धियो यो नः प्रचोदयात्

ANNUAL REPORT 2017-18

भारतीय प्रौद्योगिकी संस्थान रोपड़
INDIAN INSTITUTE OF TECHNOLOGY ROPAR

ANNUAL REPORT

2017-18 (APRIL '17- MARCH '18)

IIT ROPAR : AT GLANCE

DEPARTMENTS & CENTERS		
DEPARTMENTS	:	10
CENTERS	:	01
STUDENTS ADMITTED IN AY 2017-18		
UG PROGRAMME	:	254
PG PROGRAMME	:	111
PhD	:	129
STUDENTS STRENGTH		
UG PROGRAMME	:	642
PG PROGRAMME	:	162
PhD	:	331
NUMBER OF DEGREES AWARDED		
B. TECH.	:	118
M. TECH.	:	11
M. SC.	:	18
PhD	:	13
FACULTY & STAFF STATISTICS		
FACULTY	:	121
NEWLY JOINED FACULTY	:	26
STAFF	:	70
NEWLY JOINED STAFF	:	04
RESEARCH PRODUCTIVITY		
JOURNALS	:	146
CONFERENCES	:	74
BOOK CHAPTERS	:	4
BOOKS	:	3
ICSR & II		
NUMBER OF CONSULTANCY PROJECTS	:	16
OUTLAY	:	0.83 CRORES
NUMBER OF SPONSORED PROJECTS	:	27
OUTLAY	:	10.87 CRORES
GRANTS (IN CRORES)		
DBT	:	1.39
DRDO	:	0.54
DST	:	7.19
INDUSTRIAL CONSULTANCY	:	0.75
MHRD	:	0.04
OTHERS	:	1.71
ICSSR	:	0.07
TOTAL	**:**	**11.70**

CONTENT

FROM THE DIRECTOR'S DESK

IIT Ropar has completed 10th year of its existence. During this period it has not only seen unprecedented growth in infrastructure building, steady increase of students and faculty and introduction of newer academic programs and departments but also in the quality of academics and research. This has enabled the institute to be rated as one of the top institutes of the country and has even resulted in global ranking. We would like to put forward our growth story both quantitatively and qualitatively in this report for the larger public and policy makers to be informed about the happenings in the institute.

The major incident during the past year was the movement to our newly built campus. We have already moved the departments of Computer Science & Engineering, Electrical Engineering, Mechanical Engineering and Metallurgical & Materials Engineering to the new campus. Our central administration is in the process of moving to the new campus. Our first phase of construction (Phase-1A) consisting of Utility Block, Dining Hall, Lecture Hall Complex, Boys Hostel (Wings 1 & 2), Girls Hostel, Computer Science, Electrical Engineering, T-2 Residences, Administration, Chemistry, T-4 Residences, Mechanical Engineering buildings are coming to an end.. Our second phase is in full swing of construction and our third phase of construction has already started. We are ready to grow to the strength of 2600 students by the Academic Year 2020-21.

On the academics end, the current student strength is 1505 (830 UG, 286 PG & 389 Ph. D.). Our intake of UG students has increased from 260 in the previous year to 305 in the present year. Similarly the PG and Ph.D. intake was also increased from 155 to 170 and 105 to 145 respectively. Apart from this with the increase in faculty and student strength, IIT Ropar has invested heavily in its research infrastructure with procurement of state-of-the-art equipments. It is in the process of building a new central research facility with the state-of-the-art clean room and has procured a high performance computing facility.

Research is one of the major hallmarks of IIT Ropar. At IIT Ropar we have built a tradition of emphasizing on the quality of research which is evident from the fact that the institute holds the highest number of citations per publications among the newer IITs. We are also interested towards promoting research areas which are impactful for the society and dedicated to the service of the nation. The following are a few of them which are worth mentioning

1. Sensors developed for Explosive's Detection
2. Diabetic Wound Healing
3. Cheap and Painless Skin Cancer Detection
4. Infrared Technology to detect Breast Cancer
5. Vaccine for TB Immunity
6. Solutions for water conservation
7. App Software to imitate Human Brain
8. Burn Free Treatment for cancer
9. Low Cost solution for Stubble management
10. Elite Combat Helmets for Indian Army
11. Cold Spray Technology for Thermal Power Plants and Boilers
12. Android App to prevent Selfie Deaths
13. Insect Stings inspired syringe-needle designs

IIT Ropar has adopted a balanced but aggressive Internationalization policy in which we have tied up with a number of top class universities for research and academic collaborations through faculty-student exchange, joint research projects,

workshops and seminars. Some of the universities with which we have made link during the year are:

- The University of New South Wales, Australia
- Technische University Damstadt, Germany
- SUNY Polytechnic Albany, USA
- NCTU Taiwan, China

IIT Ropar is very much active in building collaborations with industry and in fostering the startup-incubation culture which has become a national movement today. For an effective approach to industry, IIT Ropar has identified TEN big industry clusters in its vicinity, covering whole of Punjab, and partly Haryana and Himachal Pradesh. Till now we have interacted with two industry clusters in Ropar - SBS Nagar and Jalandhar area. Under this initiative industries like SML - ISUZU, DCM Engineering, Swaraj, Max specialty films, DSM - Sinochem Pharmaceuticals, Sun Pharmaceuticals, Ambuja Cements, Shreyans Paper &Healthcap India are covered. ISRO is building a centre at IIT Ropar and projects related to it include radar IR and FR. Larsen & Toubro has invited IIT Ropar for an Industrial consultancy project related to ground water contamination.

IIT Ropar has a vibrant student community. During the year a large number of student activities were conducted such as our technical fest ADVITIYA, our annual sports meet AAROHAN, annual cultural fest ZEITGIEST, etc. Our students have won accolades all around in the region (like Our Music band, Frixion continued to scale new heights as they bagged the first prize in PEC fest , Nukkad team of our Dramatics club, Undekha, bagged the third prize in Zeitgeist, etc.) We organized UNITY Run on the occasion of GANDHI JAYANTI on Oct 2, 2018.

All the above progress and activities have started to put IIT Ropar in the national and global map of excellence in academic institutions. This is evident from the fact that MHRD has identified IIT Ropar as a nodal agency for major initiatives such as Scheme for Promotion of Academic and Research Collaboration (SPARC) co-ordinator for Canada region and a National Manufacturing Resource Centre. On a broader perspective, this is reflected in the national ranking (NIRF) in which IIT Ropar has come out as 22nd institute in the engineering category. This is also reflected in the recently released QS Ranking in which IIT Ropar has figured as the 21st institute nationally and 107th amongst BRICS nation. It has also come out 3rd in research quality (citations per publications) nationally, ahead of all the other IITs.

This report contains the testimony of the unprecedented growth of IIT Ropar in all spheres of academic activities and we are determined to march even further to emerge as a leading academic institution in the country with the excellence of a global stature.

THE INSTITUTE

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

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

EXECUTIVE SUMMARY

In line with Indian Institute of Technology Ropar's mission to strengthen research and to consistently work towards connecting the Industry-Academia dots, the Institute's Mission, Vision and Strategic Plan came in action. It also aims to strengthen infrastructure to deliver world class education to the leaders of tomorrow.

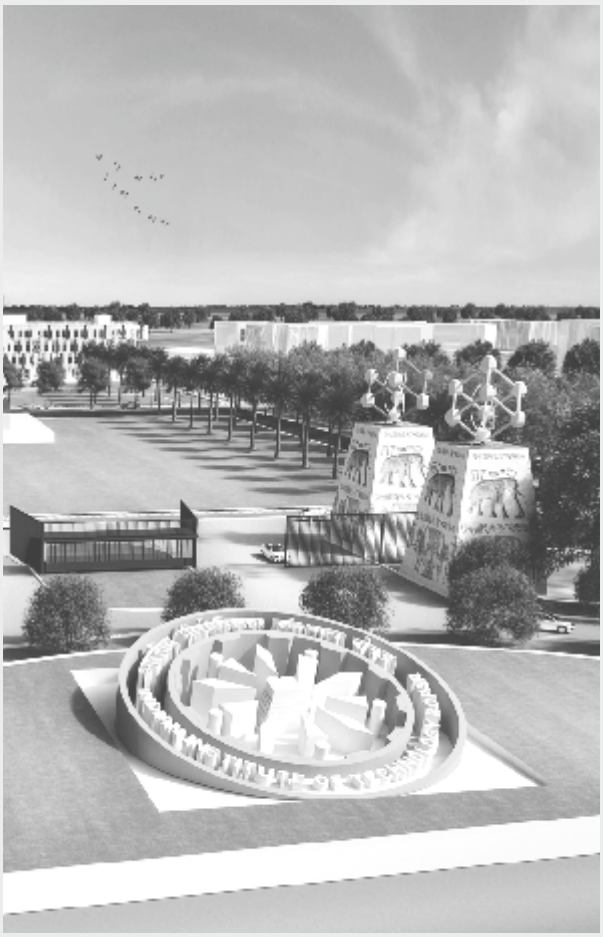
The Indian Institute of Technology Ropar is being placed at 22st rank amongst engineering Institutes in the Indian national rankings. IIT Ropar is committed to provide state-of-the-art technical education in a variety of fields. The Institute has taken concrete steps to align the new curriculum with the needs of the industry as well as to provide holistic education to students. At present, the Institute offers Bachelor of Technology at UG level in Chemical Engineering, Computer Science and Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering and Metallurgical and Materials 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 and Post Doctoral Programmes. The Institute has an inter-disciplinary Center of Biomedical Engineering. Six batches of undergraduate students have earned their B.Tech. Degrees in the last Convocation. In addition, IIT Ropar has awarded several PhD degrees. Presently the Institute has 642 UG, 162 PG, 331 PhD students and 08 Post doc. fellows. The permanent campus of IIT Ropar is ready to be made operational and is equipped with all the required facilities; classrooms fitted with multimedia, faculty offices are all in place. Hostels are also ready to be occupied by the students and the third and final year of B.Tech. students are shifting to permanent campus. These hostels are equipped with modern dining facilities. Faculty recruitment, creation of laboratories and other support facilities are also in full swing. The 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 new curriculum provides broad based knowledge and simultaneously builds in students 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 Water Resources, Sensors, Agriculture, Medical Diagnostics, Micro-grids, Solar, Manufacturing, Artificial Intelligence, non-conventional energy, sensors, drug delivery, materials synthesis and their modification, image processing, cloud computing, networks, robotics, pattern recognition, renewable energy systems, microelectronics and nano-devices, mathematical biology, fluid dynamics, pure mathematics, quantum optics and quantum control, soft matter physics, ion beam physics, renewable energy, nano-photonics and meta-materials, surface patterning, sustainable energy, biomechanics, nano-fluids, complex fluids, nano-composites, 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 and hydraulics engineering, geomatics, remote sensing & GIS etc. The Institute provides adequate funds to the departments and faculty members for the up gradation of laboratories and for the 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 to the country. There were 331 PhD scholars in the Institute last year. 09 PhD scholars have successfully defended their thesis and 107 scholars have newly joined the PhD programme. This year as many as 220 papers have been published in various high-impact international journals, 04 Book Chapter and 03 Books and the Average Citation Per Paper (ACPP) is 9.75 as per 2018 SCOPUS data (Which is highest among Second generation IITs). 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 Innovation Management for Small Businesses, A Statistical Approach to Research Methodology, CATIA & ABAQUS titled "Achieve Engineering Excellence" and hosted Thematic Conferences and Research Days in the departments of Chemistry, Physics and Mathematics respectively. The first Linguistic Symposium was organized by the Department of Humanities and Social Sciences. For interaction with the International Universities, academic tours were organized in 2017. 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 SUNY Polytechnic Albany, USA, Technische University Darmstadt, Germany, Macquarie University, Australia and National Chio Tung University, Taiwan and collaboration was made with the JWAFS centre at MIT, USA.

IIT Ropar delegation visited 8 Universities in Australia, England, Singapore and Germany to conduct offshore Faculty interviews and interaction with the Indian Diaspora in the form of NRI meet. The Institute also took initiatives in GIAN Programme. In 2017-18, the institute has conducted four GIAN courses successfully. Faculty strength has increased from 102 to 121 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, 90.24% of the students were placed, close to 95% of Computer Science and 81% of Electrical and 92% of Mechanical Engineering with the average package of 11.7 lakhs per annum in reputed companies. A good number of summer internship opportunities were also offered to the students in 2017 by national as well as international organizations. 106 students of the B.Tech have secured summer internship in 66 different organizations (Companies 57 and Universities 09) including 5 students got in Singapore, USA, Israel, Japan and France. The faculty members of IIT Ropar are actively engaged in various research projects funded by the institute and external funding agencies. From the institute's inception, research projects have been sponsored to faculty members of the Institute by different funding agencies like DST, CSIR, DRDO etc. Presently the Institute is running 43projects with an outlay of Rs. 11.70 crores from April 2017 to March 2018. IIT Ropar has undertaken the task of redefining its vision and mission and of implementing a strategic plan to achieve them.

IIT Ropar has taken swift action in response to several socio-economic problems of Punjab like ground water management, siltation in reservoirs of Punjab, Ground Water Pollution, etc. and also aims to continue to explore more qualitative research by strengthening our relations abroad and by working in partnership with other funding agencies. We have formed various groups within the faculty which will provide expertise on environmental protection and water management. At the same time, we have promoted collaboration and knowledge sharing among State and National Level. In sum, it can be said that IIT Ropar is in the path of spectacular 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-Mohenjo-Daro 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

Indian Institute of Technology Ropar has been ranked #22 among all Engineering institutes as per the India Rankings 2018 conducted by the National Institutional Ranking Framework (NIRF), Ministry of Human Resource Development, Government of India. The institute has excelled in the parameters of Outreach and Inclusivity (OI) and Graduation Outcomes (GO).

The institute also promoted inclusion of students from economically and socially challenged sections and physically challenged students. The institute is being placed at 22nd rank among engineering institutes and is 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 parameters of GO (Graduate Outcome and OI (Outreach and Inclusivity).

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 situated at Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati, Roorkee, Hyderabad, Patna, Bhubaneshwar, Ropar, Jodhpur, Gandhinagar, Indore, Mandi, Varanasi, Tiruppati, Palakkad, Goa, Jammu, Dharwad and Bhilai.

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Assistant Professor,
Chemical Engineering

Dr. Sourav Bhattacharya
Assistant Professor,
Physics

Dr. Tapas Chatterjee
Assistant Professor,
Mathematics

INFRASTRUCTURE DEVELOPMENT @IIT ROPAR (2017-18)

INFRASTRUCTURE DEVELOPMENT

At present, IIT Ropar Main Campus Phase-1A Buildings are nearing completion certain Buildings like the Computer Science Engineering Block, Boys' Hostel, Girls' Hostel, Utility Block and Dining Hall and Residential buildings are ready for occupation. At the same time, Phase-1B buildings are also steadily coming up and are expected to be completed by June, 2019.

At present, the first Set of buildings are going to be handed over to CMG (Construction Management Group), IIT Ropar and CMG will hand over the buildings to the Engineering unit of IIT Ropar for occupation.

On May 14th, 2018, we have obtained the Fire NOC from the concerned department for the buildings to be occupied in the 1st Phase. Presently, we are availing 1800 kVA power from PSPCL at a reduced voltage of 11 KV at Main Campus. It is expected that on 66 KV switchyard would be ready by June, 2018. In case it is not done then we may have to go for enhancing our Part load further.

We take pride in stating that we have been able to organize events like- 6th Convocation 2017, BAJA 2018 and AAROHAN 2018 in the main campus. All of them were mega events which could be successful because of the strenuous work done by each and every member of the CMG, IIT Ropar. The current photographs of the campus are given below.


NIGHT VIEW


COMPUTER SCIENCE AND ENGINEERING


BASKET BALL GROUND


BOYS HOSTEL


TYPE-2 RESIDNETIAL BLOCKS

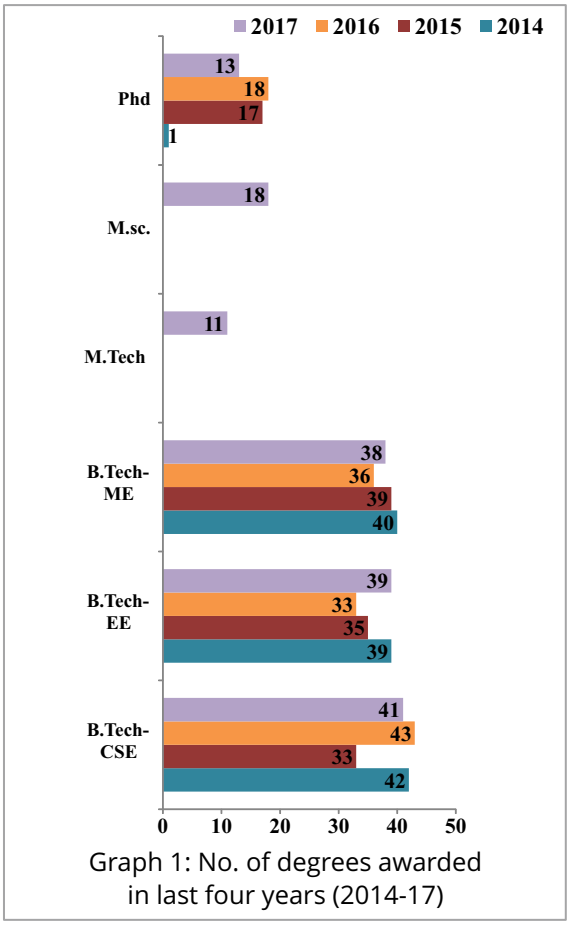

LECTURE HALL COMPLEX


GIRLS HOSTEL


DINNING HALL

ACADEMICS

ACADEMICS



Graph 1: No. of degrees awarded in last four years (2014-17)

IIT Ropar is rapidly progressing in the field of science and technology. Since its inception in 2008, IIT Ropar has pursued distinction with committed determination.

IIT Ropar has 6 Engineering disciplines: Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, Civil Engineering and Chemical Engineering; 4 Science Disciplines: Chemistry, Physics, Mathematics and Humanities and Social Sciences; 2 Centers: Centre for Biomedical Engineering and Center for Metallurgical and Materials Engineering. The prosperous PhD, M.Tech. and B.Tech. programmes, see the students and faculty publishing prolifically. As of April 2018, IIT Ropar has 642 students enrolled in its B.Tech. programs, 68 M.Tech. students, 87 M.Sc. students, 7 in MS and 331 PhD students. As of April 2018, faculty strength of IIT Ropar is 131. Faculty members are supported by more than sixty efficient staff (non-teaching) members. These numbers are anticipated to increase as the Institute is growing at a steady pace. The faculty members of IIT Ropar have a wide range of academic and research experience. They have been trained in the top ranked Institutes within the country and abroad.

THE NEW CURRICULUM

IIT Ropar's new Curriculum is based on education/curriculum theories, in particular based on Tyler-Taba Rationale, which emphasizes societal context of education along with individual development of students and to encourage hands on learning. Technology Museum Lab, Tinkering Lab, Introduction to Engineering Products etc. have been set up in IIT Ropar.

IIT Ropar has been steadfast in expanding its global footprint by forging alliances with leading Universities in the world by active collaborations with more than 20 major Universities in STEM areas.

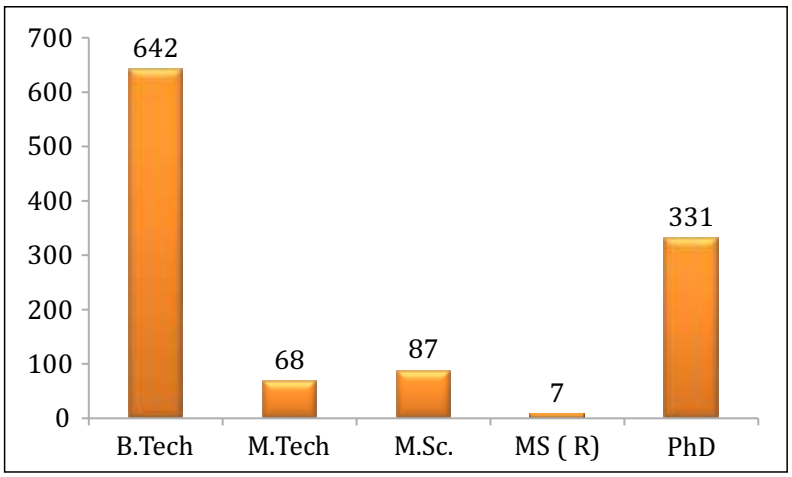
IIT Ropar was one of pioneers among new IITs to initiate incubation/start-up activities as early as in 2010 (just after one year of its inception) by establishing an entrepreneurship cell (E-Cell), which subsequently was scaled-up to Centre for Innovation and Business Incubation (CIBI) in 2013. Various Government agencies such as PTU, DIETY, MSME and

DST of the Government of India provided financial assistance to CIBI.
IIT Ropar focuses on certain research areas based on the contemporary needs of the nation. We are also comparing our institute with the best practices in universities abroad to improve the quality of Teaching -Research. Our research and publications is of very high rank, our citation is the best among new IITs.

Unique features of the curriculum are as follows:

1. **The new curriculum is based on education/ curriculum theories,** in particular based on Tyler-Taba Rationale, which emphasizes societal context of education along with individual development of students. A lot of time was spent in literature survey on the curriculum development process itself.
2. **Strong fundamentals:** The new curriculum will be more rigorous and formal in nature. The total credits have been reduced so that the students can get more time for preparation and self-study. They will be given more assignments and have to go through periodical quizzes. This will help them to grasp and retain the fundamentals of Engineering in a better manner.
3. **Hands-on learning:** It has been a common observation that the IIT graduates lack Hands-on skills as compared to theoretical ones. New curriculum of IIT Ropar has addressed this problem as well. There are many courses to encourage hands on learning. Technology Museum Lab, Tinkering Lab, Introduction to Engineering Products etc. are some of the examples. Apart from this, the lab credits have also been increased relative to lecture credits.
4. **Creativity and Innovation:** As per new curriculum, the labs will be conducted differently to inculcate not only hands on learning but also creativity and innovation. As opposed to conventional lab practices, the students will be asked to design their own in the second half of the academic semester. Besides, there will be capstone projects, development engineering project, etc. which will give students a lots of opportunities for creativity and innovation.
5. **To avoid 'Fragmentation of knowledge',** the new curriculum has been designed to interlink and intertwine different courses. This will help students to grasp and retain the knowledgeable and have broader sense understanding of the subject at the end of the day.
6. **Connection to society.** One of the main objectives of new curriculum is that the graduating engineers should have enough training to identify and address the problems of the society. This is only possible if they are given opportunities to look at the problems of the society and try to find solutions by using engineering principles. To this end, there will be a couple of compulsory courses as a part of which the students will go to the society, identify the problems faced by the people, choose one such problem as a project and solve it using engineering principles.
7. **Sports & Social activities** have been made part of core curriculum. There will be mandatory credits for extracurricular activities and for community services as well.
8. **There are four options available for the students**: 1. B. Tech. Basic, 2. B. Tech. with Minor, 3. B. Tech. with Concentration and 4. B. Tech. with Honors.

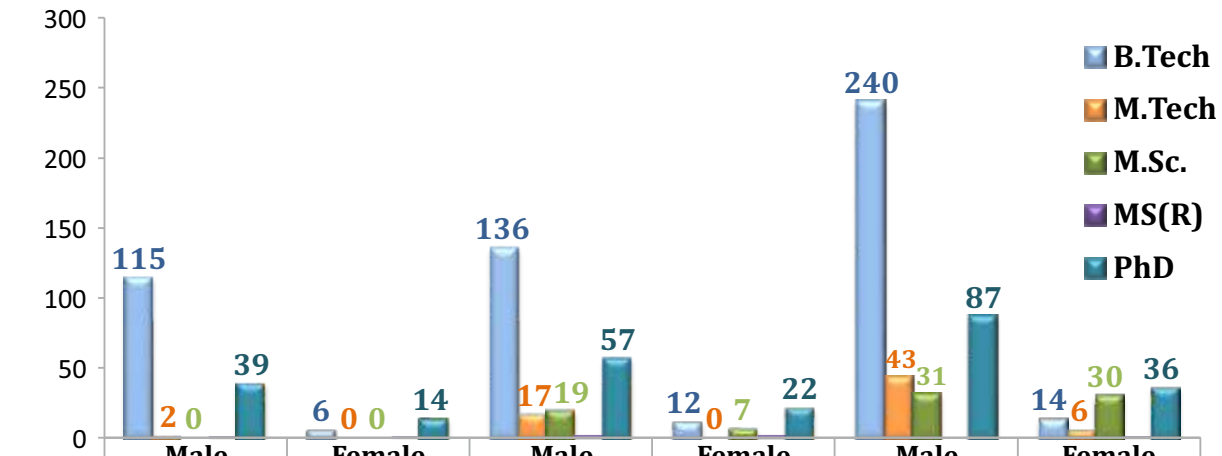
STUDENTS STRENGTH



Total Number of Students = 1135

Graph 2: Total no. of on-roll students in the year 2017-18 are 1135.

GENDER WISE DISTRIBUTION (Cummulative)



	2015		2016		2017	
	Male	Female	Male	Female	Male	Female
B.Tech	115	6	136	12	240	14
M.Tech	2	0	17	0	43	6
M.Sc.	0	0	19	7	31	30
MS(R)	1	1	2	2	0	1
PhD	39	14	57	22	87	36
Total	157	21	231	43	401	87

Graph 3: Gender wise distribution of students in various disciplines for three consecutive years (2015-2017)

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 only.

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) 2017 rank not exceeding 1500 (Open category) will be awarded, who join the B.Tech. programme at IIT Ropar.

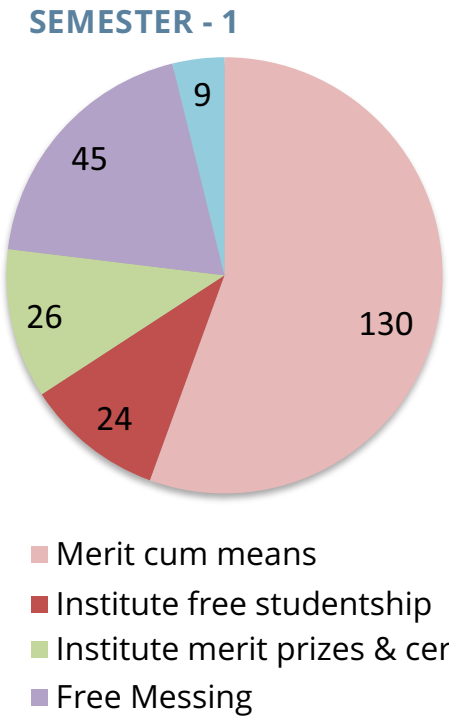


Fig 1: Representation of the no. students for scholarship in the financial year 2017-18 in semester 1

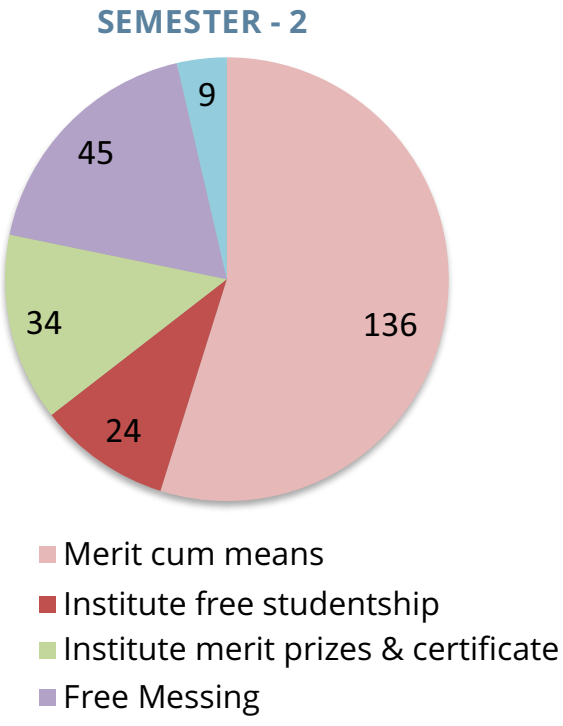


Fig 2: Representation of the no. students for scholarship in the financial year 2017-18 in semester 2

Total Amount spent on the financial assistance to students = Rs. 13820505/- (2017-18)

TESTIMONIAL OF THE STUDENTS

Abhineet Pandey

IIT Ropar is perfect place to explore your interests. Incentives like scholarships always motivate the students towards academic excellence. An amazing and dynamic faculty just adds to never ending list perks of being in here.

Parth Goyal

IIT Ropar has really helped me develop my personality during the one year I have spent here. I got ample opportunities in every field. The professors and students here are focused and have motivated me to strive for excellence.

Vineet Madan

The past year has been quite a ride. Every single day has been a busy one, whether it be having fun, working in college festivals or even studying. I believe IIT Ropar is the perfect place for a student to grow and have new experiences. IIT Ropar has supported my quest for excellence with hard working teachers, a great environment and the merit scholarship.

Deepak Pant

I arrived at IIT Ropar last year and found myself quite changed in the past year. It helped me in developing myself in new ways. The academics here are quite instructive. In the college everyone gets a lot of opportunities to develop themselves in any sphere of life they want to pursue.

OUTREACH PROGRAM

Global Initiative of Academic Networks (GIAN)

Global Initiative of Academic Networks (GIAN) is aimed at tapping the talent pool of scientists and entrepreneurs, internationally to encourage their engagement with the institutes of Higher Education in India so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence.

In order to garner the best international experience into our systems of education, enable interaction of students and faculty with the best academic and industry experts from all over the world, IIT Ropar has successfully conducted GIAN Courses on Mechanobiology ,Robotic Systems, Data Driven Kinematic, Synthesis, Biomimetics, Surface Engineering, Fatigue Mechanics with experts from abroad.

GIAN course @ IIT Ropar				
Department	**Date**	**Faculty**	**Course Coordinator**	**Topic**
Department of Mathematics	December 11-15, 2017	Prof. Prabir Daripa is in the faculty of Texas A& M University, College Station, Texas, USA.	Dr. Manoranjan Mishra	Hydrodynamic Stability: Theory, Computation and Applications
Department of Computer Science & Engineering	December 18 – 30, 2017	Prof. Rakesh M. Verma He is a Professor of Computer Science at the University of Houston (UH) and Director of ReDAS Lab there.	Dr. Puneet Goyal	Computer Security from the Data Science Perspective
Department of Humanities & Social Sciences	December 18 - 22, 2017	Prof. Subal C. Kumbhakar is a Distinguished Research Professor in Economics in Binghamton in University.	Dr. Samaresh Bardhan	Theory and Practice of Efficiency and Productivity Measurement
Department of Mechanical Engineering	May 24-28, 2017	Prof. Deepak Vashishth, Director of the Rensselaer Polytechnic Institute Center for Biotechnology Studies (CBIS)	Dr. Navin Kumar	Mechanobiology

Internship Report 2017-18

The Internship Session 2017-18 witnessed 106 offers from over 66 organizations. There were 10 Pre-Placement Offers (PPO) made to students for final placement based on their performance during internships in 2018, of which 10 were accepted by students. The internship season started in May 2018 and continued till July 2018.

Department-wise Internship Data for 2016-17 & 2017-18

Departments	No. of Internships	
	2016-17	2017-18
Computer science & Engineering	**39**	**38**
Electrical Engineering	**34**	**34**
Mechanical Engineering	**32**	**34**
TOTAL	**105**	**106**

Companies V. Universities

Companies : 57

Universities : 9

Country-wise offers

Country	Number of Internship Offers
Singapore	1
USA	1
Israel	1
Japan	1
France	1

RESEARCH AND DEVELOPMENT ACTIVITIES

RESEARCH AND DEVELOPMENT ACTIVITIES

IIT Ropar puts immense emphasis on promoting cutting-edge research and publications of high quality and not quantity. We firmly believe that this is the key to our recognition in the international research community. We offer PhD degrees in all disciplines that we offer. At present, we have 331 PhD scholars at the Institute. 60 PhD scholars have successfully defended their thesis and 129 scholars have joined the PhD program during the last one year.

Over the last year, as many as 230 papers have been published in various high impact international journals. This has already placed us at the top of all the new IITs for having the highest average citations (Average Citation Per Paper, ACPP of 9.75 as of 19th April 2018 SCOPUS data).

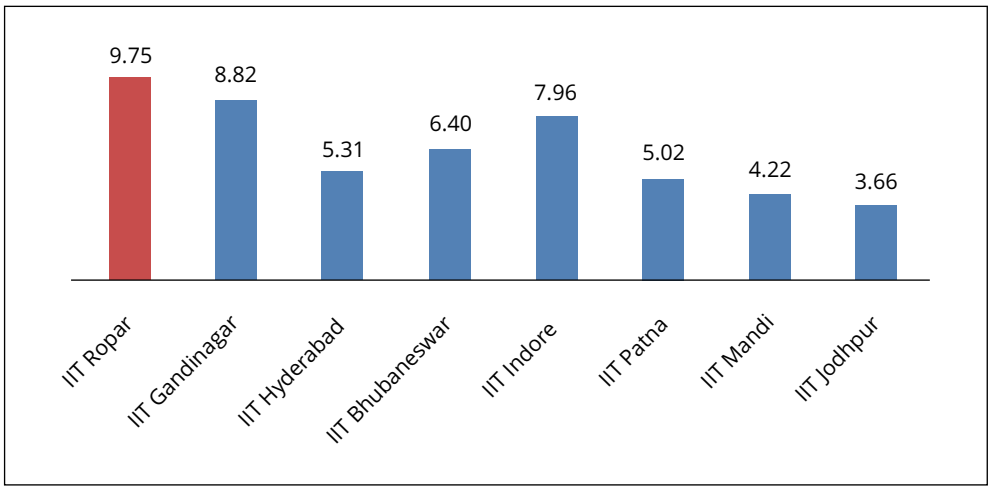
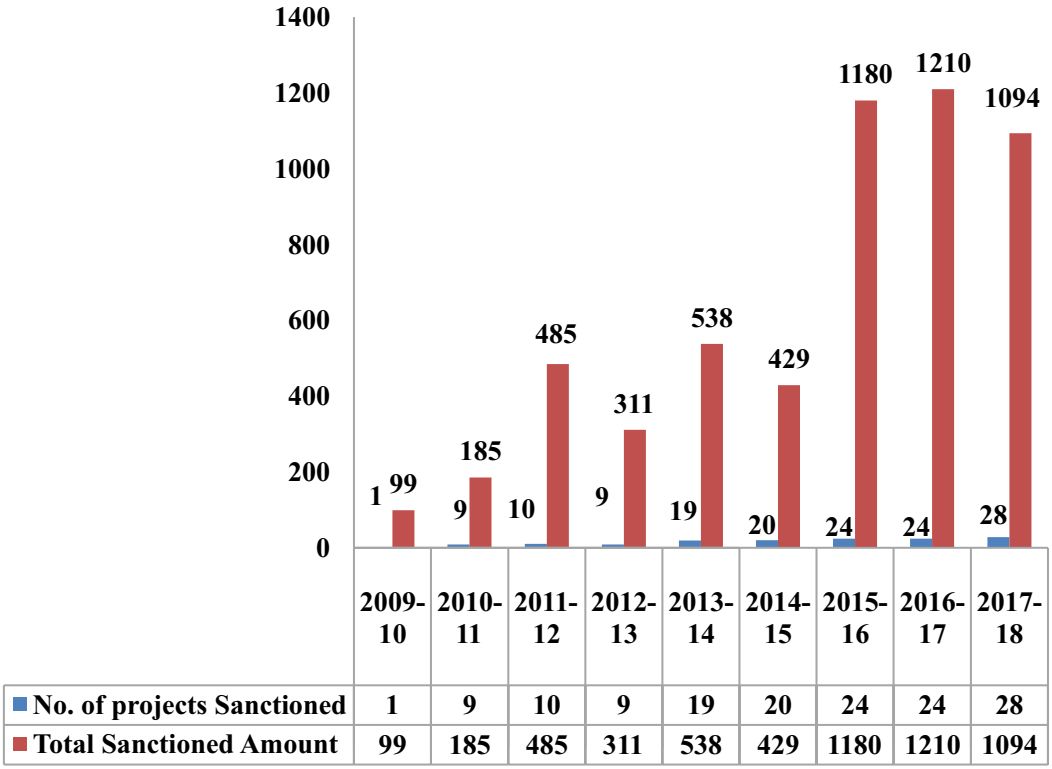


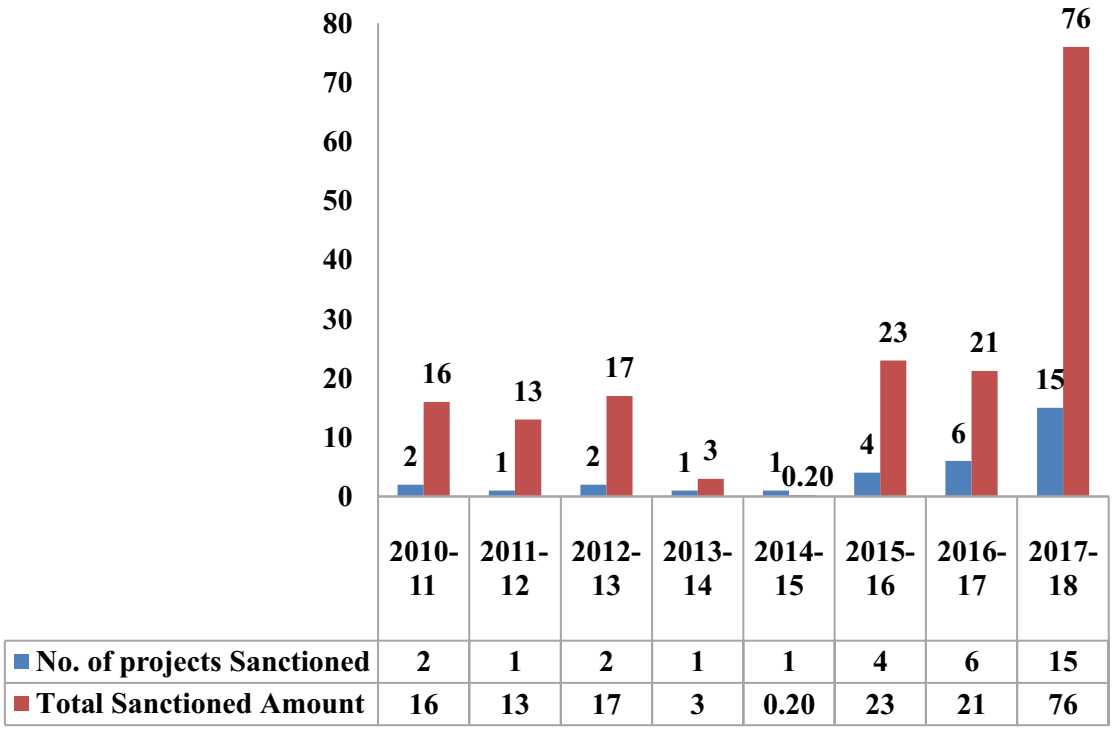
Figure 1: Average Citation Per Publication, SCOPUS Data

The growth of R&D in the last year



	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
No. of projects Sanctioned	1	9	10	9	19	20	24	24	28
Total Sanctioned Amount	99	185	485	311	538	429	1180	1210	1094

Figure 1: Total no. of Sponsored Research Projects sanctioned annually (Rs. in lacs).

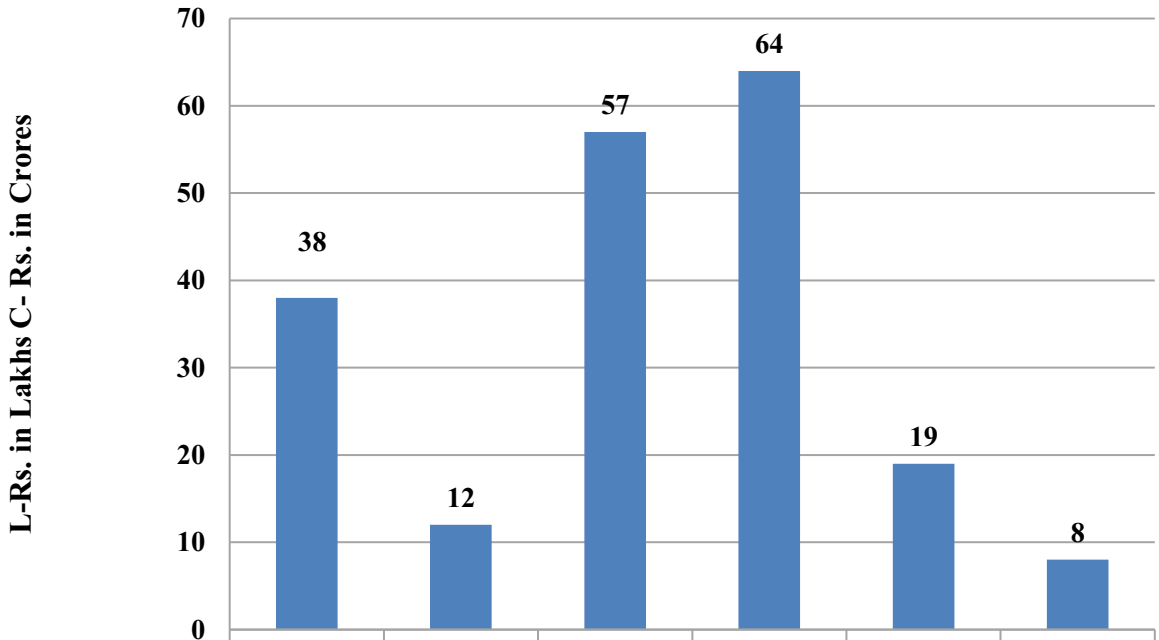


	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
No. of projects Sanctioned	2	1	2	1	1	4	6	15
Total Sanctioned Amount	16	13	17	3	0.20	23	21	76

Figure 2: Distribution of consultancy projects and sanctioned amount annually (Rs. in lacs).

Overview

During the year 2017-18, new R&D projects were initiated in all the areas of science, engineering and social science. These included short-term consulting projects and long-term sponsored research projects.



	upto 5 Lacs	5L-10L	10L-20L	20L-50L	50L-1C	1C-10C
No. of Projects	38	12	57	64	19	8

Figure 3: Distribution of sponsored/ consultancy funds sanctioned outlay ranges

The R&D work continues to be mainly supported by the government entities. The table 1 indicates some of the major sponsors from industry and other sponsors.

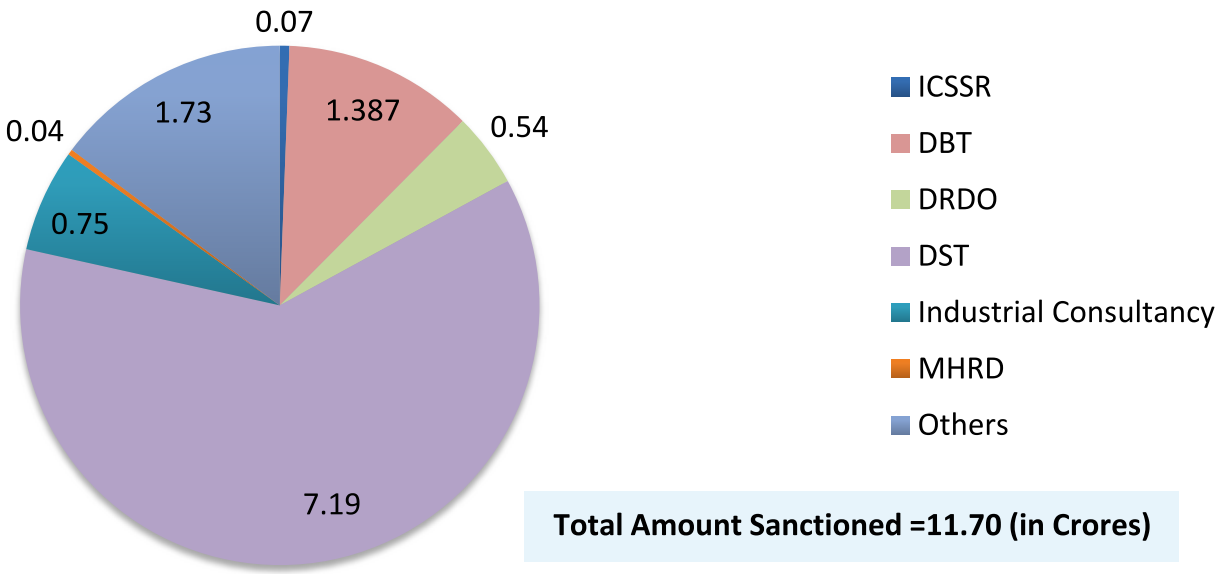


Figure 4: External research and consultancy projects sanctioned during financial year 2017-18

RESEARCH AWARDS

Faculty Research and Innovation Awards 2017-18

1. Prof. Harpreet Singh (Mid-career researcher award)
2. Dr. Narinder Singh (Early career researcher award)
3. Dr. Javed N. Agrewala (JC Bose Fellowship)

Institute Research Grants of Rs. 50 Lakhs

1. Dr. Durba Pal, Biomedical Engineering, upon winning of NASI Young Scientist Platinum Jubilee Award for the Year 2017
2. Dr. Rajendra Srivastava, Chemistry, upon winning of NASI-SCOPUS Young Scientist Award for the year 2017
3. Dr. Javed N Agrewala, Biomedical Engineering, DST-SERB grant worth Rs. 80 lakhs on the project entitled "Generation of promiscuous peptides entrapped nanoparticles displaying TLR-2 ligand to impart protective immunity against *Mycobacterium tuberculosis".*
4. Dr. Srivastava Naidu, Biomedical Engineering, DBT Ramalingaswami Re- Entry Fellowship.

डॉ. नरेंद्र फैकल्टी रिसर्च एवं इनोवेशन अवॉर्ड से सम्मानित

IIT prof bags Young Scientist Award 2017

IIT Ropar prof awarded JC Bose Fellowship

आई.आई.टी. की प्रोफेसर को एन.ए.एस.आई. यंग साइंटिस्ट प्लैटिनम जुबली अवार्ड

आईआईटी के प्रोफेसर नायडू को डीबियार रामलिंगसवासी री-एंट्री फेलोशिप मिली

VAJRA SCHEME @ IIT ROPAR

Bringing international faculty to campus on a short-term basis: VAJRA (Visiting Advanced Joint Research) Faculty Scheme started by Department of Science and Technology through the Science and Engineering Research Board (SERB), which is to tap the expertise of Overseas faculty/Scientists including Non-resident Indians (NRIs), IIT Ropar hosted Distinguished Professor Christopher Berndt of Swinburne University of Technology, Melbourne, Australia for three months.

CONSULTANCY ACTIVITIES

Consultancy activities were taken up for the government, public sector and industry, both Indian and international. The types of consultancy provided included expert advice, retainer- ship, product/ process/ software development, analysis, evaluation, product design and limited testing.

LIST OF SOME CONSULTANCY PROJECTS INITIATED

- Evaluation of 11Kv Earthed HT Xlpe Cable Conductor Resistance and High Voltage Performance as per IS7098 part-II
- Determine the efficacy of the Radio Frequency Generator and Electrodes Based on the Results From Experimental Study on Tissue Mimicking Phantom Gels
- Formulations Development for skin care Application
- Structural Assessment of Partially Constructed Ohsr at Moga Town, Punjab
- Automatic Facial Expression Recognition
- Training Programme on Building Construction for 50 PUDA Engineers
- Automatic Eye Gaze Detection
- Bridging the Innovation Gap
- Automatic Skin Analytics
- Design and development of a TRNG application on FPGA with an inbuilt randomness tester
- Redevelopment of Old Cement Godown Area Whole Sale Vegetable and Fruit Market Azadpur, New Delhi
- Transition Joint: Material, Interfacial and Design Investigations
- Vetting of Air Conditioning Plant Design at of Station, Udhampur
- Cleopatra Annotation Bengali' under Clarabridge Language Pack
- Technical Reviews of MCM layout & SI-PI analysis and guidance for Package performance optimization

INTERNAL GRANT FOR R & D

The Institute provided internal funding for supporting faculty research and student activities. Around **Rs. 43.76 Crores** were sanctioned for these activities, which included the following:

- Seed grant for initiation of research for new faculty and healthcare consortium
- Augmenting research resources of faculty recipients of research/ review paper/ Young Investigator awards
- Research internships and fellowships for PhD students
- Student research/ competition: projects such as Automotive Racing, Intelligent Ground Vehicle Competition
- Augmenting research facilities and maintenance of central and national research facilities
- Leverage grants and bridge grants
- Grants for development of prototypes

AUGMENTATION OF RESEARCH INFRASTRUCTURE

List of Instruments

1 FTIR Spectrometer
2 Gas Chromatography Mass Spectra
3 Particle Size Analyzer
4 Nano-particle Tracking Analyse
5 Dynamic Light Scattering system
6 Force Tensiometer
7 Universal Rheometer
8 High Speed Camera
9 Thermogravimetric Analyser
10 Ultra sonic echoscope GS 200
11 Ultrasonic Probe 1 MHz, 2 MHz, 4MHz
12 Class II AC2 Biosafety cabinet
13 ECG 712 Plus 12 channel with standard Accessories
14 Leica DM500 Microscope with Leica EC4 digital camera
15 Concentrator Plus
16 Digital Storage Oscilloscope – 07 No
17 DC Power supply, Single output, dual range – 07 No
18 GIOMax Navigator System
19 Scotsman Ice flake machine
20 Quant Studio 5 -96 Real Time PCR
21 Dell Optiplex desktops - 3 No
22 Terranova – MRI: earth's filed MRI Teaching system
23 Equitron water bath
24 Fresenius dialysis machine
25 Milli Q intergral Kit
26 Pipetteboy acu 2 classic
27 Pipettman L 8 X 300: 8 channel
28 Forma Stericycle i160 CO2 Incubator
29 Countess, Automated cell counter
30 BD Accuri C6 Plus bench top flow cytometer
31 Centrifuge 5702
32 VeritiTM 96 well thermal cycler
33 Gel electrophoresis system – A
34 Gel electrophoresis system - B
35 Multiskan Go with Cuvette
36 Micro drop plate
37 Countess II FL automated cell counter
38 Thermo Scientific Heracell VIOS 160i CO2 incubator
39 Leica Cryostat
40 Automatic Weather Station (AWS)
41 Rebound Hammer
42 Ultrasonic Pulse velocity Apparatus
43 Core Drilling Machine
44 RUDRA (Ropar Unified Detectors for Reaction-residue Analysis): Its an array of four high purity germanium detectors capable of on-line and off-line gamma spectroscopy with very good energy resolution (0.8 keV - 1.4 keV) and efficiency.
45 ILMI (IIT Ropar Low-background Measurement Infrastructure): ILMI is an ongoing effort to build one of the two low-background measurement setups in the country to detect ultra-lowbackground radiations for rare decay investigations.
46 Picosecond laser with single photon detector.
47 IR-Microscope
48 CW YAG laser, Spatial light modulators, Pockel cell, Fast photodiodes, Oscilloscopes, wave function generator, CCD cameras, spectrum analyzer, DC power supply of laser etc

New Labs

1 Undergraduate Chemical Engineering Process Simulation Lab
2 Post-graduate Chemical Engineering Computing
3 Transport Phenomena Lab
4 Process Control Lab
5 Chemical Reaction Engineering Lab
6 Advanced biology lab

7 Physiology Lab
8 Biomedical Electronics and communication Lab
9 Image Processing and Analysis lab
10 Medical Devices and equipment lab
11 Biomechanics lab
12 Hydraulics Engineering Lab
13 Geotechnical Engineering Lab
14 Geomatics Engineering Lab
15 Concrete Technology Lab
16 Structure Analysis Teaching Lab
17 Environmental Engineering Lab
18 Computer-Aided Design Lab
19 Soil Water Plant Lab
20 NuSTar Research Lab: The lab houses RUDRA and GaSca steps.
21 Rare Decay Lab: This low background measurement lab at present houses ILMI, and will host other rare decay study related instruments in future.
22 Laser Lab

Research Group

1 Catalysis and Reaction Engineering
2 Energy and Environment
3 Multi-scale Modelling
4 Soft Matter Engineering
5 Transport Phenomenon and Thermodynamics
6 Diagnostic and therapeutic ultrasound, Biomedical instrumentation, and Medical signal processing
7 Tissue engineering and Regenerative Medicine; Cell based therapeutics in disease biology
8 Immunology of Infectious Diseases, Vaccines, and Gut Micro-biome
9 Therapeutic targeting of basal transcriptional machinery; Non-coding RNA as cancer therapeutics
10 Medical Image Processing and Analyses; Pattern recognition; Machine Learning and Computer Vision
11 Biomechanics, Bone Fracture Healing, Mechano-transduction, Structural and Multidisciplinary Design Optimization, Computational Mechanics, and Agent Based Modeling
12 Interfacial water structure, protein folding, soft matter interfaces, and colloids and model membrane systems
13 Biomaterials, Biological and Biomaterial Characterization, Biomechanics, Mechanics of Nano-materials, Finite Element Modeling (FEM), Biomedical Engineering, Biomedical Instrumentation, and Bio-implants
14 Image Processing, Healthcare Apps and Analytics, Medical Imaging
15 Bio heat Transfer; Thermal Engineering
16 Polymeric biomaterials for drug delivery and tissue engineering applications
17 Structural Engineering
18 Geotechnical Engineering
19 Hydraulics & Water Resources Engineering
20 Transportation Engineering
21 Environmental Engineering
22 Geomatics Engineering
23 Gravity and Strings (Research Topic: String theory, AdS/CFT, Entanglement in Quantum Field Theory.)
24 Gravitation, Cosmology and aspects of entanglement in Quantum Field Theory
25 Laser Group
26 Quantum degenerate gases
27 Lab for Nano Scale Optics & Matamaterials

RESEARCH THRUST AREA


Ropar IIT researchers develop better way to count body cells

IIT Ropar develops technique for early diagnosis of cancer

Tech to make skin cancer detection cheap, painless

IIT Ropar develops infrared tech to detect breast cancer

It's A Fast, Painless, Non-Contact And Non-Invasive Imaging Method, Claim Researchers

Cancer Research @ IIT Ropar


Moods of mob: New camera app can help detect emotions

IIT Ropar's dept of computer science has created an App that could help police and other agencies accurately predict likelihood of a mob indulging in violence

व्यक्ति नशा करने का आदी है या नहीं, पता लगाएगी मशीन

Ropar IIT App software imitates human brain

Research on Artificial Intelligence


Journal of Materials Chemistry C

Optical chemosensors for water sample analysis

Elevated enzyme for cancer diagnosis

The application of this technique may be during surgery to know tumour spread

Research on Food & Agriculture

INTELLECTUAL PROPERTY RIGHT CELL

Table 4: During the year, list of patent applications filed is as follows:

IP type	Applications filed (No.)	Granted (No.)
Indian Patent	18	1
Design	01	

Intellectual Property Rights

The Intellectual Property Rights Cell organized 2nd IPR awareness program on January 24, 2018. Mr. Amit Koshal, Head IP, Legasis services, Pune gave an invited talk . An IPR quiz was organized for students of IIT Ropar. Mr. Kritgya Agarwal, Mr. Subham Badhyal, Mr. Ajinkya Vishnu Sirsat, Mr. Nagendra SM, Mr. Tanmay Khandel Wal, Ms. Tushita Rohilla, Ms. Neha Gupta, Mr. Ajay Kumar, Mr. Malkeet Singh got cash prizes and consolation prizes.

Table 1 : List of sponsored projects

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount (Rs. in Crores)
1	INDO-MAXICO-DST	Dr. Narinder Singh	Chemistry	Photo degradation of azo dye contaminants by new hybrid ionic liquid decorated ZnO nanoparticle in water	0.35
2	DST-Inspire Faculty Award	Dr. Samir Chandra Roy	Mechanical Engineering	Experimental and numerical analysis of high-temperature deformation behaviour of 304LN stainless steel under cyclic loading condition	0.35
3	DST	Dr. Ranjan Das	Mechanical Engineering	Design and Development of Solar and Agricultural Waste-Based Building Cooling System	0.38
4	DST-Inspire Faculty Award	Dr. Neelkanth Nirmalkar	Chemical Engineering	A novel approach of generation of bulk nanobubbles in water for cleaning of contaminated surfaces and disinfection usinf ozone nanobubbles	0.35
5	Industrial Consultancy	Dr. Putul Halder	Civil Engineering	Structural Assessment of Partially Constructed Ohsr at Moga Town, Punjab	0.04
6	Industrial Consultancy	Dr. Abhinav Dhall	Computer Science & Engieering	Automatic Facial Expression Recognition	0.09
7	SERB-DST	Dr. Swati Tyagi N-PDF under the mentorship of Dr. S.C. Martha	Mathematics	Analysis of advanced model of Neural Networks of integer and non-integer order: From fundamental to advanced theory	0.19

8	SERB-DST	Dr. Gagandeep Singh N-PDF under the mentorship of Dr. Narinder Singh	Chemistry	Receptor Design for the Molecular Recognition of Biologically Important Analytes and its Real Time Applicability	0.19
9	Industrial Consultancy	Dr. Putul Halder	Civil Engineering	Training Programme on Building Construction for 50 PUDA Engineers	0.02
10	SERB-DST	Dr. Sachin Kumar	Mechanical Engineering	Damage Assisted Failure Analysis of Engineering Structures using Cohesive zone Approach and XFEM	0.16
11	India-UK Collaborative Industrial R&D Programme	Dr. Rohit Y Sharma & Dr. Ekta Singla	Electrical Engineering & Mechanical Engineering	APATH: Affordable Preventative And Assistive Technology For Healthcare	0.15
12	SERB-DST	Dr. Richa Rani N-PDF under the mentorship of Dr. Narinder Singh	Chemistry	Fabrication of imidazole based nanoaggregates using different sufactants	0.14
13	DBT	Dr. Narinder Singh	Chemistry	Surface modulation of CuS quantum dots using biginelli compounds for construction of a portable fluorescence sensor for bacteria	0.14
14	Industrial Consultancy	Dr. Abhinav Dhall	Computer Science & Engineering	Automatic Eye Gaze Detection	0.17
15	DST	Dr. Manoj Pandey	Chemistry	Development of theoretical models to describe ^{14}N- ^{1}H decoupling in solid-state NMR	0.39
16	DST	Dr. S. R. Sudarshan	Computer Science & Engineering	Big data analysis: A key to understand the dynamics of colloborative knowledge building	0.13

17	DST	Dr. Rakesh Kumar	Physics	Experiments for development of a technique for smooth directional etching a grapheme sheet	0.21
18	SERB-DST	Dr. Chandrakant Kumar Nirala	Mechanical Engineering	Development of a Thermal Model based Real-time Tool Wear Monitoring and Compensation System for Micro-EDM Processes	0.48
19	SERB	Dr. Jeevan Jyoti N-PDF under the mentorship of Dr. Navin Kumar	Mechanical Engineering	Development of Graphene-Oxide Hydroxylapatite Coatind for Orthopedic Implants	0.14
20	SERB	Dr. Varinder Saini N-PDF under the mentorship of Dr. Reet Kamal Tiwari	Civil Engineering	Analyzing pattern of urban growth and prediction of future sprawl in and around chandigarh city using geospatial techniques	0.19
21	DBT	Dr. Srinatsava Naidu	Centre for Biomedical Engineering	Dr. Ramalingaswami Re-Entry Fellowship	0.33
22	Indo-U.S. Science and Technology	Prof. Harpreet Singh	Mechanical Engineering	Indo-U.S. Joint Center for Development of Advanced Materials or Bio-implants	0.31
23	SERB-DST	Prof. Harpreet Singh	Mechanical Engineering	VAJRA Faculty Scheme	0.23
24	NBHM-DAE	Dr. Tapas Chatterjee	Mathematics	Study of non-vanishing and transcendence results of some L-functions	0.14
25	Industrial Consultancy	Dr. Rohit Y. Sharma	Electrical Engineering	Bridging the Innovation Gap	0.03
26	Industrial Consultancy	Dr. Abhinav Dhall	Computer Science & Engineering	Automatic Skin Analytics	0.03

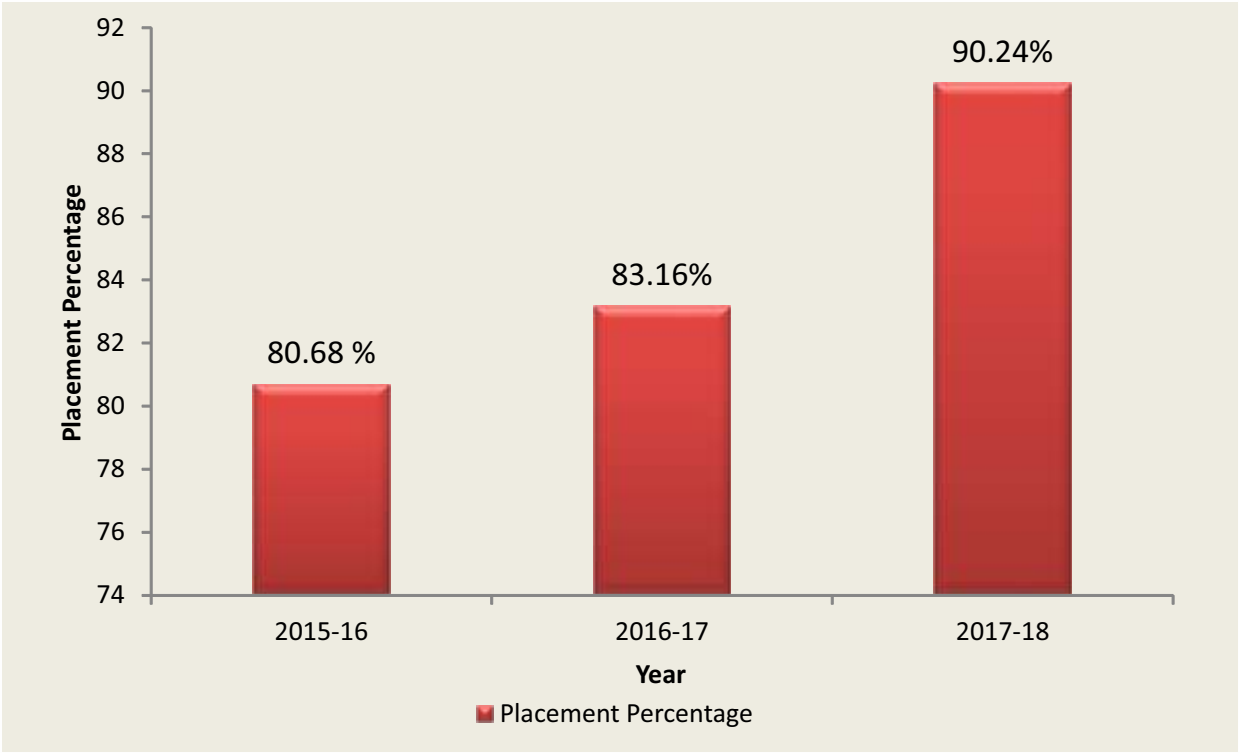
27	Industrial Consultancy	Dr. Somitra Kr. Sanadhya	Computer Science & Engineering	Design and development of a TRNG application on FPGA with an in- built randomness tester	0.23
28	MHRD	Dr. Rakesh Kumar Maurya	Mechanical Engineering	Unnat Bharat Abhiyan	0.04
29	Industrial Consultancy	Dr. Putul Halder	Civil Engineering	Redevelopment of Old Cement Godown Area Whole Sale Vegetable and Fruit Market Azadpur, New Delhi	0.01
30	Industrial Consultancy	Dr. Chakradhar Reddy	Electrical Engineering	Transition Joint : Material, Interfacial and Design Investigations	0.05
31	Industrial Consultancy	Dr. Ramjee Repaka	Mechanical Engineering	Vetting of Air Conditioning Plant Design at af Station, Udhampur	0.01
32	RCUK-DBT	Prof. Harpreet Singh	Mechanical Engineering	Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies	0.92
33	DST	Department of Electrical Engineering	Electrical Engineering	FIST Program	2.42
34	DRDO	Dr. Mukesh Kumar	Physics	Process optimization and development of thermally stable solar blind β-Ga_2O_3 photodetector	0.54
35	Newton-Bhabha Grant (India-UK)	Prof. Deepak Kashyap	Civil Engineering	Impact of rainwater harvesting in India on groundwater quality with specific reference to fluoride and micropollutant	0.75
36	SERB	Prof. R. P. Chhabra	Chemical Engineering	J C Bose Fellowship	0.88

37	Digital India Corporation (Formaly Media Lab Asia)	Dr. Rohit Y. Sharma	Electrical Engineering	Award of Young Faculty Research Fellowship	0.37
38	Industrial Consultancy	Dr. Somdev Kar	Humanities & Social Science	Cleopatra Annotation Bengali' under Clarabridge Language Pack	0.01
39	Industrial Consultancy	Dr. Rohit Y. Sharma	Electrical Engineering	Technical Reviews of MCM layout & SI-PI analysis and guidance for Package performance optimization	0.01
40	ICSSR	Dr. Smruti Ranjan Behera	Humanities & Social Science	Foreign Direct Investment and Innovative Performance of Local Firms: Evidence across Indian Manufacturing Industries	0.07
				Total	**11.70 (In Crores)**

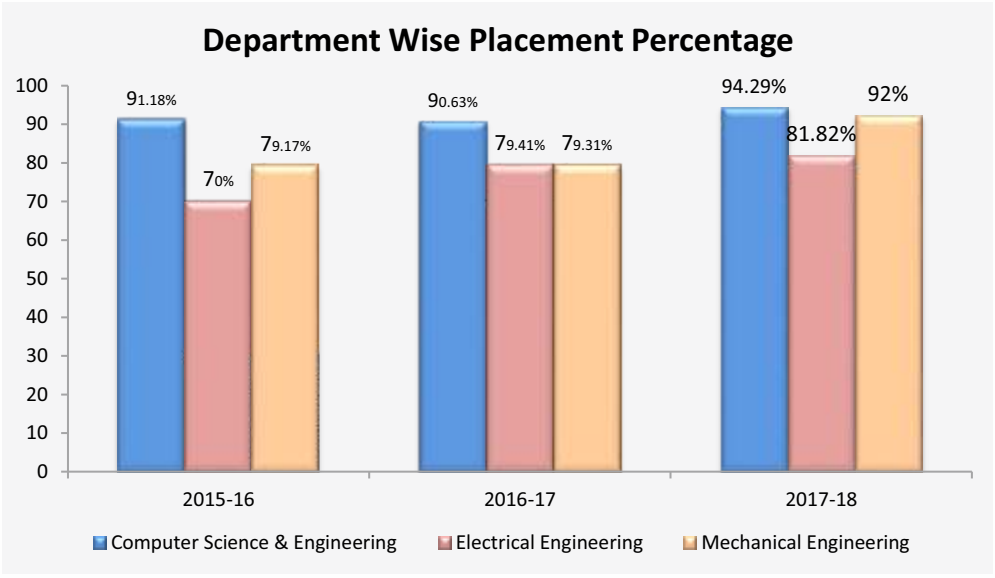
CAREER DEVELOPMENT AND CORPORATE RELATION CENTRE (CDCRC)

TRAINING AND PLACEMENT

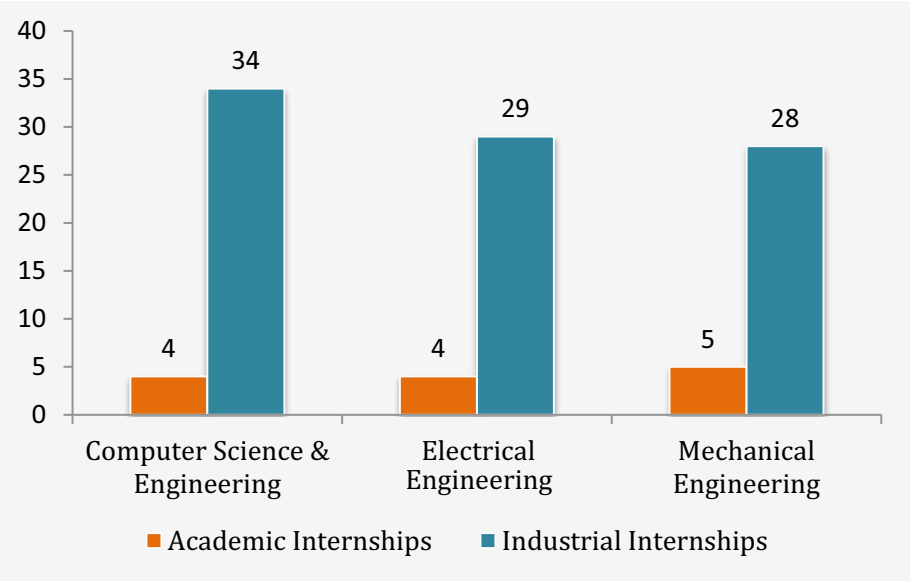
The placement results during October 2017 to March 2018 at IIT Ropar have been very encouraging. An overwhelming response from industry was seen for campus recruitment process as a result of which 90.24% of our students were placed. Close to 95% of the Computer Sciences & Engineering students, 92% of Mechanical Engineering students & 81% students of Electrical Engineering students, have been offered positions in core-technical, consultancy and IT companies. An average package of over 11.7 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.



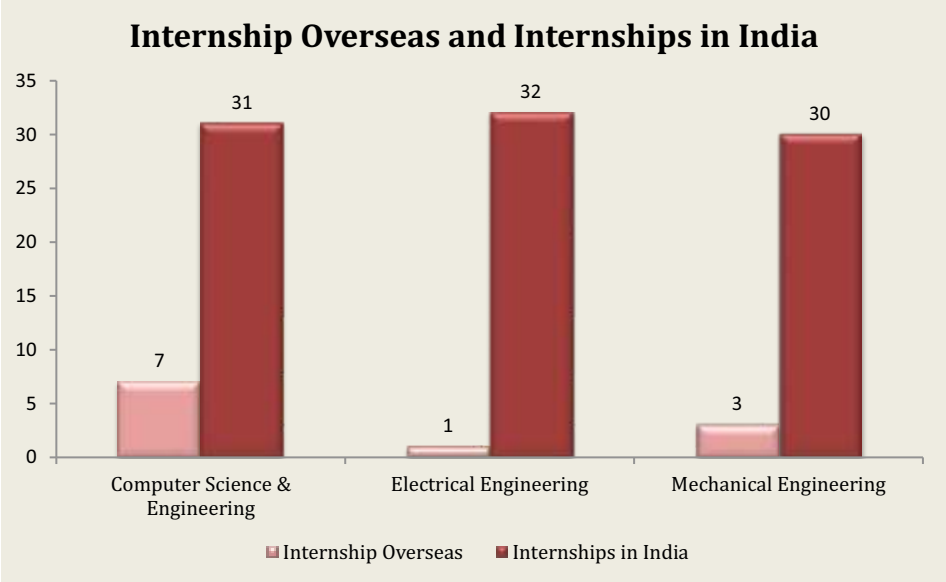
Graph 1 : Placement Percentage vs. Year



Graph 2 : Department wise placements percentage in last three years



Graph 3 : No. of academic and industrial internships in 2017-18



Graph 4 : No. of students in different departments for the internship in India and abroad

CORPORATE RELATION CELL, INDIAN INSTITUTE OF TECHNOLOGY ROPAR

The foundation stone of IIT's were laid down to fulfill three primary objectives (i) to foster high quality undergraduate and post graduate studies (ii) to conduct cutting edge research and, (iii) to assist holistic growth of Indian industry through development of state of the art technology. The Corporate Relation Cell at Indian Institute of Technology Ropar has been established to meet the third objective. However instead of keeping it as an independent entity the Corporate Relation Cell is part of broader framework of Career Development & Corporate Relations Center (CDCRC) which provides a single window point of contact to industry fulfilling their entire spectrum of requirements, starting with human resource to research and development needs.

Industry interaction to solve their problems has been bucketed into three broader segments mapping three bordered

categories of students, such as,

1. **Problems needing immediate solution:** These are the problems needing immediate attention usually associated with existing product line up. These problems usually require study which span three to six months. Bachelor students are ideal candidates for such kinds of problems. Starting with summer internship students can take up these problems. To provide flexibility to solve this kind of problems in project mode it is proposed that six month internship be provided as an option.
2. **New product lineup:** This is the category where industry needs market study or enhancement of existing product lineup for new products. These problems usually require time which span from six months to one year. The skill set requirements are little bit higher. Masters students are ideal for such kind of problems. It is proposed that joint M. Tech projects be floated in collaboration with industry for such kind of problems.
3. **Innovation and New Technology:** This is the category where the need is to develop new and disruptive technologies. Usually requiring multidirectional approach with out of box thinking and time. PhD students can be instrumental in supporting these problems.

Keeping these strategies in mind Corporate Relation cell has started actively perusing industry interaction. Following are key takeaway,

- For an effective approach with industry, IIT Ropar has identified TEN big industry clusters in its vicinity, covering whole Punjab, partly Haryana & Himachal Pradesh respectively. Under these clusters, industry as of Textiles, Manufacturing, Sports, Pharmaceuticals, Paper manufacturing, Industrial machinery, hand tools, chemicals sectors will be provided solution mainly.
- Till now we have interacted with two industry clusters only in Ropar - SBS Nagar & Jalandhar area. Under which industries like SML - ISUZU,DCM Engineering, Max specialty films, DSM - Sinochem Pharmaceuticals, Sun pharmaceuticals, Ambuja Cements, Shreyans Paper & Healthcap India are covered.
- ISRO is building a centre for corner reflect at IIT Ropar and project related to it such as radar IR and FR.
- Larsen & Toubro has invited us for Industrial consultancy project related to ground water contamination.

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PROFESSIONAL DEVELOPMENT

The Professional Development function at the Career Development and Corporate Relations Centre (CDCRC) serves to cater to the professional development activities (e.g. communication skills, life skills, Networking) for IIT Ropar Students. The eventual aim of these activities is to help students discover their potential, interests and aptitudes. A Career Development and Corporate Relations Centre Lecture/ Workshop Series was initiated in January 2017, which has catered to various aspects:

1. Organization of workshops on effective Communication Skills (e.g. resumes, group discussions and interviews) and gearing IIT Ropar students towards lifelong learning.
   IIT Ropar invited the following distinguished speakers on sharing best practices on:
   a. "Creating an effective first professional impression" - Prof. Deepti Gupta (Dean, International Students, Panjab University) and Ms. Tanvi Ahuja
   b. Strategies of Effective Business Communication - Ms. Vishwapriya Kochhar (Co-Founder and Managing Director, M/S Blewminds)
   c. "How to 'Present Your 'Best Self' at an interview " - Ms. Annesha Dutta (Founder- 'AskAnnie Consulting')
   d. Soft Skill Training for students by Focus Academy for Career Enhancement

2. Organization of workshops by professionals interested in inspiring and enabling achievement-oriented and talented IIT Ropar students.
   To cater to this objective, IIT Ropar invited the following distinguished speakers on sharing their experience:

   GREAT TALKS organized by British Council UK @ IIT Ropar - Dr. Venkat V S S Sastry (Cranfield University) and British Council, UK
   i. "Startup in Financial Domain"- Mr. Tajinder Singh Virk (CEO and Co- Founder Finvasia)
   ii. "A Career in Computer Programming" - Mr. Anup Kalbalia (Lead, CodeChef)
   iii. "I have an Idea, what next?" - Dr. Sachin Jain (Director SKYi Composites Pvt. Ltd.)
   iv. "Engineering Your Career" - Dr. Dheepa Srinivasan (Consultant, Additive Technologies and High Temp. Materials and Coatings, Formerly, Principal Engineer, GE, Power)
   v. "How graduate students can prepare themselves for international research opportunities" - Prof. Christopher Berndt (Swinburne University, Australia and VAJRA Faculty-IIT Ropar)

1. Development of resources for professional development (e.g. library development, peer-learning initiatives, adult learning) for enriching the future scientific and technical workforce in addition to classroom learning.
   I. Under this initiative, the IIT Ropar Library has procured 65 books on professional development and more titles will be procured.
   ii. The office is working with the Dean (Research) office to encourage research scholars to conceptualize and develop an IIT Ropar Peer Learning initiative, with the intention to develop a learning community where they will be organizing workshops.
   iii. A formal CDCRC Innovation Internship programme was initiated in June 2018,

which has five IIT Ropar students in the current cohort. The idea is to engage student talent to achieve institutional objectives like excellent industry relations, prolonged industry engagement through placement and internships and professional development.

iv. In June 2018 the office organized the visit of three undergraduate students and six undergraduate student entrepreneurs for the CII IT-Non IT B2B Meetup at CII Office, Chandigarh.

We are now associated with esteemed industry associations like CII, PHD Chamber of Commerce and Industries , FICCI, BBNIA, MIA, SGMEA & NIPM.

TECHNOLOGY BUSINESS INCUBATOR FOUNDATION (TBIF)

The institute has established a technology business incubator; formerly registered as IIT Ropar- Technology Business Incubator Foundation (IITR-TBIF), which is an independent Section-8 Not-for-profit Company of the institute. This incubator is being funded by Department of Science & Technology (DST), New Delhi. This incubator is an umbrella programme for nurturing ideas and innovations (knowledge-based and technology-driven) into successful startups. The incubator will strengthen Central Government's "Start-Up India Programme".

The incubator has already hosted ten startups, whereas three more innovation groups are upgrading their ideas to product level in the Pre-incubation laboratory of the incubator. Four newer applications are in pipeline for review of their concept/idea for incubation. A full-fledged TBIF infrastructure is coming up at the top floor (East Wing) of Main Administrative Block of the new campus, which shall be fully operational from November 2018, with an allocated space of ten thousand square feet area.

The main objectives of this Incubator are as under:

- ✓ To invite new ideas from prospective innovations such as students, alumni and faculty for pre- or post-incubation with TBI as a startup
- ✓ To promote new technology/knowledge/innovation-based startups
- ✓ To build a vibrant startup ecosystem, by establishing a network of academic, financial institutions, industries and other institutions
- ✓ To provide cost-effective, value-added services to start ups such as mentoring, legal, financial, technical, intellectual property related services
- ✓ To provide/arrange seed funding to the incubatees for making prototype of their concepts and commercialization of the same at a later stage
- ✓ To provide a platform for speedy commercialization of technologies developed by the institute or by any other academic/technical/R&D institution or by an individual
- ✓ To create jobs, wealth and business in alignment with national priorities and local population
- ✓ To promote entrepreneurship culture at IIT Ropar

INTERNATIONAL RELATIONS

VISIT OF IIT ROPAR DELEGATION TO AUSTRALIA & SINGAPORE

An academic delegation of IIT Ropar, led by Prof. S. K. Das, Director visited Australia and Singapore during April 22 – May 3, 2017. The other members of the delegation included: Prof. Manohar Lal Munjal , Professor & INSA Senior scientist , Department of Mechanical Engineering IISc. Bengaluru and Senior senator of IIT Ropar, Prof. Deepak Kashyap, Head, Department of Civil Engineering, Dr. Harpreet Singh, Associate Dean (International Affairs) and Associate Professor, Mechanical Engineering , IIT Ropar, Dr. Rohit Y. Sharma., Associate Professor & Coordinator International University Affairs, electrical Engineering, IIT Ropar.

Major objectives of the tour were to interact with the International Universities for Research and Academic Collaborations, to conduct Off- Shore Faculty Interviews and interact with Indian Diaspora in the form of NRI Meets and IT Alumni. During this tour, 8 Universities – were visited namely : Macquarie University, Sydney; Australian National University, Canberra; common wealth scientific and Research Organisation (CSIRO), Canberra; University of Canberra, Canberra; Swinburne University, Melbourne; University of New South Wales, Sydney; National University of Singapore, Singapore & Nanyang Technological University, Singapore.

IIT DELEGATION VISIT TO CANADA, USA AND GERMANY

An academic delegation led by Prof. Sarit K Das, Director, IIT Ropar, along with Prof. M. L. Munjal, Senior Senator of IIT Ropar, Professor & INSA Senior Scientist, Department of Mechanical Engineering, IISc., Bengaluru, India, Prof. Raj P. Chhabra, Professor, Chemical Engineering, IIT Kanpur Prof. Harpreet Singh, Professor, Mechanical Engineering Department and Dean, External Relations and Dr. Rohit Y. Sharma, Associate Professor, Department of Electrical Engineering & Associate-Dean, International Relations, IIT Ropar, visited Canada, Germany and Unites States.

The visit aimed to bring some of the best talent overseas as faculty at the institute, to encourage research collaborations in several thematical areas and to facilitate faculty and student exchange, Joint proposals, Joint workshops and seminars and other academic & research initiatives and interacted with Indian Diaspora in the form of NRI meets and IIT Alumni.

MoUs were signed with SUNY Polytechnic, Massachusetts Institute of Technology (MIT), TU, Darmstadt, Germany. A collaboration was made with JWAFS (Jameel World water and Food Security) centre at MIT which will primarily focus on research work related to water and food.

GLIMPSE OF MoUs

Suny Polytechnic Albany, USA
on October 4, 2017

Technische Univ. Darmstadt, Germany
on October 9, 2017

Macquire University, Australia
on November 17, 2017

National Chiao Tung University,
Taiwan on March 7, 2018

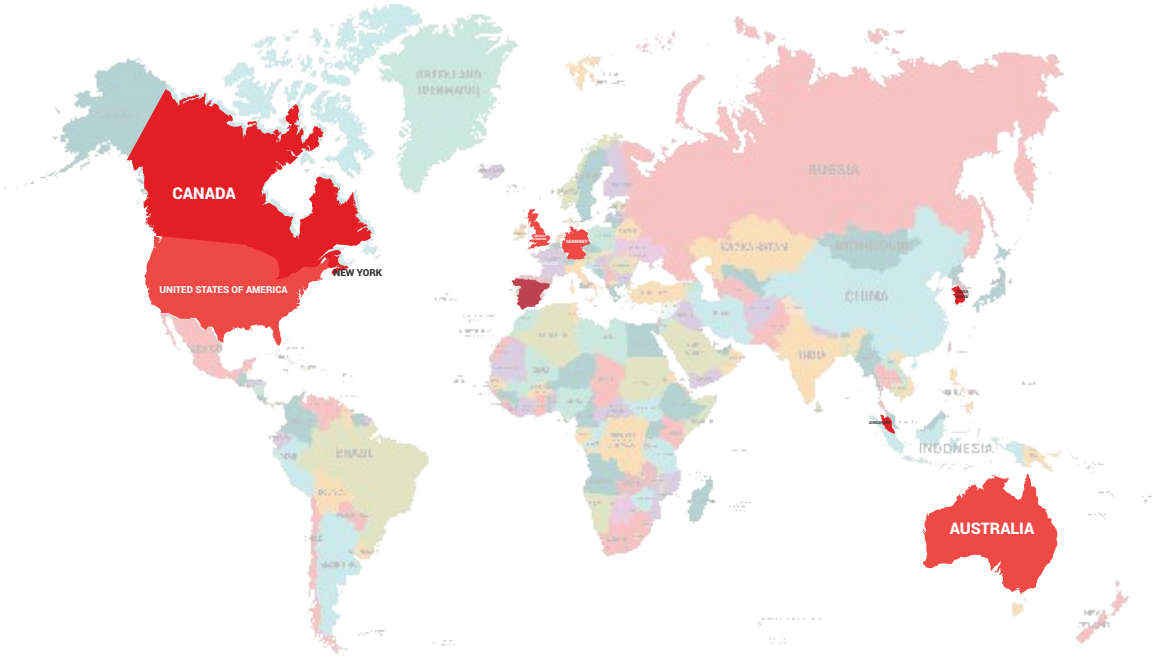


Table 2: List of MoUs signed in 2017-18

Sr. No.	Name of the University	Country	Date	Objectives
1.	The University of New South Wales	Australia	April 28, 2017	· Exchange of Academic staff · Student mobility · Cooperative research · Exchange of academic material
2.	Technische Univ. Damstadt	Germany	October 09, 2017	· To promote and Enhance the scientific and academic interaction · To provide formal basis to initiating interaction
3.	Sunny Polytechnic Albany, USA	USA	October 04, 2017	· Exchange of Academic staff · Cooperative research · Exchange of academic material · Special short tern academic program
4.	NCTU Taiwan	China	March 03, 2018	· Faculty Exchange · Students Exchange · Exchange of scientific and teaching material · Joint research Projects · Dual Degree · Conferences

Workshop : Global Challenges Research Fund and Commonwealth Fund

The Office of International Relations organized a workshop in association with Cardiff University, UK to spread awareness about various funding opportunities under Global Challenges Research Fund and Commonwealth Fund on February 15, 2018. Prof. Nora De Leeuw, Pro Vice Chancellor, (International & Europe), Cardiff University was the speaker. Nearly 50 faculty members and students attended this workshop. IIT Ropar has been actively involved in several Indo-UK bilateral projects. This workshop will go a long way in further consolidating our research collaborations with UK Universities.

Workshop : Developments and Opportunities in Higher Education and Research

The Office of International Relations organized a workshop in association with German Academic Exchange Service (DAAD) to interact with faculty and students regarding the developments and opportunities in higher education and research in Germany on April 26, 2018. Dr. Apoorv Mahendru, Director, Marketing DAAD Regional Office New Delhi, Dr. Aditi Gosavi, Senior Advisor, DAAD Regional Office New Delhi, Dr. Matthias Kiesselbach, Director, DFG office India, Dr. Stefan Diederich, Head, Freie Universität Berlin – Liaison Office New Delhi, were the speakers. Nearly 50 faculty members and students attended this workshop

FACULTY & STAFF

FACULTY STATISTICS

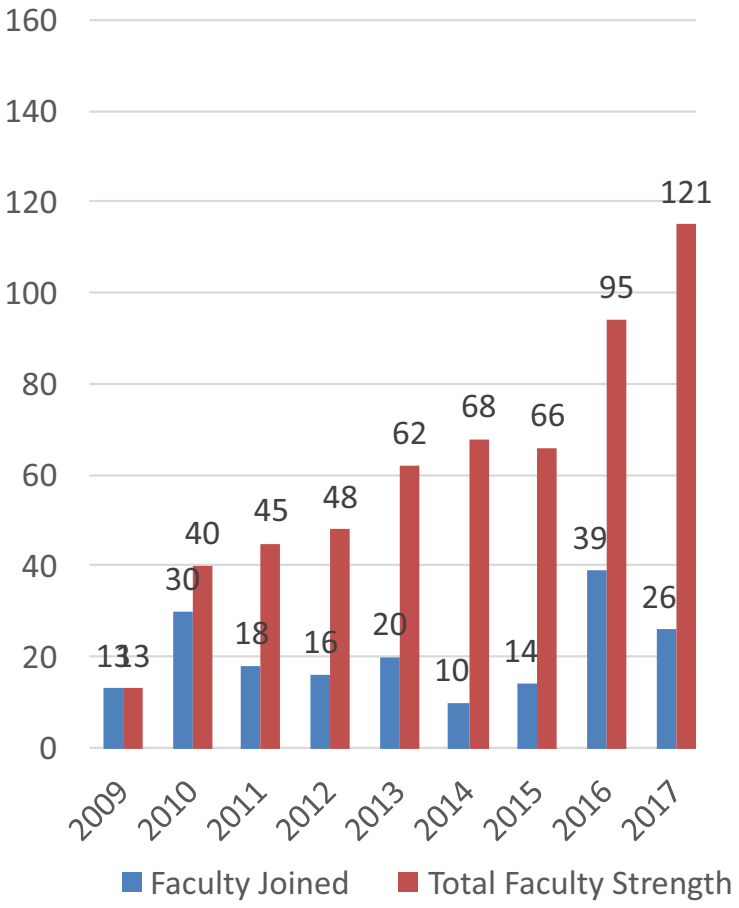


Figure 1 : Increase in Faculty Strength

DEPARTMENT WISE FACULTY DISTRIBUTION

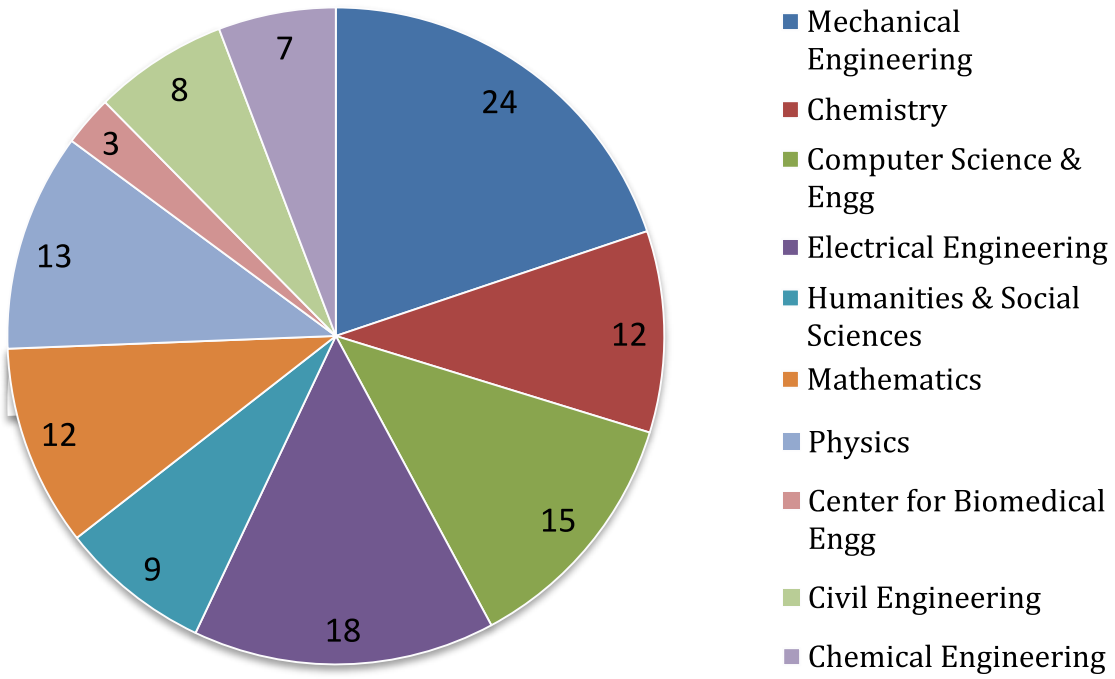


Figure 2 : No. of faculty in each department during 2017-18

GENDER WISE DISTRIBUTION OF FACULTY

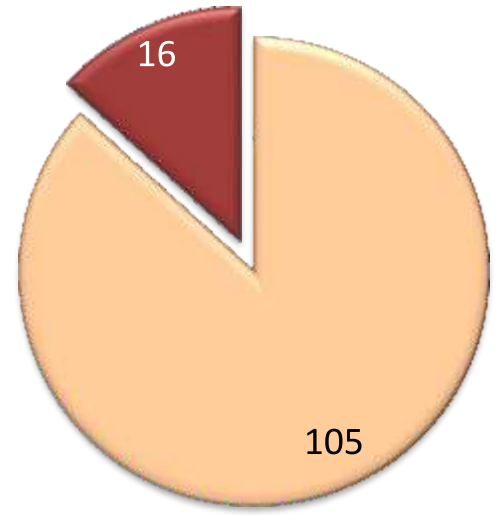


Figure 3 : No. of faculty (Gender wise)

PHD OF FACULTY MEMBERS (JOINED IN 2017-18)

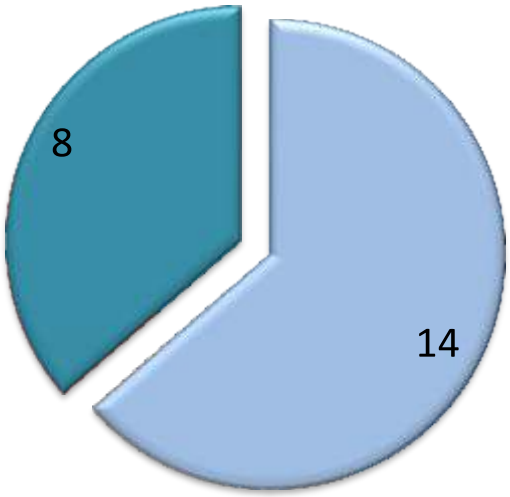


Figure 4 : No. of faculty having PhD from Indian and foreign universities

FACULTY JOINED DURING 2017-18

S.No.	Name	Designation	Department
1	Prof. Javed Agrewala	Professor	Bio Medical Engineering
2	Dr. Swati A. Patel	Assistant Professor	Chemical Engineering
3	Dr. Asad Sahir	Assistant Professor	Chemical Engineering
4	Dr. Himanshu Paliwal	Assistant Professor	Chemical Engineering
5	Dr. Chandi Sasmal	Assistant Professor	Chemical Engineering
6	Dr. Amar Nath Roy Chowdhury	Assistant Professor	Civil Engineering
7	Dr. L. Vijay Anand	Assistant Professor	Civil Engineering
8	Dr. Resmi Sebastian	Assistant Professor	Civil Engineering
9	Dr. Reet Kamal Tiwari	Assistant Professor	Civil Engineering
10	Dr. Somitra Sanadhya	Associate Professor	Computer Science & Engineering
11	Dr. Viswanath Guturi	Assistant Professor	Computer Science & Engineering
12	Dr. Tarique Anwar	Assistant Professor	Computer Science & Engineering
13	Dr. J. Kalaiselvi	Assistant Professor	Electrical Engineering
14	Dr. A.V. Ravi Teja	Assistant Professor	Electrical Engineering
15	Dr. Ramachandra Sekhar	Assistant Professor	Electrical Engineering
16	Dr. Saifullah Payami	Assistant Professor	Electrical Engineering
17	Dr. Shruti Verma	Assistant Professor	Electrical Engineering
18	Dr. Lipika Kabiraj	Assistant Professor	Mechanical Engineering

19	Dr. Samir Chandra Roy	Assistant Professor	Mechanical Engineering
20	Dr. Ravi Kant	Assistant Professor	Mechanical Engineering
21	Dr. Chandrakant Nirala	Assistant Professor	Mechanical Engineering
22	Dr. Sachin Kumar	Assistant Professor	Mechanical Engineering

NON- TEACHING STAFF JOINED DURING 2017-18

S.No.	Name	Designation	Department
1	Dr. Reena Rani	Medical Officer	Medical Center
2	Dr. Charanjit Singh	Medical Officer	Medical Center
3	Mrs. Rubal Batta	Junior Assistant	Diary & Dispatch
4	Mr. Rajiv Kumar	Senior Lab Assistant	Mechanical Engineering

EVENTS & ACTIVITIES

CONVOCATION 2017

The Indian Institute of Technology Ropar (IIT Ropar) celebrated its 6th Annual Convocation at its permanent campus. Prof. Ashok Jhunjhunwala, Principal Advisor to Minister of Power, New & Renewable Energy, Government of India, graced the occasion as the chief guest and delivered the convocation address. Prof. S.K. Das, Director, IIT Ropar, presided over the ceremony A total of 160 degrees were awarded this year. 118 B.Tech., 11 M.Tech., 18 M.Sc. and 13 PhD degrees were handed out to students. There was a 22 percent increase in the number of students graduating this year compared to last year.

Mr. Tushar Agarwal, Department of Computer Sciences & Engineering received President of India Gold Medal amongst the graduating Gold Medal was awarded to Mr. Swapnil Rai, Department of Mechanical Engineering.

Institute Silver medals were given to Mr. Abhiskek Kumar, B.Tech. Department of Electrical Engineering, Mr. Asheesh Kumar Sharma, M.Tech. Mechanical Engineering, Ms. Deeksha Suthar, M.Sc. in Chemistry, Mr. Mohit Sood, M.Sc. in Physics and Mr. Nihal Chand, M.Sc. in Mathematics.

Prof. S. K. Das addressed the students, mentioning the day as a 'Red Letter Day' in their life. He encouraged new graduates to pursue their dreams and embrace leadership opportunities.

The Institute is proud of the various awards won by the students and faculty this year, a number of them being national awards. The foremost of them are “NASI-SCOPUS Young Scientist Award” awarded to Dr. Rajendra Srivastava, Associate Professor of Department of Chemistry, in the field of Chemistry, “NASI Young Scientist Platinum Jubilee Award” awarded to Dr. Durba Pal,

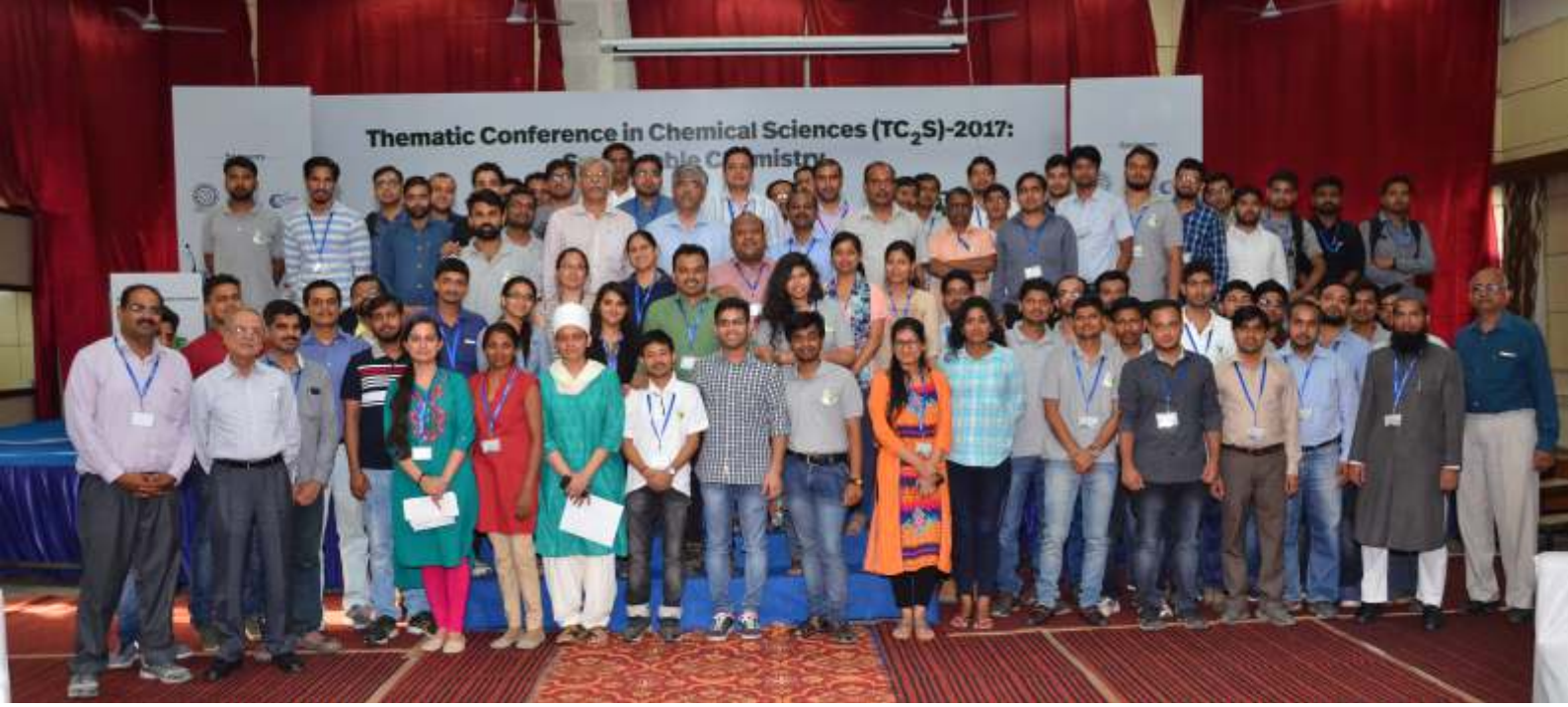
Scientist Platinum Jubilee Award" awarded to Dr. Durba Pal, Assistant Professor, CBME, in the field of Biomedical, Molecular Biology and Biotechnology, "Prof. S. S. Sandhu Medal" by Indian Chemical Society, Kolkata, awarded to Dr. Narinder Singh in the field of Environmental and Analytical Chemistry, Dr. Srivastava Naidu, Assistant Professor, CBME, selected for DBT Ramalingaswami Re-Entry Fellowship.

PhD students, Mr. Gurvinder Pal Singh Sodhi, received the best presentation award in the International Conference on Innovative Engineering Materials (ICIEM 2017) held in Philadelphia, USA, and Mr. Navin Kumar, PhD scholar from Department of Physics secured the prestigious Bhaskara Advanced Solar Energy (BASE) internship.

The Chief Guest, Prof. Ashok Jhunjhunwala also congratulated the graduates. He insisted them to count each day of their life as transformation to create another good change. "Acquire more resources, update yourselves and keep your focus." he added. He ended his address by entreating the students to enjoy the roller coaster ride of life.

Achievements for 2017

- Student strength increased from 820 to 1120 and faculty strength jumped from 84 to 115 in 2017. Undergraduate intake jumped from 155 to 260 in 2017.
- The Institute crossed the mark of 1000 publications in the Scopus database. The average citations per paper were recorded at 8.4, which is the highest among all new IITs.
- The Institute started the B.Tech. program in Chemical Engineering,
- M. Tech. programs in Biomedical Engineering, Electrical Engineering and Computer Science Engineering.
- The Institute has successfully conducted GIAN Courses on Mechanobiology , Robotic Systems, Data Driven Kinematic Synthesis, Biomimetics, Surface Engineering, Fatigue Mechanics with experts from abroad.
- 83.16% of students being placed in 2017. More than 90% of Computer Science Engineering, close to 80% of Mechanical and Electrical Engineering students have been placed through campus interviews. An average package of about 11.48 lakhs per annum was offered to students this year.
- "Summer Visitation Program" started through which the institute has given full financial support to 10 faculty members of the institute to visit some of the finest research labs of the world for a period of 5-10 weeks.
- This year IIT Ropar gave a big push towards international collaborations and interactions. Two institute level delegations visited Australia, Singapore, Canada, US and Germany establishing contact with 13 universities and research labs in these countries. MOUs were also signed with the institutes for research collaborations and exchange programmes.



THEMATIC CONFERENCE IN CHEMICAL SCIENCES

The Thematic Conference in Chemical Sciences (TC2S - 2017) was the inaugural conference organized by the Department of Chemistry, IIT Ropar. The theme of this year's conference was Sustainable Chemistry. During the inaugural sessions of the conference, Prof. Goverdhan Mehta, F.N.A, F.R.S, University Distinguished Professor and kallam Anji Reddy Chair, School of Chemistry, University of Hyderabad, delivered the keynote address. Many key academic professionals from the neighboring institutes and the other parts of the country participated in the conference. During the two days conference (May 15016, 2017) sessions (1) Sustainable Inorganic and Organic Materials; (2) Sustainable Medicinal Chemistry; (3) Industry perspectives; (4) Sustainable Alternative Energy Resources; (5) Sustainable Organic Synthesis; and (6) sustainable Catalysis. Prof. T. Pradeep (IIT Madras), Prof. Asit K. Chakraborti (NIPER Mohali) and Prof. Vijayamohanan K. Pillai (CECRI) delivered the plenary lectures. The conference featured industrial representatives around the country including Dr. Rakeswar Bandichhor, Dr. Reddy's Lab and Dr. Radha Rangarajan, Vitas Pharma.

CYNOSURE '17

The Department of Mathematics, IIT Ropar organized the annual research day, Cynosure-2017 on May 13, 2017. This event aims at motivating young students and academics towards research in mathematics and allied areas. There were two invited talks by Prof. Maithili Sharan (S. S. Bhatnagar Awardee), IIT Delhi and Prof. B. V. Rathish Kumar, IIT Kanpur. A total 54 participants registered for this event.

CATCON 17

The Department of Physics had organized its second annual scientific event `Physics Day' The 3rd International Conference on Condition Assessment Techniques in Electrical Systems has been hosted by Department of Electrical Engineering, Indian Institute of Technology Ropar during November 16-18, 2017. The conference

received about double the number of technical research papers in the condition monitoring of power equipment, an area which is attracting growing importance in developing countries like India and China. The first day started with intensive technical discussions during five tutorials from leading power sector company, ABB Sweden, by Dr. Santanu Singha and Dr. Subrat Kumar Sahu, Prof. Yasuhiro Tanaka from Tokyo City University, Prof. S. V. Kulkarni from IIT Bombay, Prof. Aiman El-Hag from American University of Sharjah.

Prof. S. K. Das , Director, IIT Ropar, inaugurated the conference and a cultural program of Odissi dance was performed by Padmashri Geeta Mahalik.

Six plenary sessions from the most experienced and renowned Prof. L. A. Dissado, University of Leicester, United Kingdom, Prof. L. Satish from IISc. Bangalore, Prof. Toan Phung, UNSW, Australia, Prof. Sivaji Chakravorty, Director, NIT Calicut, Prof. Tatsuki Okamoto, Tohoku University, Japan and member of CRIPI, Japan and Prof. Sarathi Ramanujam from IIT Madras were presented during the conference. 115 technical paper presentations from the delegates of India and abroad were held in parallel sessions.

PHYSICS DAY

The Department of Physics had organized its second annual scientific event `Physics Day' during August 18-19, 2017. In its inaugural session, Prof. S. K. Das, Director, IIT Ropar, had discussed on the role of Physics in modern-day technology, how IIT Ropar emphasizes on science education in general, and about his own passion about Physics in particular. Several eminent scientists, namely, Prof. G. Ravindra Kumar (TIFR, Mumbai), Prof. Rohini Godbole (IISc, Bengaluru) , Prof. Anantha Ramakrishnan (IIT Kanpur), and Dr. Goutam Sheet (IISER Mohali) raced the scientific sessions through their colloquia and interactions with students. Prof. Tarun Souradeep (IUCAA, Pune) delivered a public lecture on LIGO-India during the event. He elaborated the science behind the LIGO - India explorations and the engineering challenges ahead in making such a mammoth indigenous project successful. Prof. Godbole shared in an interactive session her views on the challenges of women professional in science in India. The PhD students in the Department made their oral and poster presentations as well. Through their zestful interaction, all the speakers instilled an aura of enthusiasm during their stay. Overwhelming participation of the speakers, faculty members and students made the event a true celebration of Physics, indeed, through a rainy weekend.

VIGILANCE AWARENESS WEEK

The Vigilance Awareness Week was observed at IIT Ropar from October 30,2017 to November 4, 2017. This year the theme for observing Vigilance Awareness Week was “My Vision-Corruption free India”. On this occasion, Director, IIT Ropar administered a pledge to all faculty and staff members working in IIT Ropar. A public lecture was organized on November 2, 2017. Prof. Suveera Gill, Professor, University Business School and CVO Punjab University Chandigarh delivered a speech on title “My Vision - Corruption Free India”. During this week, two events, Essay writing and Debate competition were organized and participants were awarded.

BROCAS

The Department of Humanities and Social Sciences (HSS), Indian Institute of Technology Ropar, in collaboration with Central Institute of Indian Language (CIIL), Mysore, organized its first linguistic symposium titled Bridging Research on Cognition and Speech (BROCAS) on February 17-18, 2018. The 2-day symposium aimed at bringing together budding linguists, research scholars and practitioners from qualitatively different research backgrounds to present their ongoing research in the fields related to Phonology and/or Language cognition.The seminar began with an inspirational talk by Prof. S. K. Das, Director IIT Ropar and then followed by 5 plenary talks, 12 oral presentations and 10 poster presentations. Eminent scholars from reputed institutes shared their knowledge and experience through various plenary sessions.

SUMMER VISITATION PROGRAM - 2017

In summers, IIT Ropar conducted a unique initiative where selected faculty across all the departments were promoted to visit some of the best known labs/research groups in the world. Under this program, 10 faculty members were awarded with Institute fellowships through a competitive process to carryout research work during summer. The fellows under this program visited the following universities: University of California-Santa Barbara; Georgia Institute of Technology; Cardiff University; University of Trento; Monash University; Princeton University; Cambridge University; State University of New York and University of Toronto.

STUDENTS ORIENTATION & INDUCTION PROGRAMME

IIT Ropar conducted a one of its kind 2-week induction programme for UG and PG students enrolled for Academic year 2017- 18. The larger aim of this programme was to make students aware of the exciting life ahead. Several sessions were held where faculty members from IIT Ropar and invited experts gave talks on academics, research & the life ahead.

WOMEN'S FORUM

Skill Development Workshop was organized by the Women's Forum, IIT Ropar from June 22-24, 2017 for the staff and students of IIT Ropar. Soft skills are required in today's world in order to become more successful in personal, professional and social life. For this purpose, professional trainers from Focus Academy for Career Enhancement (FACE), Gurgaon were invited. The workshop included eight sessions covering different topics i.e. Productivity through self-discipline and mindfulness, Communication skills, Complex & Written Communication, Body language, Presentation skills, Professionalism, Workplace Etiquettes and Stress Management. More than 70 participants participated and took advantage of this workshop.

WOMEN'S SPORTS DAY

The Women's Forum, IIT Ropar organized Sports day on November 18, 2017 for the female students, staff and faculty members of the Institute. Games like cricket, Kho - Kho and some fun games like lemon spoon, Tug of War were organized. Cricket match between UG, PG and staff and Kho–Kho match between UG vs. PG were played.

WOMEN'S DAY

Women's forum of IIT Ropar organized "International Women's Day" for the second time at IIT Ropar on March 8, 2018. Prof. Sudeshna Sinha, IISER Mohali was the Chief Guest on that day. IIT Ropar celebrated this day as a celebration of respect, appreciation and love towards women for their achievements at different platforms.

YOGA DAY

The Yoga day was celebrated in the presence of Acharya Shirva Sudhesh Chand ji from Mysore on June 21, 2017. The session was followed by therapeutic session and question and answer session. This10 days workshop was arranged to spread awareness of yoga in all aspects, both for the uninitiated as well as practitioners, to help students to channelize their energy and reinvent themselves.

MoU SIGNED WITH CSIO

Central Scientific Instruments Organisation (CSIO) and Indian Institute of Technology Ropar (IIT Ropar) have entered into Memorandum of Understanding (MoU) for Academics as well as advancement of Science & Technology. This MoU will facilitate exchange of staff and students towards co-supervision of Undergraduate, Postgraduate and PhD theses and participation in research, thus promoting interaction among the scientists, professors and research scholars of both the organizations. Prof. R. K. Sinha, Director, CSIR-CSIO, Chandigarh and Prof. Sarit K Das, Director IIT Ropar signed this MoU on May 31 , 2017 Senior officials from both the organizations were also present on this occasion.

हिंदी पखवाड़ा

हिंदी दिवस के उपलक्ष्य में भारतीय प्रौद्योगिकी संस्थान रोपड़ (प्ज्ञ त्वचंत) में दिनांक 14.09.2017 से 28.09.2017 तक हिंदी पखवाड़ा का आयोजन किया गया। इस कार्यक्रम में मुख्य अतिथि के रुप में श्री प्रदीप श्रीवास्तव,वैज्ञानिक, सी.एस.आई.आर – केन्द्रीय औषधि अनुसंधान संस्थान, लखनऊ, ने अपने सायंटून्स द्वारा बड़े ही रोचक ढंग से कई वैज्ञानिक,तकनीकी एवं सामाजिक मुद्दों पर बात रखी। इस अवसर पर संस्थान के निदेशक प्रो. सरित कुमार दास ने कहा कि हिंदी यह एक वैश्विक भाषा है जो समूचे देश में बोली एवं समझी जाती है इसलिए सभी ने इसके महत्व को समझते हुए इसके उत्थान के लिए प्रयास करने चाहिए।

दिनांक 28.09.2017 को इस पंद्रह दिवसीय कार्यक्रम का समापन हुआ। समापन समारोह में प्रो. गर्ग और श्री संजय भटनागर, कुलसचिव विशेष रुप से उपस्थित थे। हिंदी पखवाड़ा के अंतर्गत कुल 15 विभिन्न प्रतियोगिताओं का आयोजन किया गया। जिसमें कर्मचारियों/संकाय सदस्यों, विद्यार्थियों, अहिंदी भाषि कर्मचारियों, कर्मचारियों के बच्चों और कर्मचारियों के परिवारजनों, संस्थान के सफाई कर्मचारी/सुरक्षा कर्मचारी/परिचारकों तथा एक प्रतियोगिता हिंदी में सर्वाधिक कार्य की प्रतियोगिता का आयोजन किया गया था। इन सभी प्रतियोगिताओं को सभी स्तरों से उत्साहजनक प्रतिक्रियाएं प्राप्त हुई। इन सभी प्रतियोगिताओं के लिए कुल 71 विजेताओं को नकद पुरस्कार राशि, स्मृतिचिन्ह और प्रमाणपत्र प्रो गर्ग और श्री संजय भटनागर जी द्वारा दिये गये। इन सभी प्रतियोगिताओं में बच्चों के लिए आयोजित प्रतियोगिता तथा सफाई कर्मचारी/सुरक्षा कर्मचारियों के लिए आयोजित प्रतियोगिता एक प्रमुख आकर्षण रहा। डॉ. गिरीश प्रमोदराव कठाणे, हिंदी अनुवादक ने आयोजन समिति के सभी सदस्यों तथा उपस्थितों का धन्यवाद किया।

उद्घाटन सत्र में उपस्थित संकाय सदस्य, कर्मचारी एवं विद्यार्थी

प्रो. सरित कु. दास उद्घाटन सत्र को संबोधित करते हुए।

हिंदी कार्यशाला

मानव संसाधन विकास मंत्रालय, भारत सरकार के राजभाषा विभाग के दिशानिर्देशों के अनुसरण में भा.प्रौ.सं.रोपड़ में दिनांक 28 जून 2017 को हिंदी कार्यशाला सह प्रतियोगिता कार्यक्रम के अंतर्गत हिंदी कविता प्रतियोगिता का आयोजन किया गया। इस प्रतियोगिता में आईआईटी रोपड़ के विद्यार्थियों, कर्मचारियों, अधिकारियों ने बढ़–चढ़ कर हिस्सा लिया। इस प्रतियोगिता में विद्यार्थी एवं कर्मचारियों में से विजेताओं को पुरस्कार राशि प्रदान की गयी। इस प्रतियोगिता में कर्मचारियों में श्री विपिन कुमार तथा विद्यार्थियों में श्री संदीप ने प्रथम पुरस्कार प्राप्त किया। इस कार्यक्रम का संचालन डॉ. गिरीश प्रमोदराव कठाणे, कनि. हिंदी अनुवादक ने किया। इस अवसर पर श्री लगवीश कुमार, उपकुलसचिव (लेखा) एवं हिंदी अधिकारी सभी को हिंदी के उपक्रमों से जुड़ने तथा हिंदी में अधिक से अधिक कार्य करने की अपील की। सभी प्रतिभागियों ने बड़े ही उत्साह के साथ अपनी–अपनी कविताओं का गायन किया। उपस्थितों ने सभी के गीत गायन की प्रशंसा एवं सराहना की।

गीत गायन प्रतियोगिता

भा.प्रौ.सं. रोपड़ के हिंदी प्रकोष्ठ द्वारा दिनांक जनवरी 23, 2018 को देशभक्ति गीत गायन प्रतियोगिता का आयोजन किया गया। इस प्रतियोगिता में छात्र, संकाय सदस्य, कर्मचारियों ने बढ़–चढ़ कर हिस्सा लिया। इस प्रतियोगिता में परीक्षक के रुप डॉ. यशवीश सिंह, सहायक प्राध्यापक, भा.प्रौ.सं.रोपड़ थे। इस प्रतियोगिता में 5 कर्मचारी तथा 5 विद्यार्थियों को पुरस्कार हेतु चयनित किया गया। दिनांक जनवरी 26, 2018 को गणतंत्र दिवस के कार्यक्रम में कुल 10 विजेताओं को संस्थान के निदेशक प्रो. सरित कु. दास जी ने प्रमाणपत्र प्रदान किया।

नराकास चण्डीगढ़ द्वारा दिनांक अक्तुबर 06, 2017 को हुई देशभक्ति गीत गायन प्रतियोगिता में आई.आई.टी रोपड़ के कनि. हिंदी अनुवादक श्री. गिरीश प्रमोदराव कठाणे ने प्रतियोगिता के पहले दौर में सहभागिता ली। इस प्रतियोगिता में श्री गिरीश ने दूसरे दौर में अपनी जगह सुनिश्चित कर ली जिसे दिनांक दिसंबर 04, 2017 को दूरदर्शन केन्द्र, चण्डीगढ़ में आयोजित किया गया था।

INDEPENDENCE DAY

Independence Day was celebrated at the institute with patriotic fervor. On the occasion of the 71st Independence Day, Prof. S. K. Das, Director, IIT Ropar unfurled the national flag and conveyed his greetings to all. This was followed by the singing of the National Anthem. In his address, the Director narrated the exciting journey that our country travelled in the last 70 years. Our country has a cultural heritage which dates back to centuries. We should be proud of the legacy and accomplishments made so far. He emphasized our higher and technical education system, CSIR labs, Atomic Energy and Space programs are a few prominent examples. Faculty, staff and students thereafter participated in Sadbhavana Daud for social harmony.

MINI MARATHON

To promote clean and healthy India (Swacch Bharat Swasth Bharat) IIT Ropar organized the first edition of mini-marathon in Ropar on January 27, 2018, where around 500 members including 332 runners from IIT Ropar enthusiastically participated in the event.

SWACCH CAMPUS

The Campus Cleaning Drive on the novel occasion of the 69th Republic Day of India was organized by NSS, IIT Ropar.The drive spread awareness about healthy practices.

SPIC MACAY

SPIC MACAY (Society for the Promotion of Indian Classical Music And Culture Amongst Youth) IIT Ropar Chapter, organized a concert on Kathak Dance by Gauri Diwakar accompanied by Shri Yogesh Gangani (Tabla) and Shri Indu Prakash Trivedi (Harmonium & Vocal support).

BAJA

IIT Ropar ground witnessed leg 2 of the 11 edition of the BAJA SAEINDIA th 2018-IIT ROPAR which finally came to successful conclusion on 11 March afer 3 days of rigorous scrutiny,

leaving behind many exhilarating moments. A total of 25 out of 58 BAJA teams competed the endurance round. BAJA SAEINDIA 2018-IIT ROPAR received an overwhelming response with representation from all zones- Western, Northern, Eastern and Southern zones in India celebrating the BAJA SAEINDIA 2018 IIT ROPAR theme 'Ground to Glory'. Crossing all the hurdles and taking oscillations on the sandy and muddy track, Government College of Technology, Coimbatore, Tamil Nadu, was announced the winner of the Leg 2 of the 11th edition of the BAJA series in India and it took away a cash price of Rs 1,50,000. Government College of Engineering, Aurangabad, Maharashtra was declared as the frst runners-up and it received Rs 1,00,000 cash prize.

The Four-hour endurance race was flagged off by the dignitaries present at the event. The 2.98 kms long race track consisting of muddy pits, cliffs and slopes of 15-20 fts of height threw tougher challenges for the students and pushing them to their limits. Mr. Sunil Chaturvedi, CEO, ASDC presided over as the Chief Guest and gave prizes to the winners. The competition was to simulate real world engineering design projects and their related challenges. Each team's goal was to create a safe, easily transported, easily maintained and fun to drive prototype without any direct involvement from professional fabricators. On this occasion, Sh. Navjot Singh Sidhu applauded the initiative taken by IIT Ropar for hosting such an event which gives out of classroom learning opportunity to youth.

DEPARTMENTS & CENTERS

DEPARTMENT OF CHEMICAL ENGINEERING

Programs offered	:	B.Tech & PhD	
No. of Students	:	B.Tech	: 22
		PhD	: 4
Head of the Department	:	Prof. Raj P. Chhabra	
Thrust Areas	:	Catalysis and Reaction Engineering Energy and Environment Multiscale modeling Soft Matter engineering Transport Phenomena and Thermodynamics	

FACULTY MEMBERS

Dr. Asad H. Sahir
Assistant Professor
PhD (University of Utah, Salt Lake City)
Energy and Environment, Catalysis and Reaction Engineering, Multi-scale modeling

Dr. Chandi Sasmal
Assistant Professor
PhD (Monash University, Melbourne)
Soft Matter Engineering, Transport Phenomena and Thermodynamics, Multi-scale Modeling

Dr. Himanshu Paliwal
Assistant Professor
PhD (University of Virginia, Charlottesville)
Multi-scale Modeling, Transport Phenomena and Thermodynamics, Energy and Environment, Soft Matter Engineering

Dr. Manoranjan Mishra
Associate Professor
PhD (IISc, Bangalore)
Transport Phenomena and Thermodynamics, Multi-scale modeling, Soft Matter Engineering

Prof. Raj Chhabra
Professor and Head
PhD (Monash University, Melbourne)
Transport Phenomena, Multi-scale modeling, Soft Matter Engineering (Hydrodynamics of non-Newtonian particulate systems)

Dr. Swati A. Patel
Assistant Professor
PhD (Indian Institute of Technlogy Kanpur)
Soft Matter Engineering, Transport Phenomena and Thermodynamics, Multi-scale Modeling

Dr. Tarak Mondal
Assistant Professor
PhD (Indian Institute of Technlogy Delhi)
Catalysis and Reaction Engineering, Energy and Environment, Multi-scale modeling

Dr. Vishwajeet Mehandia
Assistant Professor
PhD (IISc, Bangalore)
Transport Phenomena and Thermodynamics, Multi-scale modeling, Soft Matter Engineering

Facilities

The following are as a part of its Central Research Facilities with respect to the Chemical Engineering applications:

- High-performance computing
- Nuclear Magnetic Resonance
- Nano-indenter and Scanning Electron Microscopy
- Gas chromatography–mass spectrometry
- FT-IR and Sum frequency generation spectroscopy(SFG)
- UV-Vis-NIR Spectrophotometer
- Single Crystal XRD and Surface Area Analyser
- X-Ray Diffractometer
- High-Temperature Furnace

Invited Lectures by Faculty

1. **Dr. Tarak Mondal**
   "Recent Trends in Energy Production from Renewable Sources, National Conference on "Recent Trends in Chemical Sciences & Engineering", National Institute of Technology, Hamirpur (Himachal Pradesh), October 13-14, 2017.

2. **Dr. Manoranjan Mishra**
   "Optimal Perturbation Structures of Miscible Viscous Fingering with Non-monotonic Viscosity Profiles 14th International Conference on Flow Dynamics (ICFD2017)", Sendai, Japan, November 1-3, 2017.

Lectures by Visiting Experts

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Dr. Ashok Jhunjhunwala, Advisor-Ministry of Railways & Professor Indian Institute of Technology Madras	"Interaction with Chemical Engineering Faculty on Electric Vehicles"	November 27, 2017
2.	Mr. Daljit Bawa, Business Development Manager, Ballard Power Systems, Canada	"Interaction with Chemical Engineering Faculty on Power Systems"	February 15, 2018
3.	Dr. Amarjeet Singh Bassi, Professor, Western University, Canada	"Discussion on possible research collaboration in Bio and Agro related applications"	January 4, 2018
4.	Dr. Swati Sharma, Group Leader, Karlsruhe Institute of Technology, Germany	"Carbon Centric Multidisciplinary Research Activities"	January 29, 2018
5.	Mr. Sukhbir Dhaliwal, Principal, Farm2energy, Ludhiana, Punjab	"Discussion on crop residue research"	March 16, 2018
6.	Dr. Bhupendra Khandelwal, Lecturer, Low Carbon Combustion Centre, University of Sheffield, UK	"Discussion on possible research collaboration"	April 9, 2018
7.	Dr. Manu Chaudhary, Joint Managing Director cum Director Research, Venus Remedies Limited, Baddi	"Discussion on Industry-Academia Relation"	April 17, 2018

Visits Abroad by Faculty

Sr. No.	Name of the faculty member	Country	Detail of Visit
1	Dr. Vishwajeet Mehandia	UK	Research collaboration with Cardiff University, February 2018
2	Dr. Manoranjan Mishra	Japan	International Conference on Flow Dynamics (ICFD2017)", Sendai, Japan, November 1-3, 2017.

DEPARTMENT OF CHEMISTRY

Programs offered	:	M.Sc. & PhD	
No. of Students	:	M.Sc.	: 19
		PhD	: 14
		Post Doc	: 1
Head of the Department	:	Dr. Rajendra Srivastava	
Thrust Areas	:	Biomaterials	
		Biosensors/Sensors	
		Computational & Theoretical Chemistry	
		Catalysis	
		Electrochemistry	
		Drug Delivery	
		Organomettalic Chemistry	
		Supermolecular Syntheses	

FACULTY MEMBERS

Dr. Avijit Goswami
Associate 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
Associate 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 and Head
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, nanostructured materials, electrocatalysis, metal finishing.

Dr. Yashveer Singh
Assistant Professor
PhD (University of Allahabad)
Biomaterials for microbicide / drug delivery, wound healing, and tissue engineering applications

Invited Lectures by Faculty

Dr. C. M. Nagaraja

- "Design of multifunctional metal organic frameworks (MOFs)", Founder's day Celebrations of Poornaprajna Institute of Scientific Research, Bangalore, July 06, 2017.
- "Synthesis, characterization and applications of metal sulfide nanomaterials", Siddaganga Institute of Technology (SIT), Tumkur, Karnataka , January 05, 2018.

Dr. Narinder Singh

- Delivered an invited talk in GCET-2017, Panjab University, Chandigarh, April 20, 2017.
- Delivered an invited talk at Punjabi University Patiala, September 26, 2017 .
- Delivered an invited talk at Thapar University Patiala, October 06, 2017.
- Delivered an invited talk at G.S.S.D.G.S Khalsa College, Patiala, February 20, 2018.

Dr. Rajendra Srivastava

- "Design, synthesis, and applications of C3N4/metal oxide based photocatalysts", Catalysis for Energy and Environment (CACEE-2018), Tata Institute of Fundamental Research (TIFR), Mumbai, January 10-12, 2018.
- "Bi-functional C3N4 and its nanocomposites for unique catalysis", 23rd National Symposium on Catalysis, Poornaprajna Institute of Scientific Research (PPISR), Bangalore, January, 17-19, 2018.

Dr. Yashveer Singh

- Delivered an invited lecture at Chandigarh Science Congress ("CHASCON - 2018"), Department of Chemistry, Punjab University Chandigarh, February 13, 2018.
- "National Conference-cum-Workshop on Recent Advancements in the field of Science and Technology, DAV College, Sector 10, Chandigarh, March 13, 2018.
- "Recent Advancement in Nano Technology: Applications and Challenges (RANAC-2017), Department of Applied Science, Jai Parkash Mukand Lal Innovative Engineering and Technology Institute (JMIETI), Radaur, Yamuna Nagar, May 06, 2017.
- Presentation, "Covalently crosslinked PEG hydrogels and self-assembled peptide gels for drug delivery and antibacterial applications", Drug Discovery and Development Conference, Kolkata Healthcare Summit – 2017, Raytheon Healthcare, Kolkata, September 20-22, 2017.
- Presentation "Covalently crosslinked, biodegradable PEG hydrogels for cancer drug delivery" the International Conference on Advances in Polymer Science and Technology, Asian Polymer Association, New Delhi, November 23-25, 2017.

Lectures by Visiting Experts

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Dr. Pradeep Kumar, FNA, Former Head, Organic Chemistry Division and Deputy Director CSIR-National Chemical Laboratory, Pune	“Enantioselective Synthesis of Biologically Active Natural Products"	August 23, 2017
2	Prof. Balaji R. Jagirdar, IISc. Bangalore	"Atomistic Modelling of Electrodes for Fuel Cell and Battery Applications"	January 10, 2018
3	Dr. Biswarup Pathak, Indian Institute of Technology Indore	"In pursuit of the elusive sigma methane complex...."	December 20, 2017
4	Dr. Yusuke Nishiyama, Group leader of Advanced Solid-state NMR unit at RIKEN-JEOL Collaboration Center, Yokohama, Japan	" Ultrafast Magic Angle Spinning (MAS) Solid-state NMR: Methods and Applications “	February 19, 2018
5	Professor Sambasivarao Kotha, Department of Chemistry, IIT Bombay	" Development of new Synthetic Strategies and Tactics: Their Impact, Implications, and Applications “	March 06, 2018
6	Dr. Anil Kumar, FNA, FASc, FNASc, JC Bose National Fellow, CSIR-National Chemical Laboratory, Pune	" Using Concepts of Physical Chemistry in Understanding Simple Organic Reactions and Biological Molecules “	March 14, 2018

Visits Abroad by Faculty

Sr. No.	Name of the faculty member	Country	Detail of Visit
1	Dr. Narinder Singh	Suntec Singapore	3rd International Symposium on Aggregation—Induced Emission & 9th International Conference on Materials for Advanced Technology (ICMAT-2017), June 18-23, 2017
2	Dr. Rajendra Srivastava	Georgia Institute of Technology, USA	Summer visitation program, June 19 - July 14, 2017
3	Dr. Debaprasad Mandal	Friedrich-Alexander-Universitat Erlangen-Nunberg	Visiting Faculty for research collaboration Sponsored by Alexander von Humboldt foundation, June 01 - July 28, 2017

Sr. No.	Name of the faculty member	Country	Detail of Visit
4	Dr. C. N. Tharamani	Technische Universitat Munchen, Germany	Visiting Faculty for research collaboration Sponsored by Alexander von Humboldt foundation, June 01- July 30, 2017
5	Dr. Manoj Kumar Pandey	Yokohama, Japan	Research Collaboration, May 22- June 17, 2017
6	Dr. Sudipta Sinha	University of California, Santa Barbar, USA	Summer Visitation Program, July 26 –August 12, 2017
7	Dr. Avijit Goswami	Cardiff University, UK	Visiting Faculty , June 12 –October 2, 2017
8	Dr. C. M. Nagaraja	Cardiff University, UK	EPSRC Global Challenges Research Fund Institutional Scholarship, February 19- 23, 2018
9	Dr. Narinder Singh	Macquarie University, Sydney	Faculty delegation, February 27 – March 06, 2018
10	Dr. T. J. Dhilip Kumar	Trade Fairs and Congress Center of Malaga Spain	European Hydrogen Energy Conference-2018, March 14-16, 2018

Other Visits of Faculty

Dr. Narinder Singh

- BOS meeting University Institute of Science, Chandigarh University Gharun, Mohali, April 5, 2017.
- GATE-JAM meeting , Indian Institute of Technology Guwahati, May 13, 2017.
- BOS meeting, Mata Gujri College Fathegarh Sahib, February 06, 2018.

Dr. Rajendra Srivastava

- Workshop, "ACS ON CAMPUS" IISER Mohali, February 09, 2018.
- National conference, "Sustainability of new and renewable energy- A Present Scenario", Chandigarh University, March 15, 2018.

Dr. T. J. Dhilip Kumar

- MOM Science Meet, ISRO Bangalore, September 25, 2017.
- Workshop, "ACS ON CAMPUS" IISER Mohali, February 09, 2018.
- 'PMRF Director's meeting', Indian Institute of Technology Hyderabad, February 11, 2018.

Dr. Prabal Banerjee

- "International conference on chemistry for human development 2018", The Heritage Campus, Kolkata, January 8-10, 2018.
- "Project Monitoring Session", CSIR Complex, New Delhi, March 12, 2018.

Dr. Yashveer Singh

- Project Monitoring Session", CSIR Complex, New Delhi, March 12, 2018.

Dr. C. M. Nagaraja

- Presentaton on "Synthesis and Photocatalytic Investigations of Metal Sulfide Nanocrystals", International Conference on Nanotechnology: Ideas,

Innovations and Initiatives-2017 (ICN:3I-2017), Indian Institute of Technology Roorkee, India, December 06-08, 2017.
- Workshop, "ACS ON CAMPUS" IISER Mohali, February 09, 2018.
- Presentation "Development of porous metal-organic framework materials for selective CO2 capture and conversion", Department of Chemistry, Cardiff University, UK, February 22, 2018 .

Dr. C. N. Tharamani
- Present a research paper in Humboldt kolleg in "Climate Change - Energy Options", Aurangabad, Maharashtra, February 01- 05, 2018.
- Present a research paper in ICONSAT-2018, Bangalore, March 20-23, 2018.
- DST-Ramanujan-fellowship review meeting, Pune, March 26-27, 2018.

Dr. Debaprasad Mandal
- "AvH fellowship for scientific research collaborative work", Friedrich-Alexander-Universitat Erlangen-Nunberg, May 01- July 28, 2017.
- "AvH Kolleg 2018" Climate Change - Energy Options" Aurangabad, Maharashtra, February 02-04, 2018

Dr. Manoj Kumar Pandey
- Research Collaboration, Riken-CLST JEOL Collaboration Center Yokohama, Japan, May 22 - June 17, 2017.
- "'JEOL NMR user meet" IISER Mohali, February 16, 2018.

Dr. Sudipta Kumar Sinha
- "Summer Visitation Program" University of California, Santa Barbara, USA, July 26- August 12, 2017.
- Dr. S. Sinha, attended national conference on "Frontiers of Statistical Physics" at Indian Statistical Institute, Kolkata and Presidency University, Kolkata, during February 26- March 2, 2018.

Dr. Indranil Chatterjee
- Dr. I. Chatterjee, attended "International Conference on Chemistry for Human Development 2018" at The Heritage Campus, Kolkata, during January 8- 10, 2018.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Programs offered	:	B. Tech., M. Tech. MS (R), PhD
No. of Students	:	B. Tech. : 61
		M.Tech. : 09
		MS (R) : 05
		PhD : 26
Head of the Department	:	Dr. Apurva Mudgal
Thrust Areas	:	Computational Data Sciences
		Parallel and distributed computing
		Approximation algorithms
		Image processing and pattern recognition
		Computational geometry
		Cloud computing and software architecture
		Performance modeling

FACULTY MEMBERS

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

Dr. Apurva Mudgal
Associate Professor & Head, CSE
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. 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, Purdue University, West Lafayette, IN,USA
Research Electronic Imaging Systems, Image Processing, Security and Analytics

Dr. Saswata Shannigrahi
Visiting Faculty
PhD (TIFR Mumbai, India)
Graph and Hypergraph Theory

Dr. Somitra Kumar Sandhya
Associate Professor
PhD (ISI, Kolkata)
Cryptology (Primary interest),Machine learning, Bioinformatics (Secondary interest)

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.

Dr. Tarique Anwar
Assistant Professor
PhD (Swinburne University of Technology, Australia)
Data Engineering and Management, Urban Transportation Systems, Social Networks, Cyber Security

Dr Venkata M. Viswanath Gunturi
Assistant Professor
PhD (University of Minnesota)
Spatial and Spatio-temporal databases, Spatial data mining, Graph algorithms, Geographic Information Sciences, Transportation

Ongoing Activities

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

- Cryptography
- Graph and Hypergraph Theory
- Machine learning and artificial intelligence
- Network science
- Sensor networks
- Computer Architecture
- Social Computing
- Collective Intelligence
- Spatial Computing

Facilities

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

Invited Lectures by Faculty

Dr. Sujata Pal

- "Energy Utilization in Wireless Network", Guru Nanak Dev Engg. College, Ludhiana, March 16, 2018.

Dr. Mukesh Saini

- "Multimedia Assistance", Chandigarh University, October 10, 2017.

Dr. Somitra Kumar Sanadhya

- "New HMAC Message Patches", Indian Institute of Information & Technology Jabalpur, October 04, 2017.
- "Cryptographic Hash Functions", Sharda University, Greater Noida, October 08, 2017.
- "Oblivious Transfer" and "Pairing Based Cryptography" , National Institute of Technology, Patna, January 29, 2018.

Dr. Abhinav Dhall

- "Computer Vision for Affective Computing", Gulzar Group of Institutions, October 10, 2017.

Lectures by Visiting Experts

Sr. No.	Name of the Expert with affiliation	Topic	Date
1	Prof. C. Pandu Rangan, Indian Institute of Technology Madras	Design and analysis of a provably secure digital signature scheme	March 7, 2018
2	Prof. Dinesh Jayagopi, Indian Institute of Information & Technology - Bangalore	Sequence modeling using deep learning with applications in multimedia analytics	March 15, 2018

Visits Abroad by Faculty

Sr. No.	Name of the faculty member	Country	Details of visit
1	Dr. Abhinav Dhall	Italy	Summer visitation program - University of Trento
		UK	ACM International Conference on Multimodal Interaction 2017
		Singapore	National University of Singapore
2	Dr. Sujata Pal	Canada	Visiting researcher
3	Dr. Neeraj Goel	Taichung, Taiwan	To attend International Symposium on Multimedia
4	Dr. Mukesh Saini	Taichung, Taiwan	1. To attend International Symposium on Multimedia 2. Visit to National Cheng Kung University, Tainan 3. Visit to National Taiwan Normal University, Taipei
5	Dr. Somitra Kumar Sanadhya, and Dr. Sujata Pal	Nanyang Technological University Singapore, National University of Singapore, Singapore, Singapore Management University, Singapore	Research/Academic collaboration
6	Dr. Sujata Pal & Dr. Puneet Goyal	Singapore University of Technology and Design	Research/Academic collaboration
7	Dr. Puneet Goyal	Nanyang Technological University Singapore	Research talk

DEPARTMENT OF CIVIL ENGINEERING

Programs offered	:	B.Tech, PhD, Post Doctoral Fellowship National Post Doc Fellowship
No. of Students	:	B.Tech : 55 PhD : 9 Post Doc/NPDF : 1
Head of the Department	:	Prof. Deepak Kashyap
Thrust Area	:	Hydraulics and Water Resources Engineering

FACULTY MEMBERS

Dr. Amar Nath Roy Chowdhury
Assistant Professor
PhD (National University of Singapore, Singapore)
Multiscale Structural Mechanics, Thin-Walled Structures, Structural Stability, Composite Structures

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

Dr. L. Vijay Anand
Assistant Professor
PhD (Auburn University, USA)
Geochemical Processes Occurring at Mineral-Water Interface, Contaminant Transport Processes: Experiments and Modeling, Eco-friendly Technologies for Contaminant Remediation, Actinide Chemistry

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. Reet Kamal Tiwari
Assistant Professor
PhD (Indian Institute of Technology Roorkee)
Geospatial technology applications in the field of Snow, Ice and Glaciers, Climate change, natural resources management, environmental monitoring and planetary sciences

Dr. Resmi Sebastian
Assistant Professor
PhD (Indian Institute of Science, Bangalore)
Wave propagation in rocks – under low strain loading and high strain loading,Controlled ground vibrations ,Stability analysis and design of underground structures,Ground vibration isolation of structures,Earthquake geotechnical engineering

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

- Structural Engineering
- Geotechnical Engineering
- Environmental Engineering
- Transportation Engineering
- Geomatics Engineering

Facilities

CAD Lab, Geotechnical Lab, Geomatics Lab

Invited Lectures by Faculty

Prof. Deepak Kashyap

- International Ground Water Conference-2017 (IGWC-2017) in New Delhi as Keynote Speaker on December 11-13, 2017, organized by National Institute of Hydrology (NIH), Roorkee.

Dr. Putul Haldar

- "Sesmic Behaviour and Vulnerability of Open Ground Story Buildings In India" National Seminar on Seismic Hazard and Mitigation of Structures, Jamia Millia Islamia, New Delhi, November 20-21, 2017.
- "Sesmic Vulnerability of Structures" Faculty Development Programme (FDP), TEQIP phase III, RGPV, Bhopal, November 28-30, 2017.

Visits Abroad by Faculty

S.no.	Name of the faculty	Place of visit	Purpose of Visit
1	Dr. Putul Haldar	Cardiff University, UK	To explore possible research collaboration between Cardiff University, UK and IIT Ropar, February 19 - 23, 20l8.
		Nanyang Technological University (NTU), Singapore	To explore possible student exchange and research collaboration between NTU, Singapore and IIT Ropar, March 18 - 23, 20l8.
2	Dr. Sagar R. Chavan	Sydney, Melbourne (Australia)	To explore possible research collaboration between Macquarie university and Swinburne University of Technology in Australia, March 1 - 7, 20l8.

DEPARTMENT OF ELECTRICAL ENGINEERING

Programs offered	:	M. Tech., B. Tech., Phd, MS(R)
No. of Students	:	B. Tech. : 60
		M.Tech. : 05
		MS (R) : 01
		PhD : 11
Head of the Department	:	Prof. Ramesh Garg
Thrust Areas	:	Renewable Energy, Communication, Infrared Imaging, Non- destructive Testing, Signal and Image Processing, Power systems, Nano- optics and Photonics, High Voltage engineering, Nano- dielectrics, Image Retrieval, Medical Imaging and Face Recognition

FACULTY MEMBERS

Dr. A. V. Ravi Teja
Assistant Professor
PhD (Indian Institute of Technology Kharagpur)
Converter Topologies and Control Techniques for Renewable Energy Systems, Electric Vehicles

Dr. Bibhu Prasad Padhy
Assistant Professor
PhD (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 (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

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

Dr. K. Ramachandra Sekhar
Assistant Professor
PhD (Indian Institute of Technology Hyderabad)
Power Converters, Drives, EMI/EMC; Micro-grid

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

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

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. Saifullah Payami
Assistant Professor
PhD (Indian Institute of Technology Patna)
Multiphase (more than three phase) machines and its control, design and fault diagnosis of electric machines.

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

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. Sam Darshi

- "Design Issues in Low Power Applications in Electronics", Department of Electronic and Communication Engineering, Guru Nanak Dev Engineering College, Ludhiana, Punjab, March 12, 2018.

Dr. Vinayak Hande

- "Design Challenges in Low Power VLSI Design",Guru Nanak Dev Engg. College, Ludhiana, December 04-16, 2017.
- "Low power Analog IC Design", NIT Uttarakhand Institute, February 22-23, 2018.

Dr. Brijesh Kumbhani

- "MIMO systems for next generation wireless communication technology", "Wireless and Mobile Communication" NITTTR, Chandigarh, from October 30-November 11, 2017.
- "National conference on Recent Trends in Science, Technology and Management", Tawi Engineering College, Pathankot, March 24, 2018.

Lectures by Visiting Experts

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Prof. Swaroop Ganguly, Indian Institute of Technology Bombay	Nanoscale Device Modeling	April 07, 2017
2	Prof. Nandini Gupta, Indian Institute of Technology Kanpur	Space charge studies in composite dielectric polymer	May 02, 2017
3	Prof. Udaya Kumar, IISc, Bangalore	An Overview of Computational Electro-magnetics for Power Engineers	July 03, 2017
4	Prof. M. Swaminathan Georgia Tech., USA	Machine Learning and its Applications to Hardware Design	March 22, 2018
5	Prof. D Thukaram, Dept. of Electrical Engineering, IISc. Bangalore	Developments in Power Sector - An overview of System Analysis, Planning & Operation	April 2, 2018

Visits Abroad by Faculty

Sr. No.	Name of the faculty member	Country	Detail of Visit
1	Dr. Rohit Y. Sharma	Australia & Singapore	For Off-shore faculty recruitment
2	Dr. Vinayak G. Hande	Monash University (Austrailia)	For exploring research collaboration under the Summer Visitation Programme
3	Dr. C. C. Reddy	University of Peradenia, Srilanka	Co-chair and as an invitee to IEEE ICIIS 2017 in December 2017
4	Dr. Brijesh Kumbhani	Macquarie University Sydney	A part of Delegation for exploring probable research collaborations

DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

Programs offered	:	PhD
No. of Students	:	Regular PhD: 18 Part Time: 05
Head of the Department	:	Dr. Samaresh Bardhan
Thrust Areas	:	Banking and Finance, Brand Management, Corporate Governance, Development Economics, E-governance, Energy and Environmental Economics, E-services, Financial Literacy, Gender Studies, International Economics and Finance, Language and cognition, Natural Language Processing, North American Literatures, Philosophy of Science, Public Health, Service quality, Theoretical Linguistics, Visual Culture Studies, Western Epistemology and Metaphysics

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 (IFHE University Hyderabad)
Brand Management, Corporate Governance, Public Health and Policy Marketing, Financial Literacy and Education

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

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

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

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

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

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

Invited Lectures by Faculty

Ongoing Activities: Teaching and research activities in the areas of Economics, English literature, Linguistics, Philosophy and Management

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

Invited Lectures by Faculty

Kamal Kumar Choudhary

- "Current trends in Neurolinguistics", Workshop on Experimental and Empirical Methods in Linguistics. Humanities and Social Sciences, Indian Institute of Technology Delhi, July 9-15, 2017.
- "Language Across the Mind and Brain: Theoretical and Experimental Progresses in Psycho / Neurolinguistics" Workshop on Language, Mind and Brain. Department of Humanities and Social Sciences, Indian Institute of Technology Patna, August 19-20, 2017.
- Dept. of Economics, College of Management and Economics Studies, University of Petroleum and Energy Studies, Dehradun, Uttarakhand, India, August 17-18, 2017.

Dr. Somdev Kar

- "An advance workshop cum training programme on laboratory phonetics and phonology", the Central Institute of Indian Languages (CIIL), Mysore, September 25-30, 2017.
- "Describing and Analyzing Languages and Hands-on Training in Linguistic Tools", the Centre for Advance Study, Department of English, Jadavpur University, Kolkata, November 15, 2017.
- "Sonority constraints and Hadoti reduplications", Department of Humanities and Social Sciences (LingChai series), Indian Institute of Technology Delhi, September 22, 2017.

Dr. Samaresh Bardhan

- "Economic growth and Agriculture Sector", International Conference (in collaboration with Indian Economic Association) on " Economic Growth and Structural Changes : Trend Pattern and Policies", School of Economics, Shri Mata Vaishno Devi University, Katra (J&K) , February 23-24, 2018.

Dr. Sreekumar Jayadevan

- "Do we need Theory?", Birla Institute of Technology & Science, Pilani, Goa, February 23-24, 2018.
- "Three views on Humor?", Birla Institute of Technology & Science, Pilani , Goa, February 23-24, 2018.

Lectures by Visiting Experts

S. No.	Name of the Expert with affiliation	Topic	Date
1	Prof. Rohini Mokashi-Punekar	"Subaltern Movements and Historiography: the case of Phule in 19th century Maharashtra"	March 15, 2018
2	Prof. Priyedarshi Jetli (Adjunct Faculty) - University of Mumbai	"The Affinity of Philosophy and Mathematics"	March 01, 2018
		"Justice and the Philosophy of Jurisprudence"	March 01, 2018
3	Dr. Kit Patrick, Azim Premji University, Bengaluru	"Reasoning From Truthlike Premises"	December 08, 2017
4	Prof. Pankaj Sinha, Faculty of Management Studies, University of Delhi	"Time Series Analysis and Forecasting Using EViews"	December 07, 2017
5	Prof. Gurinder Singh Mann Director of the Global Institute for Sikh Studies, New York	"The Sikh Panth: Its History and Historiography"	December 06, 2017
6	Prof. Prajit K. Basu University of Hyderabad	"What are the Facts of the Matter in Our Consideration of Mind?"	November 14, 2017
		"Technoscience and Values"	
7	Dr. S. Arulmozi University of Hyderabad	"WordNet in the Context of Localization"	November 02, 2017
8	Dr. Tarun Menon, Tata Institute of Social Sciences, Mumbai	"What is the Problem of the Direction of Time?"	October 13, 2017
		"Dissolving the Measurement Problem - A Naturalist Approach to Quantum Theory"	October 12, 2017
9	Dr. R. Lalitha Raja, Indian Institute of Advanced Studies IIAS), Shimla	"Revisiting Universalism via Phonological Mind"	October 12, 2017

S. No.	Name of the Expert with affiliation	Topic	Date
10	Prof. Mina Dan University of Calcutta	"A Substantive Treatment of Stem Allomorphy in Bangla Verbs"	October 09, 2017
11	Dr. S. K. Arun Murthi Indian Institute of Science Education and Research (IISER), Mohali	Science as an Essentially Contested Concept: A Philosopher's perspective	May 09, 2017

Visits Abroad by Faculty

S. No.	Name of the faculty members	Country	Details of visit
1	Dr. Amritesh	Hong Kong , The Harbourview Hotel	SIBR Conference (Speaker & Session Chair) September 30 - October 01, 2017
2	Dr. Samaresh Bardhan	University of Ljubljana, Slovenia	Paper presented at the 16th European Economics and Finance Society Annual Conference 2017, June 22-25, 2017
3	Dr. Kamal Kumar Choudhary	University of Zurich	Research Collaboration, May 14 - 30, 2017

DEPARTMENT OF MATHEMATICS

Programs offered	:	PhD & M.Sc.
No. of Students	:	M.Sc. : 25 PhD : 30 Post Doc : 02
Head of the Department	:	Dr. Subash Chandra Martha
Thrust Areas	:	Algebra, Cellular Automata, Computational Finance, Dynamical Systems, Fluid dynamics, Function Spaces in the Unit Ball in C, Functional analysis, GPU computing, Harmonic Mappings, Integral Equation, Low-dimensional modeling, Mathematical Modeling, Matrix Analysis, Number Theory, Operator theory, Scientific Computing, Systems and Control, Theory of Elasticity

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

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

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

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

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

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

Dr. Sairam Kaliraj
Assistant Professor
PhD (Indian Institute of Technology Madras)
Harmonic Mappings in the Plane, Function Spaces in the Unit Ball in C

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

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

Ongoing Activities

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

Facilities

- Computational Lab
- Fluid Dynamics Research Lab

Invited Lectures by Faculty

Dr. Arun Kumar

- Subordinated Stochastic Processes", Faculty of Pure and Applied Mathematics, Hugo Steinhauss Center, Wroclaw University of Science and Technology, Poland, June 07, 2017.
- "Option Pricing Under Multi-Period Binomial Model", Indian Institute of Management Indore, January 25, 2018.

Dr. Arti Pandey

- "Open Neighborhood Location-domination in Graphs", 5th India-Taiwan Conference on Discrete Mathematics, Tamkang University, Taiwan, July 18-21, 2017.
- "Role of Graph Theory in Solving Real World Problems", National Science Day and National Mathematics Day at Punjab Engineering College, University of Technology, Chandigarh, April 5, 2017.
- "Algorithmic Aspects of Domination Theory", 13th Annual ADMA conference and Graph Theory Day, Academy of Discrete Mathematics & Application and Sri Sivasubramaniya Nadar College of Engineering, Chennai, June 8-10, 2017.
- "Algorithmic Aspects of Domination and Its Variations", CALDAM Indo-Canadian Pre-conference School on Algorithms and Discrete Applied Mathematics, Indian Institute of Technology Guwahati, February 12-13, 2018.

Dr. G. S. Raju

- "Orientation Programme on for Direct Second Year Engineering students" Shri Guru Gobind Singhji Institute of Engineering and Technology , Nanded, Maharastra, September 12-23, 2017.

Dr. Manoranjan Mishra

- 14th International Conference on Flow Dynamics (ICFD 2017), Tohoku University, Japan, November 1-3, 2017.
- 14th International conference on flow dynamics, Sendai, Japan, November 1-3, 2017.

Dr. M. Prabhakar

- Workshop on Low-dimensional Topology and Algebraic Topology, Dalian University of Technology (DUT), Dalian, China, November 7-12, 2017.

Dr. Tapas Chatterjee

- Institute Expert Lecture, Chandigarh Group of Colleges, Jhanjeri, Mohali, October 16, 2017.

Dr. Arvind K. Gupta

- "Wonders of Numbers: Significance in Mathematics", INSPIRE camp at Kanya Maha Vidyalaya, Jalandhar, Punjab.

Dr. Chittaranjan Mishra

- The Centre of Financial Mathematics Seminar Series, School of Mathematics and applied Statistics, University of Wollongong, Australia, October 5, 2017.

Dr. S. C. Martha

- "Role of Mathematics in Society", Science Day Celebration, Shri Guru Teg Bahadur Khalsa College, Anandpur Sahib, September 23, 2017.

Lectures by Visiting Experts

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Dr. Akshay Bhatnagar, Postdoctoral Research fellow, NORDITA, University of Stockholm	"How does it rain?"	August 04, 2017
2	Prof. A. K. Pani, Institute Chair Professor, Department of Mathematics, Indian Institute of Technology Bombay, India	"Through eyes of viscoelastic fluids: How can an external stimulus influence research in theoretical and computational PDEs ?"	February 05, 2018
3	Prof. Graeme Fairweather ,Head, Mathematical and Computer Sciences, Colorado School of Mines Golden, USA	• "The Numerical Solution of Nonlocal Parabolic Problems Revisited" • "Ethical and Responsible Conduct of Research"	February 05, 2018
4	Prof. M. Ram Murty, FRSC, FNA, FNASc ., Queen's Research Chair, Queen's University, Kingston, Canada	"The Twin Prime Problem And Chowla's Conjecture"	December 20, 2017

Sr. No.	Name of the experts with affiliation	Topic	Date
5	Prof. Prabir Daripa , Department of Mathematics, Texas A&M University, College Station, Texas, USA	"Stability, modeling and DFEM-MMOC based hybrid method for the simulation of multiphase multi-component porous media flows"	December 13, 2017
6	Prof. S. N. Bora, Professor and Head, Dept. Mathematics, Indian Institute of Techniolgy Guwahati	"Scattered and trapped waves in two-layer fluids"	July 05, 2017
7	Dr. Sameer Chavan, Department of Mathematics, Indian Institute of Technology Kanpur	"Dirichlet Spaces associated with Directed Trees"	May 15, 2017
8	Prof Sankarshan Basu, Professor of Finance, Indian Institute of Management Bangalore	"Managing Risks in a Dynamic and Interconnected World"	July 24, 2017
9	Dr. Shanta Laishram, Stat Math Unit, Indian Statistical Institute, Delhi	"On Ramanujan Primes"	July 25, 2017
10	Prof. T. N. Shorey, Head (Retd.), School of Mathematics, TIFR Mumbai	"ABC Conjecture: Introduction and applications"	March 19, 2018
11	Prof. T. Sahoo, Dept. of Ocean Engineering and Naval Architecture, Indian Institute of Technology Kharagpur	"Mathematical Challenges in Coastal/Subsea Engineering"	August 07, 2017
12	Prof. V. D. Sharma, Dept of Mathematics, Indian Institute of Technology Bombay	"Hyperbolic PDEs and associated nonlinear wave phenomena"	July 26, 2017
13	Prof. V. Kumar Murty, FRSC, FNASc, The Chair of the Department of Mathematics, University of Toronto, Canada	"Symmetry and Security"	December 19, 2017
14	Dr. Xiaoping Lu, School of Mathematics and Applied Statistics, University of Wollongong, Australia	"Stock loan valuation and option pricing"	January 12, 2018

Visits Abroad by Faculty

Sr. No.	Name of the faculty member	Country	Detail of Visit
1	Dr. Arun Kumar	Wroclaw University of Science and Technology, Poland	Collaboration work on "Tempered Mittag-Leffler Levy processes" with Prof. Agnizeska Wylomanska and Prof. Janusz Gajda
		Cardiff University, UK	Started a work on "Risk Processes With Fractional Poisson Process" with Prof. N. Leonenko.
2	Dr. Chittaranjan Mishra	University of Wollongong, Australia	Joint collaboration with Dr. Xiaoping Lu and Professor Song-Ping Zhu (Funded by UOW)
3	Dr. Arti Pandey	Tamkang University, New Taipei City, Taiwan	Invited Talk in 5th India-Taiwan Conference on Discrete Mathematics

DEPARTMENT OF MECHANICAL ENGINEERING

Programs offered	:	B. Tech., B.Tech.-M.Tech (Dual Degree), M. Tech. & PhD		
No. of Students	:	B.Tech.	:	190
		B.Tech.-M.Tech(Dual Degree)	:	30
		M.Tech.	:	45
		PhD	:	75
		Post Doc Fellows	:	2
Head of the Department	:	Dr. Navin Kumar		
Thrust Areas	:	Additive manufacturing, combustion, Advance Material, Energy & Environment, Health, Indigenous Technology / Technology for India, Transport		

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. Chandrakant Kumar Nirala
Assistant Professor
PhD (Indian Institute of Technology Patna)
Manufacturing

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)
Robotics, redundant manipulators, robot path planning,collision detection, obstacle avoidance, applied optimization methods - classical and evolutionary, optimal mechanical design

Prof. Harpreet Singh
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. Lipika Kabiraj
Assistant Professor
PhD (Indian Institute of Technology Madras)
Thermoacoustics, applied nonlinear dynamics, gas turbine engines (combustion instability, flame blowout and flashback), combustion dynamics, combustion noise, Chaos.

Dr. Navin Kumar
Associate Professor & Head
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)
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 Kant
Assistant Professor
PhD (Indian Institute of Technology Guwahati)
Laser Forming, Laser Transmission Welding, Laser Machining, Laser Assisted Manufacturing, Adhesive Joining, Ultra-high Speed Machining, Ultrasonic Vibration Assisted Machining, Process Modeling and Optimization of Manufacturing Processes, Finite Element Simulations

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

Dr. Sachin Kumar
Assistant Professor
PhD (Indian Institute of Technology Roorkee)
Finite Element Method, Extended Finite Element Method, Meshfree Methods, Fracture and Damage Mechanics

Dr. Samir Chandra Roy
Assistant Professor
PhD (University Grenoble Alpes, France)
Experimental and Numerical studies of deformation and damage of materials at elevated temperature,Mechanical and microstructural characterization of material, Fatigue-Creep-Fracture.Experimental and numerical studies of cavitation pitting/erosion,Instrumented Indentation Testing (IIT) and materials evaluation, High rate deformation of material and characterization, Finite Element Analysis.

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, Multifunctional and Functionally Graded Composites, Fluid Structure Interaction, Unmanned Areal and Underwater systems

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)

Facilities

- Advance composite materials laboratory
- Advance Engine and Fuel Reserach Laboratory
- Advanced Manufacturing Technology Laboratory (AMTL)
- Bio Materials and Nano Materials Characterization Laboratory
- Bio-mechanical Creativity and Innovation Lab
- Biomedical Engineering Lab
- Combustion Lab
- Complex Fluid Lab
- Design Research Laboratory
- Design Studio Lab
- Fluid Mechanics Laboratory
- Indoor Environment Control Laboratory
- Machine Design Lab
- Materials Science Lab (UG, PG & Research Lab)
- Mechanics of Advanced Materials Laboratory
- Mechatronics with Robotics Applications Lab
- Metal Casting Lab (UG, PG & Research Lab)
- Micro-Nano-Bio Lab
- Noise and Vibration Lab
- Product Design & Realization Computer Laboratory
- Ropar Mechanics of Materials Laboratory (RMML)
- Surface Engineering and Tribology Laboratory
- Sustainable Design and Manufacturing Laboratory
- Sustainable Energy Research Lab
- Thermal Therapy Research Lab
- Thermo-Fluids Laboratory
- Control Lab
  - 25 KN High Frequency Fatigue Testing Machine
  - Casting Lab
  - CMM lab
  - CNC lab
  - Fuel Cell System
  - Welding Lab
  - Wire EDM and Rapid Proto Typing lab
  - Workshops
  - Traditional Machining lab

Invited Lectures by Faculty

Dr. Chandrakant K Nirala

- Keynote speaker in Advances in National Seminar on “Design & Manufacturing” (NSDM-17), Institute of Engineering and Technology Bhaddal, Ropar, Punjab, September 28-29, 2017

Dr. Himanshu Tyagi

- “Developments in Renewable Energy & Water Desalination Technologies"", Short Term Course on 'Sustainable Renewable Energy: Science, Technology and Development' U.I.E.T, Kurukshetra University, India, March 24, 2018.
- "Use of Nanoparticles for Harnessing Solar Thermal Energy and Applications in Energy Efficient Buildings"", the Second International Conference on Sustainable Energy and Environmental Challenges (SEEC - 2018), Indian Institute of Science (IISc), Bangalore, Karnataka, India, January 01, 2018.
- “Harvesting Solar Thermal Energy Using Nanotechnology"", the National Conference on Large Solar Power Generation - Challenges and Adequate Technology Solutions, National Power Training Institute (NPTI), Nangal, Punjab, India, November 16, 2017.

Dr. Navin Kumar

- Delivered ECHO Talk, PGI, Chandigarh, May 01, 2017.

Dr. Samir Chandra Roy

- Delivered invited lecture on short course titled "Micro Fabrication and Hybrid Machining", Punjab Engineering College, Chandigarh, March 12, 2018.
- Delivered invited talk at the 2nd International Conference on Research and Innovations in Mechanical Engineering (ICRIME), Guru Nanak Dev Engineering College, Punjab, December 22-24, 2017.

Dr. Prabir Sarkar

- Delivered talk as an special invitee, Chandigarh University, Punjab, March 23, 2018.

Lectures by visiting experts

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Prof. K. Ramamurthi, Indian Institute of Technology Madras	"Teaching Propulsion Technology course"	October 23-31, 2017
2.	Prof. P. K. Rey, National Institute of Technology, Rourkela	"Fracture and Fatigue"	August 28, 2017

Visits abroad by Faculty

Sr. No.	Name of the faculty	Place of visit	Details of visit
1	Dr. Anshu Dhar Jayal	Canada, Germany and USA	Institute delegation to McMaster University, Canada, September 30-October 08, 2017
2	Dr. Ekta Singla	State University of New York, USA	Institute summer visitation programme, June 06- July 26, 2017
3	Dr. Lipika Kabiraj	Cardiff University, UK	Research Collaboration , February 19-23, 2018
4	Dr. Lipika Kabiraj	Sydney, Australia	11th Asia Pacific Conference on Combustion (APACC-11), University of Sydney, December 10-14, 2017
5	Dr. Navin Kumar	Canada, Germany and USA	Institute delegation to McMaster University, Canada, September 30 – October 08, 2017

Sr. No.	Name of the faculty	Place of visit	Details of visit
6	Dr. Prabhat K Agnihotri	University of Cambridge, Cambridge, UK	Summer visitation program, May 15-June 28, 2017
7	Dr. Ramjee Repaka	Canada	Institute delegation to McMaster University, Canada, September 30 – October 08, 2017
8	Dr. Sachin Kumar	Montreal, USA	14th US National Conference on Computational Mechanics, July 17-20, 2017
9	Prof. Harpreet Singh	Canada, Germany and USA	Offshore faculty recruitment, September 28- October 11, 2017

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Programmes offered	:	B.Tech., PhD
No. of Seats	:	20
Head of the Department	:	Prof. P. K. Raina

Associate Faculty

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

The Department of Metallurgical and Materials Engineering has been started by IIT Ropar in November 2017 by upgrading Center for Materials and Energy Engineering. The newly established Department will be offering four year B.Tech. program with the intake of 20 students and PhD program from the Academic Year 2018-19. The focus areas of the Department are Physical Metallurgy, Extractive Metallurgy, Mechanical Metallurgy, Energy Materials, Transport Materials and related areas.

DEPARTMENT OF PHYSICS

Programmes offered	:	M.Sc. -MS (R), PhD
No. of Students	:	PhD : 33
		M.Sc. : 33
		Post Doc Fellow : 02
Head of the Department	:	Dr. Shubhrangshu Dasgupta
Thrust Areas	:	Condense Mater Physics and Material sciences, Nuclear and Particle Physics, Light Matter Interactions and Quantum Information, Gravity and Strings

FACULTY MEMBERS

Dr. Asoka Biswas
Assistant Professor
PhD (Physical Research Laboratory, Ahmedabad)
Quantum Computation and Information, Quantum Thermodynamics, 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, and it's Applications

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

Dr. Shubhrangshu Dasgupta
Associate Professor & Head
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 Quantum 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

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

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

Facilities :

- **Material Synthesis Lab :** LG Refrigerator to keep chemicals
- **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

Nano-optics 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 Research Lab

- **(RUDRA) Ropar Unified Detectors for Radionuclides Analysis**: Setup consists of 4 HPGe Detectors coupled with VME-MBS based Hybrid Data Acquisition (HyDAc) system.

- **(ILMI) IIT Ropar Low-Background Measurement Infrastructure:** This setup is developed to perform measurements related to Neutrinoless Double Beta Decay (NDBD).
- **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
- 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. Mukesh Kumar

- "Growth and characterization of thermally stable thin film based solar-blind β-Ga2O3 photodetector", Indian Institute of Delhi, March 30-31, 2018.
- "Controlled growth and low power hydrogen sensor using edge-oriented vertically aligned 3-D network of MoS2 flakes at room temperature", Jaypee University of Information Technology, NOIDA, March 15-17, 2018.
- "Controlled growth and low power hydrogen sensor using edge-oriented vertically aligned 3-D network of MoS2 flakes at room temperature", Indian Institute of Technology Madras, November 20-22, 2017.

Dr. Kailash Chandra Jena

- "Nonlinear Optical Vibrational Spectroscopy and its Relevance to Molecules at the Surface and interface", National Science Day, Punjabi University, February 28, 2018.
- "Flake vs Fibril: Electrostatic Induced Hindrance of Toxic Fibril Formation", Tsukuba University, Japan, October 11, 2017.
- "Synchronized Conformational changes of Bovine Hemoglobin and Interfacial Water Structure at air/water Interface", Saitama University, Japan, October 12, 2017.
- "Exploring Drug-Polymer-Water Interaction and its Implication for Enhancing Drug Efficiency" Tohoku University, Japan, October13, 2017.
- "Structure and Bonding of Interfacial Water Molecules at Biologically Relevant Interfaces", Frontiers in Attosecond Science and Technology (FAST), IISER, Mohali, India, March 6, 2017.

Lectures by visiting experts

Sr.No.	Name of the Expert with affiliation	Topic	Date
1	Dr. Ravi Prakash Singh, IISER, Bhopal	Unconventional Superconductivity in Non-Centrosymmetric Superconductors	April 19, 2017
2	Dr. Pramoda Kumar Nayak, NIST, Republic of South Korea	The Promise of Two Dimensional Materials and Their Heterostructures: Interesting Alternatives to Silicon Based Technology	May 11, 2017
3	Dr. Jahur A. Mondal , BARC, Mumbai	Phase-Sensitive Sum Frequency Generation Spectroscopy at Model Biological Interfaces and its Relevance to the Pathogenesis of Cardiovascular Disease	May 24 , 2017
4	Prof. S. K. Pati Theoretical Sciences Unit Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	Phase Transitions and Applications of a few Model Low Dimensional Optical Lattice Systems	July 21, 2017
5	Dr.Sudeshna Chattopadhyay, IIT Indore	Effect of Surface and Interfaces - High efficiency functional nanomaterials and its tenability	October 13, 2017
6	Dr. Tusharkanti Dey, University of Augsburg, Germany	Search for Kitaev spin liquid materials	November 09, 2017
7	Dr. Swaroop Panda, Ecole Polytechnique, France	First principles simulations of strongly correlated materials: a density functional theory + dynamical mean field theory (DFT+DMFT) perspective	November 24, 2017
8	Prof. Subhasish Dutta Gupta, University of Hyderabad	Photon anti-coalescence with coupled modes	December 05, 2017
9	Dr. Kumari Gaurav Rana, Max Planck Institute of Microstructure Physics, Germany	Electronic transport across strongly correlated oxide heterointerfaces	December 06, 2017

Sr.No.	Name of the Expert with affiliation	Topic	Date
10	Dr Ashok Mohapatra, NISER Bhubaneswar	Study of Rydberg excitation in thermal atomic vapor	December 14, 2017
11	Dr. Rajendra Singh, Department of Physics, IIT Delhi	Investigation of current transport processes in graphene/GaN and nanoscale GaN Schottky barrier diodes	December 21, 2017
12	Dr. Narendra Sahu, Department of Physics, IIT Hyderabad	Dark matter: From cosmos to collider	January 09, 2018
13	Dr. Pardeep Kumar, Rochester Institute of Technology, Rochester, New York, USA	Magnetometry and Optical Memory with Levitated Optomechanics	January 22, 2018
14	Dr. Tapan Nandi, Scientist - H, Inter-university Accelerator Centre, New Delhi	Some accidental observations at IUAC New Delhi	January 29, 2018
15	Dr. Sumanta Chakraborty	A tale of two cities: Gravity and Thermodynamics	March 9,2018

Visits abroad by Faculty

Sr. No.	Name of the faculty member	Country	Details of visit
1.	Dr. Kailash Chandra Jena	McMaster University, Canada	Delegation visit, October 1-8, 2017
		Japan	Invited talk and discussion on prospective collaboration, October 12, 2017

CENTER FOR BIOMEDICAL ENGINEERING

Programs offered	:	M.Tech. & PhD
No. of Students	:	M.Tech. : 7
		PhD : 16
Head of the Department	:	Dr. Yashveer Singh
Thrust Areas	:	Biomedical Imaging
		Medical Devices
		Cancer Diagnostics and Therapy
		Biomaterials and Tissue Engineering

FACULTY MEMBERS

Dr. Durba Pal
Assistant Professor
PhD (Visva-Bharati University, Santiniketan)
Tissue engineering and Regenerative Medicine; Cell based therapeutics in disease biology

Dr. Javed N Agrewala
Professor
PhD (Sarojini Naidu Medical College, Agra)
Immunology of Infectious Diseases, Vaccines, and Gut Microbiom

Dr. Srivatsava Naidu
Assistant Professor
Justus-Liebig University, Giessen, Germany
Therapeutic targeting of basal transcriptional machinery; Non-coding RNA as cancer therapeutics

Associate Faculty

Dr. Deepti R Bathula
Assistant Professor
(Computer Science and Engineering)
Medical Image Processing and Analyses; Pattern recognition; Machine Learning and Computer Vision

Dr. Jitendra Prasad
Assistant Professor
(Mechanical Engineering)
Biomechanics, Bone Fracture Healing, Mechanotransduction, Structural and Multidisciplinary Design Optimization, Computational Mechanics, and Agent Based Modelling

Dr. Kailash Chandra Jena
Assistant Professor
(Physics)
Interfacial water structure, protein folding, soft matter interfaces, and colloids and model membrane systems

Dr. Navin Kumar
Associate Professor and Head
(Mechanical Engineering)
Biomaterials, Biological and Biomaterial Characterization, Biomechanics, Mechanics of Nanomaterials, Finite Element Modeling (FEM), Biomedical Engineering, Biomedical Instrumentation, and Bioimplants

Dr. Puneet Goyal
Assistant Professor
(Computer Science & Engineering)
Image Processing, Healthcare Apps and Analytics, Medical Imaging

Dr. Ramjee Repaka
Associate Professor
(Mechanical Engineering)
Bio heat Transfer; Thermal Engineering

Dr. Yashveer Singh
Assistant Professor, Head,
(Chemistry)
Biomaterials for microbicide / drug delivery, wound healing and tissue engineering applications

Facilities

- PCR, Real Time PCR, Electrophoresis Units (Vertical and Horizontal), MilliQ-Water Purification System, Automated cell counter, CO2 Incubator, Autoclave, Radio Frequency Generator, Refrigerated Centrifuge, Chemidoc (DNA and Proteins), Fluorometer, Deep Freezer, Biosafety cabinet, pH Meter, Freeze Dryer, Fluorescence Microscope, Fatigue Testing Machine, Animal cell culture facility, Multimode-microplate reader, Flow cytometer (Analyzer), Cryotome, Luminometer, Nanodrop, Shaker and static incubators for microbial cultures, Nucleic acid concentrator.

Invited Lectures by Faculty

Dr. Durba Pal

- "Cellular plasticity in diabetic wound: a new perspective", AAPI Global Healthcare Summit 2017, American Association of Physicians of Indian Origin (AAPI), Calcutta Medical College & Hospital, Kolkata, December 28-31, 2017.

Lectures by Visiting Experts

S. No	Name of the expert with affiliation	Topic	Date
1	Dr. Samrat Mukhopadhyay, Associate Professor, Department of Biological Sciences and Department of Chemical Sciences, Indian Institute of Science Education and Research (IISER), Mohali	Protein misfolding in health and diseases	August 18, 2017
2	Dr. Saroj Kumar, Assistant Professor, Department of Biophysics, All India Institute of Medical Sciences (AIIMS), New Delhi	Applications of infrared microspectroscopy in basic science and disease	September 7, 2017
3	Prof. Chandan K Sen, John H & Mildred C Lumley Chair Professor of Medical Research the Ohio State University	Tissue nano - transfection in regenerative medicine	December 15, 2017

Visits Abroad by Faculty

S. No	Name of faculty	Country	Details of Visit
1	Dr. Srivatsava Naidu	Canada	Being a member of institute delegation, visited McMaster University, Hamilton, to explore research collaboration, October 1-7, 2017
2	Dr. Durba Pal	Barcelona, Spain	Talk on Nanochannel-based electroporation assisted tissue reprograming and repair at the 7th International Conference on Tissue Engineering & Regenerative Medicine, October 2-4, 2017

PUBLICATIONS @ IIT ROPAR

Department of Chemical Engineering

Journals

1) K. Gupta, G. Mishra, N. Nirmalkar, and R. P. Chhabra, "Effect of confinement on heat transfer in aqueous nano fluids from a heated sphere," vol. 325, pp. 576–596, 2018.
2) H. P. Media, "Dynamics of a Highly Viscous Circular Blob in Homogeneous Porous Media," pp. 1–13, 2017.
3) Z. Hafsi and S. Elaoud, "Automated Framework for Water Looped Network Equilibrium," pp. 641–657, 2018.

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1) R. Suzuki, Y. Nagatsu, M. Mishra, T. Ban, "Deformation of Interface in a Partially Miscible System" at 14th International Conference on Flow Dynamics (ICFD2017)", Sendai, Miyagi, Japan, November 1-3, 2017.
2) R. Suzuki, Y. Nagatsu, M. Mishra, T. Ban, "Deformation of interface in a partially miscible system during favorable displacement" at 70th Annual Meeting of the APS Division of Fluid Dynamics, Volume 62, No. 14, Denver, Colorado, USA, November 19–21, 2017.
3) Y. Nagatsu, H. B. Othman, M. Mishra, "An experimental study of miscible viscous fingering of annular ring" at 70th Annual Meeting of the APS Division of Fluid Dynamics, Volume 62, No. 14, Denver, Colorado, USA, November 19–21, 2017.
4) Z. Hafsi, M. Mishra, S. Elaoud, "Phase field model for immiscible two phase flow in microfluidic junctions" at Turbulent Mixing and Beyond, 6th International Conference, ICTP Trieste, Italy, August 14-18, 2017.

Department of Chemistry

Journals

1) A. Chattopadhyay, P. Rani, R. Srivastava, and P. Dhar, "Electro-elastoviscous response of polyaniline functionalized nano-porous zeolite based colloidal dispersions," J. Colloid Interface Sci., vol. 519, pp. 242–254, 2018.
2) A. K. Pandey, R. K. Varshnaya, and P. Banerjee, "Substituent and Lewis Acid Promoted Dual Behavior of Epoxides towards [3+2]-Annulation Reactions with Donor-Acceptor Cyclopropanes: Synthesis of Substituted Cyclopentane and Tetrahydrofuran," European J. Org. Chem., vol. 2017, no. 12, pp. 1647–1656, 2017.
3) A. Kumar, B. Sarmah, and R. Srivastava, "C-N bond formation by the activation of alkenes and alkynes using Cu present in the framework and extra-framework of aluminophosphate," Catal. Commun., vol. 109, no. January, pp. 43–49, 2018.
4) A. Tiwari, V. Singh, and T. C. Nagaiah, "Tuning the MnWO4 Morphology and its Electrocatalytic activity towards Oxygen Reduction Reaction," J. Mater. Chem. A, vol. 6, pp. 2681–2692, 2018.
5) B. K. Billing, N. Singh, and P. K. Agnihotri, "The Growth of Carbon Nanotubes via Chemical Vapor Deposition Method; its Purification and Functionalization," Indian J. Sci. Technol., vol. 10, no. 31, pp. 1–8, 2017.
6) B. Sarmah and R. Srivastava, "Activation and Utilization of CO2Using Ionic Liquid or Amine-Functionalized Basic Nanocrystalline Zeolites for the

Synthesis of Cyclic Carbonates and Quinazoline-2,4(1H,3H)-dione," Ind. Eng. Chem. Res., vol. 56, no. 29, pp. 8202–8215, 2017.

7) B. Sarmah and R. Srivastava, "Octahedral MnO2Molecular Sieve-Decorated Meso-ZSM-5 Catalyst for Eco-Friendly Synthesis of Pyrazoles and Carbamates," Ind. Eng. Chem. Res., vol. 56, no. 51, pp. 15017–15029, 2017.
8) B. Sarmah and R. Srivastava, "Sustainable Catalytic Process with a High Eco-Scale Score for the Synthesis of Five-, Six-, and Seven-Membered Heterocyclic Compounds Using Nanocrystalline Zeolites," Asian J. Org. Chem., vol. 6, no. 7, pp. 873–889, 2017.
9) B. Ugale, S. S. Dhankhar, and C. M. Nagaraja, "Exceptionally Stable and 20-Connected Lanthanide Metal-Organic Frameworks for Selective CO<inf>2 </inf>Capture and Conversion at Atmospheric Pressure," Cryst. Growth Des., vol. 18, no. 4, 2018.
10) B. Ugale, S. S. Dhankhar, and C. M. Nagaraja, "Interpenetrated Metal-Organic Frameworks of Cobalt(II): Structural Diversity, Selective Capture, and Conversion of CO2," Cryst. Growth Des., vol. 17, no. 6, pp. 3295–3305, 2017.
11) D. Bhatt, H. Chowdhury, and A. Goswami, "Atom-Economic Route to Cyanoarenes and 2, 2'-Dicyanobiarenes via Iron-Catalyzed Chemoselective [2 + 2 + 2] Cycloaddition Reactions of Diynes and Tetraynes with Alkynylnitriles," Org. Lett., vol. 19, no. 13, pp. 3350–3353, 2017.
12) D. Bhatt, N. Patel, H. Chowdhury, and P. V Bharatam, "Additive-Controlled Switchable Selectivity from Cyanobenzenes Cycloadditions of Diynes and Alkynylnitriles," no. Scheme 1, pp. 1876–1882, 2018.
13) G. Kaur, A. Singh, A. Singh, N. Kaur, and N. Singh, "Cobalt complexes of Biginelli derivatives as fluorescent probes for selective estimation and degradation of organophosphates in aqueous medium," Dalt. Trans., pp. 5595–5606, 2018.
14) G. S. Goindi, P. Sarkar, A. D. Jayal, S. N. Chavan, and D. Mandal, "Investigation of ionic liquids as additives to canola oil in minimum quantity lubrication milling of plain medium carbon steel," Int. J. Adv. Manuf. Technol., vol. 94, no. 1–4, pp. 881–896, 2018.
15) 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 Diynes and N-Cyanoindoles," Adv. Synth. Catal., vol. 359, no. 2, pp. 314–322, 2017.
16) H. Chowdhury and A. Goswami, "Synthesis of 3-(2-thiopyridyl)indoles via the ruthenium catalyzed [2 + 2 + 2] cycloaddition of diynes and 3-thiocyanatoindoles," Org. Biomol. Chem., vol. 15, no. 27, pp. 5824–5830, 2017.
17) H. Kaur, P. Raj, H. Sharma, M. Verma, N. Singh, and N. Kaur, "Highly selective and sensitive fluorescence sensing of nanomolar Zn2+ions in aqueous medium using Calix[4]arene passivated Carbon Quantum Dots based on fluorescence enhancement: Real-time monitoring and intracellular investigation," Anal. Chim. Acta, vol. 1009, pp. 1–11, 2018.
18) 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.

19) J. Kaur, A. Kumari, V. K. Bhardwaj, and S. S. Chimni, "Chiral Squaramide-Catalyzed Enantioselective Decarboxylative Addition of β-Keto Acids to Isatin Imines," Adv. Synth. Catal., vol. 359, no. 10, pp. 1725–1734, 2017.
20) J. S. Sidhu, A. Singh, N. Garg, and N. Singh, "Carbon Dot Based, Naphthalimide Coupled FRET Pair for Highly Selective Ratiometric Detection of Thioredoxin Reductase and Cancer Screening," ACS Appl. Mater. Interfaces, vol. 9, no. 31, pp. 25847–25856, 2017.
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23) K. Malhotra, S. Shankar, R. Rai, and Y. Singh, "Broad-Spectrum Antibacterial Activity of Proteolytically Stable Self-Assembled αγ-Hybrid Peptide Gels," Biomacromolecules, vol. 19, no. 3, pp. 782–792, 2018.
24) K. Singh, B. K. Malviya, T. K. Roy, V. S. Mithu, V. K. Bhardwaj, V. P. Verma, S. S. Chimni, and S. Sharma, "Catalyst-Controlled Structural Divergence: Selective Intramolecular 7-endo-dig and 6-exo-dig Post-Ugi Cyclization for the Synthesis of Benzoxazepinones and Benzoxazinones," J. Org. Chem., vol. 83, no. 1, pp. 57–68, 2018.
25) M. Kaur and C. M. Nagaraja, "Template-Free Synthesis of Zn1-xCdxS Nanocrystals with Tunable Band Structure for Efficient Water Splitting and Reduction of Nitroaromatics in Water," ACS Sustain. Chem. Eng., vol. 5, no. 5, pp. 4293–4303, 2017.
26) M. Kaur, P. Raj, N. Singh, A. Kuwar, and N. Kaur, "Benzimidazole-Based Imine-Linked Copper Complexes in Food Safety: Selective Detection of Cyproheptadine and Thiabendazole," 2018.
27) M. Mayank, A. Singh, P. Raj, R. Kaur, A. Singh, N. Kaur, and N. Singh, "Zwitterionic liquid (ZIL) coated CuO as an efficient catalyst for the green synthesis of bis-coumarin derivatives via one-pot multi-component reactions using mechanochemistry," New J. Chem., vol. 41, no. 10, pp. 3872–3881, 2017.
28) M. Wilson, S. N. Barrientos-Palomo, P. C. Stevens, N. L. Mitchell, G. Oswald, C. M. Nagaraja, and J. P. S. Badyal, "Substrate-Independent Epitaxial Growth of the Metal-Organic Framework MOF-508a," ACS Appl. Mater. Interfaces, vol. 10, no. 4, pp. 4057–4065, 2018.
29) M. Yadav, R. S. R. Velampati, and D. Mandal, "Microwave-Assisted Size Control of Colloidal Nickel Nanocrystals for Colloidal Nanocrystals-Based Non-volatile Memory Devices," J. Electron. Mater., 2018.
30) Mayank, A. Singh, N. Kaur, N. Singh, and D. O. Jang, "A carbon quantum dot-encapsulated micellar reactor for the synthesis of chromene derivatives in water," Mol. Catal., vol. 439, pp. 100–107, 2017.
31) 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.
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Bifunctionalization in a Single Step," European J. Org. Chem., no. December 2009, pp. 3023–3032, 2017.
33) N. Kaur, G. Kaur, U. A. Fegade, A. Singh, S. K. Sahoo, A. S. Kuwar, and N. Singh, "Anion sensing with chemosensors having multiple –NH recognition units," TrAC - Trends Anal. Chem., vol. 95, pp. 86–109, 2017.
34) N. Kaur, M. Kaur, S. Chopra, J. Singh, A. Kuwar, and N. Singh, "Fe(III) conjugated fluorescent organic nanoparticles for ratiometric detection of tyramine in aqueous medium: A novel method to determine food quality," Food Chem., vol. 245, no. June 2017, pp. 1257–1261, 2018.
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36) N. Thakur, S. Das Adhikary, M. Kumar, D. Mehta, A. K. Padhan, D. Mandal, and T. C. Nagaiah, "Ultrasensitive and Highly Selective Electrochemical Detection of Dopamine Using Poly(ionic liquids)-Cobalt Polyoxometalate/CNT Composite," ACS Omega, vol. 3, no. 3, pp. 2966–2973, 2018.
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38) P. Joshi, N. Hussain, S. R. Ali, and V. K. Bhardwaj, "Enhanced activity of trinuclear Zn (II) complex towards phosphate ester bond cleavage by introducing three metal cooperativity," New J. Chem., vol. 42, pp. 2204–2215, 2018.
39) P. Mandal, B. K. Kundu, K. Vyas, V. Sabu, A. Helen, S. S. Dhankhar, C. M. Nagaraja, D. Bhattacherjee, K. P. Bhabak, and S. Mukhopadhyay, "Ruthenium(<scp>ii</scp>) arene NSAID complexes: inhibition of cyclooxygenase and antiproliferative activity against cancer cell lines," Dalt. Trans., vol. 47, no. 2, pp. 517–527, 2018.
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Nagaraja, "Rational Design of a Bifunctional, Two-Fold Interpenetrated ZnII-Metal–Organic Framework for Selective Adsorption of CO2 and Efficient Aqueous Phase Sensing of 2,4,6-Trinitrophenol," Chem. - A Eur. J., vol. 23, no. 64, pp. 16204–16212, 2017.

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Department of Computer Science & Engineering

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5) X. Huang, A. Dhall, R. Goecke, G. Zhao, and S. Member, "Multi-modal Framework for Analyzing the Affect of a Group of People," vol. 14, no. 8, 2018.
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Department of Civil Engineering

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3) R. K. Tiwari, K. Malik, and M. K. Arora, "Urban subsidence detection using the Sentinel-1 multi-temporal InSAR data" at 38th Asian Conference on Remote Sensing on Space Applications: Touching Human Lives, New Delhi,

India, October 23-27, 2017.

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Department of Electrical Engineering

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18) S. Gautam,"Three-dimensional vortex-bright solitons in a spin-orbit-coupled spin-1 condensate," Physical Review A, vol. 97, vol. 013629, pp. 1–10, 2018.
19) Y. K. Singh, R. Chandra, P. K. Raina, and P. K. Rath, "Two neutrino double- β decay of 94 ≤ A ≤ 150 nuclei for the 0 + 2 + transition," 2017.

Conferences

1) A. Sood, P. P. Singh, R. N. Sahoo, P. Kumar, A. Yadav, V. R. Sharma, M. K. Sharma, D. P. Singh, U. Gupta, S. Aydin, R. Kumar, H. J. Wollersheim, B. P. Singh, and R. Prasad, "Fission-like events in 12C induced reactions on deformed 169Tm target", at 35th Mazurian Lakes Conference On Physics, Exotic nuclei – laboratories for fundamental laws of nature, Piaski, Poland, September 3 – 9, 2017.
2) B. Rana and K. C. Jena, "Physics of Interfacial Water Molecules in presence of Hofmeister Salts at Air/Water Interface by using Nonlinear Vibrational Spectroscopy", at National Laser Symposium-26, BARC Mumbai, India, December 20 - 23, 2017.
3) H. Kaur, N. Singh and K. C. Jena, "Probing Interfacial Structure of Polyethylenimine Derivative Using Nonlinear Vibrational Spectroscopy", at Trombay Symposium on Radiation & Photochemistry (TSRP)–2018, BARC Mumbai, India, January 3-7, 2018.
4) H. Kaur, S. Chaudhary, and Kailash C. Jena, "Probing Real Time Restructuring of Interfacial Molecular Structure of Tetraethyl Orthosilicate at Air/Water Interface", at National Laser Symposium-26, BARC Mumbai, India, December 20 - 23, 2017.
5) M. K. Sharma, M. Shuaib, V. R. Sharma, A. Yadav, P. P. Singh, D. P. Singh, Unnati, B. P. Singh and R. Prasad, "Pre-compound emission in low-energy heavy-ion interactions", in European Physics Journal Web of Conferences, vol. 163, November, 2017.
6) Monika, N. Singh and K. C. Jena, "Characterization of Amino Acid Based Carbon Quantum Dots by Sum Frequency Generation (SFG) Spectroscopy", at Trombay Symposium on Radiation & Photochemistry (TSRP) – 2018, BARC Mumbai, India, January 3-7, 2018.
7) R. N. Sahoo, P. P. Singh, M. Kaushik, A. Sood, P. Kumar, V. R. Sharma, A. Yadav, M. Shuaib, M. K. Sharma, U. Gupta, D. P. Singh, R. Kumar, B. P. Singh, S. Aydin, H. J. Wollershiem and R. Prasad, "Insights into the entrance channel effect on incomplete fusion", 35th Mazurian Lakes Conference On Physics , Exotic nuclei – laboratories for fundamental laws of nature, Piaski, Poland, September 3 – 9, 2017.
8) S. Chaudhary, H. Kaur, and Kailash C. Jena, "Probing the Dynamics of Protein and Interfacial Water Molecules at Air-Water Interface", National Laser Symposium-26, 2017, BARC Mumbai, India, December 20 - 23, 2017.
9) V. R. Sharma, M. Shuaib, A. Yadav, P. P. Singh, M. K. Sharma, R. Kumar, D. P. Singh, B. P. Singh, S. Muralithar, R. P. Singh, R. K. Bhowmik and R. Prasad, "Effect of projectile on incomplete fusion reactions at low energies", European Physics Journal Web of Conferences, Fusion 17, vol. 163, November, 2017.


STUDENTS AFFAIRS

STUDENTS RESIDENCY STATUS

Batch	Numbers	Hostel
	Undergraduate Boys	
First Year (2017)	240	Transit Campus-I
Second Year (2016)	136	Transit Campus-I
Third Year (2015)	113	Transit Campus-II
Fourth Year (2014)	104	Transit Campus-II
	Undergraduate Girls	
First Year (2017)	14	Transit Campus-I
Second Year (2016)	12	Transit Campus-I
Third Year (2015)	06	Transit Campus-II
Fourth Year (2014)	08	Transit Campus-II
	Undergraduate Back -loggers	
2012	01	Transit Campus-I
2013	05	Transit Campus-I
	Research Scholars	
Boys	109	Transit Campus-I
Girls	82	Transit Campus-I & II
	M. Tech/ M.Sc. / MS	
Boys	111	Transit Campus-I & II
Girls	47	Transit Campus-I & II

*Transit Campus - I (Mercury, Venus, Neptune & Jupiter)
*Transit Campus - II (NIELIT)

Total : Boys 819 & Girls 169





Life @ IIT Ropar

STUDENTS ACTIVITY CENTER

Board of Literary Activities

1. **British Parliamentary Debate Nationals 2018**
   Our Debating team participated in the national debate at PCTE, Ludhiana and were Runners-up in the same. They won a total cash prize of 25000 among about 60 teams participating from all over the country. The members of the team were – Ahsaas Sharma Gagan Singh Yashvardhan Solanki Hersh Dhillon

2. **PECFEST, 2017**
   2 students of our college, Hersh Dhillon and Nupur Nishant won the 2nd and 3rd position respectively in the prestigious Group Discussion Competition at PECFEST,2017.
   The students won a total prize of 2500 for the same.

3. **Inter IIT Cultural Meet 2017**
   The contingent participated in the meet and the debating team was placed among the top 10 (anywhere from 4th to 10th position) while the turncoat team made into the pre-quarters.

4. **Quiz competition at IISER,Mohali**
   Our team consisting of Vineet Madan and Shivam Prasad participated at the quiz competition in IISER,Mohali and made it to the quarterfinals of the same.

EVENTS ORGANIZED IN THE COLLEGE

5. **Conflict'18**
   BOLA and the DEBSOC together organized Conflict'18, the first edition of intra-college Asian parliamentary debate competition. There was a total participation of 60 students including both the postgrads and undergrads. It was conducted from 10th Jan,2018 – 23rd Jan,2018. Trophies were also awarded in the end.

6. **Speak Your Mind Out**
   An introductory session cum turncoat events was organized in February to make people aware of the importance of public speaking .

7. **IBCC**

The following events were organized by BOLA during IBCC –

- Group Discussion
- Turncoat
- Poetry
- Blog writing
- Spell Bee
- Open Mic and Mythology Quiz During Diwali
- Intra-College Extempore Competition

OTHER ACTIVITIES

The editorial cum executive committees for the newly devised newsletter as well as the revamped annual magazine have been formed and 3 new clubs i.e. Debating club, Quizzing club and Movie club now come under the banner of BOLA.

Board of Science & Technology

Workshop On ROS

Robotics Club, IIT Ropar in association with Punjrobotics organized a workshop on ROS on October 28-29, 2017. ROS (Robot Operating System) provides libraries and tools to help software developers create robot applications. The speaker invited to the workshop is a well-known writer and roboticist, Lentin Joseph and an online session on ROS platform and an E-talk by a software engineer from InnotecUK, Angelos Plastropoulos from the UK. The workshop was held in NIELIT and the E-talk was held in Transit campus-1. Around 60 students participated in the workshop of which 5 were from other colleges. The workshop concluded on October 29, 2017 with an E-talk.

Workshop on web penetration and malware analysis

Workshop on malware analysis and web penetration and cyber security was organized on September 28-29, 2017 where the students were told about basics of networking, the threats of viruses, Trojans worms and how to prevent their attack to keep the personal data safe and secure. The students were also told how cyber attackers find vulnerabilities and attack the devices. The students gained hands on experience on hacking the test sites and learning various processes on finding vulnerabilities in these sites.

Workshop on Internet of things

This workshop was aimed to provide the insight into developing technology to be able to control the house hold items remotely. This workshop provided the students with the basics of IOT and home automation with the help of microcontrollers and different sensors and connected devices. It was organized during Quintessence on November 4-5, 2017. About 57 students from college and outside the college attended the workshops.

Quintessence

This intra-IIT Tech-fest was organized on November 3-5, 2017 and various competitions were held during this period. Series of technical and fun competitions were organized, this includes coding , robotics, puzzling, M.U.N., photo editing , quizzes ,gaming and many other fun competitions. Technical walkthrough was conducted for students from schools

nearby where they were shown different cutting edge technology and were given motivation to join science and technology as career by a brief talk by Dr. Pushpendra P. Singh. A brief talk on the life of IITians and how are they supposed to work forward in life was delivered by Mr. Tejinder Jassal. It was an overall fun experience for students. Good participation was seen in all the events.

Workshop on RC plane

This workshop was conducted by SME in collaboration with BOST About 65 people attended the workshop. This workshop was done on November 11-12, 2017.

Board of Sports Activities

The Annual Inter College Sports Fest of Indian Institute of Technology, Ropar, commenced on Saturday March 16-18, 2018. Aarohan offers a platform for students from all over India to showcase their talent and compete with the best upcoming sportspersons in the country in a highly charged and competitive ambience with highly equipped sports facilities. Approximately 550 students of 14 Colleges: MNIT Jaipur, Chitkara University, Baddi, Himachal Pradesh, Chitkara University, Rajpura, Punjab, Indian Institute of Technology, Mandi, NIT Jalandhar, RGI,Railmajra, Ajay Kumar Garg Engineering College, CGC Jhanjheri, Central University of Haryana, IET Bhaddal, MDU Rohtak, Jaypee University of Information Technology, and Rayat Bahra, Mohali participated in the customized and fun-filled track and field events:

- Athletics
- Badminton
- Basketball
- Chess
- Cricket
- Football
- Table Tennis
- Volleyball

Closing and Prize Distribution Ceremony

Aarohan was concluded with the closing and prize distribution ceremony on 18th March, 2018. Pradeep Narwal (Best Raider of National Kabaddi Team) and Surender Nada (Captain of Haryana Steelers), the renowned national Kabaddi players were the Chief Guest and the Guest of Honor respectively. There was also Motivational and Interactive Talk with both the guests, and vote of thanks was also given by the Sports Secretary to everyone who made the fest a big success.

Medals and Trophies were distributed to the Winners in all the Sporting

Participated in Prakram (Sports Fest JUIT)

Participated in Inter IIT Sports Meet 2017 at IIT Madras- Our two athletes qualified for semi-finals of 100m and 200m race. Our Football, TT boys reached pre-quarters and TT girls reached quarterfinals. The football team was the winner of its pool.

Cricket Team played a cricket match in Rayat Bahra University and remain victorious.

Some Intra IIT Events

- Inter Hostel Sports Championship (IHSC)
- IIT Ropar Cricket Championship (IRCC)
- Inter Year Sports Championship (IYSC)
- Unity Run- October 31, 2017 on the birth anniversary of Sardar Patel.
- Sadbhavana Cricket match and Badminton match between students and Faculties on Republic Day.
- Strengthon

Events outside IIT Ropar

Participated in Spardha (Sports Fest IIT BHU)- Our girl's team of Table Tennis has won the Gold medal in Spardha 2017 at IIT BHU. Pooja Sharma (2016eeb1090) and Akansha (2017csb1065) showed spectacular performance.They remained undefeated throughout the tournament and won each match by 2-0. Pooja has also won gold in TT singles. TT Boy's Team reached quarterfinals

Board of Cultural Activities

Diwali Celebrations

DIWALI MELA was organised in IIT Ropar Campus where everyone was invited to see the vibrant culture of India. On the same occasion, many events were conducted by the various cultural clubs like Band performance, Photography, Open Air Dance Competition, Lantern making and Mythology Quiz.

Board of Hostel Activities

Lighting

The entire campus was decorated with lights on October 19, 2017 for Diwali celebrations and all the hostels were glittering in a magnificent manner with the Rice lights.

Inter Hostel Decoration Competition

This competition saw great participation from students of respective hostels, who decorated the hostels with great enthusiasm. All the hostels were provided with decoration material and were left open to use their creativity. Almost all the students who stayed in campus participated in this event. Director, Associate Dean (Student Affairs), Chief Warden, and all the wardens were invited to judge the competition. The efforts of students

were appreciated. Mercury Hostel won the trophy with highest points and Jupiter was the runner up.

1st Samagam

Kabaddi for boys and Kho-Kho for girls was conducted November 11 -12, 2017. 8 teams registered for Kabaddi, whereas 2 teams registered for Kho-Kho.

Lohri & Sankranti Celebration in association with EBSB

The Lohri was celebrated with Bonfire, Traditional Dhol, Bhangra Competition, and many music and dance events on January 13, 2018. Students celebrated Makar Sakranti and organized Kite Flying Competition on January 14, 2018. The participation for the both the events were overwhelming.

2nd Samagam

This Samagam event on January 21, 2018, comprised of music performances, dance performances, open mic session, and some fun games like Antakshri and Dumb Charades. The event attracted a huge participation from the students' side and proved to be a very nice platform.

Holi Celebration (March 1-2, 2018)

This celebration was done in two parts. On March 01, 2018, Holika Dahan was organized in the form of a Bonfire which included Holi Puja. Open Mic session, some fun games like Antakshri, Dumb Charades was also the part of this event. Around 200 people turned up for this event. On March 2, 2018, proper Holi Celebration was done using colors, gulal, balloons with proper music. Sweets and Lassi was also distributed during the event. Around 400 people turned up for the event. The crowd was extremely lively which made the campus very vibrant that day. Special Lunch was also arranged on 2nd March 2018 as a part of celebration.

Enactus (Community Call)

Under Enactus IIT Ropar, students started an initiative “Vastra”, to celebrate the joy of giving. They collected clothes donated by students, staff and faculty of IIT Ropar and distributed them among under- privileged people in Rupnagar.

STUDENTS' BODY

Student Council

General Secretary	Mr. Anuj Kalsotra
Sports Secretary	Mr. Jyoti Parkash Amit
Cultural Secretary	Mr. Anuj Kalsotra
Hostel Secretary	Mr. Anuj Kalsotra
S&T Secretary	Mr. Mayank Aggarwal
Literary Activities Secretary	Mr. Ahsaas

Board of Hostel Activities

Mess-1, Transit Campus-1	Anmol Tripathi
Mess-2, Transit Campus-1	Krishnendu sahu
NIELIT Mess	Sainath

Board of Sports Activities

Athletics	Deepak Kumar
Badminton (boys)	Nawed Diwan
Badminton (girls)	Diksha
Basketball (boys)	Shreshtha Gothalyan
Basketball (girls)	Garima Gupta
Cricket	Yash Ranjan
Football	Pranjal Singh Bisht
Lawn Tennis	Vaibhav Chopra
Table Tennis (boys)	Sarthak Srivastava
Table Tennis (girls)	Pooja Sharma
Volleyball (boys)	Ravinder Pal Singh
Volleyball (girls)	Nitu Meena
Weightlifting and gym	Shashank Kumar
Weightlifting and gym	Moh Sahil

Board of Science & Technology

Astronomy Club Representative	Raja Naveen
Enigma Representative	Dron kaushik
Finance Club Representative	Vandit Pandya
Robotics Club Representative	Avinash
BOST PG Coordinator	Shubham Singh
BOST Treasurer	Pratyush Singh
Coding Club	Pratik Chhajer
Monochrome Representative	Sudhanshu Ranjan
CIM Club Representative	Nikhil Mittal

Board of Cultural Activities

Dance	Mohit Sharma
Dramatics	Shashi Dubey
Fine Arts	Aquib Ruzdan
Literary	Ahsas Sharma
Movie	Amit Kumar/ Shrey Sahai Gupta
Music	Shreyansh Soni
Music (NIELIT Campus)	Dhanesh Choudhary
Photography	Lakshay Narang

FACILITIES

LIBRARY

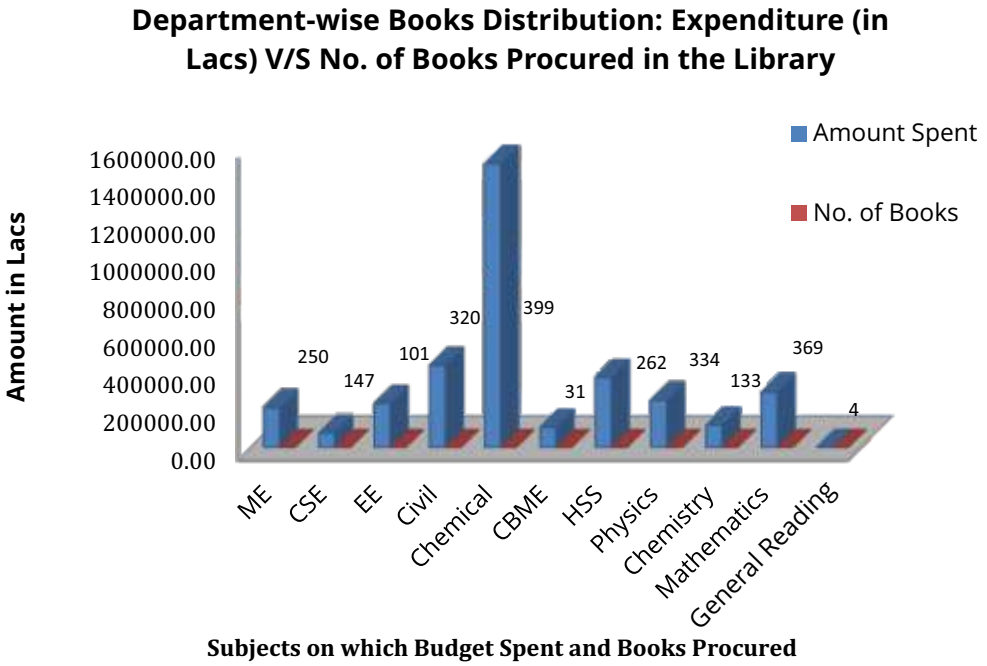
INTRODUCTION

The Central Library functions as the primary information resource centre and repository of printed and electronic resources for teaching and research activities at the institute. The objective of the library is to fulfill the academic and research requirements of users by providing access to quality resources with appropriate delivery systems and services to support the institute to achieve excellence in teaching, learning, research and community services.

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. IIT Ropar Library is continuously developing its collection by acquiring latest books, reports, other reference, and information resources and subscribing to reputed journals in science, engineering, technology, humanities and social sciences during the year. The Library is holding an excellent print collection of over 17000 documents which includes various resources such as dictionaries, handbooks, encyclopedias, reports of research monographs, multi-volume reference works, other documents of research value, i.e., theses and project reports, etc. and books on general reading.

During the financial year 2017-18, the library added 2351 new books to its collection and the department-wise purchase of books are given in the below chart:



E-JOURNALS/ DATABASES/ TOOLS

The central library facilitates online access to thousands of e-journals through direct subscription and participation in consortia, such as E-Shodh Sindu (eSS) and the Library also subscribes to several e-journals directly from publishers as well as through reputed subscription agencies. Online access is also provided to economic and political databases,

scientometric databases such as Scopus, MathSciNet, and Web of Science. The library is providing extensive research support services such as citation analysis, usage of reference management tools, copyright and plagiarism support, etc. The library is using a Turnitin, a leading academic plagiarism tool to improve the quality of research publications and Grammarly tool for language support. The library is constantly striving to identify and adopt the emerging academic and research support tools and helping the institute in achieving its vision and mission.

The library subscribes to the following electronic and print resources:

Full-Text Electronic Journals and Books:

- Acta Arithmetica from the Institute of Mathematics
- American Chemical Society Digital Archive and Current Journals
- American Institute of Physics Digital Archive and Current Journals
- American Mathematical Society
- American Naturalist from the University of Chicago Press
- American Physical Society Journals
- American Society for Testing and Materials COMPASS
- American Society of Civil Engineers Library
- American Society of Mechanical Engineers Digital Archive and Current Journals
- Annals of Mathematics from Princeton University
- Annual Reviews
- Association for Computing Machinery Digital Library
- Begell House Engineering Collection
- Cambridge University Press Selected Journals
- Canadian Geotechnical Journal from NRC Research Press
- Canadian Journal of Mathematics
- Earthquake Spectra from Earth Quake Engineering Research Institute
- EBSCO Business Source Premier
- Economic and Political Weekly
- Emerald Journals
- Institute of Electrical and Electronic Engineers Xplore Digital Library (IEL Online)
- International Society of Optics and Photonics
- Institution of Civil Engineers Virtual Library
- Institute of Physics Science Digital Archive and Selected Current Journals
- JSTOR
- Low-Frequency Noise, Vibration and Active Control from Multi-Science Publishing
- Nature Journals
- Optical Society Online
- Oxford University Press Mathematics and Physical Sciences Journals
- Proceedings of National Academic Sciences
- Project MUSE
- Publicationes Mathematicae Debrecen
- Royal Society Proceedings A: Mathematical, Physical and Engineering Sciences
- Revue Francaise de Geotechnique from Geotechnicworld
- Royal Society of Chemistry Digital Archive and Selected Current Journals
- Society of Automotive Engineers - MOBILUS (SAE Technical Papers & Journals)
- Science Direct Journals
- Science Online
- Springer Online Journals
- Taylor & Francis Journals
- Technopress Journals
- Thieme Journals
- Walter de Gruyter Mathematics Journals
- Wiley Journals
- World Scientific Journals

Economics, Industrial and Political Databases:

- EPW Research Foundation
- Euromonitor Passport
- Institute for Studies in Industrial Development (ISID) Databases
- Prowess
- States of India

Bibliographic, Abstracting and Scientometric databases:

- Math SciNet
- SciFinder Scholar
- Scopus
- Web of Science

Other Tools

- Grammarly
- Turnitin

Print Journals/ Magazines

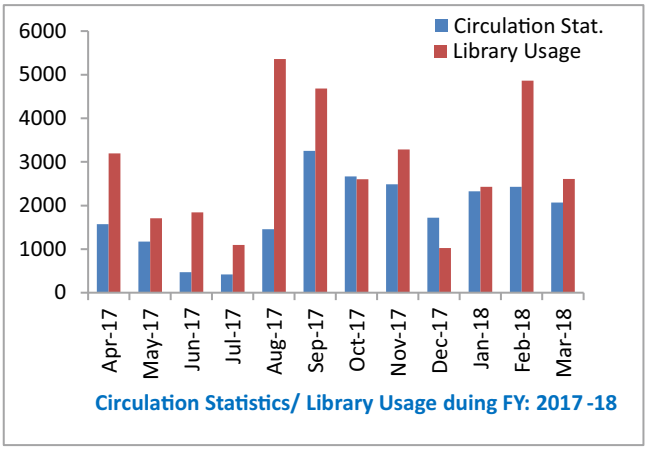
- AAAS/Science
- Atlantics Critical Review
- Creative Forum
- Current Science
- Data Quest
- Dialog
- Economist, The
- Electronic for You
- · Frontline
- Modern Fiction Studies
- National Geographic
- PC Quest
- Reader Digest
- Time

LIBRARY SERVICES

The library currently provides following services on a regular basis:

4.1. Circulation and Consultation Service

The library circulation operations are automated using the RFID-LIBSYS EJB version. During the academic year 2017-18, a total of 28,585 documents were issued/consulted at Kiosk to all categories of users. The graph below well depicts the circulation history of books during the financial year 2017-18:



Circulation Statistics/ Library Usage duing FY: 2017 -18

STAFF

The library has a team of the talented officers and the staff; they are always appreciated by users for their ability, enthusiasm, and honesty with which they serve them.

Sr. No.	Staff Pattern	Nos.
1	Deputy Librarian	1
2	Library Information Officer	1
3	Assistant Library Information Officer (on contract)	1
4	Senior Library Information Assistant	1
6	Library Attendant (Contract)	1

Staff Publications & Recognition

In addition to their regular duties, the Library staff members have been engaged in various academic and research activities. List of their publications are given below:

Journals:

- Siddaiah, Dinesh K. 2017. "Academic library for excellence today: a report from the panel discussion." Library Hi Tech News, 34(5):19-19.
- Nanjundaiah, Siddaiah, Dinesh K. 2017. "Ranking of Arts and Humanities Journals Published in India: A Scientometric Analysis." Pearl: A Journal of Library and Information Science,11(2):155-158.
- Kaur, Harpreet. 2017. "Managing Institutional Repositories in India: Benefits and Challenges." International Journal of Management and Applied Sciences, 3(10): 85-88.

Book Chapter:

- Siddaiah, Dinesh K. 2018. "Commonwealth Professional Fellowship: A Gateway for the Strategic Development of Libraries in India." In Digitizing the Modern Library and the Transition From Print to Electronic, 270-286.USA: IGI Global.

Conference Proceedings:

- Kaur, H. & Malhotra, S. 2018. Use of Kiosks as a self Service Tool in Libraries. In Proceedings of Emerging Trends and Technologies in Libraries and Information Services ETTLIS - 2018, Bennett University, Greater Noida (In Print).
- Malhotra, S., Kaur, A. & Kaur, H. 2018. Analysis of contributions in Journal of Scientific and Industrial Research: A Bibliometric Study. In Proceedings of Emerging Trends and Technologies in Libraries and Information Services ETTLIS -2018, Bennett University, Greater Noida (In Print).

NDL WORKSHOP

The Library, IIT Ropar and National Digital Library of India (NDLI), IIT Kharagpur, an MHRD Project, Govt. of India, jointly and successfully organized a two-day "Regional (North-IV) Workshop on Institutional Digital Repository at IIT Ropar during March 16-17, 2018. This workshop witnessed overwhelming response from the seven states of North and Central India. There were 61 enthusiastic participants from 41 higher educational institutions and research labs such as CFTIs, Universities, CSIR and other reputed institutions. The IIT Ropar Director, Prof. Sarit Kumar Das inaugurated the Workshop, Prof. P. P. Das, Joint-PI of the NDLI Project and Dr. Sutradhar, Co-PI of the NDLI Project were the guests for the Inaugural function. Prof. P. K. Raina, Dean, Academics & Chairman, Library Committee welcomed the gathering.

During hands-on-session of IDR workshop, the two experts from NDLI Mr. Shibabroto Banerjee, Principal Project Officer - Systems and Mr. Samrat Guha Roy, Central Library, IIT Kharagpur taught IDR concepts very well and made DSpace Prerequisites and Installation very clear to the participants. The other hands-on topics they taught were: Community, Collection and Item Submit Workflow, Indexing & Retrieval, Metadata schema management, Modification of Data Entry Forms, Implementation of Controlled Vocabulary, User creation and management, DSpace User Interface modification and Access Authorization, IDR backup and restore.

PUBLIC RELATIONS AND PUBLICATIONS OFFICE

The Public Relations and Publications (PRP) section at the Indian Institute of Technology Ropar is an authorized source for up-to-date information about various activities in the area of academics, research and development, etc. of the Institute. The PRP section is broadly involved in the following areas of work:

Media Liaisoning

The office is the single point of contact for any media personnel interested in covering the institute. The department answers media queries, sends out press invitations and issues press releases on a regular basis, besides organizing press conferences and interviews with faculty, students or the institute's functionaries as and when required.

Institute Publications

The PRP section also takes care of the preparation and publication of institute's publications including the Annual Report, the Institute Brochure, the quarterly newsletter to mention some. A request for obtaining a copy of any of these publications can be sent to the PPR Section at pro@iitrpr.ac.in

Online Presence

The department is also responsible for managing the institute's website, uploading and updating the content on it. The social media accounts of IIT Ropar on Facebook, LinkedIn and Twitter are also managed by the PPR Section.

Contact address

Preetinder Kaur
Public Relations Officer
Public Relations & Publications Sections
Ground Floor, Transit Campus
Indian Institute of Technology Ropar
Ropar 140001,
Punjab, India
Tel: (+91-1881) 242317, 9915089999
Email: pro@iitrpr.ac.in

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.

SUMMARY OF ACCOUNTS

RECEIPT & PAYMENT FOR THE FINANCIAL YEAR 2017-18

RECEIPT	Amount (in Rs.) 31.03.2018	PAYMENT	Amount (in Rs.) 31.03.2018
I. Opening Balances		**I. Expenses**	
a) Cash Balance	0	a) Establishment Expenses	293661420
b) Bank Balance		b) Academic Expenses	158392922
i) In Current accounts	0	c) Administrartive Expenses	157008323
ii) In deposit accounts (FDR)	937873630	d) Transportation Expenses	11266958
iii) Savings accounts (Institute)	187582609	e) Repair & Maintenance	10953085
iv) Savings accounts (R & D)	13957196	f) Prior Period Expenses	0
		g) Finance Cost	85103
II. Grant-in-Aid		**II. Payment against Earmarked/Endowmnet Funds**	0
- on Revenue Account	495300000		
- on Capital Account	4052400000		
III. Academic Receipts	74375289	**III. Payment against Sponsored Projects/Schemes**	73982557
IV. Receipt against Earmarked/Endowmnet Funds	0	**IV. Payment against Sponsored Fellowships and Scholarships**	2200449
V. Receipt against Sponsored Projects/Schemes	92976733	**V. Investment and Deposits made**	
		(a) Out of Earmarked/Endowmnet Funds	0
VI. Receipt against Sponsored Fellowships and Scholarships	1091523	(a) Out of Own Funds (Investments - Others)	0

VII. Income on Investments from		**VI. Term Deposits with Scheduled Banks**	
a) Earmaked/Endowmnet Funds	0	FDR (R&D)	139300000
b) Other Investments	0		
		VII. Expenditure on Fixed Assets and Capital Works in Progress	
VIII. Interest received on		a) Fixed Assets	306810731
		b) Capital Work in Progress	2144418947
a) FDR	80976652		
b) Loans and Advances	22777		
		VIII. Other Payments including statutory payments	11726370
c) Savings Bank Accounts	25979636		
d) Saving & FDR (R&D)	8752622		
		IX. Refunds of Grants (Projects)	0
IX. Investments Encashed		**X. Deposits and Advances**	1252636631
Endowment Fund	0		
		XI. Other Payments	0
X. Term Deposits with Scheduled Banks Encashed			
FDR (R&D)	136200000	**XII. Closing Balances**	
		a) Cash Balance	0
XI. Other Income (including Prior Period Income)	5448458	b) Bank Balance	
		i) In Current accounts	0
		ii) In deposit accounts	
XII. Deposits and Advances	14986707	(FDR)	1535435465
		iii) Savings accounts (Institute)	9399672
XIII. Miscellaneous Receipts including Statutory Receipts	17958796	iv) Savings accounts (R & D)	38603994
TOTAL	**6145882627**	**TOTAL**	**6145882627**

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ANNUAL REPORT 2017-18

भारतीय प्रौद्योगिकी संस्थान रोपड़

INDIAN INSTITUTE OF TECHNOLOGY ROPAR