system for mobile and stationary applications of 5kW capacity	0.75
			Total		**11.87**

FINANCE & ACCOUNTS

Receipt & payment for the financial year 2016-17

RECEIPT	Amount (in Rs.) 31.03.2017	PAYMENT	Amount (in Rs.) 31.03.2017
I. Opening Balances		**I. Expenses**	
a) Cash Balance	0	a) Establishment Expenses	207288680
b) Bank Balance		b) Academic Expenses	127340599
i) In Current accounts	0	c) AdministrativeExpenses	68382519
ii) In deposit accounts (FDR with SBI)	664373918	d) Transportation Expenses	5768174
iii) Savings accounts (Institute)	62648217	e) Repair & Maintenance	13688561
iv) Savings accounts (R & D)	74827842	f) Prior Period Expenses	0
		g) Finance Cost	20841
II. Grant-in-Aid	2456694000	**II. Payment against Earmarked/Endowmnet Funds**	0
III. Academic Receipts	51762010	**III. Payment against Sponsored Projects/Schemes**	54215193
IV. Receipt against Earmarked/Endowment Funds	0	**IV. Payment against Sponsored Fellowships and Scholarships**	4393717
V. Receipt against Sponsored Projects/Schemes	88841616	**V. Investment and Deposits made**	
		(a) Out of Earmarked/Endowmnet Funds	0
VI. Receipt against Sponsored Fellowships and Scholarships	5936980	(a) Out of Own Funds (Investments Others)	0
VII. Income on Investments from		**VI. Term Deposits with Scheduled Banks**	
a) Earmarked/ Endowment Funds	0	FDR (R&D)	211836116
b) Other Investments	0		
		VII. Expenditure on Fixed Assets and Capital Works in Progress	
VIII. Interest received on		a) Fixed Assets	224189592
a) FDR	49312175	b) Capital Work in Progress	1003834997
b) Loans and Advances	0		

RECEIPT	Amount (in Rs.) 31.03.2017	PAYMENT	Amount (in Rs.) 31.03.2017
VIII. Interest received on		a) Fixed Assets	224189592
a) FDR	49312175	b) Capital Work in Progress	1003834997
b) Loans and Advances	0		
c) Savings Bank Accounts	11800698	**VIII. Other Payments including statutory payments**	14861200
d) Saving & FDR (R&D)	6141010		
		IX. Refunds of Grants (Projects)	0
IX. Investments Encashed		**X. Deposits and Advances**	538901515
Endowment Fund	0		
		XI. Other Payments	0
X. Term Deposits with Scheduled Banks Encashed			
FDR (R&D)	110536116	**XII. Closing Balances**	
		a) Cash Balance	0
XI. Other Income (including Prior Period Income)	4873471	b) Bank Balance	
		i) In Current accounts	0
XII. Deposits and Advances	6254828	ii) In deposit accounts (FDR)	937873630
		iii) Savings accounts (Institute)	187582609
XIII. Miscellaneous Receipts including Statutory Receipts	20132258	iv) Savings accounts (R & D)	13957196
TOTAL	**3614135139**	**TOTAL**	**3614135139**

PERMANENT CAMPUS


Boys' Hostel


Girls' Hostel


CSE Block


Chemistry Block


Electrical Block


Boys Hostel with Illuminated Streets

IIT Ropar has made rapid progress and is inching towards completion of Computer Science block, Lecture Hall Complex, Utility Buildings, Girls' and Boys' hostel. Apart from this, the campus has made progress in construction of roads, provision of street lights, commissioning of all the three Electric Sub Stations, Data Networking, Borewell water, Sewage and other facilities, which are essential for the campus to be made functional. Also, horticulture and landscape in and around priority buildings have made significant head way. As regards to faculty quarters, about 40 apartments are ready for occupation. At the moment, quality audit of all buildings by expert committee is under way for hassle-free living and working. Some pictures of the new campus, which we are going to move, are given above.


Residential Block T2


Utility Block

CENTRAL LIBRARY

Introduction

Central Library of IIT Ropar play a pivotal role in support of various academic and research activities at the institute. The main functions of the library include acquiring, processing, preserving and dissemination of print and electronic information resources. The objective of the library is to fulfil the academic and research requirements of users by providing access to quality resources with appropriate delivery systems and services in order to support the institute to achieve excellence in teaching, learning, research and community services.

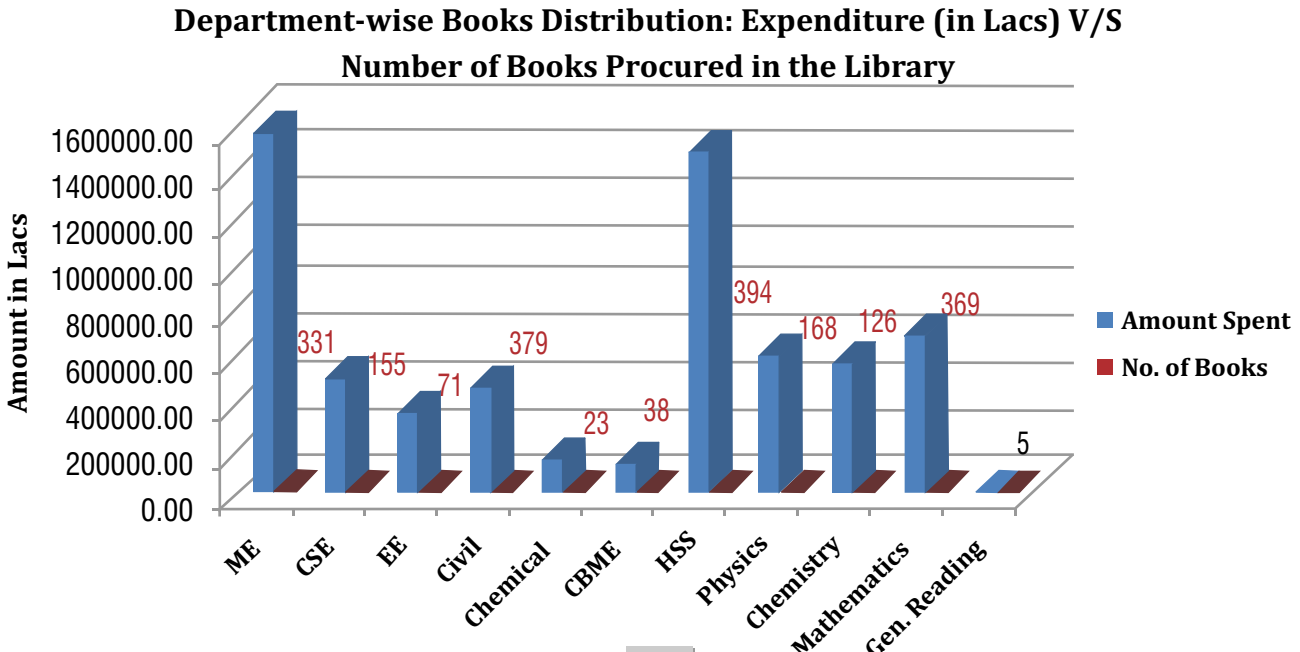
Launch of RFID System

RFID system and Online OPAC on public domain has been successfully launched on July 01, 2016 by the Director, Prof. S. K. Das. Director inaugurated the RFID system and launched the system by lending a book through the self-service kiosk with smart card. On this occasion, the web OPAC (Online Catalogue of IIT Ropar) was also opened for public access.

Collection development

Collection building is one of the important functions of the library, which supports academic and research activities of the students, faculty, staff and other users.

The Library is developing its collection by acquiring latest books, journals, reports and other reference and information resources in science, engineering, technology, humanities and social sciences. The Library has excellent print collection of over 15000 documents which includes various resources such as dictionaries, handbooks, encyclopedias, reports of research monographs, multi-volume reference works etc. and books on general reading. Library collection also includes CDs/DVDs, e-journals, annual reports, standards etc. on the subject areas of science, engineering, technology, humanities and social sciences. In the financial year 2016-17, the library added 2059 new books to its collection the detail of which is shown in the below chart:



Electronic and Print Resources

The Central Library facilitates online access to thousands of e-journals through direct subscription and participation in consortia, such as E-Shodh Sindu. The library also provides online access to bibliographic, abstracting and scientometric databases such as Scopus, Web of Science and MathSci.Net. The library subscribes to the following electronic and print periodicals.

Full-Text Electronic Journals

- Acta Arthematica from the Institute of Mathematics
- Advances in Structural Engineering from Sage
- American Chemical Society (ACS) Digital Archive and Current Journals
- American Institute of Physics (AIP) Digital Archive and Current Journals
- American Mathematical Monthly
- American Mathematical Society selected Journals
- American Naturalist from the University of Chicago Press
- Annual Reviews
- American Physical Society (APS) Journals
- American Society of Civil Engineers (ASCE) Journals
- American Society of Mechanical Engineers (ASME) Digital Archive and Current Journals
- Association for Computing Machinery (ACM) Digital Library
- ASTM COMPASS
- Canadian Geotechnical Journal from NRC Research Press
- Canadian Journal of Mathematics
- Cambridge University Press (CUP) selected Journals
- Earthquake Spectra from Earth Quake Engineering Research Institute
- Economic & Political Weekly
- Emerald Journals
- IEEE/IEL Electronic Library (IEL) Online
- Institute of Mechanical Engineers (IMechE) Digital Archive
- Institute of Physics (IoP) Science Digital Archive and selected Current Journals
- International Concrete Engineering selected Journals
- Journal of Biomedical Optics from International Society for Optics & Photonics (SPIE)
- Journal of the European Mathematical Society
- JSTOR
- Nature selected Journals
- Optical Society of America (OSA) Online
- Oxford University Press (OUP) Journals
- Proceedings of National Academic Sciences (PNAS)
- Project MUSE
- Proquest-ABI/Inform Complete
- Publicationes Mathematicae Debrecen
- Revue Francaise de Geotechnique
- Royal Society Proceedings A: Mathematical, Physical and Engineering Sciences
- Royal Society of Chemistry (RSC) Digital Archive and Gold EA current Journals Package
- SAE MOBILUS (SAE Technical Papers & Journals)
- ScienceDirect Journals
- Science Online
- Springer Online Journals
- Taylor & Francis Journals
- Technopress selected journals
- Thieme selected Journals
- Walter de Gruyter selected Journals
- Wiley selected Journals
- World Scientific selected Mathematics Journals

Economic and Political Databases

- EPW Research Foundation
- Prowess
- States of India

Bibliographic, Abstracting and Scientometric databases

- MathSciNet
- Scifinder
- Scopus
- Web of Science

Print Periodicals

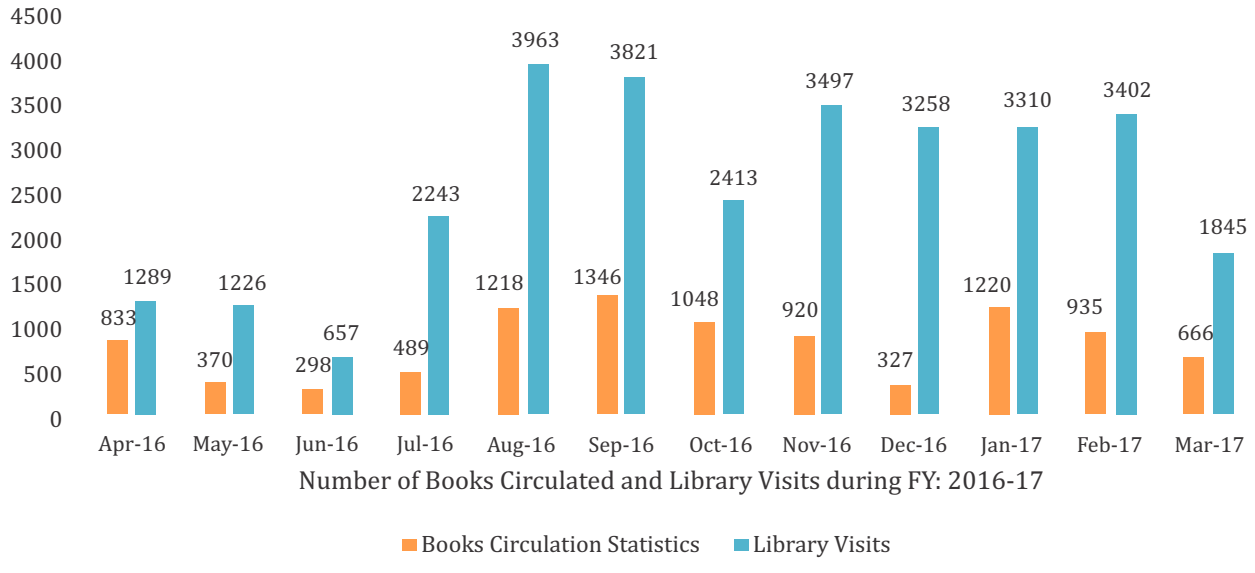
- AAAS/Science
- Current Science
- Data Quest
- Economist, The
- Electronic for You
- Frontline
- Modern Fiction Studies
- National Geographic
- PC Quest
- Reader Digest
- Time
- Week, The

Library Services

The library currently provides following services on regular basis:

Circulation and Consultation Service

The library circulation operations are automated using LIBSYS-7 software. During the academic year 2016-17, total of 9670 documents were issued/consultations handled at Kiosk to all categories of users. The Library has witnessed the total 30924 visits of users during this period. The graph below well depicts the circulation history of books and visits of users during financial year 2016-17:



Reference Service

The library has a separate reference section meant for in-house reading with a seating capacity for 120 students. Reference queries are responded immediately by qualified library professionals on one-to-one and e-mailing basis.

Library OPAC (Online Public Access Catalogue)

The OPAC is one of the most widely used services of the library and it is accessible on web. The library OPAC, besides listing all the documents available in the library, allows on-line status of an individual's account, i.e. checkout status and circulation history, reservation of desired documents, and current status of a particular book. OPAC is searchable by author, title, publisher, and subject with the several other fields. Apart from above, the OPAC also enables users to browse electronic journals (title, publisher wise) subscribed by the Institute.

RFID System

The library has installed Radio-frequency identification (RFID) system in the year 2016-17 to facilitate easy lending process and provides security for the library through EAS gates using bit features on RFID tags. The Self-service Kiosk operates 24/7 basis and made library lending easy and quicker. Library users are making use of this facility very well and 90% of library circulation is happening through self-servicing. In addition to self-service kiosk, library has RFID based staff station to do library transactions. Both self-service machine and staff station can be used for tagging books and smart cards. Library has issued Smart cards to library members to use self-servicing facility.

Library Entry Exit Portal (LEEP)

Library Entry Exit has been made online. Now the users can use the Entry Exit Portal at the entrance of library to log there details.

OTHER FACILITIES

During the financial year 2016-17 the library physical space has been revamped by creating quite 5 study rooms with the air conditioning. This space is attracting more number of users. Library has a multipurpose photocopier to provide printing/photocopy/scan facilities to the user community with the nominal charges.

STAFF

The library has a team of talented officers and staff who perform their duties very well, and are always appreciated by our users for their ability, enthusiasm and honesty with which they serve them.

Staff Pattern

The current library staff pattern is as follows:

Sl. No.	Designation	Strength
1	Deputy Librarian	1
2	Assistant Library Information Officer (on contract)	1
3	Senior Library Information Assistant	2
4	Library Attendant (on Contract)	1

Staff Publications & Recognition

In addition to their regular duties, the library staff is also engaged in various academic activities like attending workshops, presenting papers in conferences and publishing articles and book chapters. Some of the publications and activities are listed below:

Journal Publications

1. Kaur, H. and Atri, Y.K. (2016). Condition of Punjab Government School libraries especially in the Districts of Mohali and Rupnagar: An Overview. Journal of Indian Library Association (JILA), 52(1-2), 23-30.
2. Kaur, H. and Atri, Y.K. (2017). Present Scenario of School Libraries in Punjab with Special Reference to Mohali and Rupnagar: An Overview. International Journal of Engineering Technology, Management and Applied Sciences, Ministry of MHRD, Govt. of India, 5(1), 96 - 101.
3. Singh, N.; Handa, T.S.; Kumar, D. & Singh G. (2016). Mapping of breast cancer research in India: a bibliometric analysis. Current Science, 110(7), 1178-1183.

Paper presentation/ Conference proceedings

1. Kaur, H. & Malhotra, S. (2016, December 12-15). Managing Institutional Repositories in Open Access Environment in India: Benefits and Challenge. In Jain, P.K., Lamirel, J.-C.& Kretschmer, H. Editor. Webometrics, Informetrics and Scientometrics & 17th COLLNET Meeting, Paper presented at the proceedings of 12th International Conference on Webometrics, Informetrics and Scientometrics & 17th COLLNET Meeting, Nancy, France.
2. Kaur, A. and Kaur H. (2016, May 11). A Bibliometric Study on Research Trends in the journal of Indian journal of fibre and textile Research. In Jharotia, A.K., Vaibhav, B., Mittal R.Editor. Library Information Science and Information Technology for Education, Paper presented at the proceedings of National Conference on Library Information Science and Information Technology for Education NCITE- 2016, New Delhi (pp.34-40). New Delhi: Modern Rohini Education Society.
3. Kaur, H. (2016, October 21). Comparative study of library facilities in Government and Private Schools of Mohali and Rupnagar: An Overview. In Chand, S. Editor. Role of Libraries in Social Empowerment, Paper presented at the proceedings of National Conference on Role of Libraries in Social Empowerment in association with Library Professionals Association (LPA), New Delhi (pp. 253-263). New Delhi: Ahuja Publishing House.
4. Kaur, H. and Atri, Y.K. (2017, January 15). Present Scenario of School Libraries in Punjab with Special Reference to Mohali and Rupnagar: An Overview. In Kaur, A., Ahuja, S., Agarwal,K. Editor. Engineering Technology, Science and Management Innovation, Paper presented at the proceedings of 2nd International Conference on Engineering Technology, Science and Management Innovation (ICETSMI- 17), National Institute of Technical Teachers Training & Research (NITTTR), Ministry of MHRD, Govt. of India, Chandigarh (pp.96-101). Chandigarh: Academic Science. .
5. Bhattacharya, A. (2016, October 21). Strengthening libraries through ICT: An Overview. In

Chand, S. Editor. Role of Libraries in Social Empowerment, Paper presented at the proceedings of National Conference on Role of Libraries in Social Empowerment in association with Library Professionals Association (LPA), New Delhi (pp. 209-212). New Delhi: Ahuja Publishing House.

6. Sohal, G.S., Handa, T.S. & Bhatia, J.S. (2016, November 11). ICT literacy skills and Internet use Pattern among library users: a case study of IIT Ropar. In Rao, P.V., Sharda, P. and Kaur, J. Editor. Library Management: Challenges and opportunities, Paper presented at the proceedings of 4th National Conference on Library Management: Challenges and opportunities. Chandigarh (pp.81-85). Chandigarh: Classic Printer.

Book Chapter

1. Handa, T.S. (2016). Developing reading habits among library patrons using conventional methods and electronic media. In Kumar, R.; Singh, B. and Partap, B. (Ed.) Managing Libraries in Digital Age, pp. 56-64. New Delhi: DBH Publishers and Distributors.

Award and Honors

1. Kaur, H. received "*Rashtriya Vidya Gaurav Puraskar*" in the category of 'Outstanding Achievements in the field of Education' from the Indian Solidarity Council, New Delhi and "National Mahila Rattan Gold Medal" from the International Institute of Education and Management, New Delhi. The award ceremony was held at Indian Society of International Law, New Delhi on July 25, 2016. The awards were presented by Dr. Bhishma Narain Singh, Former Governor and Ex. Central Minister in the presence of Shri. Joginder Singh, Former CBI Director; Mr. K. L. Ganju, Consul General, Republic of Union of the Comoros; Mr. O. P. Saxena, President, All India Lawyers Forum.

Other Facilities

Guest House

The Institute's guest house is conveniently situated adjoining the residential area of the campus. The main guest house has six rooms with en suite facilities, garden, badminton court etc., while the other guest houses have three rooms each, along with lounge and dining facilities for special occasion. All the rooms of guest house are equipped with modern facilities for comfortable stay of our guests.

Medical Center and Hospital

The Institute has medical center adjacent to hostel complex with extended OPD hours. To attend any medical emergency in the campus a doctor, a pharmacist and a nurse is available 24x7. Facilities of ECG, NIBP, oxygen saturation, blood sugar monitor and Fetal hearts Doppler monitor are provided. IIT Ropar has medical empanelment with the major hospitals of Chandigarh & Mohali. E-Awareness of various contagious and noncontagious diseases and various alerts and preventive measures is done through emails for campus fraternity.

Housing

IIT Ropar campus has 46 modern style apartment units in two separate one or two storey buildings and 4 bungalows with round the clock security & all standard facilities. The campus has 100 Mbps dedicated internet line serving residential area. The residential buildings have a children play area & parking facilities.

Bank

State Bank of India assists and takes care of the financial requirements of students, staff and faculty members of IIT Ropar. The bank also provides ATM facility on campus.

Crèche

Crèche (Day care) facility was started at IIT Ropar in September 2012 to take care of the children of staff and faculty. The center caters to kids in the age group of 1 – 8 years and provides services. It is also equipped with basic essentials to provide a safe and healthy environment. IIT Ropar parents can experience invaluable peace of mind when it comes to their kids' well-being!

Cafeteria

The institute cafeteria is a relaxing place exhibiting decorated walls with views of the outdoors and lots of natural light. It provides nutritious, quality food service at a reasonable cost with an opportunity to interact & discuss national & international issues under dense tree cover with a cup of tea or coffee!

Transport Services

IIT Ropar has multiple buses plying up to Mohali & Chandigarh daily. This facility is used by faculty members and staff who live off campus for their daily commute. It is additionally used to take students to industrial visits.

EVENTS & ACTIVITITES

Research Retreat

A research retreat was arranged on July 30-31 at Kasauli Resorts, Kasauli to discuss about the research thrust areas and focus, policy on research funding, policy on publications and patents and specific issues being faced at IIT Ropar. Around 63 faculty members attended the retreat. It

provided an opportunity to explore deep into both our strengths and weaknesses and helped in deciding the future path of research for the entire institute. It also helped us to better understand ourselves as a group and explore our survival assets. During the retreat, faculty members got an opportunity to see each other in a different environment and uncover a deeper understanding of everyone's diverse personalities and research potentials. The retreat also acted as a precursor for the mission-vision workshop which is already on its way. An intensive group discussion session was organized where faculty members gave several constructive suggestions related to the research mission of our institute.

Physics Day

The Department of Physics has organized a one-day symposium, Physics Day 2016, on July 22, 2016, as the first edition of this annual event in the Department. This is in the spirit of making a platform for scientific interaction between the various research subgroups in the Department. This would inculcate among the students the motivation towards idea-based research and to remain competitive in the international perspective. Prof. Sarit K. Das, Director, IIT Ropar had inaugurated the event and said his inspiring words on importance of science-based engineering education. The technical event had started with the Colloquium by Prof. K. Thyagarajan (IIT Delhi), who talked on the generation of entangled photons and its application in quantum information processing using fibre-based integrated system. The next Colloquium by Prof. Soumitra Sengupta (Indian Association for the Cultivation of Science, Kolkata) on gravitational wave awed the audience. The rest of the day was full of oral presentations of the students and the poster session, with enthusiastic participation of the audience.

Neutrinoless Double Beta Decay (NDBD - 2016)

A workshop on Neutrinoless Double Beta Decay (NDBD - 2016) was jointly organized by the Department of Physics, Indian Institute of Technology Ropar and Tata Institute of Fundamental Research (TIFR), Mumbai at IIT Ropar from October 17 - 21, 2016. Further, a one-day collaboration meet on Neutrinoless Double Beta Decay and Dark Matter: Present & Future was conducted at HP University, Shimla on October 22, 2016. This meeting reviewed the present status of NDBD and Dark Matter search efforts devoted in India.

The RBI Policy Challenge 2016-17

A team of IIT Ropar B.Tech students consisting of (i) K. Sakthidasan, (ii) Naman Goyal,(iii) Manjunath Penugonda and (iv) Raghav Sharma guided by Dr. Samaresh Bardhan has been adjudged as the best entry from this region consisting of Punjab and Haryana for the Essay Competition "The RBI Policy Challenge 2016-17 " -A National Level Competition for Under Graduate/Post Graduate students" organized by Reserve Bank of India on the topic "Inflation: The Iniquitous Tax".

Book Exhibition

A Book exhibition was organized at IIT Ropar campus during February 13-14, 2017 by the Library. The exhibition witnessed the varieties of new books displayed by the renowned publishers and empanelled vendors.

Exhibition was inaugurated by Prof. Sarit K. Das, Director of IIT Ropar in the presence of faculty, staff and students. While welcome the gathering, he opined that book exhibition is a platform for the faculty to select quality books. He highlighted that the book exhibition provides many folded opportunities for making choices of books before they can be bought and it is a platform for faculty to choose books that fit into their classroom teaching and individual research.

National level British Parliamentary Debate Competition

IIT Ropar has won the second place in the D R Memorial Debate conducted by PCTE Ludhiana, which is their Annual National level British Parliamentary Debate Competition. This competition is India's biggest Inter-varsity British Parliamentary Debating Championship and has an active participation of about 36 teams which include teams all around the country and a few from pakistan too. Kartavya Ramnani (4th Year), Shubham Sharma (4th Year), Ahsaas Sharma (1st Year), Samir Arora (1st Year) were represented IIT Ropar in the eighth edition of this mega event.

International Mother Tongue Day

International mother tongue day was celebrated on Tuesday February 21, 2017 in IIT Ropar.
Many students from B.tech., M.tech. and Phd of various disciplines participated in the event along with some professors and non teaching staff .Students were asked to come forward to sing songs or Recite poems in their mother language. They were also asked to explain the audience what was the most unique thing about their language. Many languages were showcased by the students like Tamil, Telugu, Oriya, Malayalam, Bhojpuri, Bengali, Marathi, Marwadi etc. The staff also actively participated in the event and encouraged the students to come to the stage and express their feelings about their mother language without fear. In the end of the event students were taught to write their names in different languages to see the beauty of the diversity of our country

Academic Tour of IIT Ropar Delegation to Foreign Universities

An academic delegation of IIT Ropar, led by Prof. S. K. Das, Director visited UK, US, Canada during May 23-June 10, 2016. The other members of the delegate included: Prof. Manohar Lal Munjal, Professor & INSA Senior Scientist, Department of Mechanical Engineering, Indian Institute of Science, Bengaluru, and Senior Senator of IIT Ropar, Prof. S. S. Murthy, Professor (Rtd), IIT Delhi, Distinguished Professor, CPRI, Bengaluru , Dr. Harpreet Singh, Associate-Dean (International Affairs) and Associate Professor, Mechanical Engineering, IIT Ropar , Dr. Nitin Auluck, Head, IT Centre, IIT Ropar and Associate Professor and Ex-head, Computer Science and Engineering Department, IIT Ropar , Dr. Rohit Y. Sharma, Assistant-Professor, Electrical Engineering, IIT Ropar
Major Objectives of the tour were to interact with International Universities for Research and Academic Collaborations, to conduct Off-shore Faculty Interviews and Interact with Indian Diaspora in the form of NRI Meets. During this tour, 8 Universities- were visited namely: Cardiff University, UK, University Of Cambridge, UK, Mcmaster Univesrity, Canada, University Of Ontario Institute Of Technology (UOIT), UK, University Of California, Los Angeles, US, Purdue University, US, State University Of New York, Binghamton, US, MIT, US. MoUs were signed with three Universities namely Cardiff University UK, University of Ontario Institute of Technology Canada, State University of New York, Binghamton USA. The objective of these MoUs is to conduct joint research, student and faculty exchange and to organize joint academic and research activities. Common research areas have been identified with these universities, which will be nurtured by the domain leaders from the involved Institutions.

Dr. Sarit K. Das, Director, IIT Ropar signed MoU for research collaboration with the VC of Cardiff University, UK.

The following research areas have been selected for the future collaboration with the visited universities.

a. Biotechnology, Biomedical Engg and sensors
b. Water Technology and Management.
c. Energy- Smart grids, micro-grids, renewable energy interface with emphasis on energisation of communities.
d. Information and Communication technology, Big Data
e. Electronic Packaging.

Four NRI meets were organised, one each in London (26-05-2016), Toronto (29-05-2016), Los Angeles (04-06-2016) and Chicago (05-06-2016). More than 120 NRIs took part in these meets. The director Prof. S.K. Das introduced IIT Ropar and presented his vision and mission about IIT Ropar and its possible contribution to the state in solving some of challenging problems of the State such as conservation of water and soil, early detection of cancer & its remedies and reviving manufacturing sector and skill development, setting up demonstration micro-grids.

During the Offshore Interviews, six faculty members selected, out of 14 total candidates appeared. First Interview was conducted in London on May 24, 2016, In which Total six (ME-2, EE-3, CE-1) candidates appeared and two candidates selected (ME-1, EE-1 recommended for department evaluation). Next Interview was conducted in Toronto on June 1, 2016, in which total four candidates appeared (CSE-3, CE-1), in which three (CSE – 2+1 recommended for department evaluation) candidates selected. Next Interview was conducted in Chicago on June 1, 2016. In which total four candidates appeared (ME – 3, EE - 1), out of which three (ME-2, EE - 1) candidates were selected.

Republic Day

The Republic day was celebrated with the unfurling of the National Flag by the Director. The Director mentioned the significance of the day in his speech to students faculty & staff and celebrated the day with patriotic fervor. A Sadbhavana Daud was organized on the occasion.

Independence Day

Independence Day was celebrated at the institute with patriotic fervour. On the occasion of the Independence Day, Prof. S. K. Das, Director, IIT Ropar unfurled the flag and conveyed his greetings to all. This was followed by the singing of the National Anthem. It was mentioned by the Director in his address that the span of Independence for our country is 70 years, however the country has a cultural heritage which dates back to centuries. We should be proud of the legacy and accomplishments made so far. Our higher and technical education system, CSIR labs, Atomic Energy and Space program are a few prominent examples. Faculty, staff and students thereafter participated in Sadbhavana Daud for social harmony.

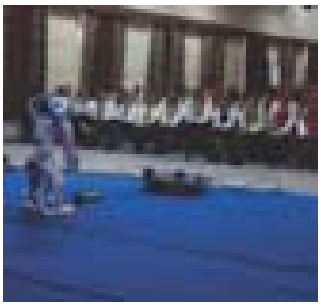
Women's Forum

Women's forum of IIT Ropar organized "International Women's Day" for the first time at IIT Ropar on March 08, 2017. Mrs. Minal Rohit, Sr. Scientist, ISRO was the chief guest of that program. We at IIT Ropar celebrated this day as a celebration of respect, appreciation love towards women for their achievements at different platforms. This year the theme was "Be bold for change". The chief guest interacted with all the

participants and gave a motivating technical talk on " Electro-Optical Payloads ".
As a part of Women's day celebration, we also organized cricket match and khokho match between U.G. and P. G. girls students on March, 2017.

Students' Workshop on IC Design

One day workshop on Candence Custom IC Design Flow was organized for students of Electrical Engineering at IIT Ropar. The workshop was conducted by experts from Condence Design System Noida and well received by the students. The workshop gave an introduction to Analog and Mixed Signal Design flow; Top Down, Bottom up approach, Meet in Middle; Schematic Capture etc.



Quintessence-16' (Intra Institute Technical Fest, IIT Ropar)

Scientific and Technical Writing Workshop

Design Exhibition, 2016

Intra - IIT Staff Sports Meet 2016

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Chandigarh Railway Station : 47 kms
Mohali Railway Station : 41 kms
Rupnagar Railway Station : 1 km

ISBT, Sector-17, Chandigarh : 47 kms
ISBT, Sector-43, Chandigarh : 40 kms

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