Committed to Excellence in Research



भारतीय प्रौद्योगिकी संस्थान रोपड़ INDIAN INSTITUTE OF TECHNOLOGY ROPAR





IIT ROPAR: AT GLANCE

DEPARTMENTS & CENTERS		_
DEPARTMENTS	:	10
CENTERS	:	03
STUDENTS ADMITTED IN AY 2018-19		_
UG PROGRAMME	:	281
PG PROGRAMME	:	182
Ph.D	:	137
STUDENTS STRENGTH		_
UG PROGRAMME	:	791
PG PROGRAMME	:	311
Ph.D	:	422
NUMBER OF DEGREES AWARDED		_
B. TECH.	:	103
M. TECH.	:	19
M. SC.	:	27
Ph.D	:	24
FACULTY & STAFF STATISTICS		150
FACULTY NEWLY JOINED FACULTY	:	158 37
STAFF	:	90
NEWLY JOINED STAFF	:	20
NEWEL JOINED STALL	•	20
RESEARCH PRODUCTIVITY		
JOURNALS	:	255
CONFERENCES	:	126
BOOK CHAPTERS	:	6
BOOKS	:	1
ICSR & II		
NUMBER OF CONSULTANCY PROJECTS		17
OUTLAY	•	1.59 CRORES
NUMBER OF SPONSORED PROJECTS	:	48
OUTLAY	:	18.85 CRORES
GRANTS (IN CRORES)		
DST-SERB	:	13.71
DBT	:	0.96
IMPRINT	:	0.93
SPARC	:	1.70
Consultancy	:	1.59
Other projects	:	1.55
TOTAL	:	20.44



FROM THE DIRECTOR'S DESK	1
THE INSTITUTE	4
EXECUTIVE SUMMARY	5
RANKING	8
THRUST AREAS OF RESEARCH	9
	9
 INFRASTRUCTURE DEVELOPMENT @IIT ROPAR Progress of IIT Ropar Main Campus During 2018-19 	11
 Progress of itr hopal Main Campus Duffing 2016-19 Photographs of Physical Progress 	12
	12
ACADEMICS	15
AcademicsFinancial Assistance to the Students	15 17
Outreach Programme	18
Internship Report	19
RESEARCH AND DEVELOPMENT ACTIVITIES	13
Research and Development Activities	22
The Growth of R&D in the Last Year	23
Overview	23 24
Research Awards	24
Vajra Scheme (For 3 Years)	24
Consultancy Activities	24
List of Some Consultancy Projects Initiated	25
Augmentation of Research Infrastructure	25
Intellectual Property Right Cell	27
Intellectual Property Right Workshop	27
List of Sponsored Projects	27
Teaching Learning Workshop	31
CARRER DEVELOPMENT & CORPORATE RELATIONS CENTRE (CDCRC)	
Career Development & Corporate Relations Centre	33
Corporate Relations Cell	33
Training & Placement Cell	34
Professional Development	36
 Technology Business Incubator Foundation 	38
Seed Grant Category	38
Idea Pitching Category	39
INTERNATIONAL RELATIONS	
 Indo-Taiwan Research Centre on Artificial Intelligence & Machine Learning 	
Coming up at IIT Ropar	41
Dologation Visit to Canada	11

Visit of Eminent Prof. Rohit N. Karnik, MIT, USA Visit of IIT Report Polagetics	41
Visit of IIT Ropar Delegation Strongthoning Ties, Mol I With Concerdia University, Concede	42
Strengthening Ties- MoU With Concordia University, Canada Intercetive Session on "Why Cities?"	42 42
Interactive Session on "Why Cities?"Workshop on Development and Opportunities of Higher	42
 Education in Germany @IIT Ropar 	42
• - •	42
FACULTY & STAFF	4.4
Year Wise Total Number of Faculty Department Wise Total Number of Faculty	44
Department Wise Total Number of Faculty Condex Wise Total Number of Faculty	44
Gender Wise Total Number of Faculty Dh D of Faculty Members 2018 10	44
Ph.D of Faculty Members 2018-19 Faculty Statistics	44
Faculty StatisticsAppointed During 2018-19 (Faculty)	45 45
 Appointed buring 2016-19 (Faculty) Appointed During 2018-19 (Staff) 	43 47
 Internal Faculty Appointed in Higher Grades 	49
 Resigned or Relieved (Faculty) 	49
 Extraordinary Leave/ Deputation/ Sabbatical (Faculty) 	50
EVENTS & ACTIVITIES	51
DEPARTMENTS & CENTRES	
Department of Chemical Engineering	65
Department of Chemistry	69
Department of Computer Science & Engineering	76
Department of Civil Engineering	81
Department of Electrical Engineering	87
Department of Humanities & Social Sciences	95
Department of Mathematics	101
Department of Mechanical Engineering	109
Department of Metallurgical & Materials Engineering	122
Department of Physics	125
Centre for Biomedical Engineering	135
PUBLICATIONS @ IIT ROPAR	142
STUDENTS AFFAIRS	
Student Residency Status	171
Life @ IIT Ropar	172
Student Activities Centre	173
 Board of Sports Activities 	175
 Board of Hostel Activities 	176
Board of Cultural Activities	178
Other Activities	183
Student's Body	183
FACILITIES @ IIT ROPAR	184
SUMMARY OF ACCOUNTS	189
GOVERNING BODIES	100
Board of Governors	192
SenateAcademic Committee for Undergraduate Studies (ACUGS)	193 195
 Research Progress Evaluation Committee (RPEC) 	195
Administration	196
Library Committee	196
•	
SCENIC BEAUTY OF IIT ROPAR	197



After a momentous decade of existence, IIT Ropar shifted its operations to permanent campus. Having started our journey in 2008 with 500 acres of grassland on the banks of river Satluj in the city Rupnagar of Punjab, IIT Ropar has made impressive and rapid strides towards creating a remarkable and unique campus in this challenging yet serene ambience. With a state-of-the-art infrastructure on a built-up area of 1.37 lakh sq.mt comprising of housing for 2100 students, 162 faculty and 83 staff members, magnificent entrance, cutting-edge laboratories, libraries, sports facilities, spaces for other extra and co-curricular activities and the unique design of the hostels with large common spaces, the institute has come alive. The Institute is on track towards completing 2.32 lakh sq.mt of construction by the beginning of 2021 to provide accommodation for 2,500 students, 220 faculty and 250 staff members.

Adhering to its Mission and Vision, IIT Ropar achieved its goals to continue preparing the next generation for a knowledge-based economy, and helping find answers to the most pressing problems our society faces. As IIT Ropar enters the tenth year of its existence, I am happy to share that the Institute is on schedule, to reach to an internationally ranked institution. In its debut in the QS Ranking, released a few months ago, the ranking has given impetus to our Research activities as IIT Ropar has ranked 107th in BRICS Ranking, 219th in Asian

Rankings and 21st in India Rankings. Above all, IIT Ropar has been continuously taking lead as the best performing IIT in average citation per publication and average publication per faculty amongst second generation IITs.

As we prepare to enter our second decade, I am proud to report on the remarkable accomplishments of our young Institute to date. We have introduced a unique cutting-edge curriculum, scientifically drafted by the latest pedagogical practices, emphasizing project oriented learning, with core requirements in design and innovation.

Our transformative 10 days Induction Program for incoming freshmen, focused on creativity, leadership & communication, ethics, social awareness, and physical fitness, has been widely lauded and increasingly emulated.

With this year's admission, IIT Ropar student population has grown to 1505 students, including 830 UG, 286 PG, and 389 Ph.D students. During the last three years the undergraduate intake growth of students has increased by 17.30 Percent. The postgraduate intake also has taken a leap by 9.67 percent. The third and final year students have occupied rooms in the newly built hostels in the main campus. We have started B.Tech program in Metallurgy and Materials Engineering. The enrollment in the Doctoral program as well as the publication record of the faculty and students for the

academic year has increased considerably. We have started new PG Course, MTech in Electrical Engineering with specialization in Communications and Signal Processing.

Our academic programs offer students unmatched choices, options of dual majors, minors, honors, course flexibility, as well as co-curricular opportunities, such as Tinkerer Lab, Technology Business Incubation and Entrepreneurship Centre, etc. We have implemented student participation in governance structures in all aspects of Institute affairs, including academic and student life and discipline.

Attracting best offers from international universities, IIT Ropar B.Tech Second year and Third year students gone globally for summer internships this year. A conscious effort by IIT Ropar to get more international internships has led to a two-fold increase this year as compared to last year. This year 39 students from all branches have joined various universities and industries of repute abroad for summer internship.

The backbone of IIT Ropar is its faculty; current strength is 150 including about 10 visiting faculty members. We are regularly stretching ourselves for bringing quality faculty from all over the country and from overseas by conducting offshore recruitments. This year we have conducted two offshore recruitment drives in Canada and US.

The Institute engaged in creating e-course contents for the MHRD flagship programme SWAYAM platform. IIT Ropar has been notified by the Department of Higher Education, MHRD as National Resource Centre (NRC) in the manufacturing domain.

The Institute also organized a Teaching Learning Programme in October 2018 for our faculty. The aim of this programme was to strengthen the quality of the teaching in the Institute.

This year, 6 GIAN courses were conducted by erudite scholars from international universities/institutions at the Institute.

Our research quality and impact can be

ascertained from the average citation per paper which stands at 11.74 which is highest among all the second generation IITs as per recent Scopus data. During the current year, the faculty members and scholars of the Institute published 308 papers in high impact international journals with an H-Index of 52.

The number of PhD students on campus is increasing every year. This year too has seen a considerable increase in numbers, growing from 331 students last year to 389 this year. The current faculty to PhD students ratio is 1:2.5.

The Institute has filed over 16 patents. Also, one has been granted and one has been filed for design registration. The Institute has signed Memoranda of Understanding with research institutions and industries to strengthen its collaborative research initiative. In continuation to IITs Ropar's excellent journey in research, the efforts of our doctoral students have been recognized as attested

by their selection for the 2019 Global Young Scientists' Summit in Singapore.

Our performance in campus placements is going up continuously for the last couple of years. A good and encouraging response from industry was seen for campus recruitment process as a result of which 84% of our students were placed. More than 90% of the Computer Science students, 85% of Electrical Engineering students and 65% of the Mechanical Engineering students have been offered positions in core-technical, consultancy and IT companies. An average package of over 14 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.

IIT Ropar has identified internationalization as one of its key strategies as per the vision mission document. Two Academic delegation visited USA and Canada. The first visit took place in May 2018 and the second delegation visited NC State

University, JWAFS, MIT& YIM Boston. Recently IIT Ropar has been identified by GoI as one of the IITs to partner with Canadian Universities. Also IIT Ropar has been nominated as the nodal institute to coordinate under the SPARC Scheme with Canada. To maximize our efforts for collaboration in Canada, we had visited University of Toronto, University of Calgary, Concordia University, and McGill University in September 2018. We have also admitted our first international student with citizenship of a SAARC nation.

IIT Ropar has consolidated ties with Shastri Indo-Canadian Institute for research tie-ups in thematic areas of interest to Canadian universities with an aim to address regional challenges involving health, water and food security, sustainable development and energy.

The second cycle of Summer Visitation Programme was conducted during May-July 2018. Since the inception of IR office we have organized 2 Summer Visitation programmes. This year total 17 faculty members have visited various universities under this programme.

IIT Ropar continually strives to encourage a fair balance between academics and extracurricular activities among its students.IIT Ropar organized BAJA SAE INDIA 2019 to simulate real world engineering design projects and their related challenges. The event received an overwhelming response with representation from all zones-Western, Northern, Eastern and Southern zones in India celebrating the BAJA SAEINDIA 2019 IIT ROPAR theme "Adventure Reloaded."

At IIT Ropar, we have structured a Snehita – Well Being Cell. The objective of this cell is to increase the help seeking behavior among

the community, remove the fear of stigma by close others and to make the counseling services more user friendly. The major focus of Snehita - Well Being Cell, is to cater the mental health care and counseling needs of IIT Ropar Community. That is why we have created a mix of reactive and proactive environment for our Community considering the mental health and counseling needs as important as like of physical health. We have a team of Snehita Buddies consisting of students, faculty advisor and Institute Counselors who are proactively working on sensitizing our Community on various mental health issues, increasing awareness and trying to minimize the fear of being perceived by close others. This cell plays a key role in enhancing individual's self growth. These services at IIT Ropar are a part of Student Support Services. Snehita – Well Being Cell is basically designed for the overall quality of life of our Campus community.

IIT Ropar is also mindful of its social responsibilities, which have always been at the core of its mission. We have formed an NGO under the umbrella of IIT Ropar named, Pehchhan-Ek Safar, which implements both formal and informal outreach initiatives within the city and especially for the underprivileged kids.

IIT Ropar is building the next generation of leaders. Our alumni are achieving success in entrepreneurship and research. We are excited about the future of IIT Ropar, and we look forward to achieve the pinnacle of success in Research and Innovation in the decades ahead.

THE INSTITU





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 न: प्रचोदयात् (deploy our intellect on the right path)



EXECUTIVE SUMMARY

In June 2018, IIT Ropar completed 10 years. It has been a decade of innovations, development and acquiring a national and an international stature. Academically, we are at the forefront of developing new curricula and introducing new programs each year of development. We are also at the forefront of research and development.

Our faculty student ratio is best among all IITs – 1:10. We have a very strong PG program. During the current year, the faculty members and scholars of the Institute published 308 papers in high impact international journals with an H-Index of 52. The number of Ph.D students on campus is increasing every year. This year too has seen a considerable increase in numbers, growing from 331 students last year to 389 this year. The current faculty to Ph.D student ratio is 1:2.5.

In 2018-2019 IIT Ropar has received 164 projects with an outlay of Rs. 62.43 Crores and 44 consultancy projects with an outlay of 2.60 Crores. IIT Ropar has filed over 16 patents. Since the inception of the Institute, the faculty has been attracting research projects from the different funding agencies such as Indo-Canadian IMPACTS, DST-Indo-Russian, SPARC, Indo-Taiwan Joint Research Centre, ICMR, Indo-Rusian Joint Project Scheme, etc. IIT Ropar has MOUs with at least 21 universities globally, most of them in USA, UK Australia, Canada, Europe and Taiwan.

On the academic front IIT Ropar is innovating and scaling while maintaining quality: We have B.Tech. programs in 6 engineering departments, M.Sc in Physics, Chemistry and Mathematics, M.Tech in 6 engineering departments (Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering and Mechanical Engineering) and Ph.D. in all 11 departments. IIT Ropar student population has grown to 1505, including 830 UG, 286 PG, and 389 Ph.D. The backbone of IIT Ropar is its faculty; current strength is 150 including about 10 visiting faculty members. This year IIT Ropar delegation conducted two offshore recruitment drives in Canada and US.

The most important landmark of this year for IIT Ropar is the shifting to its permanent campus. October marked the beginning of occupying the Ramanujan Block (Computer Science and Engineering Department), the Radhakrishnan Block (lecture Halls), Utility Buiding, Hostels (Sutlej and Raavi) and Annapurna Hall (Dining Hall), J.C.Bose Block (Electrical Engineering Department) and Satish Dhawan Block (Mechanical Engineering Department) have become operative. IIT Ropar campus is developed as a "Green Campus" and has touched upon the large-scale plantation activities that had already been initiated.

In spite of being a young Institution, IIT Ropar has leapfrogged to rank 107th among the 400 universities of BRICS nations and emerged as India's top-rated Institution. The success is the result of the relentless research going on in this Institution. IIT Ropar has made a mark in the QS Asian University Rankings. The Institute has been ranked 219 in Asia out of top 500 Institutes reflecting the quality of academics and research which has brought laurels to the Institute.

IIT Ropar campus placements are going up continuously for the last couple of years. More than 90.24% of our students have been placed this year with an average package of about 11.70 lakhs per annum. Top companies recruited our students, including Amazon, Microsoft, Arista Networks, Tata Motors, Mahindra&Mahindra, Larsen&Tourbo, Cognizant etc.

The Training And Placement Cell has been converted into Career Development and Corporate Relations Centre to integrate Institute's efforts for the professional development of the students. This year 24 students from all engineering departments visited international universities of repute for summer internship.

IIT Ropar organized BAJA SAEINDIA 2019 to simulate real world engineering design projects and their related challenges. The event received overwhelming response with representation from all zones-Western, Northern, Eastern and Southern zones in india celebrating the BAJA SAEINDIA 2018 IIT Ropar theme "Adventure Reloaded."

The students of IIT Ropar are active as a social service group under the name "Pehchaan-Ek Safar". Around 40 students have been working for the education of underprivileged children.

IIT Ropar is creating an exceptional holistic learning ecosystem that offers interactive learning, a highly, flexible academic structure, cutting-edge research, strong industry collaboration, and entrepreneurship. It is providing an environment wherein students and faculty are pursuing their passions. IIT Ropar is building the next generation of leaders. Our alumni are blazing new paths in entrepreneurship and research.





RANKING



IIT ROPAR



धियो यो नः प्रचोदयात्

RANKING

3rd in INDIA in RESEARCH QUALITY (CPP)

107th in ASIA in PAPER PER FACULTY

 219th in ASIA out of top 500 Universities Ranked

47th in ASIA IN RESEARCH QUALITY (CPP)

21st in top 75 Universities in India



IIT ROPAR has made a mark in the QS ASIAN UNIVERSITY RANKINGS. The institute has been ranked 219 in Asia out of top 500 institutes reflecting the quality of research going on, that has brought laurels to the Institute. Parameter wise, IIT Ropar ranked 47th in Asia in Research Quality (Citation per publication), even being such a young institution of 10 years and 107th in Paper per faculty which is laudable.

Adhering to its Mission Vision statement, IIT Ropar has made a mark in the history being adjudged 3rd in Research Quality in India. Documented in their Mission, Vision booklet, IIT Ropar has created a niche for itself, redefining the concept of cutting edge interdisciplinary and collaborative research output. Quacquarelli Symonds (QS) has announced the best 75 institutions in India and IIT Ropar has ranked 21st among the top 75 Indian Universities ranking, scoring highest in the Research Quality with 3rd Rank, academic reputation with 86% score and 79% in Employer reputation. Even being a young institution IIT Ropar leapfrogged to rank 107th among the 400 universities of BRICS nations and emerged as India's top-rated institution. The success is the result of the relentless research going on in the institution which is not only focuses on core research areas but also focuses on the interdisciplinary research for solving regional and national problems.



THRUST AREAS OF RESEARCH

- Water
- Cancer Research
- Environment Issues
- Electrical Vehicle
- Artificial Intelligence and Big Data
- Drug De-addiction
- Manufacturing
- Milestone 10 years



INFRASTRUCTURE DEVELOPMENT @IIT ROPAR





INDIAN INSTITUTE OF TECHNOLOGY ROPAR

Construction Management Group



During the year 2018-19, the construction works of IIT Ropar main campus completed many milestones. Many of Phase-1A buildings were taken over by the Institute and started operating. Three academic buildings namely, S Ramanujan Block (Dept. of CSE), Satish Dhawan Block (SMMEE), J C Bose Block (Dept. of Electrical Engineering) have started full-fledged operation in the main campus. The main attraction in this Phase-1A is the Administrative building and work in this building has also progressed at a steady pace. The Boys Hostel (three wings of total 690 capacity), Girls Hostel (two wings of total 260 capacity), Faculty residences (7 blocks, 56 flats), Staff residences (4 blocks,32 flats) Dining hall, Lecture hall and Utility buildings are also completed during this period and are being used by the Institute. The work of the Chemistry building has experienced hurdles due to change in the HVAC system in two floors for the laboratories. The work of Director's residence and another three blocks (24 flats) of Staff residences is also in the final stage.

The Phase-1B construction is also under full swing. Buildings that are nearing completion in this Phase are Boys hostels of 720 capacity and 230 capacity. The Girls Hostel of 160 capacity and 100 capacity are in advance stage of completion and taken over by the Institute. Other Buildings of this Phase that are being construction at reasonably fast pace are the Type-V and Type-VI residences, Campus School, Visitor's Hostel, Library and Lecture hall, Dining Hall, Central Workshop. Only the CRF building had to start late due to pending decision from the Institute. The four monuments near the gate complex with stone cladding of the Mohenjo-Daro and Harappa Civilization are unique and on the top of the four monuments are stainless steel molecular structures representing the modern day science. In front of the gate complex just in front of the Visvesvaraya Block (Administrative building) the construction of a huge spiral structure is to come up depicting the Mission and Vision of IIT Ropar. The construction of the flag stand is also under progress and the National Flag would soon be in its place in IIT Ropar main campus. The construction of the logo of IIT Ropar is also under process. The main sports infrastructure for the students have also been completed along with the connecting roads and pathways apart from grassy field, synthetic courts have also been constructed and are ready for the use of the students.

In Phase-1C, the progress of the residential buildings construction work is satisfactory. The foundation of the iconic building- Super Academic Block is in the design stage. It is pertinent to mention here that this academic building would house six different academic disciplines and the external development of this building would be in line with the decoding of the genetic structure in human beings done by the Late Nobel Laureate Dr. Har Gobind Khorana, a son of the soil of Punjab.

IIT ROPAR-PHASE-1A Photographs of Physical Progress (May 2019)



























ACADEMICS E







2008 - 2018 धियो यो नः प्रचोदयात्



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 six Engineering disciplines: Chemical Engineering, Computer Science and Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, & Metallurgical & Materials Engineering; four Science Disciplines: Chemistry, Mathematics and Physics,; and Humanities and Social Sciences;a Centre: Centre for Biomedical Engineering. The prosperous Ph.D, M.Tech. and B.Tech. programmes, see the students and faculty publishing prolifically. As of April 2019, IIT Ropar has 829 students enrolled in its B.Tech. programs, 134 M.Tech. students, 128 M.Sc. students, 11 in MS and 422 Ph.D students. As of April 2019, faculty strength of IIT Ropar is 158. Faculty members are supported by nearly ninty 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 number of students and scholars ADMITTED during year 2018-19

Sr. No.	Department	B.Tech.	Dual Degree	M.Tech.	M.Sc.	MS (R)	Ph.D
1.	Biomedical Engineering	-	-	11	-	-	8
2.	Chemical Engineering	24	-	-	1	-	5
3.	Chemistry	-	-	-	24	-	18
4.	Civil Engineering	35	-	-	-	-	8
5.	Computer Science & Engineering	65	-	22	1	1	11
6.	Electrical Engineering	68	-	24	-	7	23
7.	Humanities & Social Studies	-	-	-	-	-	11
8.	Mathematics	-	-	-	23	-	11
9.	Mechanical Engineering	77	11	36	-	-	25
10.	Metallurgical and Materials Engineering	12	-	-	-	-	3
11.	Physics	-	-	-	23	-	14
	Total	281	11	93	70	8	137

Numbers of students (Category wise)

Sr. No.	Programme	General	OBC	SC	ST	PD	Male	Female
1.	B.Tech.	139	75	46	18	3	248	44
2.	Dual Degree	3	4	2	1	1	10	1
3.	M.Tech.	45	27	12	8	1	83	10
4.	M.Sc.	39	17	10	4	0	49	21
5.	MS (R)	8	-	-	-	-	8	-
6.	Ph.D	111	23	3	0	0	94	43

The number of students and scholars ON ROLL in the year 2018-19

Sr. No.	Department	B.Tech.	Dual Degree	M.Tech.	M.Sc.	MS (R)	Ph.D
1.	Biomedical Engineering	-	-	16	-	-	20
2.	Chemical Engineering	46	-	-	-	-	9
3.	Chemistry	-	-	-	42	-	58
4.	Civil Engineering	90	-	-	-	-	18
5.	Computer Science & Engineering	221	-	28	-	3	38
6.	Electrical Engineering	206	-	28	-	8	51
7.	Humanities & Social Studies	-	-	-	-	-	28
8.	Mathematics	-	-	-	40	-	39
9.	Mechanical Engineering	216	38	62	-	-	110
10.	Metallurgical and Materials Engineering	12	-	-	-	-	5
11.	Physics	-	-	-	46	-	46
	Total	791	38	134	128	11	422

Sr. No.	Department	General	OBC	SC	ST	PD	Male	Female
1.	B.Tech.	385	212	131	54	9	714	77
2.	Dual Degree	18	10	4	4	2	37	1
3.	M.Tech.	68	38	14	12	2	120	14
4.	M.Sc.	71	31	18	7	1	79	49
5.	MS (R)	11	-	-	-	-	9	2
6.	Ph.D	333	71	17	1	0	296	126

NO. OF DEGREES AWARDED

Sr. No.	Department	B.Tech.	Dual Degree	M.Tech.	M.Sc.	Ph.D
1.	Biomedical	-		-	-	0
	Engineering					
2.	Chemical Engineering	-		-	-	0
3.	Chemistry	-		-	13	7
4.	Civil Engineering	-		-	-	
5.	Computer Science &	40		-	-	1
	Engineering					
6.	Electrical Engineering	29		-	-	5
7.	Humanities & Social	-		-	-	5
	Studies					
8.	Mathematics	-		-	5	2
9.	Mechanical	34		19	-	4
	Engineering					
10.	Metallurgical and	-		-	-	0
	Materials Engineering					
11.	Physics	-		-	9	0
	Total	103		19	27	24

FINANCIAL ASSISTANCE TO THE STUDENTS

B. Tech.

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 about Rs. 1000/- per month for general students and the recipient is exempted from paying tuition fee. The criterion f the merit for the first year is the All India Rank in JEE.

Institute free studentship

The institute offers free studentship to 10% students on the basis of means only.

Institute merit prize and certificate

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 the students.

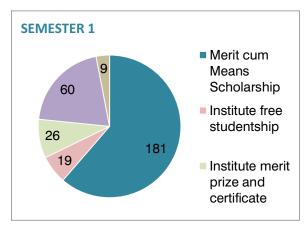
Free Messing

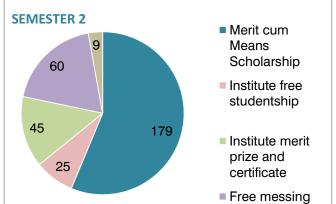
The Institute offers the award of free messing to SC/ST students.

Institute Merit Scholarship

Merit Scholarship equivalent to the tuition fee paid by the students having JEE(advanced) 2018 rank not exceeding 1500 (open Category) will be warded, who join the B.Tech. programme at IIT Ropar.

	Scholarship given 1 st semester of AY 2018-19							
Sr. No.	Scholarship name	Number of Student	Amount of Scholarship					
1.	Merit cum Means Scholarship	181	4888394					
2.	Institute free studentship	19	581672					
3.	Institute merit prize and certificate	26	65000					
4.	Free Messing	60	856460					
5.	Merit Scholarship	9	900000					
		Total	Rs. 7291526/-					
	Scholarship given 2 nd semester of AY 2018-19							
	Scholarship given 2 nd	semester of AY 2018-1	9					
Sr. No.	Scholarship given 2 nd Scholarship name	semester of AY 2018-19 Number of Student	9 Amount of Scholarship					
Sr. No.	<u> </u>							
	Scholarship name	Number of Student	Amount of Scholarship					
1.	Scholarship name Merit cum Means Scholarship	Number of Student 179	Amount of Scholarship 4783160					
1. 2.	Scholarship name Merit cum Means Scholarship Institute free studentship Institute merit prize and	Number of Student 179 25	Amount of Scholarship 4783160 705006					
1. 2. 3.	Scholarship name Merit cum Means Scholarship Institute free studentship Institute merit prize and certificate	Number of Student 179 25 45	Amount of Scholarship 4783160 705006 112500					





Total Amount spent on the the financial assistance to B.tech. students is Rs. 14648652/- (2018-19)

M.Sc.

Merit cum Means Scholarship

The M.Sc. students received Merit –Cum-Means Scholarship (MCM) in the form of tuition fee waiver and monthly pocket allowance of Rs. 1000/-.

1 st semester of AY 2018-19						
Sr. No.	Scholarship name	Number of Student	Amount of Scholarship			
1	Merit cum Means Scholarship for M.Sc	31	Rs. 267004/ -			

2 nd semester of AY 2018-19						
Sr. No	Scholarship name	Number of Student	Amount of Scholarship			
1	Merit cum Means Scholarship for M.Sc	28	Rs. 207380/-			

M.Tech

141 M.Tech. students were awarded Half-time Teaching Assistantship (HTTA) @ Rs.12,400 per month.

MS

11 scholars admitted to MS programme were awarded Half-time Teaching Research Assistantship (HTTA) of Rs.12,400 per month.

OUTREACH PROGRAMME

Global Initiative of Academic Networks (GIAN)

Global Initiative of Academic Networks (GIAN) is aimed at tapping the talent pool of scientists and enterpeneurs, 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 interactions 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 Kenametics, Synthsis, Biomimetics, Surface Engineering, Fatigue Mechanics with experts from abroad.

 Organized a GIAN program "Motor Proteins & Molecular Motors" during 04-08 Feb 2019 and hosted Prof. Anatoly B. Kolomeisky, Rice University, USA, February 04-08, 2019.

Sr. No.	Dated.	Course Coordinator	Course Title	Duration
1	25.06.2018	Dr. Jitendra Prasad	The Biomechanics of Injury and Prevention	17.09.2018 to 21.09.2018
2	22.05.2018	Dr. Pushpendra Pal Singh	Particle and Radiation Detectors: Advances & Applications	05.11.2018 to 11.11.2018
3	12.11.2018	Dr. Arvind Kumar Gupta	Motor Proteins and Molecular Motors Foreign Expert:	04.02.2019 to 08.02.2019

INTERNSHIP REPORT 2018-19

Departments	No of Internships		
Departments	2017-18	2018-19	
Computer Science & Engineering	38	45	
Electrical Engineering	34	33	
Mechanical Engineering	34	34	
Dual Degree Mechanical Engineering	-	8	
Total	106	120	

Companies v/s Universities

Companies: 37

Universities: 20

University-wise Internship Offers

Name of the organization & Location	No. of Offers
Aalto Science Institute-International Summer Internship Program 2018, Finland	1
Chulalongkorn University Thailand	2
Instituto de Microelectrónica de Sevilla (IMSE-CNM) Spain	2
Katholieke Universiteit Leuven, Belgium	1
KU Leuven, Belgium	1
King Mongkut's University of Technology(KMUTT)	1
National Chiao-Tung University Taiwan	3
National Chung Cheng University Taiwan	6
National Taiwan University Taiwan	1
National Taiwan University of Science and Technology (Taiwan Tech)	1
National Cheng Kung University, Taiwan	1
National Institute of Material Science Japan	1
Singapore University of Technology and Design	1
University of Bremen, Germany	1
University of Lille, France	1
Indian Institute of Science Bangalore	3
Indian Institute of Technology Guwahati	1
Indian Institute of Technology Kanpur	1
Jadhavpur University Kolkata	1
Council for Scientific and Industrial Research (CSIR) Chandigarh	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 Ph.D degrees in all disciplines that we offer. At present, we have 422 Ph.D scholars in the Institute. 74 Ph.D scholars have successfully defended their thesis and 137 scholars have joined the Ph.D program during the last one year.

Over the last year, as many as 332 papers have been published in various high impact international journals. This has already placed us at the top of all the eight 2nd generation IITs for having the highest average publications per author (APPA) of 3.92; the second highest average citation per paper (ACPP) of 11.98.

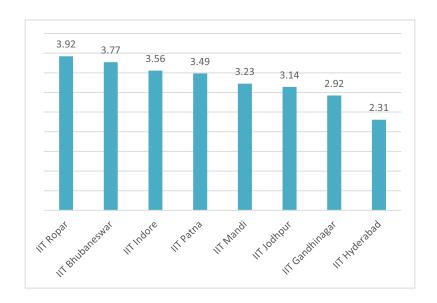


Figure 1: Average Publications per Author

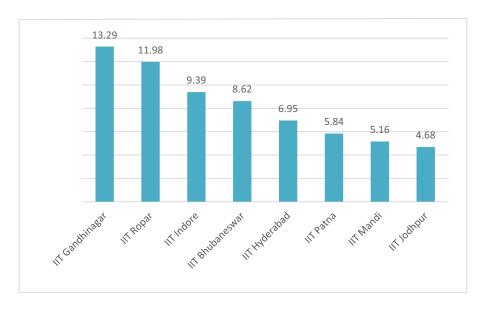


Figure 2: Average Citation Per Publication, Scopus data

THE GROWH OF R&D IN THE LAST YEAR

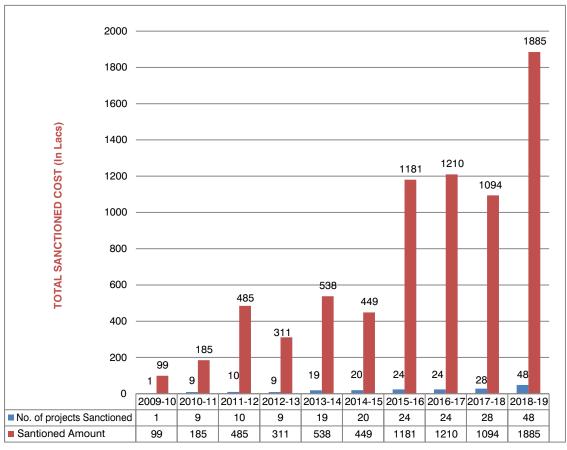


Figure 1: Total no. of Sponsored Research Projects sanctioned annually. Total amount Rs. 7437.00 Lacs, No. of Projects: 192

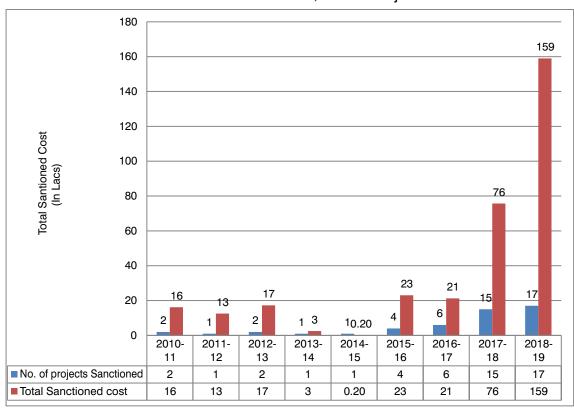


Figure 2: Distribution of the Consultancy Projects and sanctioned amount annually. Total Till Date: Rs. 328.2 Lacs & No. of Project : 49

OVERVIEW

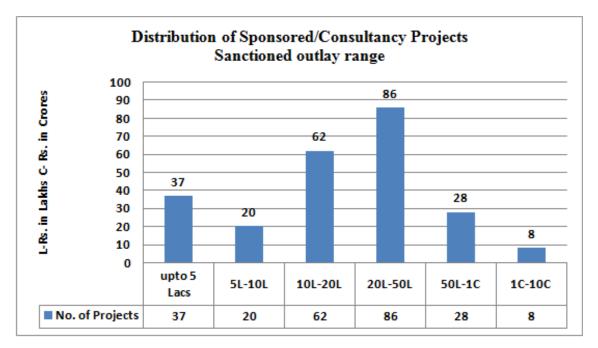


Figure 3: Distribution of sponsored/ consultancy funds sanctioned outlay range

RESEARCH AWARDS

Faculty Research and Innovation Awards 2018-19

- 1. Dr. Rajendra Srivastava, Department of Chemistry (Mid-career Researcher Award)
- 2. Dr. Mukesh Kumar, Department of Physics (Early-career Researcher Award)

Best Ph.D Thesis Awards

- 1. Dr. Balwinder Kaur, Department of Chemistry
- 2. Dr. Satyajit Pramanik, Department of Mathematics
- 3. Dr. Harpreet Singh Grewal, Department of Mechanical Engineering
- 4. Dr. Aru Beri, Department of Physics

VAJRA SCHEME (FOR 3 YEARS)

Bringing international faculty to campus on a short-term basis: VA JRA (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. In 2017-18 we received Vajra scheme with a sanctioned amount of **Rs. 0.23/- crores.**

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. We received 17 projects in 2018-19 with a sanctioned amount of **Rs. 1.59/- crores**

LIST OF SOME CONSULTANCY PROJECTS INITIATED

- Analysis of soil and ground water from solar evaporation ponds of M/S Mohali Industries.
- 2. Digital Survey of 5 villages of Ropar District
- 3. HT Cable Test
- 4. Tire Design and Optimization Using Finite Element Method
- 5. Vetting of proposed "Upgradation of 13 MLD Common Effluent Treatment Plant"
- 6. Synthesis of 2-Methoxy Napthalene by the Raeaction of Methanol and Napthol using Zeolite Catalyst
- 7. Automatic Human Behavior Analysis
- 8. Developing Smart Collage and Face Spoofing Detection Feature For Mobile Phones Using Complex Acgorima
- 9. Analysis of Ground Water Near Secured Land Fill Site Inside the Guru Gobind Singh Refinery (GGSR), Surrounding Villages and the Canal Feeding Refinery
- 10. Process Development and Environmental Analysis within the Premises of Chemical Industry
- 11. Concrete Mix Design of Grade M10, M15, M25, M30, M40,M45 for Construction of Various Building Under Phase-1C at IIT Ropar
- 12. Approval for Facade Cladding Design Calculation for IIT Ropar Boy's Hostel, IIT Ropar Phase 1B
- 13. Fixing of Control Points with DGPS at Tunnel no. 5 of USBRL project located at Granmorh & Bakal in Reasi Distt. (Jammu & Kashmir) at both ends
- 14. Silt Bathymatic Survey/Hydrographic Survey of RSD-reservoir
- 15. Electronic Screening and Brief Intervention (e-SBI) for Risky Alcohol use: Development of Smartphone App and Webportal
- 16. Study of Determine/ Delineation of Soil erosion Hotspots and assessment of sediment transfer through magnitude frequency analysis in catchment of Bhakra Dam Reservoir
- 17. Verification and reporting on achievement of disbursement link indicator (DLI#4) by IIT Ropar as a independent verification agency for TEQIP phase III of MHRD Govt. of India

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 withstandard 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
- 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 anarray of four high purity germanium detectors capable of

- on-line and offline 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 ultralowbackground 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
- 49 Raman spectroscopy

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 Groups

- 1 Electric Vehicle
- 2 Environmental and Pollution
- 3 Energy
- 4 Artificial Intelligence

- 5 Quantum Computing
- 6 Defense
- 7 Healthcare
- 8 Agriculture
- 9 Sensors

Research Thrust Area

- 1. Water
- 2. Cancer Research
- 3. Environmental Issues
- 4. Electrical vehicles

- 5. Microgrid
- 6. Artificial intelligence and big data
- 7. Drug de-addiction
- 8. Manufacturing

INTELLECTUAL PROPERTY RIGHT CELL

IP type Applications filed (No.) Granted (No.)

Indian Patent 18 1

Design 01

INTELLECTUAL PROPERTY RIGHTS WORKSHOPS

With the view to create awareness on the significance of IPR to the faculty, IIT Ropar organized 4th Intellectual Property Rights Workshop to cover various aspects of IPR. Patent basics training was given in depth, the entire patent system, from its reason for existence to how to create strong patents as valuable assets of the institution was discussed. Training was provided by experienced and knowledgeable professionals from Legasis Services.



LIST OF SPONSORED PROJECTS

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Total Sanctioned Amount
1	DBT	Dr. Himanshu Tyagi	Mechanical Engineering	Solid tumor targeting using homing peptides and plasmonic photothermal technique	0.21
2	SERB-DST	Dr. L. Vijay Anand	Civil Engineering	Understanding and Modeling the Reactive Transport of Uranium Contaminated Groundwater of Malwa Region, Punjab	0.28
3	SERB-DST	Dr. Suman Kumar	Electrical Engineering	FFR based Non-orthogonal Spectrum Sharing among Licensed Operators	0.37
4	SERB-DST	Dr. Srivatsava Naidu	Biomedical Engineering	Investigation of the functional roles of the RNA polymerase I transcription factor complex selectivity factor 1 by CRISPR/Cas9 assisted genome engineering	0.50
5	INDIAN- ISRAELI JOINT Project	Venkata M. Viswanath Gunturi as (Co- PI), Prof. Rakesh Lodha, AIIMS, New Delhi (PI)	Computer Science & Engineering	Longitudinal big-Data for Prediction And Precision In Critical Care Medicine	0.36
6	SERB	Prof. Javed Naim Agrewala	Biomedical Engineering	J C Bose Fellowship	0.95
7	SERB	Dr. Gurpreet Kaur (N-PDF) under the mentorship of Prof. Javed Naim Agrewala	Biomedical Engineering	National Post-Doctoral Fellowship	0.19

8	DBT (Joint reseach project with Tezpur University, Assam,	Dr. Durba Pal	Biomedical Engineering	Understanding the role of adipose tissue remodelling in exercise induced insulin sensitivity	0.75
9	INDIAN- ISRAELI JOINT Project	Dr. Somitra Kr. Sanadhya	Computer Science & Engineering	Improving automated cryptanalysis	0.31
10	SERB	Dr. Manoranjan Mishra	Mathematics	Modeling and simulation of hydrodynamic instability with chemical reaction	0.07
11	SERB	Dr. Durba Pal	Biomedical Engineering	Role of microRNAs in obesity induced adipocyte reprogramming causing inflammation and insulin resistance	0.48
12	Indian Space Research Organisation (ISRO)	Dr. Lipika Kabiraj	Mechanical Engineering	Nanoparticle-enhanced gel propellants	0.20
13	CSIR	Prof. Javed Naim Agrewala	Biomedical Engineering	Shanti Swarup Bhatnagar Award	0.02
14	DST (Collaborativ e with PGIMER and CSIO Chandigarh)	Dr. Deepti R Bathula	Computer Science & Engineering	Designing and validating a minimally invaive point of care device providing rapid total leukocyte count(TLC) at patient bedside	0.48
15	SERB	Dr. J. Kalaiselvi	Electrical Engineering	Mitigation of common mode issues in SiC converter fed induction motor drive	0.33
16	SERB-DST	Dr. Sandeep Gautum	Physics	Theoretical investigation of the multi- component condensates at zero and finite temperatures	0.39
17	SERB	Dr. Durba Pal	Biomedical Engineering	Women Excellence Award	0.18
18	SERB-DST	Puneet Goyal	Computer Science & Engineering	Design and Evaluation of Demosaicking Techniques for Low Cost and Efficient Multispectral Imaging Systems	0.31
19	DST	Dr. Dhiraj K Mahajan	Mechanical Engineering	Biodegradable Polymeric Stents: From Synthesis of Functionalized Raw Material to its Fabrication using Micro-Injection Moulding Process Category Near Net	0.48
20	SERB	Prof. Javed Naim Agrewala	Biomedical Engineering	Generation of promiscuous peptides entrapped nanoparticles displaying TLR-2 ligand to impart protective immunity against Mycobacterium tuberculosis	0.62
21	DST-Inspire Faculty Award	Dr. Santanu Sarkar	Mathematics	DST-INSPIRE Research Faculty Award	0.35
22	SERB	Venkata M. Viswanath Gunturi	Computer Science & Engineering	Investigating Scalable Algorithms for Some Macro-Level Transportation Problems on Graph Based Representation of Road Networks	0.15
23	DST	Department of Chemistry	Chemistry	DST (FIST Program)	1.65
24	DST	Department of Mathematics	Mathematics	DST (FIST Program)	0.77

25	Indo-Russian Joint Project	Dr. Rajesh V. Nair	Physics	Active Plasmonics:modifying the light emission of quantum emitters using optical resonances induced by metal-dielectric nanophotonic structures	0.31
26	DST-Inspire Faculty Award	Dr. Satyam Agarwal	Electrical Engineering	Wireless Networking for Sustainable Rural Connectivity	0.07
27	TBRL-DRDO	Dr. C.C. Reddy	Electrical Engineering	Design and Development of Flux Compression Generator (FCG) Simulator	0.10
28	SERB- IMPRINT	Dr. Prabir Sarkar	Mechanical Engineering	Micro Green Roofing	0.58
29	India-UK Collaborative Industrial R&D Programme- GITA	Dr. Ravibabu Mulaveesala	Electrical Engineering	The Development of a Portable THERMOgraphy-Based Health DeTECTion System (THERMOTECT) in Breast Cancer Screening	0.25
30	IMPRINT -2	Dr. Putul Halder & Dr. Prabir Sarkar	Civil Engineering & Mechanical Engineering	Next Generation Earthquake Loss Estimation Tool for Hilly Regions	0.35
31	SERB	Dr. Sarabjeet Singh, SidhuBeant College of Engineering and Technology,Gur daspur, Mentor Prof. Harpreet Singh	Mechanical Engineering	Teachers Associateship For Research Excellence (TARE)	0.18
32	SERB-CRG	Dr. Shubhrangshu Dasgupta	Physics	Quantum gate and generation of non-classical states using spin-chain at the metal-dielectric interface	0.22
33	SERB	Dr. C M Nagaraja	Chemistry	Development of Porous Metal- Organic Frameworks (MOFs) for Catalytic Conversion of Carbon dioxide to Fine chemicals	0.53
34	SERB	Dr. Kailash Chandra Jena- PI Dr. Narinder Singh-Co-PI	Physics	In Situ Probing of Intermolecular Interactions at Buried Polymer Nanocomposite Aqueous Interfaces by Sum Frequency Generation Vibrational Spectroscopy for Biofouling Applications	0.47
35	SERB	Dr. Ratan Sarmah	Civil Engineering	Analytical solution of the hillslope Boussinesq equation considering unsteady boundary and variable recharge with bedrock seepage	0.28
36	SERB	Dr. Subrahmanyam Murala	Electrical	Automatic Driver Assistance Technology: Fog Removal in Videos	0.28
37	SERB	Dr. Resmi Sebastian	Civil Engineering	Propagation and Attenuation of Shear Waves Inducing High Strains in Jointed Rocks	0.48
38	SERB-MTR	Dr. Tapas Chatterjee	Mathematics	Bounded Gaps between primes over number fields	0.07

39	SERB	Dr.Gurpreet Kaur, SGGS College, Sggs College, Mentor Dr. Narinder Singh	Chemistry	Teachers Associateship For Research Excellence (TARE)	0.18
40	SERB	Dr. Avijit Goswami	Chemistry	Synthesis of 2-Azido Pyridines, Triazole Substituted Pyridines and Cyano Substituted Triazoles via Transition Metal Catalyzed Chemos elective [2+2+21 Cycloaddition Reactions of Cyanogen Azide with Diynes	0.45
41	SERB	Dr. Sudipta Kumar Sinha	Chemistry	Controlled Molecular Transportation Through Engineered Nanopores: Design and Application in Biomedical Sciences	0.27
42	SERB	Dr. Ashwani Sharma	Electrical Engineering	Design and development of miniaturized cost-effective antennas for Internet of Things and 5G technology	0.50
43	SERB	Dr. Indranil Chatterjee	Chemistry	Photo-Organocatalytic C-F Bond Activation; Asymmetric Synthesis of Difluorobenzylated Compounds	0.25
44	SERB	Dr. Saifullah Payami	Electrical Engineering	Development of a Five-Phase SRM for In-Wheel Drive Application with Fault-Tolerant Features for Plug-In Electric Vehicles Suitable for Indian Roads	0.53
45	SERB	Dr. Srikant Sekhar Padhee	Mechanical Engineering	Non-linear and Non-classical Thermo-mechanical Analysis of Functionally Graded Cylinders: Asymptotically Accurate Analytic Formulation	0.39
46	SPARC	Prof. Javed Naim Agrewala - Pl, Dr. Srivatsava Naidu -Co-Pl	Biomedical Engineering	Co-administration of rapamycin with MOG peptide and restricting the development of experimental autoimmune encephalomyelitis by skewing Th17 cells to Tregs	0.66
47	SPARC	Dr. Lipika Kabiraj	Mechanical Engineering	Next generation fuel staging technologies employing H2 combustion for GT engines (NFS-GT	0.49
48	SPARC	Dr. Dibyakusum Ray	Humanities and Social Sciences	Offering Provocations, Surfacing Evidence": The Archiving of Cine- Politics under the Indian National Emergency through Digital Humanities 2.0	0.55
				Total	18.85

TEACHING-LEARNING WORKSHOP

IIT Ropar organized a Two-day workshop on Teaching Learning practices for the faculty in which six esteemed professors from top institutions were invited to give a talk. The workshop discussed a few key concepts and practices which are now widely accepted and recognized as being effective in improving the teaching and learning process. Prof. S. K. Das, Director, IIT Ropar inaugurated the workshop and shared his experience of teaching with the faculty members. He envisioned this program as a step towards bringing the two major stakeholders, the teachers and the learners on one platform. The inaugural session was followed by two brainstorming deliberations. Eminent Professors, Prof. Millind Sohoni from IIT Mumbai and Prof. C. Balaji from IIT Madras enthralled the faculty with interactive session on innovative methods of classroom teaching. On the second day, Dr. Jitender Prasad, IIT Ropar, Prof. M. L. Munjal, IISc. Bangalore, Prof. Sanjay Mittal, IIT Kanpur, Prof. E. Prasad, IIT Madras and Prof. Ashok Mittal, IIT Kanpur had a sessions on key practices for effective teaching.





CAREER DEVELOPMENT & CORPORATE RELATIONS CENTRE (CDCRC)





CAREER DEVELOPMENT & CORPORATE RELATIONS CENTRE (CDCRC)

Year 2018-19 has been a landmark year for the Career Development and Corporate Relations Centre since it has been awarded its first consultancy project by Ministry of Human Resource Development, Government of India and World Bank with Dr. Dhiraj Mahajan (Head-Training and Placement) as a Pl and Dr. Srikant Padhee (Head-Corporate Relations) and Dr. Asad H. Sahir (Head-Professional Development) as co-Pls. The consultancy project honors the expertise of IIT Ropar's CDCRC by being entrusted with the responsibility of an independent verification agency (IVA) for the reporting on the achievement of Disbursement Linked Indicator (DLI) #4 i.e. share of participating institutes in Focus States that train final-year engineering students to take exit examination (e.g. GATE, employability skill test, campus placement test etc.) according to agreed protocols and standards.

CDCRC Heads were invited to represent at various forums as panelists to share their expertise: Dr. Dhiraj Mahajan (Bharat Heavy Electrical Limited Research and Development Centre, Hyderabad)Srikant S. Padhee (Army Design Bureau), Asad H. Sahir (FICCI 1st North India Sustainable Energy Conclave and 1st CII Punjab Apparel & Textiles Conclave at Ludhiana, Punjab).

CORPORATE RELATIONS CELL

The foundation stone of IIT's were laid down to fulfill three primary objectives (i) to foster high quality undergraduate and postgraduate 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 Relations 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 Relations 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 a 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 the box thinking and time. Ph.D students can be instrumental in supporting these problems.

Keeping these strategies in mind Corporate Relations cell has started actively pursuing industry interaction. Following are the key takeaways:

- 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.

Corporate Relations Cell is also enabling the relations of the institute at National level with various MNC in different domains. CDCRC team have visited various companies in Bangalore, Delhi NCR, Mumbai & Pune with aim of exploring research tie ups, lab set ups, sponsored research, Placements & Internships. Some of the key contacts which have been developed for future working are Emerson, BD, Boston Scientific, Dassault System, Larsen & Toubro, FEV India, Collins Aerospace, Morepen Labs, Dr. Reddy Labs, Ramboll, FLSmidth, TATA Consulting Engineering, Gillard Electronics, Tynor, Mahindra & Mahindra, Nabha Power Limited, Shell, IRCO, John Deere, Cummins, BMC Software, Honeywell, Bechtel, NASDAQ, Jungle Works.

This ground work for nurturing the relations in future has been laid through these visits. Some of the success of the visits are that, this cell has coordinated the signing of MoU of IIT Ropar with Army Design Bureau, ID Solutions, Delhi, Click Labs, Chandigarh for research work.

The cell represented IIT Ropar in various national level platforms with the participation from students, researchers & facutly members. Some of the most important events coordinated are AgroTech 2018 Chandigarh, ArTech 2019 Delhi, IESS 2019 Chennai.

Some other landmarks of this cell are as follows:

- ISRO is building a centre for corner reflect at IIT Ropar and project related to it such as Radar IR and FR.
- Organized CII state council meeting at IIT Ropar and facilitated participation of faculty as speaker in CII state council Manufactuing meet held CII HQ Chandigarh.
- Larsen & Toubro has invited IIT Ropar faculty for Industrial consultancy project related to ground water contamination & for courses for their employees in data analytics.
- Submission of proposal to DGCA for drone delivery application for beyond line of visual site.

TRAINING & PLACEMENT CELL

The placement results during October 2018 to March 2019 at IIT Ropar have been very encouraging. A good and encouraging response from industry was seen for campus recruitment process as a result of which 84 % of our students were placed. More than 90 % of the Computer Science students, 85% of Electrical Engineering students and 65 % of the Mechanical Engineering students have been offered positions in core-technical, consultancy and IT companies. An average package of over 14 lakhs per annum was offered to students this year. Some of the premier companies where our students (2019 passing out batch) got placed are:

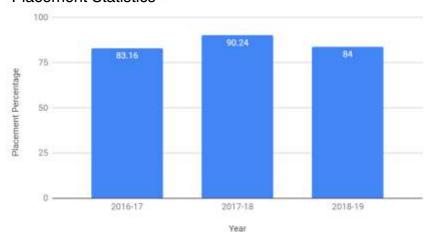
Nutanix, Goldman Sachs, Microsoft, Amazon, Arista Networks, Maruti Suzuki, Capgemini, Cognizant, Indian Space Research Organisation, Nucleus Software, Larsen & Toubro, Mahindra & Mahindra, MAQ Software, Nagarro, Saavn, SCA Technologies, Tesco, Timetooth Technologies, Samsung R&D Institute, Texas Instrument, PayTm, Mathsowrks, Glenmark etc.

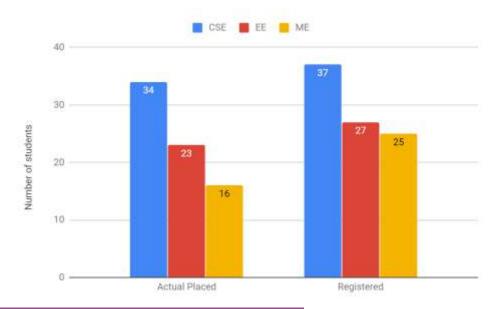
A good number of internship opportunities were also offered to the students this year by national as well as international organizations. Some of the premier companies/institutes that have offered summer internships to our students (2019 passing out batch) are:

Directi, Microsoft, Goldman Sachs, Amazon, Max Super Speciality films, Arista Networks, Expedia, Singapore University of Technology and Design, ORSO Japan, Indus Valley Partners, MAQ Software, National Chiao-Tung University Taiwan, National Chung Cheng University Taiwan, Tonichi Instatsu Japan, Gojek Engineering, University of Bremen Germany, BHEL R&D Hyderabad, Chulalongkorn University Thailand, Advance Tech, National Taiwan University Taiwan, ID Tech, Parabole, Tata Aeronautics Limited, National Taiwan University of Science and Technology Taiwan, Gemini Solutions, Wipro, Instituto de Microelectrónica de Sevilla (IMSE-CNM) Spain, Katholieke Universiteit Leuven, Belgium, Tokyo Gas Japan, KU Leuven Belgium, Katholieke Universiteit Leuven, Belgium, National Cheng Kung University, Taiwan, JCB Bhallabhgarh, Class India, Aalto Science Institute-International Summer Internship Program 2018, Finland, King Mongkut's University of Technology(KMUTT), IISc Bangalore, Indian Oil Corporation Limited, IIT Guwahati, SML ISUZU Ropar, IIT Kanpur, University of Lille, France, National Institute of Material Science Japan, CSIR Chandigarh Etc.



Placement Statistics





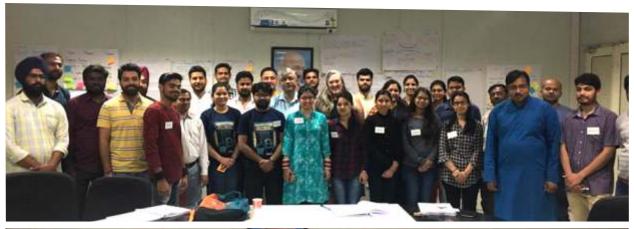
PROFESSIONAL DEVELOPMENT

The Professional Development function at the Career Development and Corporate Relations Centre (CDCRC) serves to cater to 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) The scope of the Career Development and Corporate Relations Centre Lecture/ Workshop Series in 2018-19 was expanded this year beyond effective communication skills. The following topics were covered.
- 1. "Analytics of Aerospace", Dr. Seema Chopra, Global Technical Leader Data Analytics, Boeing Research and Technology
- 2. "Managing your Life & Career" Nandu Nandkishore, Former Global CEO Nestlé Nutrition & CEO of Asia, Oceania, Africa
- 3. Students pursuing an interest in science benefited from a lecture by Navneet Kumar who is currently working as Vice President, Equity Core Research, MSCI, Mumbai.
- 4. "Opportunities in agritech entrepreneurship", Tyler Marshall, EYC Labs
- 5. "Importance of Design Thinking", Ankush Khera, Founder and CEO, Fox My Box
- 6. "Machine Learning Tech Talk" by Oracle
- 7. "Thinking of IIMs" Somesh Agarwal and Gaurav Bagde (IIM Ahmedabad)
- 8. "Lean-In India" Ms. Rashmeet Kaur and Ms. Ridhima Behal
- 9. "Wellness and Nutrition" Ms. Mitushi Aimera
- b) In collaboration with British Council (UK) India's first Researcher Connect Workshop was organized for 30 Ph.D students. Researcher Connect is a professional development course that focuses on the development of excellent communication skills for international and multicultural contexts. The aim is to enhance the productivity of individual researchers and create new opportunities for international collaborations. Ms. Sandy (Dicks) Sparks, Dr. R. Poornima delivered the workshop at IIT Ropar in March 2019.
- c) Professional Development at CDCRC facilitated the selection of five Ph.D. students for attending the Global Young Scientists Summit in January 2019 which is one of the premier forums for professional development for young scientists where Nobel Laureates provide mentorship.
- d) IIT Ropar became the first chapter among all IITs to have established the first Society of Women Engineers chapter.

- d) Under the IIT Ropar Research Scholar Peer-Learning Initiative, 10 research scholars were encouraged to deliver workshops on Mathematica, LaTeX, Delivering effective Powerpoint presentations, Introduction to EES, SolidWorks, Mendeley, Zotero.
- e) Students were provided mini travel grants to attend Young Thinkers Workshop and Future Leaders Connect events organized by British Council, 3rd National Symposium on Shaping the Energy Future: Challenges & Opportunities (SEFCO), Women in Energy organized by Federation of Indian Petroleum Industry (FIPI)
- f) Learning communities for IAS, IES, GATE and UPSC were developed. A learning community is led by a student who helps their peer group develop further through the aid of reading material arranged by CDCRC.
- g) CDCRC provided a platform to faculty members and facilitated the following visits with their cooperation:
- i) Dr. Rajendra Pratap, Fellow and Head of Noida Design center of elnfochips
- ii) Dr. Sachin Jain, Director SKYi Composites Pvt. Ltd.
- iii) Mr. Shikhar Gupta, Data Science and Analytics, IIT Ropar Alumnus and Treebo Hotels as Product Manager for Pricing
- iv) Mr. Himanshu Batra, UpGrad and Cofounder & CEO of AcadView

In this financial year, more than 100 books and twenty items to facilitate activities were purchased for IIT Ropar students in preparation towards the new Career Development and Corporate Relations Centre office in the Administrative Building. The CDCRC personnel established knowledge-sharing relationships with IIM Ahmedabad, IIM Bangalore, Indian School of Business, DWIH, American Center and their expertise will be utilized for future events on human resource development and entrepreneurship.





TECHNOLOGY BUSINESS INCUBATOR FOUNDATION

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 two more innovation groups are upgrading their ideas to product level in the pre-incubation laboratory of the incubator & they have have been provided soft loan under PDIF scheme. Six new applications are in pipeline for review of their concept / idea for incubation. A full-fledged TBIF infrastructure is almost operational now at the top floor (East Wing) of Main Administrative Block of new campus, with an allocated space of ten thousand square feet area. Present status of the startups is as under:

SEED GRANT CATEGORY

Sr No	Name of Startup Company	Concept of Startup & Stage of Development	Seed Grant / Facility Given
1	Dron Digital Services Pvt Ltd	ERP Solution, Rolled out in market	Approx 6 Lakh against their demand of given amount
2	Augniscient Pvt Ltd	Sophisticated Helmet Device based on AR — VR concept, designed for Indian Armed forces. Almost 50 percent of the prototype has been developed & design principally agreed by ADB.	Approx 4.5 lakhs in two phases, against their requirement off 15 lakhs(required in seven phases)

IDEA PITCHING CATEGORY

Sr No	Name of Startup / Company	Idea / Concept	Present Stage
1	Eco Pedal	Bicycle Service for IIT Ropar campus	Two phases of idea pitching session completed. Applicant working on the inputs of expert committee.
2	Switchip Technology Pvt. Ltd	Device & app to restrict theft in departmental stores	Idea pitching session completed. Company incorporation under process.
3	Travier – Earn On The Way	Courier Services through Travelling	First phase of idea pitching done, applicant working on the inputs of expert committee.
4	Vafo Layovers Pvt Ltd	Online market place for short term vacation on rentals	First phase of idea pitching done, applicant working on developing proof of concept.
5	Visarga E - Commerce Pvt Ltd	Your Trolley – Online Mandi of vegetables, Fruits & Grocery items	First phase of idea pitching done, applicant working on the inputs of expert committee.
6	Yet to incorporate company	Airbag safety suit for bikes & two wheelers	First phase of idea pitching done, applicant working on the inputs of expert committee

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





INDO-TAIWAN RESEARCH CENTER ON ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING COMING UP AT IIT ROPAR



IIT Ropar has embarked upon an aggressive trajectory to build the necessary expertise in AI and Machine Learning. As part of its international strategy, it has decided to setup a collaborative research ecosystem with National Chung Cheng University of Taiwan. In this connection, a high-level academic delegation from NCCU visited IIT Ropar to work on the modalities of an Indo-Taiwan Research Center on Artificial Intelligence and Machine Learning.



DELEGATION VISIT TO CANADA



IIT Ropar is laying the ground work for students and faculty to collaborate and to foster innovation and entrepreneurship on Research based projects with top universities in Canada. To nurture this association, IIT Ropar's delegation led by Prof. Sarit. K. Das, Director, IIT Ropar along with Dr. Rohit Y. Sharma, Associate Dean, International Relation went to Canada for a 10 day trip during September to associate with top-notch Universities

that will offer students and faculty, opportunities to collaborate on research pr ojects in emerging fields of Computer Sciences, Electrical Engineering, Mechanical Engineering, Civil Engineering, Chemical Engineering, Physics, Material Science, Bio-medical engineering, Economics. In addition, offshore interviews were conducted in Toronto to bring quality researchers in IIT Ropar. An NRI Meet was also held during the trip in Toronto.

VISIT OF EMINENT PROF. ROHIT N. KARNIK, MIT, USA

Professor Rohit N. Karnik, Associate Professor, Mechanical Engineer, Massachusetts Institute of Technology, USA visited IIT Ropar and gave a lecture on "Unconventional Nanomaterials and Paradigms for Water Purification and Quality Monitoring in the 21st Century". He presented his work on exploring novel materials and devices to enable water purification, quality control and findings in India and technology development to address the gap in monitoring trace contaminants in water by 'dry sampling' technology.



VISIT OF IIT ROPAR DELEGATION



An Academic delegation led by the Institute Director, Prof. S. K. Das visited Universities and research labs in the US. The delegation visited N C State University, Research Triangle Institute, Raleigh, and MIT, Cambridge. The main aim of this visit was to augment research linkages between IIT Ropar and these Universities.

The delegation also participated in the young investigators meet at Boston. Under the aegis of the Council of Global Associates, the delegation met Indian Diaspora in Raleigh, Boston, and Chicago.

STRENGTHENING TIES – MoU WITH CONCORDIA UNIVERSITY, CANADA

IIT Ropar signed an MoU with Concordia University, Montreal of Canada to support research collaboration, capacity building and other forms of academic partnerships. Under this MoU, both institutions will typically focus on opportunities in student exchange, faculty exchange and professional development programs.



The two institutions will also explore possibilities of

collaborative Masters Programs and jointly supervised Ph.D. students. The MoU will cover the scope of interaction among members of faculty relating to joint research projects, research visits and when necessary, joint applications for research funding from external funding agencies.

INTERACTIVE SESSION ON "WHY CITIES?"



Prof. Mark Fox, distinguished Professor of Urban Systems Engineering from the Transportation Research Institute, University of Toronto visited the IIT Ropar. He had an interaction session with faculty and students. Prof. Fox is extensively working on solving urban planning, smart cities and transportation problems in India for the last 20 years. This visit was scheduled to further consolidate partnership with IIT Ropar

WORKSHOP ON DEVELOPMENT AND OPPORTUNITIES OF HIGHER EDUCATION IN GERMANY @ IIT ROPAR

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. Mahias Kiesselbach, Director, DFG office India, Dr. Stefan Diederich, Head, Freie Universität Berlin – Liaison Office New Delhi, Dr. Poonam Sehgal Suri, Max Plank Institute, visited IIT Ropar during the workshop.

FACULTY & STAFF



IIT ROPAR



1. YEAR WISE TOTAL NUMBER OF FACULTY

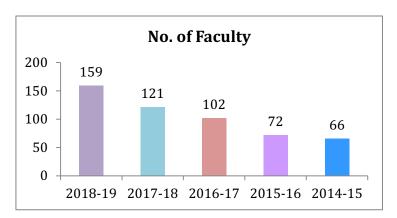


Fig no. 1 Increase in faculty strength

2. DEPARTMENT WISE FACULTY DISTRIBUTION 2018-19

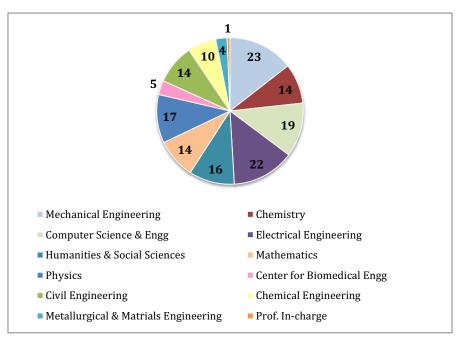


Fig no. 2 No. of faculty in each department during 2018-19

3. GENDER WISE FACULTY 2018-19

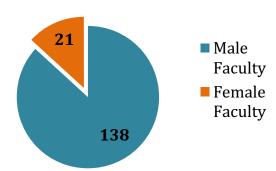


Fig no. 3 Number of faculty gender wise

4. Ph.D OF FACULTY MEMBERS 2018-19

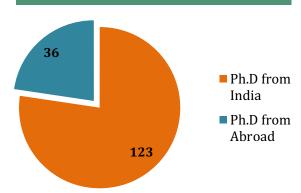


Fig no. 4 Number of faculty having Ph.D from India & Foriegn Universities

FACULTY STATISTICS

In Position -Faculty & Staff

Faculty	Visiting Faculty	Professor In charge	Group A	Technical Staff	Administrative Staff
150	8	1	11	46	34

Appointed During 2018-19 - Faculty & Staff

Faculty	Visiting Faculty	Professor In charge	Group A	Technical Staff	Administrative Staff
54	4	2	2	13	9

APPOINTED DURING 2018-19 - (FACULTY)

Sr. No.	ID No.	Name	Designation	Department	Joining Date
1	10134	Dr. Reet Kamal Tiwari	Assistant Professor	Civil Engineering	02.04.2018
2	10135	Dr. Sairam Kaliraj	Assistant Professor	Mathematics	05.04.2018
3	10136	Dr. Shruti Verma	Assistant Professor	Electrical Engineering	17.04.2018
4	10137	Dr. Parvinder Singh	Assistant Professor	Humanities & Social Sciences	25.04.2018
5	10138	Dr. Brajesh Rawat	Assistant Professor	Electrical Engineering	01.05.2018
6	10139	Dr. S. Muthilingam	Assistant Professor	Civil Engineering	02.05.2018
7	10140	Dr. Devraj p.	Assistant Professor	Humanities & Social Sciences	07.05.2018
8	10141	Dr. Vishwa Pal	Assistant Professor	Physics	08.05.2018
9	10142	Dr. Santanu Sarkar	Assistant Professor	Mathematics	18.05.2018
10	10143	Dr. Mahendra Sakare	Assistant Professor	Electrical Engineering	21.05.2018
11	10144	Dr. Swathi Krishna S.	Assistant Professor	Humanities & Social Sciences	28.05.2018
12	10145	Dr. Chander Sekhar Sharma	Assistant Professor	Mechanical Engineering	01.06.2018
13	10146	Dr. Ratan Samrah	Assistant Professor	Civil Engineering	01.06.2018
14	10147	Dr. Dibyakusum Ray	Assistant Professor	Humanities & Social Sciences	04.06.2018

15	10148	Dr. Aparna N.	Assistant Professor	Humanities & Social Sciences	04.06.2018
16	10149	Dr. Ashwani Sharma	Assistant Professor	Electrical Engineering	04.06.2018
17	10150	Dr. Neha Sardana	Assistant Professor	Metallurgical & Materials Engineering	07.06.2018
18	10151	Dr. Anil Shukla	Assistant Professor	Computer Science & Engineering	11.06.2018
19	10152	Dr. Ashish K. Sahani	Assistant Professor	Bio Medical Engineering	18.06.2018
20	10153	Dr. Rahul T.M.	Assistant Professor	Civil Engineering	18.06.2018
21	10154	Dr. Shirshendu Das	Assistant Professor	Computer Science & Engineering	25.06.2018
22	10155	Dr. Devarshi Mrinal Das	Assistant Professor	Electrical Engineering	12.07.2018
23	10156	Dr. Abhishek Chakraborty	Assistant Professor	Civil Engineering	24.07.2018
24	10157	Dr. Satyam Agarwal	Assistant Professor	Elect. Engg.	16.08.2018
25	10158	Dr. Debangsu Roy	Assistant Professor	Physics	20.08.2018
26	10159	Dr. Venkata Kalyan Tavva	Assistant Professor	CSE	06.09.2018
27	10160	Dr. Shahsi Shekhar Jha	Assistant Professor	CSE	01.10.2018
28	10161	Dr. Satyam Ganguly	Assistant Professor	Civil Engg.	08.11.2018
29	10162	Dr. Deepika Choudhary	Assistant Professor	Physics	24.12.2018
30	10163	Dr. Neelkanth	Assistant Professor	Chemical	02.01.2019
31	10164	Dr. Mitesh Surana	Assistant Professor	Civil Engg.	03.01.2019
32	10165	Dr. Bidhan Chandra Sardar	Assistant Professor	Mathematics	04.01.2019
33	10166	Dr. Anupam Bandhyopadhyay	Assistant Professor	Chemistry	10.01.2019
34	10167	Dr. Khushboo Rakha	Assistant Professor	DMME	16.01.2019

35	10168	Dr. Raheena M.	Assistant Professor	Civil Engg.	17.01.2019
36	10169	Dr. Bhavesh Garg	Assistant Professor	HSS	01.02.2019
37	10170	Dr. Manigandhan S.	Assistant Professor	Chemical	04.02.2019
38	10171	Dr. Navin Gopinathan	Assistant Professor	Chemical	19.02.2019
39	10172	Dr. Soumyajit Das	Assistant Professor	Chemistry	18.03.2019
40	10173	Dr. Rajesh Kumar	Assistant Professor	CBME	26.03.2019
41	10058	Dr. P.S, Dutta	Associate Professor	Mathematics	02.04.2018
42	10017	Dr. Asoka Biswas	Associate Professor	Physics	04.04.2018
43	10037	Dr. Ekta Singla	Associate Professor	Mech. Engg.	02.04.2018
44	10054	Dr. Ranjan Das	Associate Professor	Mech. Engg.	02.04.2018
45	10016	Dr. Apurva Mudgal	Associate Professor	CSE	13.04.2018
46	10012	Dr. Avijit Goswami	Associate Professor	Chemistry	17.04.2018
47	10052	Dr. C.M. Nagaraja	Associate Professor	Chemistry	17.04.2018
48	10028	Dr. Somdev Kar	Associate Professor	HSS	27.04.2018
49	20037	Prof. Ishwar Singh	Visiting Professor	Physics	14.05.2018
50	20038	Dr. Priya Ghatwari	Visiting Professor	DMME	01.06.2018
51	20039	Prof. R. G. Pillay	Visiting Professor	Physics	02.07.2018
52	20040	Prof. Bijoy Boruah	Visiting Professor	HSS	02.07.2018
53	20041	Prof. Samir K. Saha	Professor Incharge	TLC	04.09.2018
54	20042	Prof. C. Raman Suri	Professor Incharge	CRF	02.11.2018

APPOINTED DURING 2018-19 (STAFF)

S.No.	ID No.	Name	Designation	Department	Joining Date
1	30089	Sh. Puneet Garg	Assistant Registrar	Student Affairs	12.04.2018
2	30090	Sh. Avtar Singh	Junior Lab Assistant	CMNF	20.04.2018
3	30091	Sh. Sushil Kumar	JTS	Chemistry	25.04.2018

4	30092	Sh. Tanveer Singh	JLA	Chemistry	27.04.2018
5	30093	Sh. Sunil Yadav	JLA	CSE	09.05.2018
6	30094	Sh. Saurabh Bhatia	JA	Purchase	14.05.2018
7	30095	Sh. Manoj Kumar	JA	Accounts	14.05.2018
8	30096	Ms. Maninder Pal Kaur	JA	Registrar's Office	14.05.2018
9	30097	Ms. Sheetal Bhola	JA	CSE	14.05.2018
10	30106	Sh. Om Pal	JLA	Mechanical	22.05.2018
11	30098	Sh. Ashwani Chandra	JA	Establishment	01.06.2018
12	30099	Sh. Vijay Narayan	JS	Research & ICSR-II	01.06.2018
13	30100	Sh. Pramod Dubey	JS	Establishment	01.06.2018
14	30102	Sh. Devendra Kumar	JLA	Electical	18.06.2018
15	30103	Sh. Dilbag Singh	JLA	Electical	19.06.2018
16	30105	Sh. Anurag Kumar Singh	JLA	Electical	20.06.2018
17	30104	Sh. Puneet Goel	Deputy Registrar	Stores & Purchase	19.06.2018
18	30107	Sh. Punit Kumar	JLA	Mechanical	25.06.2018
19	30108	Ms. Athira Ashokan K	JLA	Physics	28.06.2018
20	30101	Sh. Rajib Kumar Dash	JLA	Mechanical	01.06.2018
21	30109	Ms. Harpreet Kaur	LIO	Library	08.08.2018
22	30110	Sh. Amit Kaushal	JTS	Mechanical	09.08.2018
23	30111	Sh. Kamlesh Satpute	JTS	CRF	11.09.2018

INTERNAL FACULTY APPOINTED IN HIGHER GRADES

Sr. No.	ID No.	Name	Designation	Department	Joining Date
1	10058	Dr. P.S. Dutta	Associate Professor	Mathematics	02.04.2018
2	10017	Dr. Asoka Biswas	Associate Professor	Physics	04.04.2018
3	10037	Dr. Ekta Singla	Associate Professor	Mech. Engg.	02.04.2018
4	10054	Dr. Ranjan Das	Associate Professor	Mech. Engg.	02.04.2018
5	10016	Dr. Apurva Mudgal	Associate Professor	CSE	13.04.2018
6	10012	Dr. Avijit Goswami	Associate Professor	Chemistry	17.04.2018
7	10052	Dr. C.M. Nagaraja	Associate Professor	Chemistry	17.04.2018
8	10028	Dr. Somdev Kar	Associate Professor	HSS	27.04.2018

RESIGNED OR RELIEVED (FACULTY)

Sr.No.	ID No.	Name	Designation	Department	Reliving Date	Remarks
1	10094	Dr. Chirodeep Bakli	Assistant Professor	Mech. Engg.	14.05.2018	
2	10136	Dr. Shruti Verma	Assistant Professor	Elect. Engg.	31.10.2018	
3	10156	Dr. Abhishek Chakraborty	Assistant Professor	Civil Engg.	21.02.2019	
4	20041	Prof. Samir K. Saha	Professor Incharge	TLC	02.01.2019	
5	20023	Prof. J.K. Sridhar	Visiting Professor	Mathematics	3.2019	
6	20030	Prof. Hans Jurgen Woller Sheim	Visiting Professor	Physics	12.05.2018	
7	20032	Dr. Reet Kamal Tiwari	Visiting Professor	Civil Engg.	02.04.2018	Joined as Assistant Professor



	Name	Designation	Department	Date	Nature of Leave
Dr.	Chittaranjan Mishra	Assistant Professor	Mathematics	15.10.2018	Extra Ordinary Leave

EVENTS & ACTIVITIES







IIT Ropar celebrated its 7th Annual Convocation at the permanent campus. Prof. John H. Lienhard V, Ph.D, PE, Professor of Water, Director, Abdul Latif Jameel World Water and Food Security Laboratory, Massachusetts Institute of Technology, USA, 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 173 degrees were awarded this year. 103 B.Tech., 19 M.Tech., 27 M.Sc. and 24 Ph.D degrees were handed out to students. First time, IIT Ropar introduced Best Thesis Award and in this category, four students, Dr. Aru Beri (Awarded Ph.D in 2016), Dr. Balwinder Kaur (Awarded Degree in 2016), Dr. Harpreet Singh (Awarded Degree in 2015) and Dr. Satyajit Pramanik (Awarded Degree in 2016) were felicitated. Devendra Pratap Yadav, Department of Computer Science & Engineering received President of India Gold Medal amongst the graduating students of B. Tech this year. The Director Gold Medal was awarded to Deepak Attri, Department of Electrical Engineering. Institute Silver Medals were given to Deepak Attri, B.Tech. Department of Electrical Engineering, Raghvendra Kumar Dwivedi, M.Tech. Mechanical Engineering, Apoorv Kushwaha, M.Sc. in Chemistry Programme, Lalit Pandey, M.Sc. in Physics Programme and Manoj Kumar, M.Sc. in Mathematics Programme. IIT Ropar has excelled over the past year in many areas like research, student and faculty achievements and international collaborations. The Institute has also seen a remarkable growth in terms of the faculty and student strength.

SURGES ALUMNI NUMBERS - 1ST ALUMNI MEET



Former students of IIT Ropar took a stroll down the memory lane held at the permanent campus of IIT Ropar on December 2, 2018. The Institute welcomed all passed-out graduates with warmth and vigour. It was the first time that they got a feel of their own new permanent campus at the foothills of the Shivalik and near the bank of river Sutlej.

The meet was graced by around 30 alumni ranging across various batches from B.Tech. Prof. S.K. Das,

Director, IIT Ropar welcomed the alumni and appreciated their zeal to assemble for the meet despite their busy schedule and called for greater participation of alumni for the development of the college as many hold positions of responsibility in various government organizations, PSUs, private sector and Academic Institutions. Many of them are successful entrepreneurs providing jobs to others as well. The alumni were taken for a campus tour which highlighted the recent developments in the Institute infrastructure. It also focused on visits to academic departments. The night was truly owned by the splendorous cultural performances put forth by the students as a mark of respect to their senior alumni friends.

MEMORANDUM OF SCIENTIFIC COLLABORATION

IIT Ropar signed Memorandum of Scientific Collaboration on the implementation of the Extreme Light Infrastructure - Nuclear Physics (ELI-NP) Project with "Horia Hulubei" National Institute of Physics and Nuclear Engineering, Romania.

70TH REPUBLIC DAY CELEBRATED AT VIBRANT CAMPUS







The 70th Republic Day was celebrated at the permanent campus of IIT Ropar with much gaiety. The flag was hoisted followed by singing of the National Anthem. The Director addressed the Institute fraternity and reminded the contributions of the Great Leaders in making the country as Republic and documentation of Constitution of India. He also shared the development plans of the Institute about new construction and growth plans of the Institute in terms of Infrastructure, Academics and Research. All students, faculty and administrative staff were present to grace the occasion.

To mark the Republic Day, the Institute felicitated the underprivileged children students who are being taught by IIT Ropar students under "Pehchaan – Ek Safar" initiative. The Director issued certificates to the winners of Inter IIT competitions. The students displayed their artistic side on this occasion. Cultural performances added to the fervour of the day. The patriotic feeling was evident in the eyes of everyone present as different dance forms and iconic songs reverberated through the air.

The event came to an end with everyone returning with a burning desire to excel in their lives and contributing to the best of their capabilities for the welfare and growth of our beloved motherland.

INTER IIT SPORTS MEET



IIT Ropar participated in the 53rd Inter IIT Sports Meet held at IIT Guwahati in December 2018. IIT Ropar competed in total 15 events. Ten events in men's category and five events in women's category. IIT Ropar Athletes reached finals of Shot Put, Discuss, Long Jump, 4 x100 meters relay race and also reached semi finals in many more events such as 200 meter race (two athletes), 100 meter (two athletes). In 5000 meters our athlete got 7th position in men's category. In women's category the athletes reached finals of Long Jump, 4 x 100 meter relay race and semifinals of 100 meter and 200 meter races.

ACHIEVEMENTS IN 3RD INTER IIT CULTURAL MEET'18

IIT Ropar ranked 8th in 3rd inter IIT cultural meet among 21 IITs. Not only our students were ahead of all new IITs but also ranked higher than IIT Kanpur (ranked 9) and IIT Madras (ranked 16) in the cultural meet. This year students



shown tremendous progress from the previous Meet as students of IIT Ropar brought laurels for their brilliant performances in various events.

GLOBAL YOUNG SCIENTIST SUMMIT 2019



Five Research scholars from IIT Ropar, Ms. Kamal, Ms. Beant, Ms. Anamika, Ms. Akrati and Mr. Bharat were selected to attend the annual Global Young Scientists Summit (GYSS) at the Nanyang Technological University (NTU) in Singapore.

GYSS was a gathering of approximately 300 young scientists and researchers (Ph.D students and post-docs) from all over the globe, with eminent international science and technology leaders in Singapore. It was a multi-disciplinary summit, covering topics ranging from Chemistry, Physics, Medicine, Mathematics, Computer

Science and Engineering. Speakers invited to the GYSS were globally recognized scientific leaders, including recipients of the Nobel Prize, Fields Medal, Millennium Technology Prize, Turing Award and IEEE Medal of Honor.

IIT ROPAR SETS UP REAL TIME DIGITAL SIMULATION (RTDS) FACILITY

IIT Ropar Sets-up Real Time Digital Simulation (RTDS) facility to carry out Smart & MicroGrid Training and Research. The SYnchrophasor Measurement And Research (SYMAR) Lab of Electrical Engineering Dept., IIT Ropar is now





equipped with the state-of-the-art Real Time Digital Simulator (RTDS) facility, enabling the institute to carry out research in the cutting-edge areas of Smart and Micro Grids. The facility is funded by the DST-FIST grant, which was brought to the department by Dr. Ranjana Sodhi in 2017.

IIT ROPAR FORMS COUNCIL OF LOCAL ASSOCIATES



In an effort to evolve and bring synergy to the development of IIT Ropar and also to the city Ropar, IIT Ropar has formed Council of Local Associates with renowned Philanthropists, Academicians, Industry representatives, Legal representatives and District Administration. The first meeting with the council held in the premises of IIT Ropar.

IIT ROPAR PARTICIPATED IN CIIAgro TECH 2018

IIT Ropar participated in 13th Edition of India's Agro-Technology and business fair, CII Agro Tech 2018, during December 1-4, 2018. It was an international platform to showcase agricultural advancements which highlighted the growing importance of agriculture and food processing sector in India. Countries like Canada, China, Germany, Italy, Netherlands, Spain, UK and US participated. IIT Ropar is working on problems related to Indian agriculture. Some include management of stubble, prototyping agrimachinery, energy management.



IIT ROPAR SELECTED AS NODAL INSTITUTE UNDER AGNII INITIATIVE OF GOI



IIT Ropar under AGNII (Accelerating Growth of New India's Innovations) initiative of GOI, has been selected as Nodal Institute by Invest India – National Investment Promotion and Facilitation Agency under Department of Industrial Policy & Promotion (DIPP), a Government of India department. Under this esteemed program, IIT Ropar will carry out activities related to entrepreneurship & Innovation ecosystem. IIT Ropar will represent to Agro Climatic Zone VI of the country having three states – Punjab, Haryana, partial Rajasthan & one UT as of Chandigarh.

IIT ROPAR ORGANIZED IEEE ICIIS



The 13th IEEE ICIIS (Institute of Electrical and Electronics Engineers - International Conference on Industrial and Information Systems) is being organized by the Department of Electrical Engineering, IIT Ropar in its permanent campus during December 1-2, 2018. The conference received huge number of papers touching around 310, while, after rigorous review process only 90 papers were finally accepted. The presenters participated from IITs and NITs all over India apart from renowned universities of Sri Lanka.



IIT Ropar (currently around 40) is active with a social service group under the name PEHCHAAN EK SAFAR (Search for an identity). The group has been working for the education of underprivileged children around IIT Ropar main campus. The children from this section of society are deprived of education. A year ago the students identified families and approached them for educating their children and admitting them in the nearby school. After getting their positive response they held meetings with the parents and tried to understand various problems they face in educating their children. Hence, they took a collective decision to help them, to their full capacity. With this objective, the NGO is formed and now have gathered immense support from engineering students, research scholars as well as faculty members to help in this initiative. The group has been actively preparing the students for school admission, as a result around 30 children around IIT main campus have been enrolled this year to the Government Primary School, Haveli Kalan at Ropar. The children have been facing a problem of transportation as the nearby school is 5 km away from their residence. This is a burden for a child to walk everyday. So, a donation of around Rs. 12000/- per month for their transportation is collected. The funds have been gathered regularly from inside IIT by donations from students and some faculty members.

गीत गायन प्रतियोगिता





भारतीय प्रौद्योगिकी संस्थान रोपड़ में हिंदी प्रकोष्ठ द्वारा दिनांक 25 जनवरी 2019 को गणतंत्र दिवस के उपलक्ष्य में देशभक्ति गीत गायन प्रतियोगिता का आयोजन किया गया। इस कार्यक्रम में संस्थान के कर्मचारियों, संकाय सदस्योंतथा विद्यार्थियों ने बढ़-चढ़ कर हिस्सा लिया। इस कार्यक्रम में प्रतिभागियों ने देशभक्तिपूर्ण गीतों के गायन के साथ पूरा वातावरण देशभक्ति के रंगमें रंग दिया। इस प्रतियोगिता हेतु इ०. यशवीर सिंह, सहायक प्राध्यापक, रसायन विभाग परीक्षक के रुप में उपस्थित थे। प्रतियोगिता में कर्मचारियों में सुश्री श्वेता रानी, श्रीअंशु वेद, श्री अपिंत गुप्ता, श्री टी.एस. हांडा तथा सुश्री हरप्रीत कौर ने पुरस्कार प्राप्त किये। विद्यार्थियों में श्री मनिष सिंह, श्री प्रणव जोहरी, श्री शशांक, श्री कन्हैया, तथा श्री अजय सिंह ने पुरस्कार प्राप्त किये। इ०. यशवीर सिंह, परीक्षक महोदय ने अंत में प्रतियोगिता एवं आयोजन को लेकर अपने विचार प्रस्तुत किये। श्री गिरीश कठाणे, किन. हिंदी अनुवादक ने सभी प्रतिभागियों, श्रोताओं तथा परीक्षक महोदय का धन्यवाद ज्ञापित किया।

SPIC MACAY (KUTTIYATTAM DANCE)

IIT Ropar organized a dance performance performed by 7 artists from India headed by Shri Margi Madhu. Kuttiyattam is the oldest surviving form of Sanskrit theatre in Kerala. This theatre form has been declared by UNESCO as "Masterpiece of oral and intangible heritage of humanity."



CYNOSURE



The 3 annual research day "Cynosure and National Symposium on Advances in Mathematics- 2018" of the department of Mathematics at IIT Ropar was organized with the participation of 110 scholars. The one-day event focusing and motivating young students towards research in Mathematics witnessed oral presentation and poster presentation from scholars. Eminent

personalities Prof. Dipendra Prasad, School of Mathematics from Tata Institute of Fundamental Research Mumbai, Prof. A. Adimurthi from Tata Institute of Fundamental Research Bangalore and Prof. S. K. Das, Director, IIT Ropar were the invited speakers in the event. Apart from IIT Ropar, the other participants were from IIT Madras, Panjab University, IISER Mohali and University of Jammu etc.



On October 23, 2018 IIT Ropar has drawn the curtain for its 4-day annual cultural fest marking the 10 year anniversary of the institute, on the theme "An Arcade Affair," celebrating 90s games and culture. The fest witnessed a footfall of 40000. The four-day event began on October 18, 2018 with various programmes and competitions lined up for enthusiastic participants. As a part of the fest, over 80 literary, cultural, technical and IT competitions were organised. The inauguration ceremony on October 18, 2018 was graced by the performance of Gotipua (Odissi dance form) group dancers under the SPIC MACAY event. The following days witnessed performances by famous personalities like Vishal-Shekhar, Rahat Indori, Ranjit Bawa, Italian DJ Olly Esse, comedian Jeetu (of TVF

fame) and much more. Another major attraction was the Media Conclave, featuring eminent journalists who held a discussion on the topic, "Skill India: Is India really skilled?" Other attractions included Uzbekistani band Havas, Rajasthani folk group Malang, illusionist Kunal Newar and a Gatka showcase (Punjabi martial art form). The fest witnessed competitions in the realms of music, dance, dramatics, lifestyle, literary, media arts, fine arts, gaming and quizzing. Events such as crowing Mr. and Ms. Zeitgeist, and the fashion show, Lashkara were crowd pleasers. Pritampal Singh (GGDSD College Chandigarh, won the Mr. Zeitgeist title and Switaj Brar (CGC Landran) won the Ms. Zeitgeist title.

IIT ROPAR RUNS FOR CHANGE



IIT Ropar celebrated Gandhi Jayanti in a unique way by organizing their flagship event called quarter marathon of 11 kms in cozy-weather on the internal road of Ropar with two short sections of flat trails to keep things fun. Around 400 participants comprising students, faculty and staff participated in this event. The aim behind this marathon is tomake running and related activities as a way of life. Prof. Deepak Kashyap distributed prizes to the winners of the marathon.

IIT ROPAR LAUNCHED NATIONAL RESOURCE CENTRE IN MFG.

IIT Ropar launched a National Resource Centre in Manufacturing with a focus to prepare online training material on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum. Professor Harpreet Singh and Dr. Dhiraj K. Mahajan of the Department of Mechanical Engineering are the coordinators of this Resource Centre. The NRC Manufacturing will develop the Refresher Module which will include the latest trends in their earmarked discipline. Faculty can benefit from this initiative as it is highly flexible and can be done at one's own pace and time.

VIGILANCE AWARENESS WEEK OBSERVED @IIT ROPAR

IIT Ropar observed The Vigilance Awareness Week during the last week of October. Through the various activities like Essay writing competition, Debate competition, the Institute seeks to motivate faculty, staff and students to collectively participate in the fight against corruption and also aims at raising public awareness regarding the detrimental consequences of corruption. This year the Vigilance Awareness Week is being observed from October 29 to November 3, 2018 on the theme "Eradicate Corruption-Build a New India" भ्रष्टाचार मिटाओ, नया भारत बनाओ"

WREATHING THE CAMPUS IN GREENERY: PLANTATION DRIVE ON INDEPENDENCE DAY AT PERMANENT CAMPUS.



Plantation Drive at IIT Ropar

700 plant saplings planted at Permanent Campus



With great joy and enthusiasm, IIT Ropar has celebrated the 72nd Independence Day by planting 700 trees in the permanent campus. The trees were planted at one go by faculty, staff and students. The Director, Prof. S. K. Das encouraged the students to plant more trees and take care of their plantations thereafter. He said that every day should be treated as Van Mahotsav and plants should be grown to keep the environment green, clean, safe and healthy. The plants are named after the one who planted it and forever, he/she will look after it, leaving a legacy behind. Thereafter, Prof. S. K. Das, Director, IIT Ropar, hoisted the national flag at the permanent campus, which was followed by the rendition of the National Anthem and patriotic songs presented by the students. Listing the efforts made by IIT Ropar in the last one year for connecting to the society, The Director said "We are doing excellent research with relevance to society. We are working on high impact research areas like Cancer Research Artificial Intelligence and Ground Water Management Research." The Director also distributed sweets to the students and books to the children living in slum.

PHYSICS DAY



The Department of Physics, IIT Ropar organized the 3rd edition of its annual event Physics Day during August 17-18, 2018. The event comprised of colloquia by several eminent speakers from across India. They include Prof. Pratap Raychaudhuri from TIFR, Mumbai, Prof. Subhendra Mohanty from PRL, Ahmedabad, Prof. N. Madhavan from IUAC, New Delhi, Prof. Parong ama Sen from University of Calcutta, and Dr. Anand Kumar Jha from IIT Kanpur. Prof.

Urjit Yajnik, IIT Bombay had delivered a Public Lecture in the evening of August 17, and narrated a brief history of conceptual development of quantum mechanics. Prof. Sarit Kumar Das, IIT Ropar had provided a glimpse of life of the legendary physicist, Richard Feynman. The Master and Ph.D students had enthusiastically attended all the activities during these days. Several Ph.D students and Post-Doctoral fellows in the Department had delivered short presentations on their ongoing research works. In addition, all the Ph.D students, and one M.Sc. student, had displayed posters on their works. A few posters have received Best Poster award based on the judgment of a team of experts.

SUMMER VISITATION PROGRAMME

This summer 17 faculty members visited top- notch universities for exploring international collaborative research opportunities during their 5-10 weeks of stay in the respective institutes. From the Department of Mechanical Engineering, Dr. Ravi Kant visited University of Cranfield, UK Dr. Devranjan Samanta visited NORDITA, Stockholm, Sweden, KTH Mechanics, Stockholm, Sweden and KTH Mechanics Stockholm, Sweden, Dr. Ramjee Repaka visited Institute of Biomedical Technologies, Auckland University of Technology, New Zealand, Dr. Navin Kumar visited Rensselaer Polytechnic Institute, USA, Dr. Anupam Agrawal visited McMaster University, Hamilton, Ontario, Canada.

From Department of Computer Science and Engineering Dr. Somitra Kumar Sanadhya visited Institute of Information Science, Academia Sinica, Taiwan, Dr. Neeraj Goel visited NUS Singapore, Dr. Puneet Goyal visited University of Houston, USA. From Department of Civil Engineering, Dr. Sagar Rohidas Chavan visited LISAH, INRA Montpellier, France, Dr. Putul Haldar visited University of California, Los Angle. From the Department of Electrical Engineering Dr. Suman Kumar visited Bradley Department of Electrical and Computer Engineering, Virginia Tech, Blacksburg, USA. From Department of Chemistry, Dr. T. J. Dhilip Kumar visited UNSW Canberra, Australia, Dr. C.M Nagaraja visited Kyoto University, Institute for Advanced Study, Institute for Integrated Cell-Material Sciences, Kyoto, Japan. From Department of Physics, Dr. Mukesh Kumar visited Rice University, Houston, Texas.

From Department of Mathematics, Dr. S.C. Martha visited Shanghai Jiaotong University, China, Dr. Arti Pandey visited Carleton University, Ottawa, Canada. From Department of Humanities and Social sciences, Dr. Samaresh Bardhan visited Cardiff University, UK.

YOGA DAY

IIT Ropar celebrated 4th International Day of Yoga. The occasion was graced by yoga guru and expert, Mr. Dinesh Kumar. About 200 students, staff and faculty participated and performed different asanas under the guidance of Mr. Dinesh.

Prof. S. K. Das, Director, IIT Ropar also participated in this event and shared his thoughts on this occasion. He said, "Yoga is not about exercise but to discover the sense of oneness with ourselves, the world and Nature." During the morning session, a common Yoga Protocol was conducted. The participants were taught various asanas and pranayam. The instructor explained the benefits of these for one's physical and mental health and wellbeing. The trainer encouraged the participants to practice yoga every day. In the evening session participants performed various asanas as per the protocol. The participants practised all the exercises with full determination and zeal.





हिंदी कविता प्रतियोगिता एवं गीत गायन प्रतियोगिता (September 18)



भारत की राजभाषा, हिन्दी के प्रोत्साह्व के लिए भारतीय प्रौद्योगिकी संस्थान रोपड़ में 05 अगस्त, 2018 को नवागंतुक छात्रों के लिए हिंदी कविता प्रतियोगिता का आयोजन तथा दिनांक 13.08.2018 को स्वतंत्रता दिवस के उपलक्ष्य में देशभक्ति गीत गायन प्रतियोगिता का आयोजन किया। जहां नये शैक्षिक सत्र में दाखिला लिये छात्रों के साथ संपर्क स्थापित करने के उद्देश्य से नवागंतुक छात्रों के लिए हिंदी प्रतियोगिता को आयोजित किया गया

वहीं स्वतंत्रता की भावना को मंच प्रदान करने के उद्देश्य से देशभक्ति गीत गायन प्रतियोगिता का आयोजन किया गया। जहां 05 अगस्त को हुई कविता प्रतियोगिता में नवागंतुक छात्रों ने बढ़-चढ़ कर हिस्सा लिया वहीं 13 अगस्त को संस्थान के कर्मचारिगणों तथा विद्यार्थी मित्रों ने देश के प्रति अपनी भावनाओं को कविता के रूप में प्रस्तुत किया। इन दोनों प्रतियोगिता में संस्थान के सदस्यों ने अपने कवि गुणों से सभी को परिचित कराया। हिंदी कविता प्रतियोगिता में ड०. समदर्शी, सहायक प्राध्यापक, विद्युत अभियांत्रिकी तथा देशभक्ति गीत गायन प्रतियोगिता में ड०. यशवीर सिंह, सहायक प्राध्यापक परीक्षक के रूप में उपस्थित थे।



Research Conclave 2018 was organized for the first time in IIT Ropar, with 4 invited talks, 87 posters and 10 flash presentations. Two eminent researchers Prof. D. K. Srivastava, Former Director, Variable Energy Cyclotron Centre, Kolkata and Prof. Sanjay Mittal, Head, Aerospace Engineering, IIT Kanpur visited as an expert.

Interesting panel discussions and a special interactive session with Prof. S. K. Das, Director, IIT Ropar attracted the young researchers.

Prof. D. K. Srivastava underscored the importance of a research culture that had humanism, ethics and excellence at its core values, emphasizing the importance of the research atmosphere in an Institute or in a University dening its true character. Also stressing on the need for institutionalizing research excellence. He added that while directed research need to be given a priority, for innovation the basic research should also be encouraged.

Prof. Sanjay Mittal spoke about emerging paradigm shift in research and its wider implications for sustaining a vibrant research culture and spoke about need to strive towards excellence and innovation.

Prof. S.K. Das, shared the highlights of his research journey with the audience and underscored the importance of the researcher having an eye for detail. Several challenges while doing research were discussed during an interactive session.

Prof. Harpreet Singh, Dean (ICSR, II & PR) felicitated with Faculty Research and Innovation Award (Mid Career Researcher) 2017-18 and Dr. Narinder Singh, Associate Professor, Department of Chemistry felicitated with Faculty and Innovation Award (Young Career Researcher) 2017-18.

It was announced that Research day will be organized annually at IIT Ropar so that the developments are updated and inputs from researchers are considered in taking the progress further to achieve goals.

AAROHAN





AAROHAN, the Annual Inter College Sports Fest of Indian Institute of Technology Ropar, commenced on Saturday, March 16, 2018 and concluded on March 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. Various competitions held like Athletics, Badminton, Basketball, Chess, Cricket, Football, Table Tennis, and Volleyball. Approximately 550 students participated in the customized and fun-filled track and field events. 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. IIT Ropar won the overall trophy at Aarohan'18.

ADIVITIYA

Indian Institute of Technology Ropar witnessed its annual Techno-Management Festival, Advitiya during March 23-25, 2018. This was the 2nd edition of this technological and scientific event. is year, the theme of Advitiya 2018 was "A Space Expedition" and was based on escalating skills and knowledge to new heights in the sky. During the event, Prof. M. L. Munjal, Indian Acoustical Engineer, Honorary Professor, and INSA senior scientist at the Facility for Research in Technical Acoustics of the Indian Institute of Science, delivered a talk on India's fighter jet engine. The fest witnessed a range of scientific and technical activities and novel events from interesting fields like Coding, Robotics, Finance, Design and Entrepreneurship. Day 2 of the fest saw one such event- "Young Scientist", where students got a chance to showcase their talent of building.





event invited young scientists and engineers from schools and colleges all over India to demonstrate the best science/technical project they had designed. Water Rocket Competition projects was organized for the first time.

WORKSHOP ON INSTITUTIONAL DIGITAL REPOSITORY



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. is workshop witnessed overwhelming response from the seven states of North and Central India. ere were 61 enthusiastic participants from 41 higher educational institutions and research labs such as CFTIs, Universities, CSIR and other reputed institutions. 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.

DR. R. K. LEHRI MEMORIAL LECTURE

The Second 'Dr. Rajyashree Khushu-Lahiri Memorial Lecture' was hosted on April 10, 2018. The renowned Sahitya Akademi Award winning writer Mrs. Esther David delivered a lecture on "Creativity is a Room with Many Doors". Dr. Rajyashree Khushu-Lahiri was remembered on this day.



DEPARTMENTS & CENTERS





DEPARTMENT OF CHEMICAL ENGINEERING

Programs offered : B.Tech, Ph.D

No. of Students : B.Tech. : 45

Ph.D : 08

Head of the Department: Prof. Raj P Chhabra

No. of faculty members : 11

No. of staff members : 01

Technical Staff : Nil

Administrative Staff : 01

Thrust Area : Catalysis and Reaction Engineering

Energy and Environment

Multiscale modeling

Soft matter Engineering

Transport Phenomena and Thermodynamics

No. of Publications : 8

FACULTY MEMBERS



Dr. Asad SahirAssistant Professor
Ph.D (University of Utah)
Energy and Environment,
Catalysis and Reaction
Engineering, Multi-scale
modeling



Dr. Chandi SasmalAssistant Professor
Ph.D (Monash University)
Soft Matter Engineering,
Transport Phenomena and
Thermodynamics, Multiscale Modeling



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



Dr. Manigandan S
Assistant Professor
Ph.D (IIT Madras)
Synthesis of polymeric and inorganic colloids;
Synthesis of shape & functional anisotropic (Janus or Patchy) colloids; Selfassembly; Thermodynamics of interfacial systems;
Pickering emulsion; Soft materials



Dr. Manoranjan MishraAssociate Professor
Ph.D (IISc Bangalore)
Transport Phenomena and
Thermodynamics, Multiscale modeling, Soft Matter
Engineering



Dr. Navin GopinathanAssistant Professor
Ph.D (University of Bath, UK)
Indirect and direct porous
media characterisation, gas
and liquid adsorption, liquid
intrusion, controlled drug
delivery, enhanced oil
recovery, heavy oil upgrading
and catalyst deactivation



Neelkanth Nirmalkar Assistant Professor Ph.D (IIT Kanpur) Transport Phenomena and Thermodynamics, Energy and Environment, Soft Matter Engineering



Prof. R.P. Chhabra
Mentor of the Department
Ph.D (Monash University)
Transport Phenomena, Multiscale modeling, Soft Matter
Engineering (Hydrodynamics of non-Newtonian particulate systems)



Dr. Swati A PatelAssistant Professor
Ph.D (IIT Kanpur)
Soft Matter Engineering,
Transport Phenomena and
Thermodynamics, Multi-scale
Modeling



Dr. Tarak Mondal
Assistant Professor
Ph.D (IIT Delhi)
Catalysis and Reaction
Engineering, Energy and
Environment, Multi-scale
modeling



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

FACILITIES

No. of labs: 5

UG Labs:

Chemical Reaction Engineering and Thermodynamics Lab (Development in the process), Process Design, Development and Simulation Laboratory, Process Control Lab (Development in the process), Fluid flow, Heat and Mass Transfer Laboratory.

Research Lab:

Name of the lab Multiphase flow laboratory Dr. Neelkanth Nirmalkar Head of the Research lab Microscope, 405 nm Laser, Name of the Equipments Ultrasonic bubble generator,

sCMOS camera etc.

AWARDS AND HONOURS 2018-19

- Dr. Manoranjan Mishra became a member of the NATIONAL ACADEMY OF 1. SCIENCES. India.
- Dr. Chandi Sasmal received the EARLY CAREER RESEARCH AWARD from DST-2. SERB.

INVITED LECTURES BY FACULTY

Dr. Manorajan Mishra

- "Non-modal stability analysis of miscible viscous fingering in porous media, Multiphase and Interface Fluids Symposium", University of Florida, Gainseville, USA, November 15-16, 2018.
- 2. "Adsorption effects on miscible porous media flow, International conference on Frontiers in Industrial and Applied Mathematics (FIAM-2018)", National Institute of Technology Hamirpur, Himachal Pradesh, India, April, 26-27, 2018.
- "Miscible viscous fingering instability with non-monotonic viscosity variation, 3. International conference on Mathematical Modeling and Computations in Bio-Systems", Indian Institute of Technology Roorkee, India, March 12-14, 2018.

LECTURES BY VISITING EXPERTS

Sr.	Name of the experts with	Topic	Date
No.	affiliation		
1.	Prof. Anil K. Mehrotra, Department of Chemical Engineering, University of Calgary, Calgary, Canada	Talk on Heat-Transfer Based Approach for Modeling Solid Deposition in Pipelines Carrying 'Waxy' Crude Oils.	February 12, 2019
2.	Dr. Aravind M., Research Fellow Nanyang Technological University, Singapore	Talk on Sulphate based Cathodes for Next Generation Lithium Ion Batteries.	February 5, 2019

	Dr. Dipin S. Pillai, Department of	Interfacial Pattern Formation: Enhancing	March 18,
3.	Chemical Engineering, University	transport in micro-fluidics and microgravity.	2019
3.	of Florida, Gainesville, FL	transport in filicio fidicios and filiciogravity.	2010
	Dr. D. P. Rao.	Talk on Different methods of Solution of	October 3,
	Retired from Department of	Zwietering's maximum mixedness reactor	ŕ
4.	Chemical Engineering,	model and fallacy in the boundary	2018
	Indian Institute of Technology	condition and method of solution used by	
	Delhi	Fogler in his text book on CRE.	
5.	Dr. Dawid Szewczyk (Post Doc.	Laboratory investigation of shales –	September 26,
3.	Fellow, NTNU, Norway)	dispersion, stress sensitivity and beyond	2018
	Prof. Kirti Sahu, Indian Institute of	Dynamics of Bubbles and Drops: Effect of	June 27-28,
6.	Technology Hyderabad	Temperature Gradient.	2018
	Ms. Navjot Kaur, Department of	Paper-based diagnostic tools for rapid and	March 27,
7.	Chemical Engineering, Indian	inexpensive point-of-care testing.	2019
	Institute of Science, Bangalore		
	Mr. Naval Singh	Prof. Chhabra and Naval Singh are	January 4,
8.		collaborating in the field of soft matter	2019
٥.		and rheology.	
		and moonegy.	
	Dr. Subhasish Mitra, Department	Talk: Phase interactions in multiphase	February 21,
0	of Chemical Engineering, The	systems.	2019
9.	University of New Castle, New		
	Castle, Australia		
	Dr. Supreet Saini,	Lecture series on Evolutionary Biology.	October 7,
10	Department of Chemical		2018 –October
10.	Engineering, Indian Institute of		12, 2018
	Technology Bombay		

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
		Technical University of Lodz, Lodz, Poland	Invited Professor, May/June 2018 (two weeks)
1	Prof. R. P. Chhabra	Cape Peninsula University of Technology, Capetown China University of Petroleum-	Invited Professor September, 2018 (one week) Invited Professor
		Beijing, Beijing	(Dec 2018 and March 2019, one week each)
		University of Florida, Gainseville, USA.	"Multiphase and Interface Fluids Symposium" November 15-16, 2018
2	Dr. Manoranjan Mishra	Atlanta, USA	71 st Annual meeting of the American Physical Society Division of Fluid Mechanics, November 18-20, 2018.

DEPARTMENT OF CHEMISTRY

No. of Students : B.Tech. : NA

M.Tech. : NA

MS (R) : MSc-24

Ph.D : 18

Head of the Department : Dr. T.J. Dhilip Kumar

No. of faculty members : 14

No. of staff members : 5

Technical Staff : 4

Administrative Staff: 1

No. of Publications : 72

FACULTY MEMBERS



DR. ANUPAM
BANDYOPADHYAY
Assistant Professor
Ph.D. (IISER-Pune)
Biomimetic Chemistry,
Peptide-Based Diagnostics
and Therapeutics for the
Treatment of Cancer and
Tropical Diseases.



DR. AVIJIT GOSWAMI
Associate Professor
Ph.D. (Heidelberg University,
Germany)
Organic Synthesis and
Polymer Chemistry



DR. C. M. NAGARAJA Associate Professor Ph.D. (Indian Institute of Science Bangalore) Inorganic and Materials Chemistry



DR. C. N. THARAMANI
Assistant Professor
Ph.D. (Bangalore
University)
Electrochemistry, Fuel Cells,
Nanostructured Materials,
Electrocatalysis, Metal
Finishing



DR. DEBAPRASAD
MANDAL
Assistant Professor
Ph.D. (Indian Institute of
Technology Kanpur)
Organometallics and
Polymer



DR. INDRANIL
CHATTERJEE
Assistant Professor
Ph.D. (Westfälische
Wilhelms-University,
Muenster, Germany)
Organic Synthesis and
Methodology



DR. MANOJ KUMAR PANDEY
Assistant Professor
Ph.D. (Indian Institute of
Technology Madras)
Solid-state NMR: Methods and
Applications



DR. NARINDER SINGH
Associate Professor
Ph.D. (Guru Nanak Dev
University Amritsar)
Supramolecular Chemistry and
Material Sciences



DR. PRABAL BANERJEE
Associate Professor
Ph.D. (National Chemical
Laboratory) Pune
Synthetic Organic and Medicinal
Chemistry



DR. RAJENDRA SRIVASTAVA
Associate Professor
Ph.D. (National Chemical
Laboratory Pune)
Catalysis and Materials Chemistry



DR. SOUMYAJIT DAS
Assistant Professor
Ph.D. (Indian Institute of Science
Education & Research Kolkata)
Organic chemistry, π-Conjugated
materials, Conducting polymers



DR. SUDIPTA KUMAR SINHA
Assistant Professor
Ph.D. (Indian Institute of
Technology Kharagpur)
Theoretical and Computational
Biophysical Chemistry



DR. T.J. DHILIP KUMAR
Associate Professor
Ph.D. (Indian Institute of
Technology Madras)
Theoretical and Computational
Chemistry



DR. YASHVEER SINGHAssistant Professor
Ph.D. (University of Allahabad)
Biomaterials and Drug Delivery



No. of Labs : UG : 1

PG : 1 Research : 8

INFORMATION OF LAB REPORT 2018-2019

Sr. No.	Name of the Lab	Name of the Head of the Reseach Lab	Name of equipment
1.	UG Lab	Dr. Indranil Chatterjee	Water Purification System
2.	PG Lab	Dr. Manoj Kumar Pandey	Nil
3.	Catalysis Research Lab	Dr. Rajendra Srivastava	1.Gas Chromatography Mass Spectrometry(GCMS) (Installed) 2.High-Performance Liquid Chromatography (HPLC)(Installed)
4.	Organic Materials & Supramolecular Synthesis Lab	Dr. Narinder Singh	1.Flash Chromatography(Uninstalled)
5.	Research lab 1	Dr. Prabal Banerjee Dr. D. Mandal Dr. Avijit Goswami	1.Gas Chromatography(Uninstalled)
6.	Reseach lab 2	Dr. C.M. Nagaraja Dr Yashveer singh	1.Zeta potential(Installed) 2.DLS(Installed)
7.	Research lab Room no.236	Dr. D. Mandal	Nil
8.	Research lab Room No.235	Dr. Narinder Singh	Nil
9.	Research lab Room No.140A	Dr.C.N. Tharamani	Nil
10.	Computer Lab L-111	Dr. T.J. Dhilip Kumar	20 Computers

AWARDS AND HONOURS 2018-19 (STUDENT)

Peeyush Sharma, a Ph.D scholar, has been selected for the Newton Bhabha Ph.D Placement Program 2017 of the British Council, UK and Department of Biotechnology (DBT), India. He joined the lab at Cardiff University, Cardiff, UK in June 2018, for a period of four months.

Mr. Sandeep Kumar, Ph.D Scholar has received International travel grant from SERB India to attend the "Gordon Research Conference on Computational Chemistry" from July 22, 2018 - July 27, popp2018, at Mount Snow in West Dover, VT, United States.

Rohit Y. Sathe, Ph.D Scholar has received a prestigious Graduate Student Award 2018 "EMRS Fall Meeting 2018" held at Warsaw University of Technology, Poland on 20th September 2018.

Ms. Rekha Dhiman, received the best oral award in the "Frontiers in Chemical Sciences 2018" organized by IIT Guwahati, 6-8 December 2018.

Mr. Nayuesh Sharma, received best poster award in "Carbon Capture and Utilization" organized by National Chemical Laboratory (NCL)-Pune, 14-15 December 2018.

Mr. Sandeep Kumar, Ph.D Scholar has received travel award from the Abdus Salam International Centre for Theoretical Physics (ICTP), Italy for attending "19th International Workshop on Computational Physics and Material Science: Total Energy and Force Methods" workshop held at the Abdus Salam International Centre for Theoretical Physics (ICTP), in Trieste from 09 January 2019 to 11 January 2019.

Ms. Pratibha, Ph.D Scholar has received best poster presentation award in OMSRI Conference, organized by IIT Roorkee, 8-10 February 2019.

Ms. Divya Bhatt, Ph.D Scholar has received best poster award in Recent Advance in organic biomolecular chemistry, organized by RSC in IISER Mohali, 22-24 March 2019.

INVITED LECTURES BY FACULTY

Dr. C. M. Nagaraja

- 1. "Development of porous metal-organic frameworks for catalysis", Indian Institute of Technology Mandi, May 28, 2018.
- 2. "Development of porous metal-organic frameworks for catalysis", Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University, Japan, June 7, 2018.
- 3. "Development of porous metal-organic frameworks for catalysis" Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Japan, June 29, 2018.
- 4. "Design of Porous Metal-Organic Frameworks (MOFs) for Catalytic Applications", International Symposium of Advanced Functional Materials, IISER Trivandrum, July 12, 2018.
- 5. "Design of porous metal organic frameworks for selective capture and utilization of CO2", Conference on Carbon Capture and Its Utilization (CCU), National Chemical Laboratory (NCL), Pune, December 14-15, 2018.
- 6. "Design of porous metal organic frameworks for catalytic applications", Conference on Structural and Inorganic Chemistry-II (ICSIC-II), IISER Pune, March 18-19, 2019

Dr. Debaprasad Mandal

- 1. Invited talk, ICSIC-II, IISER Pune, March 18-19, 2019.
- 2. Invited talk, National Conference on Organic Molecules as Synthons and Reagents for Innovations (OMSRI), Indian Institute of Technology Roorkee, February 8-10, 2019
- 3. 55th Annual Convention of Chemist & International Conference on RACS2A-2018, T.M. Bhagalpur University, Naugachhia, Bihar, December 28-30, 2018
- 4. "National Symposium on electrochemistry in material and devices", CSIR-CSMCRI, Bhavnagar, Gujrat, September 28, 2018.
- 5. "Frontiers in Chemical Sciences", Indian Institute of Technology Guwahati, December 6-7, 2018.

Dr. Narinder Singh

- 1. Delivered an invited talk, DAVIET Jalandhar, July 31, 2018.
- 2. Delivered an invited talk, Gujranwala Guru Nanak Khalsa College, Ludhiana, August 04, 2018.
- 3. "Research in Chemical Sciences: Current scenario" SCCSWU, Fatehgarh Sahib, March 29 2019.
- 4. "Sensor for water pollution" All India Radio, Jalandhar, March 8, 2019.
- 5. "Design, synthesis and characterization tools for inorganic analysis. Mechanism and operation of sensor", Punjab University Agriculture University, Ludhiana, February 15, 2019
- 6. 11th National Conference on Recent Trends in Chemical and Environmental Sciences-2019, Punjabi University, Patiala, February 8, 2019.
- 7. Delivered an invited talk on the eve of Science-Day, SGTB Khalsa College. Anandpur Sahib, February 28, 2019.

Dr. Prabal Banerjee

- 1. International Conference on Organometallics and Catalysis, 2018, Holiday Inn Resort GOA, December 13-16, 2018.
- 2. NBCC (National Bioorganic chemistry Conference), NISER- Bhubaneswar, December 22-24, 2018.

Dr. Rajendra Srivastava

- 1. Guest Speaker for SEFCO 2018, Indian Institute of Petroleum (CSIR-IIP), Dehradun, May 11-12, 2018.
- 2. Symposium on "Spectroscopy and Catalysis", National Chemical Laboratory Pune, May 25, 2018.
- 3. "Mesoporous zeolites: Widening the application perspectives", 23rd CRSI National Symposium on Chemistry, IISER Bhopal, July 13, 2018

Dr. Tharamani. C. N.

- Indo-UK Newton-Bhabha Workshop on "Electromical Routes to energy storage, energy conversion and fuel production, JNCASR, Jakkur, Bangalore, December 10-14, 2018.
- 2. "Green Energy Technologies for Smart Cities (GETSC-2018)" SRM University, Amaravathi, Andhra Pradesh December 19-21, 2018.
- 3. Invited talk, Indian Institute of Science Education and Research, Pune, January 24-25, 2019.
- 4. Invited talk, Indo-German Workshop on Renewable Energy, Zuri Whitefield, Bangalore, February 12-15, 2019

Dr. T. J. Dhilip Kumar

- 1. Invited talk, Evolution of Electronic Structure Theory & Experimental Realization, December 11-15, 2018.
- 2. Invited talk, Spectroscopy and dynamics of Molecules and Clusters (SDMC-2019), Koti Resort, Shimla, February 22, 2019.

Dr. Yashveer Singh

- 1. "Polymeric biomaterials in controlled drug delivery and implantable therapeutic systems", NIPER Mohali, April 6, 2018.
- 2. "Peptides and proteins in therapy and antibacterial applications", Department of Chemistry, Gujranwala Guru Nanak Khalsa College, Ludhiana, September 4, 2018
- 3. "Polymeric and peptide hydrogels/gels for cancer drug delivery and antibacterial

- applications", 6th World Congress on Nanomedical Sciences 2018, Vigyan Bhawan, New Delhi, January 7-9, 2019
- "PEG-based biodegradable hydrogels for intratumoral delivery of a therapeutic agent, doxorubicin", 3 Pan IIT Biotech Meet 2019 - Cancer Precision Medicine and Personalized Therapeutics, Indian Institute of Technology Madras, Chennai, January 31-February 2, 2019
- 5. Delivered an invited talk on avenues in interdisciplinary research: Drug Delivery, Short Course on Sensors and IoT, Indian Institute of Technology Ropar, Rupnagar, 16-22 December 2018
- 6. Delivered an invited talk on laboratory safety, Short Course on Sensors and IoT, Indian Institute of Technology Ropar, Rupnagar, 16-22 December 2018

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Prof. Alkesh Bishai, Department of Chemistry, IISER Bhopal	Total Synthesis of Naturally Occurring Amaryllidaceae Alkaloids	March 22, 2019
2.	Dr. Garima Jindal,Research Associate, University of Southern California	Computational Investigation of Reaction Mechanism and Enzyme Design	August 23, 2018
3.	Prof. Ganpathi Naresh Patwari, Department of Chemistry, Indian Institute of Technology Bombay	A Tug-Of-War Between Electrostatics and Dispersion in Molecular Aggregation	February 4, 2019
4.	Dr. Kaushik Chatterjee. Associate Professor, Department of Materials Engineering, Indian Institute of Science, Bangalore	Multifunctional Materials for Biomedical Applications	June 6, 2018
5.	Dr. Mohit Kumar Jolly, Assistant professor in the Centre for BioSystems Science and Engineering, IISc. Bangalore	A Dynamical Systems Approach to Decode Cancer Metastasis	February 26, 2019
6.	Prof. Partha Sarathi Mukherjee, Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore	Molecular Vessels	January 25, 2019
7.	Dr. Ramachandran, C. N, Chemistry department, Indian Institute of Technology Roorkee	Modelling of Weakly Interacting Systems: Studies on Gas Hydrates And Host- Guest Complexes of Carbon Nanostructures	July 10, 2018
8.	Dr. Rebecca L. Melen, School of Chemistry, Cardiff University, UK	Modern Alchemy: Turning Boron Into Gold	February 1, 2019
9.	Prof. Thomas Wirth, School of Chemistry, Cardiff University, UK	lodine Reagents in Synthesis and Flow Chemistry	February 1, 2019
10.	Prof. Uwe Beifuss, Institute of Chemistry, University of Hohenheim, Stuttgart	Laccases and More: New Copper-Catalyzed Transformations in Organic Synthesis	October 3, 2018
11.	Dr. Venkata Krishnan, Indian Institute of Technology Mandi	Carbon Based Nanostructured Heterogeneous Catalysts For Energy Conversion, Environmental Remediation and Organic Transformation Reactions	July 25, 2018

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. C. M. Nagaraja	Institute for Integrated Cell- Material Sciences (iCeMS), Kyoto University, Japan	Summer Visitation Program, June 1- July 5, 2018
2.	Dr. Manoj Kumar Pandey	Collaboration Center, Riken, Kanagawa, Japan	Research collaboration with Dr. Yusuke Nishiyama, 22-31 Dec 2018
3.	Dr. T.J. Dhilip Kumar	Kathmandu Tribhuwan University, Nepal	Institute Representative, May 4-6, 2018

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Bhaskar Sarmah	Berlin Germany	Conference- 3rd Green & Sustainable Chemistry, May 13-16, 2018
2	Poonam Rani	Berlin Germany	Conference- 3rd Green & Sustainable Chemistry, May 13-16, 2018
3	Peeyush K Sharma	Cardiff University, Cardiff, UK	Newton Bhabha Ph.D Placements Programme, June 1- September 30, 2018

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

Sr. No.	Name of the Faculty	Project Title	Duration	Amount	Sponsored
1.	Dr. Yashveer Singh	Acemannan-based nanogels to target microbicides to mucosal and sub-mucosal regions of vagina, to prevent HIV-1 infection, (EMR/2017/000045)	2 years (2017-19)	42.12Lacs	SERB
2.	Dr. Yashveer Singh	Polymeric micelles for sustained and targeted delivery of a microbicide (dapivirine) to dendritic and langerhans cells, the virus reservoirs present in vaginal mucosal and submucosal regions, to prevent HIV-1 infection, (02[0245]/15/EMR-II)	2 years (2016- 2018)	20 lacs	CSIR

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Programs offered : B.Tech.

: M.Tech.

: MS(R)

No. of Students : Ph.D - Regular Ph.D:38, ERP:1,

: M.Tech. - 26

: MS (R)-1, B.Tech.-195

Head of the Department : Dr. Somitra Kumar Sanadhya

No. of faculty members : 19
No. of staff members : 05

Technical Staff : 04 Administrative Staff : 01

No. of Publications : 30

Thrust Area:

- Parallel and distributed computing
- Approximation algorithms
- Image processing and pattern recognition
- Computational geometry
- Computer Vision
- Cloud computing and software architecture

- Performance modeling
- Cryptography and Information Security
- Machine learning and artificial intelligence
- Multi-robot systems
- · Network science
- · Sensor networks
- Computer Architecture
- Social Computing

- Collective Intelligence
- Spatial Computing
- Wireless adhoc Networks
- · Internet of Things
- Discrete Geometry, Graph Theory, Algorithms

FACULTY MEMBERS



Dr. Abhinav Dhall
Ph.D (Australian National
University)
Computer Vision, Affective
Computing and Human
Computer Interaction



Dr. Anil Shukla
Ph.D (The Institute of
Mathematical Sciences,
Chennai)
Theoretical Computer
Science, Computational
Complexity, Proof Complexity



Dr. Apurva MudgalPh.D(Georgia Tech, USA)
Theoretical Computer
Science, Approximation
Algorithms, Theoretical
Robotics, Computational
Geometry



Dr. Balwinder Sodhi
Ph.D(IIT Kanpur, India)
Cloud computing, Software
and its Engineering, Applied
Computing



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



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



Dr. Mukesh SainiPh.D (National University of Singapore)
Research Interests: Multimedia Systems, Visual Analytics, Surveillance, Privacy



Dr. Neeraj Goel
Ph.D (Indian Institue of
Technology Delhi, India)
Processor architecture, SoC
design and modeling, Low
power design, behavior
synthesis, Reconfigurable
computing and FPGAs,
Retargatable code generation
and compiler optimizations



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



Dr. Puneet GoyalPh.D(Purdue University , USA)
Electronic Imaging Systems,
Image Processing, Security
and Analytics



Dr. Saswata ShannigrahiPh.D (TIFR Mumbai, India)
Research Interests: Discrete
Geometry, Graph Theory,
Algorithms



Dr. Shashi Shekhar Jha
Ph.D (Indian Institute of
Technology Guwahati, India)
Artificial Intelligence, Machine
Learning, Multiagent Systems,
Robotics, Bioinspired
Algorithms.



Dr. Somitra Kumar Sanadhya Ph.D(Indian Statistical Institute, Kolkata) Cryptology and Information security



Dr. Shirshendu Das Ph.D (Indian Institute of Technology Guwahati, India) Computer Architecture, Network on Chip.



Dr. Sudarshan lyengar
Ph.D(Indian Institute of
Science, Bangalore)
Data Sciences and Analytics,
Social networks, Social
Computing and Collective
Intelligence Dynamics.



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



Dr. Tarique AnwarPh.D (Swinburne University of Technology, Australia)
Data Engineering and
Management, Urban
Transportation Systems, Social
Networks, Cyber Security



Dr. T V KalyanPh.D(Indian Institute of Technology, Madras)
Research Interests: Computer Architecture: Memory subsystem, Caches, Energy-efficient design



Gunturi
Ph.D (Computer Science,
University of Minnesota)
Spatial and Spatio-temporal
databases, Sptial data mining,
Graph algorithms, Geographic
Information Sciences,
Transportation.

Dr Venkata M Viswanath

ONGOING ACTIVITIES

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



4 UG labs, 10 Research Labs, Department GPU Server

INFORMATION OF LAB REPORT 2018-2019

S. No.	Name of labs (Research Labs)	Name of the Head of the Research lab
1.	WANet (Wireless ad hoc Networks) group	Dr. Sujata Pal
2.	TCS,Cryptography and Security Lab	Dr. Somitra Sanadhya
3.	Computer Vision and Image Processing/LASII	Dr. Abhinav Dhall
4.	OS, Distributed, Cloud and IoT	Dr. Balwinder Sodhi & Dr. Nitin Auluck
5.	Data Analytics and Machine Learning Lab	Dr. C.K. Narayanan & Dr. Deepti R Bathula
6.	Multimedia research & Innovation Lab (MiG)	Dr. Mukesh Saini
7.	Image Processing, Security Analytics	Dr. Puneet Goyal
8.	Social Computing and Collective Intelligence Laboratory	Dr. Sudarshan lyengar
9.	Data Analytics and Machine Learning Lab	Dr. Tarique Anwar and Dr. Viswanath Gunturi
10.	Hardware Lab	Dr. Neeraj Goel

INVITED LECTURES BY FACULTY

Dr. Abhinav Dhall

- Human-Centred Artificial Intelligence, Huawei Bangalore, February 2019
- Human-Centred Artificial Intelligence for the industry, Samsung R&D Institute Noida, December 2018
- Emotional Artificial Intelligence, Honeywell Bangalore, August 2018

Dr. Somitra Kumar Sanadhya

- FDP on Information Security, Shri Mata Vaishno Devi University, Katra, J&K, January, 2019
- National conference on Security, Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, March 9, 2019
- National workshop on Cryptology, Pranveer Singh Institute Of Technology, K anpur, February 2019

Dr. Sujata Pal

 Security Issues for Sensor, IoT and Opportunistic Networks (SISION 2018), National Institute of Technology, Kurukshetra, Sept 2018

Dr. Venkata M. V. Gunturi

- Spatial Co-Location Pattern Mining, BDA 2018 held at National Institute of Technology, Warangal, December 2018
- IoT and Mobile Applications, NITTTR, Chandigarh, August 2018
- Next generation Wireless Networks, NITTTR, Chandigarh, July 2018
- Keynote Speaker National conference on Applications of Computing in Engineering, Science and Management, Chandigarh University, January 2019

Dr. Shashi Shekhar Jha

• Demand and Supply prediction for Taxis in Singapore, Guru Nanak Dev Engg College, Ludhiana, January 2019

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Торіс	Date
1.	Prof. Amit Kumar,Indian Institute of Technology Delhi	" Online Algorithms For Packing And Covering Problems"	February 11, 2019
2.	Dr. Ravi Bansal,Airsep Corporation	"Flying Solo", "Entrepreneurship"	Februray 1, 2019
3.	Dr. Gaurav Pandey, IBM Research Labs, India	"Show, copy, attend and tell: One- shot novel object image captioning."	November 14, 2018
4.	Mr. Vikas Dhiman, University of Michigan	"Exploiting structure for navigation in unseen environments"	June 15, 2018
5.	Dr. Dheeraj Kumar,Purdue University	"Smart cities generated Big data analytics: Challenges and opportunities"	May 9, 2018

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1	Dr. Nitin Auluck	Barcelona, Spain	Presented a paper and chaired a session at IEEE FiCloud, August 6 - 8, 2018,
2	Dr. Somitra Kumar Sanadhya	Taiwan	Summer visit to Academia Sinica, May - July 2018.
3	Dr. Abhinav Dhall	Canberra, Australia	DICTA 2018 : Digital Image Computing: Techniques and Applications, December 10- 13, 2018
4	Dr. Abhinav Dhall	China	IEEE AFGR 2018
5	Dr. Venkata M. V. Gunturi	Regensburg, Germany	29th International Conference on Database and Expert Systems Applications - DEXA 2018, September 3 - 6, 2018
6	Dr. Neeraj Goel	Singapore	Summer Visit to NUS, Singapore. May to July 2018
7	Dr. Sujata Pal	Shenzhen, China	The 16th ACM Conference on Embedded Networked Sensor Systems (SenSys 2018), November 4-7, 2018

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Amit Kumar Chauhan	Taiwan	Summer visit to Academia Sinica, Taiwan.
			May - July 2018.
2	Amit Behal	Singapore	Internship -July to December 2019

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

Sr. No.	Name of the Faculty	Project Title	Amount (In Crores)	Sponsored
1.	Dr. Somitra Kr. Sanadhya	Improving automated cryptanalysis	0.30	INDIAN- ISRAELI JOINT Project
2.	Puneet Goyal	Design and Evaluation of Demosaicking Techniques for Low Cost and Efficient Multispectral Imaging Systems	0.31	SERB-DST
3.	Venkata M. Viswanath Gunturi	Investigating Scalable Algorithms for Some Macro-Level Transportation Problems on Graph Based Representation of Road Networks	0.15	SERB

DEPARTMENT OF CIVIL ENGINEERING

Programs offered : B.Tech.

Ph.D.

Post Doctoral Fellowship

National Post Doc Fellowship

No. of Students : B.Tech. : 90

Ph.D. : 15

Post Doc/NPDF : 2

Head of the Department : Prof. Deepak Kashyap

Faculty Memebers : 14

No. of Staff : Technical Staff : 2

Administrative Staff : 1

No. of Publications : 29

Thrust Area:

 Hydraulics and Water Resources Engineering

2. Structural Engineering

3. Geotechnical Engineering

4. Environmental Engineering

5. Transportation Engineering

6. Geomatics Engineering

FACULTY MEMBERS



DR. AMAR NATH ROY CHOWDHURY

Assistant Professor Ph.D (National University of Singapore, Singapore) Computational mechanics, Multiscale structural mechanics, Mechanics of lightweight structures



PROF. DEEPAK KASHYAP

Professor Ph.D (Indian Institute of Technology Roorkee) Water Resources, Groundwater, Modeling and Simulation



DR. L VIJAY ANAND

Assistant Professor
Ph.D (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. MITESH SURANA

Assistant Professor
Ph.D (Indian Institute of
Technology Roorkee)
Risk-based Seismic Design of
Buildings, Seismic Response
Evaluation of Structures,
Nonlinear Modelling and
Analysis of RC Buildings,
Seismic Design of
Acceleration Sensitive Nonstructural Components,
Building Typologies and
Seismic Vulnerability of Indian
Housing Stock, and Seismic
Risk in Hilly Regions



DR. MUTHULINGAM S.

Assistant Professor Ph.D (Indian Institute of Technology Madras) Advanced design of steel and concrete structures, Reliability and risk assessment of new and existing infrastructure systems



DR. NAVEEN JAMES

Assistant Professor Ph.D (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
Ph.D (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
Ph.D (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
Ph.D (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. RAHEENA M.
Assistant Professor
Ph.D(Indian Institute of
Technology Madras)
Geotechnical Engineering



DR. RAHUL T.M
Assistant Professor
Ph.D Indian Institute of
Science (IISc) Bangalore
Sustainable Transportation
system planning, Travel
behavior analysis, Non
Motorized Transport planning,
Econometric Modelling



DR. RATAN SARMAH
Assistant Professor
Ph.D (Indian Institute of
Technology Guwahati)
Subsurface Hydrology,
Mathematical Modeling of
Subsurface Flow



DR. SAGAR ROHIDAS CHAVAN

Assistant Professor
Ph.D (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



DR. SAYANTAN GANGULY
Assistant Professor
Ph.D (Indian Institute of
Science, Bangalore)

Hydrogeology, Flow and transport through porous media, Geothermal energy



Teaching, Research and Consultancy



FACILITIES

No. of Labs : UG : 08

PG : NIL Research : 02

NAME OF THE LABS (UG)

- Hydraulics Engineering Laboratory
- Geotechnical Engineering Laboratory
- Geomatics Engineering Laboratory
- Concrete Technology Laboratory
- Structural Analysis Laboratory
- Environmental Engineering Laboratory
- Computer Added Design Laboratory
- Transportation Engineering Laboratory

DETAILS OF THE LABS (RESEARCH)

Name of the Head of the Research lab	Name of the Research lab	Name of the Equipments of Research Labs
Prof. Deepak Kashyap	Field Soil water Plant Laboratory	 Automatic Whether Station Lysimeter Pressure Plate Apparatus Tilting Flume (15 mtr length)
Dr. Sagar Rohidas Chavan (officer in charge)	Hydraulics and Water Resources Lab	 Rainfall-runoff simulator Water Hammer Equipment Basic fluid mechanics lab Eco-sounder Boat, etc

AWARDS AND HONOURS 2018-19 (FACULTY)

- Dr. Putul Haldar, Editorial Board member of the Journal of Building Material and Structural Engineering
- Dr. Resmi Sebastian, Early Career Research Award (ECR) from Science and Engineering Research Board (SERB), DST.
- **Dr. S. Muthulingam**, "Flexural Capacity of Corroding RC Elements Based on Gaussian Representation of Corrosion Loss" adjudged as Best Paper in the Conference on "Advanced Structures, Materials and Methodology in Civil Engineering" held at Dr. B. R. Ambedkar National Institute of Technology Jalandhar, November 03–04, 2018

AWARDS AND HONOURS 2018-19 (STUDENT)

- Mr. Akshar Tripathi got best oral paper presentation award for the paper titled "C-band SAR Interferometry based flood inundation mapping for Gorakhpur and adjoining areas" in IEEE-ICCECE 2019, Kolkata, January 2019.
- **Dr. Varinder Saini**, Post-Doc, DST, NPDF, 2018- Young Scientist Award in Earth Science, Venus International Foundation, August 11, 2018

INVITED LECTURES BY FACULTY

- Prof. Deepak Kashyap
 - "Simulation Optimization of Groundwater Resources System", Civil Engineering, Indian Institute of Technology Roorkee, August 20, 2018.
- Dr. L Vijay Anand
 - "A Highlight on Flask to Field Mismatch of Contaminant Transport Process Parameters", Civil Engineering, Indian Institute of Technology Delhi, July 12-13, 2018

Dr Naveen James

"Site Response and Seismic Zonation", Civil Engineering, Amrita Vishwa Vidyapeetham, Amrita School of Engineering, Coimbatore, August 10, 2018.

Dr. Putul Haldar

"Panellist for the Session on "Building North – The Infrastructure Imperative" and talk about Industry Academia Connect for Skill Development for Infrastructure Sector, Civil Engineering, CII NR Headquarters, Sector 31-A, Chandigarh, March 7, 2019.

Dr Reet Kamal Tiwari

"Geospatial Technologies", Kalpana Chawla Chair Lab, Punjab Engineering College (PEC) Chandigarh, May 21 -24, 2018

Dr. Rahul T.M

Discrete Choice models, Civil Engineering, Indian Institute of Science Bangalore, December 17-21, 2018.

Dr. S. Muthulingam

"Designing Resilient Infrastructure Systems", Civil Engineering, National Institute of Technology Jalandhar, November 03–04, 2018.

VISITS ABROAD BY FACULTY

S.No.	Name of the Faculty	Place of Visit	Purpose of Visit	Date of Visit
1	Dr. Amar Nath Roy Chowdhury	Brisbane, Australia	Paper presentation: Effect of end support height on vibration frequencies of deep beams at "The Australian Conference on The Mechanics of Structures and Materials.	December 2-9, 2018
2	Prof. Deepak Kashyap	North Carolina State University and MIT	Academic Delegation visit of IIT Ropar	May, 18 - 29 2018
3	Dr. Putul Haldar	University of California, USA	To conduct part of research on "Seismic Performance of Shear Walled Reinforced Concrete Frame Structures on Rocking Foundation"	August 1-15, 2018

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

Sr. No.	Name of the Faculty	Project Title	Duration	Amount	Sponsored
	ŕ	Import of Dainwater		Do. 74.00 Lakha	Inda III/
1.	Prof. Deepak Kashyap	Impact of Rainwater Harvesting in India on Groundwater Quality with Specific Reference to Fluoride and Micropollutants. Co-PI: Dr. Vijay Anand L.	-	Rs. 74.92 Lakhs	Indo-UK Water Quality Programme
2.	Dr. Putul Haldar	"Seismic Performance of Shear Walled Reinforced Concrete Frame Structure on Rocking Foundation"	2016-2020	Rs. 125.00 Lakhs	ISIRD grant of IIT Ropar
3.	Dr. Putul Haldar (PI from IIT Ropar)	Next Generation Earthquake Loss Estimation Tool for Hilly Regions" in collaboration with IIT Roorkee (Dr. Yogendra Singh, Principal Investigator, Dr. Ravi Shankar Jakka, Co-Pl)	2019-2021	Rs-84.46 Lakhs	DST IMPRINT II AND Risk Management Solutions India (RMSI)
4.	Dr. S. Muthulingam	Impact of climate change and chloride-induced corrosion damage risks of concrete infrastructure deterioration along coastal regions of India (ECR/2016/001611)		Rs. 35, 65, 200	Science and Engineering Research Board-DST, India
5.	Dr. Ratan Sarmah	Analytical Solution of the Hillslope Boussinesq Equation considering Unsteady Boundary and variable Recharge with bedrock Seepage	Ongoing		DST (ECRA)
6.	Dr. Vijay Anand L.	Understanding and Modeling the Reactive Transport of Uranium Contaminated Groundwater of Malwa Region, Punjab.			Early Career Research Award, SERB, DST
7.	Dr. Resmi Sebastian	Dynamic properties of rocks and soil mixed with rice husk ash (RHA) subjected t low strain and high strain vibrations	Ongoing		ISIRD grant
8.	Dr. Resmi Sebastian	Propagation and attenuation of shear waves inducing high strains in jointed rocks	Ongoing		Early Career Research Award, SERB

DEPARTMENT OF ELECTRICAL ENGINEERING

Programs offered : B. Tech., M. Tech., MS(R), Ph.D.

No. of Students : B.Tech. : 206

M.Tech. : 28

MS(R): 9

Ph.D : 26

Head of the Department : Prof. R. Garg

No. of faculty members : 23

No. of staff members : 10

Technical Staff : 09

Administrative Staff: 01

No. of Publications : 41

Thrust Area:

· 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
Ph.D (Indian Institute of
Technology Kharagpur)
Converter Topologies and
Control Techniques for
Renewable Energy Systems,
Electric Vehicles



DR. ASHWANI SHARMA Assistant Professor Ph.D. (University of Deusto, Bilbao, Spain) Antenna Engineering and Communication Systems.



DR. BIBHU PRASAD PADHY

Assistant Professor Ph.D. (Indian Institute of Technology Kanpur) Power system dynamics & stability studies, synchrophasor technology & its applications, state estimation in power systems.



DR. BRAJESH RAWAT

Assistant Professor Ph.D. (Indian Institute of Technology Guwahati) Nanoscale Devices Modeling and Simulation, 2-D Material based Devices, Simulation and Fabrication of Biosensors.



DR. BRIJESH KUMBHANI

Assistant Professor
Ph.D. (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
Ph.D. (Electrical Engineering,
Indian Institute of Science,
Bangalore)
Research Interests: Mechanism
of Conduction and Breakdown
in Dielectrics, Space Charges
in Dielectrics, HVDC Cables
and accessories, High Voltage
Engineering, Nano Dielectrics.



DR. DEVARSHI DAS

Assistant Professor
Ph.D. (Indian Institute of
Technology Bombay)
CMOS Analog IC Design,
ASICs for bio-signal
measurement, Neuromorphic
electronics, Low-power and
low-noise IC design,
Instrumentation, Sensors and
transducers



PROF. J. S. SAHAMBI

Professor
Ph.D. (Indian Institute of
Technology Delhi)
Biomedical signal processing,
MR image processing



DR. KALAISELVI

J. Assistant professor Ph.D. (Indian Institute of Technology Madras) Attenuation of Conduction mode EMI in converters and drives, Solid State Transformer



DR. MAHENDRA SAKARE

Assistant Professor Ph.D. (Indian Institute of Technology Bombay) Analog integrated circuit design, Broadband circuit and system design



PROF. RAMESH GARG

Visiting Professor Ph.D. (Indian Institute of Technology Kanpur) Electromagnetics



DR. RANJANA SODHI
Assistant Professor
Ph.D. (Indian Institute of
Technology Kanpur)
Wide area monitoring and
control systems, Smart Grids,
Microgrid studies, application
of optimization techniques to
power systems



MULAVEESALA
Associate Professor
Ph.D. (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. RAVIBABU



DR. RAMACHANDRA SEKHAR Assistant professor Ph.D. (Indian Institute of Technology Hyderabad) Power electronics & drives



DR. ROHIT Y. SHARMA
Associate Professor
Ph.D. (Jaypee University of
Information Technology)
Design of high-speed chipchip and 3D interconnects,
technology development for
high-performance electrical
connectivity, communication
schemes for multi-core
architecture.



DR. SAIFULLAH PAYAMI
Assistant professor
Ph.D. (Indian Institute of
Technology Patna)
Multiphase (more than three
phase) machines and its
control, design and fault
diagnosis of electric
machines



PROF. SANJOY ROY
Professor
Ph.D. (University of Calgary, Canada)
Renewable energy systems:
planning and economics,
Decision making in power
network management



DR. SAM DARSHI
Assistant professor
Ph.D. (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



DR. SATYAM AGARWAL
Assistant Professor
Ph.D. (Indian Institute of
Technology Delhi)
Wireless communication and
networks, MAC protocols,
Wireless network modelling
and performance analysis.



DR. SUBRAHMANYAM
MURALA Assistant Professor
Ph.D. (Indian Institute of
Technology Roorkee)
Computer Vision, Image
Retrieval, Object Detection and
Medical Image Analysis



DR. SUMAN KUMAR
Assistant Professor
Ph.D. (Indian Institute of
Technology Madras)
Performance analysis of mobile
broadband wireless networks
including Frequency reuse,
HetNets, Hypergeometric
functions, Generalized fading
models, Spectrum sharing



DR. VINAYAK G. HANDE
Assistant Professor
Ph.D. (Indian Institute of
Technology Bombay)
Low power analog integrated
circuit design.

DR. SHRUTI VERMAAssistant Professor
Resigned on November 2018



No. of Labs : UG+PG : 14

Research: 14

AWARDS AND HONOURS 2018-19 (FACULTY)

- 1. **Dr. C. C. Reddy** is Nominated as member of standards committee of Beuro of Indian Standards from January 1, 2019.
- 2. **Dr. C. C. Reddy:** Guest of Honor at CABLETECH 2018 organized by Indian Electrical & Electronics manufacturers Association, Delhi, August 24,2018

AWARDS AND HONOURS 2018-19 (STUDENT HONOURS)

- 1. Electronics Packaging Technology Conference (EPTC 2017) Best Student Paper Award "Investigating the Role of Sidewall Surface Roughness on the Performance of Through Silicon Vias"/Mr. Somesh Kumar, Supervisor: **Dr. Rohit Y Sharma**
- Best paper presentation at IGNITE 2018, Indian Institute of Technology Madras
 Title: Coded excited Infrared Imaging for testing and evaluation of mild steel
 materials.

Authors: Vansha Kher, Kirandeep Kaur, Geetika Dua, Ravibabu Mulaveesala.

Presenting Author: Vansha Kher

Venue: Center for Nondestructive Evaluation, Indian Institute of Technology, Madras.

3. Best Paper Award for students at IEEE ICIIS 2018

Title: Experimental Investigations on Remote Measurements of HV Electrode Current

Authors: Arshdeep Sandhu and Reddy C C

Presenting author: Arshdeep

INVITED LECTURES BY FACULTY

Dr. A. V. Raviteja

- Invited lecture on on "Science and Technology for Sustainable Development" NITTTR, Chandigarh, February 8, 2019
- 2. Invited for guest lecture "ICETE 2019" OSMANIA University, Hyderabad, March 22, 2019

Dr. Ashwani Sharma

- 1. Invited for talk on wireless propagation, NITTTR, Chandigarh, Februray 28, 2019
- 2. Industrial Visit for Prospective project, ID Tech solution P. Ltd, Delhi, February 26, 2019

Dr. Brijesh Kumbhani

- Invited for talk on opportunities and research challenges for future wireless technology at STC on 4G & 5G, NITTTR, Chandigarh, September 20, 2018
- 2. Sakura Exchange Program in Science, Japan Science and Technology Agency, January 21-25, 2019

Dr. C. C. Reddy

- Invited "Plenary Speaker" in international Conference IEEE Power India International Conference (PIICON) National Institute of Technology Kurukshetra, December 10-12, 2018
- 2. Invited talk "High voltage Engineering Generation, Measurement and its Applications (HVEGMA-2018), Electrical, National Institute of Technology Kurukshetra, July 7, 2018
- 3. Invitation to Join Panel Discussion on "Emerging technologies in Cables and wires", Indian Electrical & Electronics manufacturers Association, Delhi, August 24, 2018

Dr. J. Kalaiselvi

 Invitation as the Cheif guest and expert speaker in workshop "Applications of Power electronics in electrical Systems" BBSB Engineering College, Fatehgarh Sahib, January 15, 2019

Prof. J S Sahambi

- 1. Invited to deliver a lecture on "Embedded System Design", NITTTR Chandigarh, September 19, 2018
- 2. Invited for Presentation "Vice Chancellor's Workshop" January 24-25, 2019
- 3. Invited to attend One day Workshop "Margadarsgak, AICTE HQ, New Delhi, February 25-26,2018

Prof. Ramesh Garg

1. Invited as expert to evaluate UG Engineering program for grant of NBA accreditation, Ghaziabad, March 1-3, 2019

Dr. Ravibabu M

- 1. Invited to the IGNITE Symposium. ICSR Building Indian Institute of Technology Madras, India, November 3-4, 2018.
- 2. Invitation to the IGNITE Symposium, ICSR Building, Indian Institute of Technology Madras, November 3-4, 2018

Dr. Rohit Y Sharma

- 1. Invited to deliver lecture in a workshop, Indian Institute of Technology Madras, February 4-6, 2019
- 2. Invited for guest lecture in workshop, Indian Institute of Technology Madras, February 4-6, 2019
- Invited to deliver expert talk on "Current Avenues of Research in Electronics & Communication Engineering" National Institute of Technology, Jalandhar, March 28, 2019

Dr. S Murala

 Invitation for Guest Lecture on "Application of Deep learning to One Dimensional Signal", Dr. Akhilesh Das Gupta Institute of Technology & Management, August 17, 2018

Dr. Saifullah Payami

 Invited to deliver a expert lecture in faculty development programme "Advances in Control and Its Application in Power Technology (ACAPT)" Department of Electrical Engineering, Integral University Lucknow, September 25-27, 2018

- 2. Invited to deliver a lecture on "Recent Advances and Industrial applications of Power Electronics Converters and Electrical Mechanics" Sponsored by TEQIP-III, Aligarh Muslim University, Aligarh, October 22-23, 2018.
- 3. Invited to deliver a expert lecture in faculty development programme "Advances in Industrial Automation" NSIT, Amhara, Bihta, Patna, December 10-14, 2018

Dr. Sam Darshi

- Guest of honor and Expert Lecture on "Advanced wireless communication and its implications organized by B.B.S.B. Engineering College, Fatehgarh Sahib, Punjab, September 11, 2018
- 2. Invited for talk on "Techniques for Low Power Devices Paradigm for Upcoming Wireless Networks", NITTTR, Chandigarh, November 27, 2018
- 3. Invited to deliver expert lecture for a short term course on "Next Generation Wireless Technologies" NITTTR, Chandigarh, November 7,2018
- 4. To represent Institute in Pravasi Bhartiya Diwas 2019, Varanasi, January 1 23, 2019

Dr. Satyam Agarwal

1. Invited to attend INDIA Drone Festival 2019, Information Technology Development Agency, Dehradun, February 25-27, 2019

Dr. Suman Kumar

- Invited as expert talk and attend Research Collaboration Meeting, MNIT Jaipur, July 26-28, 2018
- 2. Invited to attend India Drone Festival 2019m, Information Technology Development Agency, Dehradun, February 26-27, 2019

Dr. Vinayak Hande

1. Special Manpower Development Programme for Chips to System Design (SMDP-C2SD), 4th ZOPP Workshop, The International Center Goa, Goa, October 25 - 26, 2018

LECTURES BY VISITING EXPERTS:

Sr. No.	Name of the Experts with Affiliation	Topic	Date
1.	Dr. Ashish Kumar, CSIO lab, Chandigarh	"Journey of DIVYANAYAN"	February 22, 2019
2.	Prof. Santanu Chaudhury, Director, Central Electronics Engineering Research Institute, Pilani	"Deep-Learning Applications"	July 31, 2018
3.	Prof. S.S.Murthy, Former Professor, Indian Institute of Technology Delhi	"Catch up Strategies for New IITs to Catch up Old IITs"	July 31, 2018
4.	Prof. V. Ramgopal Rao Director, Indian Institute of Technology Delhi	5 th S.S. Bhatnagar Lecture	March 27, 2019
5.	Prof. Vijay Sood, Ontario Tech University, Canada	Synchronization Techniques for Power Converters	December 28, 2018

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. Brijesh Kumbhani	Japan Science and Technology Agency , Tokyo Japan	Japan Aisa Youth Exchange Program in Science, Sakura Exchange Program in Science, January 20-26, 2019
2.	Dr. Rohit Y Sharma	Canada	Academic Delegation, September 10-20, 2018
3.	Dr. S Murala	Hawaii, USA	Attended the WACV-2019, January 7-11, 2019
4.	Dr. Suman Kumar	University of Southampton	Research collaboration, September 17-29, 2018

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1.	Mr. Avnish Upadhyay	CANCUN Mexico	Conference on Electrical Insulation and Dielectric 2018, October 21-24, 2018
2.	Mr. Kapil Chauhan	Bosnia	IEEE 21st Industrial Electronics, November 2018
		Cork, Ireland	Conference :IEEE NANO 2018, UCC/Tyndall, July 21-28, 2018
3.	Mr. Manoj Yadav	National Chiao Tung University Hsinchu, Taiwan	"Short term research" September 24, 2018 - January 24, 2019
4.	Mr. Sachin Chaudhary	Miyazaki , Japan	Conference: IEEE International conference on System man & Cybernetics, October 7-10, 2018
5.	Ms. Yashasvi Bansal	Singapore	2018 IEEE PES Innovative Smart Grid Technologies Asia (ISGT Asia 2018), May 22-25, 2018

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

S.No	Name of Faculty	Project Title	Duration	Amount	Sponsored
1.	Dr. Ashwani Sharma	Design and development of miniaturized cost-effective antennas for Internet of Things and 5G technology	36 months.	50 Lakhs	DST-SERB
2.	Dr. C. C. Reddy	Consultancy	6 months	Rs. 4.9 Lakhs	Reliance Infra

3.	Dr. C C Reddy	Design and development of Flux Compression Generator (FCG) Simulator Contract no: TBRL/CARS/97/2019 dt. 19.01.19	2.5 yrs	32.76 Lakhs	
4.	Dr. J Kalaiselvi	Mitigation of common mode issues in SiC Converter fed induction motor drive. (SERB, ECRA)	36 months.	3329560/-	
5.	Dr. Rohit Sharma	Technical reviews of MCM layout & SI-PI analysis and guidance for package performance optimization (Consultancy Project)	2 months (15/4/18 to 15/6/18)	Rs. 1 lakh)	Semiconduct or Lab, ISRO, Mohali
6.	Dr. Rohit Sharma	Performance optimization of MCM-K & MCM-V layout and signal/Power Integrity analysis.	2 Months	50000/-	
7.	Dr. Ranjana Sodhi	Efficient Energy Management System for Smart Residential Networks Via Intelligent Web based Services,	36 months	32 Lakhs	funded under Core Research grant, DST- SERB, New Delhi
8.	Dr. S Murala	Automatic Driver Assistance Technology: Fog Removal in Videos (SERB)	36 Months	29.65 Lakhs	DST-SERB
9.	Dr. S Murala	Piston Quality Detection (Along with Dr. Abhinav, CSE)	2 Months	2.48 Lakhs	YAMAHA India Pvt. Ltd.
10.	Dr. S Murala	Technical Discussion on Face Detection (Along with Dr. Abhinav, CSE)	1 Months	1.24 Lakhs	YAMAHA India Pvt. Ltd.
11.	Dr. Saifullah Payami	Development of a Five-Phase SRM for In-Wheel Drive Application with Fault-Tolerant Features for Plug-In Electric Vehicles Suitable for Indian Roads	36 Months	53.39Lacs	SERB/DST
12.	Dr. Satyam Agarwal	Wireless Networking for Sustainable rural connectivity	60 months	35 Lakhs	DST (Inspire)

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

Programs offered : Ph.D

No. of Students : Regular Ph.D: 24, Part Time: 02

Head of the Department : Dr. Samaresh Bardhan

No. of faculty members : 16
No. of staff members : 02

Technical Staff : 01

Administrative Staff: 01

No. of Publications : 10

Thrust Area:

- · Development Economics
- Energy and Environmental Economics
- International Economics and Finance
- North American Literatures
- Gender Studies
- · Visual Culture Studies
- Language and cognition
- · Theoretical Linguistics
- Natural Language Processing
- · Philosophy of Science

- Western Epistemology and Metaphysics
- Brand Management
- · Consumer Behavior
- Services marketing
- Transformative Service research
- Digital Marketing strategy
- Depression, Aggression, Social Cognition, Cognitive Biases, Emotion Regulation.
- Sociology of Science and technology and Innovation studies.

FACULTY MEMBERS



Dr. AmriteshAssistant Professor
Ph.D (Indian Institute of
Technology Kanpur)
Services marketing,
transformative service
research, digital marketing
strategy



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



Dr. Aparna N.Assistant Professor
Ph.D (Indian Institute of
Technology Madras)
War Literature, Historiographic
Fiction, Memory Studies,
Postmodern Fiction



Dr. Bhavesh Garg
Assistant Professor
Ph.D (Indian Institute of
Technology Hyderabad)
Open Economy
Macroeconomics, Time Series
Econometrics



Bijoy H. Boruah
Assistant Professor
Ph.D (Philosophy), University
of Guelph
Philosophy of Mind;
Metaphysics of the Self;
Philosophical Aesthetics;;
Philosophy of Literature;
Ethics and Value Theory



Dr. Devaraj P.Assistant Professor
Ph.D in Sociology (University of Hyderabad)
Sociology of Science and Technology, and Innovation Studies



Dr. Dibyakusum Ray
Assistant Professor
Ph.D (English and Foreign
Languages University,
Hyderabad)
English Literature, Continental
Aesthetics, Hard Sci-fi,
Fantasy/Horror Literature,
Cultural Politics, Literature in
Translation, 'Genre Film'



Dr. Dipanjan Kumar Dey Assistant Professor Ph.D (IFHE University Hyderabad) Consumer behavior and psychology, Brand Management, International Marketing, Sustainability



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



Dr. Parwinder SinghPh.D (Punjabi University
Patiala, Punjab)
Depression, Aggression, Social
Cognition, Cognitive Biases,
Emotion Regulation



Dr. Rano RingoAssistant Professor
Ph.D (Indian Institute of
Technology Roorkee)
Gender studies, Postcolonial
studies, and Modern fiction



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



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



Dr. Somdev Kar
Associate Professor
Ph.D (University of Tübingen,
Germany)
Phonetics, Computational
Phonology, Optimality Theory,
Speech Processing, Natural
Language Processing,
Morphology, Forensic
Linguistics



Dr. Sreekumar JayadevanAssistant Professor
Ph.D (University of Hyderabad)
Philosophy of Science, Formal
Logic, Aesthetics and
Philosophy of Design



Dr. Swathi Krishna S.
Assistant Professor
Ph.D (Indian Institute of
Technology Hyderabad)
Contemporary American
Literature, Women's Literature,
Road Narratives, Feminist
Theory, Gender Studies

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

Name of the lab : Cognitive Lab

Name of the Head of the Research lab: Dr. Kamal Kumar Choudhary

Name of the lab : Language and Linguistics Lab

Name of the Head of the Research lab: Dr. Dibyakusum Ray

INVITED LECTURES BY FACULTY

Dr. Dipanjan Kumar Dey

- Project Funding for academic institutes, MBA, Chandigarh Business School of Administration CGC, Landran, Punjab, January 4, 2019
- Workshop on "Business Analytics", MBA, Chandigarh Business School of Administration CGC, Landran, Punjab, February 11-15, 2019

Dr. Bijoy H Boruah

- "Technoscience and the Transhumanist Imagination", Social Sciences & Humanities, Indraprastha Institute of Information Technology Delhi, February 11, 2019
- "From Interface to Cyberspace: The Metaphysics of Virtual Reality", Department of Philosophy, Ashoka University, February 12, 2019

- "Human Creature, Human Person, and the Possibility of Human Values", School of Philosophy and Culture, Sri Mata Vaisno Devi University (SMVDU), March 25, 2019
- "Architectural Understanding", School of Architecture, School of Architecture & Landscape Design, Shri Mata Vaishno Devi University, March 26, 2019
- "From Technoscience to a Posthuman World", School of Language and Literature, School of Architecture & Landscape Design, Shri Mata Vaishno Devi University, March 27, 2019
- "Constitutional Morality and Citizen Agency", School of Philosophy and Culture, SMVDU, March 28, 2019

INVITED LECTURES BY FACULTY

Sr. No.	Name of the Faculty	Lecture	Department	Institute	Date
1	Dr. Dipanjan Kumar Dey	Project Funding for academic institutes	MBA	Chandigarh Business School of Administration CGC, Landran, Punjab	January 4, 2019
2	Dr. Dipanjan Kumar Dey	Workshop on "Business Analytics"	MBA	Chandigarh Business School of Administration CGC, Landran, Punjab	February 11th- 15th, 2019
3	Bijoy H Boruah	"Technoscience and the Transhumanist Imagination"	Social Sciences & Humanities	Indraprastha Institute of Information Technology Delhi	February 11, 2019
4	Bijoy H Boruah	"From Interface to Cyberspace: The Metaphysics of Virtual Reality"	Department of Philosophy	Ashoka University	February 12, 2019
5	Bijoy H Boruah	"Human Creature, Human Person, and the Possibility of Human Values"	School of Philosophy and Culture	Sri Mata Vaisno Devi University (SMVDU)	March 25, 2019
6	Bijoy H Boruah	"Architectural Understanding"	School of Architecture	SMVDU	March 26, 2019
7	Bijoy H Boruah	"From Technoscience to a Posthuman World"	School of Language and Literature	SMVDU	March 27, 2019
8	Bijoy H Boruah	"Constitutional Morality and Citizen Agency"	School of Philosophy and Culture	SMVDU	March 28, 2019
9	Devaraj. P	"Subaltern Technoscience: A Theoretical Framework"	Humanities and Social Sciences	Indian Institute of Technology, Guwahati	November 2, 2018
10	Somdev Kar		Linguistic Research Unit (LRU)	Indian Statistical Institute, Kolkata	

11	Rano Ringo	"Body Language and Soft Skills"	Dept. of Engineering	Chandigarh University, Gharuan	January 29, 2019
12	Sreekumar Jayadevan	"Scientific Representation, Realism and Historical Challenge: A Roadmap for Pluralistic Split Epistemic Realism"	Dept.of Humanities and Social Sciences	Azim Premji University	June 22, 2018
13	Amritesh	Case Writing Workshop	Management	Chandigarh Business School of Administration CGC, Landran, Punjab	15th October 2018
14	Swathi Krishna S.	"Reclaiming the Road: The Resilient Female Traveler in Joyce Carol Oates's Rape: A Love Story"	Northeast Modern Language Association Convention	Georgetown University (Host Institution)	23rd March, 2019
15	Samaresh Bardhan	"Structural Changes, Composition of Credit and Growth: Evidence from Indian States"	National Workshop on "Growth and Productivity of Indian Economy: Contemporary Issues"	Delhi School of Economics, University of Delhi	11-12 th February 2019

LECTURES BY VISITING EXPERTS:

Sr. No.	Name of the experts with affiliation	Торіс	Date
1	Dr. Santhosh Abraham Department of Humanities and Social Studies , Indian Institute of Technology Madras	"Colonial Archives on Psychiatry: Some Observations on Lunatic Asylum Data"	March 12, 2019
2	Dr. Sambit Mallick Associate Professor of Sociology Department of Humanities and Social Sciences, Indian Institute of Technology Guwahati	"Coevolution of Science and Society"	March 8, 2019
3	Dr. Swargajyoti Gohain Ashoka University	"Himalayas as an Imagined Geography"	February 22, 2019
4	Dr. Veena D. Dwivedi, Brock University	"Issues in Cognitive Neuroscience of Language: what is a 21 st century researcher to do?"	February 19, 2019
5	Dr. Anik Nandi, Queen's University of Belfast	"Researching language policy and planning on the ground"	December 20, 2018
6	Prof. T. Ravichandran	"To be Human, or Not to be Human, that is the Posthuman Question!"	November 27, 2018
7	Dr. Dibyendu Maiti Associate Professor, Delhi School of Economics, University of Delhi	"Informality, Governance and Growth"	September 14, 2018

8	Dr. Parichay Patra Assistant Professor, Dept. of Humanities and Social Sciences, BITS Pilani, Goa, India	" Beyond the Nation Not Within: A Transnational Travelogue"	September 13, 2018
9	Dr. Santoshi Halder Associate Professor in the Department of Education, University of Calcutta, India.	"Blended Technological Approaches as Effective Intervention for Inclusion of People with Autism Spectrum Disorder and Future Roadmap"	August 21, 2018
10	Dr. Indranil Dutta , English and Foreign Languages University, Hyderabad	Talk 1: Is speech special? Models of speech production and perception and their role in shaping our understanding of how humans process speech	August 16, 2018
11	Dr. Indranil Dutta , English and Foreign Languages University, Hyderabad	Talk 2: Modeling coarticulation and contrast in vowel harmony languages	August 17, 2018
12	Dr. Divya Dwivedi, Dept. of Humanities & Social Sciences, Indian Institute of Technology Delhi	"Literary Aesthesis and Self-Reflexivity"	August 03, 2018,
13	Dr. Updesh Kumar, DRDO	"Psychological Underpinnings of Suicidal Behaviour"	September 07, 2018

VISITS ABROAD BY THE FACULTY:

Sr. No.	Name of the faculty member	Country	Purpose of Visit with date
1	Dr. Samaresh Bardhan	Cardiff Business School, Cardiff University, UK	Collaborative Research Under the aegis of Summer Visitation Programme of the Institute, 2018 from June 10 - July 21, 2018 (6 weeks)
2	Dr. Swathi Krishna S.	USA	To present a paper at the 50th Annual North East Modern Language Association Convention at Washington, DC, March 21-24, 2019
3	Dr. Parwinder Singh	France	To present a paper at 3rd Biennial International Convention of Psychological Science organized by Association of Psychological Science, March 7-9, 2019.

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

S. No	Name of Faculty	Project Title	Duration	Amount	Sponsored
1	Dr. Samaresh Bardhan	Growth and Convergence in Indian States: Implications for Credit Spillovers and Social Banking	March 11, 2019- ongoing	Rs. 840000/-	External Research project grant under the IMPRESS (Impactful Research on Social Sciences) Scheme of Indian Council of Social Science Research (ICSSR), Ministry of Human Resource Development, New Delhi, India
2	Dr. Smruti Ranjan Behera	Foreign Direct Investment and Innovative Performance of Local Firms: Evidence across Indian Manufacturing Industries	2018-2020		Funded by Indian Council of Social Science Research (ICSSR), New Delhi, India

DEPARTMENT OF MATHEMATICS

Programs offered : Ph.D & M.Sc.

No. of Students : M.Sc. : 38

Ph.D : 39

Post Doc : 03

Head of the Department : Dr. Arvind Kumar Gupta

No. of faculty members : 14

No. of staff members : 02

Technical Staff : 01

Administrative Staff: 01

Thrust Area : Analysis and Algebra

Probability and Statistics

Modeling and Simulations

Theoretical Computer Science

No. of Publications : 29

FACULTY MEMBERS



Dr. A. Sairam Kaliraj
Assistant Professor
Ph.D(Indian Institute of
Technology Madras)
Harmonic mappings in the
plane, Function spaces on the
unit ball in C



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



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



Dr. Arvind Kumar GuptaAssociate Professor
Ph.D(Indian Institute of
Technology, Roorkee) *Mathematical modelling of traffic flow, Cellular Automata*



Dr. Bidhan Chandra SardarAssistant Professor
Ph.D(Indian Institute of
Science, Bangalore)
Homogenization and Optimal
control of PDE



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



Dr. G Sankara Raju KosuruAssistant Professor
Ph.D (Indian Institute of Technology, Madras)
Functional analysis, Operator theory, Matrix Analysis



Dr. Manju KhanAssociate Professor
Ph.D(Indian Institute of
Technology Delhi) *Algebra*



Dr. Manoranjan MishraAssociate Professor
Ph.D(Indian Institute of
Science, Bangalore)
Fluid dynamics, Scientific
computing



Dr. M. PrabhakarAssociate Professor
Ph.D(Indian Institute of
Technology Delhi)
Low-dimensional Topology



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



Dr. Santanu Sarkar Assistant Professor Ph.D(Indian Institute of Science, Bangalore) Operator Theory, Functional Analysis



Dr. S. C. Martha
Associate Professor
Ph.D(Indian Institute of
Technology Guwahati)
Mathematical modelling on
water waves phenomenon,
integral equations



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

ONGOING ACTIVITIES

- Department seminars by Experts
- Department Research Day: Cynosure (annual)
- · Conferences and workshops

- Students seminar series
- Student Internship
- Faculty Internship

FACILITIES:

No. of Research Labs: 2

DETAILS OF RESEARCH LABS

Sr. No.	Type of Lab	Name of Lab	Head /Faculty Incharge of Lab	Name of Equipments (Research Labs)
1.	Research	Fluid Dynamics Research Lab	Dr. Manoranjan Mishra	Desktops and workstation
2.	Research	Computing Lab	Dr. Sairam Kaliraj	Desktops

AWARDS AND HONOURS 2018-19 (FACULTY)

S.No.	Name of the scholar	Details of awards and honours	
1.	Manoranjan Mishra	P.L. BHATNAGAR MEMORIAL AWARD, by Indian Mathematical Society (IMS) 2018.	
		Member of the NATIONAL ACADEMY OF SCIENCES (NASI), India	
		JSPS (Japan Society of Promotional Science) invitation fellowship 2019	
2.	Tapas Chatterjee	Awarded OPEN ARMS GRANT for ICM 2018 of 8800 Brazilian Reals.	
		Awarded NBHM travel grant of Rs 3,00,000 to deliver a talk in ICM 2018.	

AWARDS AND HONOURS 2018-19 (STUDENT)

S.No.	Name of the scholar	Details of awards and honours
1.	Vandita Sharma	 Best oral presentation award at Research conclave, IIT Ropar held on April 21, 2018. CSIR travel grant covering full air fare to attend 12th European Fluid Mechanics Conference held at Vienna, September 9-13, 2018.

INVITED LECTURES BY FACULTY:

Dr. A. K. Gupta

- International Conference on Applied and Computational Mathematics (ICACM-18), Indian Institute of Technology Kharagpur, November 23-25, 2018.
- "Stochastic Modelling of Biological/Vehicular Transport Processes" in the QIP course on "Mathematical Modelling and Numerical Simulation of Various Engineering Problems in Transport Phenomena", Indian Institute of Technology Roorkee, July 2-6, 2018.
- "Mathematical Modelling of Transport Processes" in a short term course (TEQIP III Sponsored) on 'Mathematics in Engineering', Punjab Engineering College, during June 4-9, 2018.

Dr. A. Sairam Kaliraj

- "Complex Analysis", One Week workshop on Algebra, Analysis and Descriptive Statistics, MEPCO Schlenk Engineering College, Sivakasi, June 4-9, 2018
- "Harmonic Functions and Minimal Surfaces" Physics Department Seminar Series of Sri Sathya Sai Institute of Higher Learning, Brindavan Campus, Bangalore, October 20, 2018.
- "Applications of Special Functions in Function Theory", 84th Annual Conference of the Indian Mathematical Society: An International Meet, Shri Mata Vaish nt Harmonic Polynomials", The 5th Annual National Conference in Mathematics on Recent Developments no Devi University, Jammu November 28, 2018.
- "Approximation of Harmonic Mappings" by Univale in Algebra and Analysis, Govt. Gandhi Memorial Science College, Jammu, December 2018.
- "Applications of Hardy Spaces Techniques to Geometric Function Theory" The National Seminar on Complex Analysis and Operator Theory, 28th Annual Conference of the Jammu Mathematical Society, at the University of Jammu, Jammu, March 29, 2019.

Dr. Arti Pandey

- "Organizing Secretary of Cynosure-2018 and National Symposium on Advances in Mathematics", Indian Institute of Technology Ropar, October 12, 2018
- "Complexity of Domination and Its Variations", 4th International Conference in Discrete Mathematics, National College, Trichy, December 14-17, 2018.
- "Algorithmic Aspects of Semitotal Domination in Graphs", CG Lab, Carleton University, Canada, May 25, 2018.

Dr. Arun Kumar

- "Subordinated Stochastic Processes and Continuous Time Random Walks", Indian Institute of Information and Technology Delhi, March 14, 2019.
- "Probability & Statistics With Applications", DAVIET Jalandhar, February 15, 2019.
- "Introduction to Data Science" at Indian Institute of Management Indore, on January 23, 2019.
- "Option Pricing Under Multi-Period Binomial Model", Indian Institute of Management, Indore, January 22, 2019.
- "Introduction to Data Science Using Python", Lyallpur Khalsa College Jalandhar, December 23, 2018.

Dr. GSRaju

- "Majorization on infinite dimensional spaces", the international conference on recent advances in operator theory and operator algebras (OTOA-2018), ISI Bangalore, Bangalore, December 19-22, 2018.
- "On the existence best proximity points and application to applications to differential equations", One day symposium on mathematical analysis and applications, Indian Institute of Technology Ropar, March 14, 2019, held at IIT Ropar.
- "Best proximity points and application to game theory", the international workshop on fixed point theory and applications 2019, Jamia Islamia University, New Delhi, March 16-18, 2019.

Dr. Manoranjan Mishra

- "Non-modal stability analysis of miscible viscous fingering in porous media, Multiphase and Interface Fluids Symposium", University of Florida, Gainseville, USA, November 15-16, 2018
- "Hydrodynamic instability in porous media flows: 84th Annual Conference of the Indian Mathematical Society", Sri Mata Vaisno Devi University, Katra, November 27-30, 2018.
- "Modelling and simulations of hydrodynamic instabilities in porous media flows" MCM DAV College, Chandigarh, February 9, 2019

Dr. Partha S. Dutta

• Two lectures on "Population Models I & II", IFCAM Summer School on Mathematical and Computational Biology", Indian Institute of Science, Bangalore, July 17-18, 2018

Dr. S. C. Martha

- "Modelling on Wave Structure Interaction and Applications", 13th Chandigarh Science Congress (CHASCON-2019), Panjab University Chandigarh, March 13-19, 2019
- "Surface Wave Differential Equation and Applications", Mathematics Department Seminar Series, A.S.B.A.S.J.S. Memorial College, Bela, Ropar, February 25, 2019.
- "Application of Linear Algebra in Scattering of Water Waves by Barrier", National Seminar on Advances in Mathematical & Information Sciences, Sri Guru Teg Bahadur Khalsa College, Sri Anandpur Sahib, Punjab, February 23, 2019.
- "Future in Mathematics Subjects and Role of Mathematics in Society, DST-INSPIRE Internship Camp" S.S.M College Dinanagar, September 30, 2018
- "Partial Differential Equations, Boundary Value Problems and Applications in Engineering", Faculty Development Programme (FDP) in Department of Mathematics, Lovely Professional University, Punjab, India, August 18, 2018
- "Model and Analysis of Surface Wave interaction with Structure and Undulating Bed", School of Naval Architecture and Mechanical-Electrical Engineering, Zhejiang Ocean University, Zhoushan, July 02, 2018
- "Modelling of Wave Structure Interaction over Arbitrary Bottom Topography" Shanghai Institute of Applied Mathematics and Mechanics, Shanghai University, Shanghai, June 28, 2018
- "Mathematical Modelling on Wave Structure Interaction in Finite Depth of Water", School of Naval Architecture, Ocean and Civil Engineering, Shanghai Jiao Tong University, Shanghai, June 27, 2018

Dr. Tapas Chatterjee

- "Period Dirichlet series and Transcendence", Cardiff University, Cardiff, UK, February 21, 2018
- "Non-vanishing of Dirichlet series with periodic coefficients", Nagoya University, Nagoya, Japan, June 15, 2018.
- "Special values of Riemann Zeta function and a conjecture of Milnor" Tokyo Institute of

- Technology, Tokyo, Japan, June 22, 2018
- "Non-vanishing of Dirichlet series and a conjecture of Erdos", International congress of Mathematicians, Rio de Janeiro, Brazil, August 8, 2018
- "Numbers: from ancient times to modern era", Jadavpur University, Kolkata, India, September 20, 2018
- "The Art of Research" to the Symposium on Mathematical Analysis and Applications", Indian Institute of Technology Ropar, India, March 14, 2019

LECTURES BY VISITING EXPERTS

	Name of the experts with affiliation	Topic	Date
1	Prof. Argha Mondal, Computational Neuroscience Center, University of Washington, Seattle, USA.	"Diffusion dynamics of a conductance based neuronal population"	February 21, 2019
2	Prof. A. K. Nandakumaran, Department of Mathematics, IISc. Bangalore	"Role of Analysis and Linear Algebra in Differential Equations"	November 23, 2018
3	Prof. Aditya Maheshwari, Department of Mathematics, Indian Inmstitute of Management Indore	"Fractional Poisson Process"	May 25, 2018
4	Prof. A. N. Gill, Department of Statistics, Panjab University Chandigarh	"Distribution of Penalized/Uniformly Minimum Variance Unbiased Estimators of Two Parameter Exponential Distribution and Related Inferences in One and MultiSample Problems"	May 4, 2018
5	Prof. Gadadhar Mishra, IISc Bangalore	"A product formula for homogeneous characteristic functions"	March 14, 2019
6	Prof. Kalaivani, VIT Vellore	"Hausdorff-Summability methods on different spaces"	March 08, 2019
7	Prof. Patrice Philippon, Institut de Mathématiques de Jussieu, Paris-Sorbonne University, Paris, France.	"Around an abelian Schanuel"	January 10, 2019
8	Prof. Pradeep Siddheshwar, Department of Mathematics, Bangalore University	"Complicated dynamics from simple-looking differential equations"	November 22, 2018
9	Prof. Phoolan Prasad, IISc. Bangalore	"Kinematical Conservation laws"	April 11, 2018
10	Prof. Rama Mishra, IISER Pune	"Introduction to Volume Conjecture"	December 3, 2018
11	Prof. S. K. Khanduja, IISER Mohali	"A walk through integrally closed domains"	January 7, 2019
12	Mr. Siva Sunder A, Development Engineer, IBM, Bangalore	Influence of Mathematics and it's applications in Machine Learning & Computer Vision	March 8, 2019
13	Prof. S. Kumaresan, University of Hyderabad	"Invariant Subspaces in Linear Algebra"	March 14, 2019
14	Prof. Susil Kumar Bishoi, Scientist D, Centre for Artificial Intelligence and Robotics, DRDO, Bangalore	"Word based LFSR for random number generation"	April 6, 2018

VISITS ABROAD BY THE FACULTY:

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1	Dr. Arti Pandey	Canada	Visited Carleton University, Ottawa, Canada under Summer Visitation program, May 20 - July 4, 2018
2	Dr. Manoranjan Mishra	USA	71st Annual meeting of the American Physical Society Division of Fluid Mechanics, Atlanta
		Austria	12th European Fluid Mechanics Conference, September 9-13, 2018 at Vienna
3	Dr. S. C. Martha	China	Shanghai Jiao Tong University, Shanghai During June 04 to July 06, 2018.
4	Dr. Tapas Chatterjee	Japan	Visited Nagoya University and Tokyo Institute of Technology during June-July, 2018
5	Dr. Tapas Chatterjee	Brazil	International Congress of Mathematicians (ICM 2018) during August, 2018.
6	Dr. Tapas Chatterjee	UK	Cardiff University for GCRF meeting in February 2018

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1.	Atul Kumar Verma	Italy	Attended "Spring College on Physics of Complex Systems" organized at ICTP, Italy, Februry 25 - March 22, 2019
2.	Vandita Sharma	Austria	Attended 12th European Fluid Mechanics Conference, Vienna, September 9-13, 2018
3.	Anoop Kumar	Austria	Attended 12th European Fluid Mechanics Conference 2018 at Tu Wien, Vienna, Austria, September 9-13,2018.
4.	Surinder Kaur	Germany	workshop "GAP in algebraic research" RWTH University, Aachen, Germany, November 19 -22, 2018

5.	Tripti Midha	Washington, USA	 Attended SIAM CSE19 conference in Spokane from 25th Feb 25, 2019 to March 1st, 2019. Also presented my research work.
		Boston, USA	 Attended APS March meeting 2019 from March 4-8, 2019 in Boston, MA, USA. Also presented my research work.
		Texas, USA	Six months Indo-US Wistemm Intern in Rice University, Houston Texas from Oct 1 2018 - March 31 2019
6.	Amrendra Gill	Russia	All-Russian conference on mathematics and mechanics, Tomsk state University Russia, October 2-4, 2018
7.	Suraj Singh Khurana	Armenia	Attended a WAMS school titled "The mathematics of Artin's conjecture", Yerevan State University, Yerevan, Armenia, May 21- 25, 2018.

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

S. No.	Name of Faculty Member	Title of Project	Funding Agency	Amount Sanctioned
1.	Dr. G S Raju	On The Existence of Best Proximity Pairs and Generalized Equilibrium for Constrained Games	DST-SERB (Young Scientist)	15,07,000
2.	Dr. Manoranjan Mishra	Modeling and simulation of hydrodynamic instability with chemical reaction	SERB	6,60,000
3.	Dr. Santanu Sarkar	DST- INSPIRE Research Faculty Award	DST-Inspire Faculty Award	35,00,000
4.	Dr. Tapas Chatterjee	Bounded Gaps between primes over number fields	MATRICS-SERB	6,60,000
5.	Dr. Tapas Chatterjee	Study of non-vanishing and transcendence results of some L-functions	NBHM-DAE	14,00,600
6.	Department of Mathematics	DST (FIST Program)	DST	77,00,000

DEPARTMENT OF MECHANICAL ENGINEERING

Programs offered : B.Tech., B.Tech.-M.Tech. (Dual Degree),

M.Tech., Ph.D

No. of Students : B.Tech. : 250

M.Tech. : 56

Ph.D : 106

Head of the Department : Dr. Ekta Singla

No. of faculty members : 24

No. of staff members : 07

Technical Staff : 6

Administrative Staff: 1

Thrust Area : Additive Manufacturing

Intelligent Manufacturing

Biomechanics

Energy

No. of Publications : 87

FACULTY MEMBERS



Dr. Anshu Dhar JayalAssistant Professor
Ph.D (University of Utah)
Sustainable manufacturing technologies



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



Dr. Chandrakant Kumar Nirala Ph.D (Indian Institute of Technology Patna) Manufacturing

Dr. Chander Shekhar



Sharma
Ph.D (ETH Zurich)
Phase Change Fluid Dynamics
and Thermal Transport, Surface
Micro and Nano Engineering
for Optimal Phase Change,
Robust and Scalable
interfaces, Exergetically
Efficient Systems, Electronic
Thermal Management, Single
and Multiphase Convective
Cooling, Computational Fluid
Dynamics, Experimental
Techniques for Heat Transfer
and Fluid Phenomena.



Dr. Devranjan Samanta
Ph.D (Saarbrucken University
and Max Planck Institute for
dynamics and self
Organisation, Goettingen,
Germany)
Transition to turbulence, NonNewtonian flows, Biological
flows, heat transfer



Dr. Dhiraj K. Mahajan
Ph.D (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
Ph.D (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
Ph.D (Indian Institute of
Technology Roorkee)
Surface EngineeringDegradation of Materials, High
Temperature Corrosion and its
Protection, Slurry Erosion of
Hydraulic Turbines and its
Control, Biomedical Coatings



Dr. Himanshu Tyagi
Ph.D (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
Ph.D (Michigan State
University, USA)
Biomechanics, Bone Fracture
Healing, Mechanotransduction,
Structural and Multidisciplinary
Design Optimization,
Computational Mechanics, and
Agent Based Modelling.



Dr. Lipika Kabiraj
Ph.D (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
Ph.D (Indian Institute of
Technology Delhi)
Biomechanics, Biological and
Bio materials characterization,
Finite element modeling (FEM),
Biomedical Instrumentation
and Bio-implants, Active and
passive vibration and Noise
control, Fault diagnostics and
condition-monitoring.



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



Dr. Prabhat K. Agnihotri
Ph.D (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
Ph.D (Indian Institute of
Technology Madras)
Applied Multiphysics, Micronano-fluidics, Fluid Dynamics
and Thermal Sciences,
Electromagnetism, Soft Matter,
Nanotechnology in Engineering
and Medicine.



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



Dr. Ramjee Repaka
Ph.D (Indian Institute of
Technology Kharagpur)
Bioheat Transfer, Cancer
Diagnosis and Therapy, Heat
Transfer, Thermal Engineering,
High performance Buildings,
Refrigeration, Air Conditioning
and Ventilation.



Dr. Ranjan DasPh.D (Indian Institute of Technology Guwahati)
Heat and Mass Transfer,
Optimization of Thermal
Systems, Renewable Energy



Dr. Ravi Kant
Ph.D (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. Sachin Kumar
Ph.D(Indian Institute of
Technology Roorkee)
Finite Element Method,
Extended Finite Element
Method, Meshfree Methods,
Fracture and Damage
Mechanics



Dr. Samir Chandra Roy Ph.D(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 and materials evaluation, High rate deformation of material and characterization, Finite Element Analysis.



Prof. Sarit K. Das
Ph.D (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 SinghPh.D (Indian Institute of Science, Bangalore) *Applied Mechanics, Numerical Methods*



Dr. Srikant Sekhar PadheePh.D (Indian Institute of
Science, Bangalore)
Variational Asymptotic Method,
Multifunctional and Functionally
Graded Composites

FACILITIES

No. of Labs : UG/PG : 14 Research : 26

NAMES OF THE UG AND PG LAB

1.	Manufacturing Lab
2.	Condition Monitoring and Acoustics Laboratory
3.	Micromanufacturing Laboratory
4.	Refrigeration and Air Conditioning (RAC) Laboratory
5.	Modeling and Simulation Laboratory
6.	Biomedical Engineering Lab
7.	Tribology and Composite Laboratory
8.	Drawing Laboratory-I
9.	Drawing Laboratory-II
10.	Thermo Fluids Laboratory
11.	Robotics Lab
12.	Design Studio
13.	Design Lab-I
14.	Design Lab-II
15.	Engine and Propulsion Laboratory

NAME OF THE HEAD OF THE RESEARCH LAB:

		T
1.	Surface Engineering Laboratory	Prof. Harpreet Singh
2.	Material Behavior Research Laboratory (MBRL)	Dr Samir Chandra Roy
3.	Material Processing Research Laboratory	Dr Ravi Kant
4.	Thermal and Energy Conversion Laboratory	Dr Ranjan Das
5.	Ropar Mechanics of Materials Lab (RMML)	Dr Dhiraj Kumar Mahajan
6.	Mechanics of Advanced Materials Laboratory (MAdMatLab)	Dr Prabhat Kumar Agnihotri
7.	Micro Machining and Monitoring Laboratory(MMML)	Dr Chandrakant Kumar Nirala
8.	Modular and Intelligent Robotics Lab	Dr Ekta Singla
9.	MUSE Lab	Dr Srikant Shekhar Padhee
10.	Computational Mechanics Research Lab (CMRL)	Dr Sachin Kumar
11.	BioMechanical Creativity & Innovation Lab (BMCIL)	Dr Jitendra Prasad
12.	Department Research Facilities	DRF Coordinator
13.	Fluid Mechanics Lab	Dr Devrajan Samanta
14.	Advanced Manufacturing Technology Laboratory (AMTL)	Dr Anupam Agrawal
15.	HASO TLab	Dr Navin Kumar
16.	Nanoscale Thermophysics and Solar Energy (NTSE) Research Laboratory	Dr Himanshu Tyagi
17.	Sustainable Manufacturing Innovations Lab	Dr Anshu Dhar Jayal
18.	Design Research Laboratory	Dr Prabir Sarkar
19.	Thermofluidics Research Lab	Dr Chander Shekhar Sharma
20.	Minimally Invasive Therapies (MInT) Laboratory	Dr Ramjee Repaka
21.	Multiphysics Lab	Dr Purbarun Dhar
22.	Dynamics Lab	Dr Satwinder Jit Singh

NAME OF THE EQUIPMENTS (RESEARCH LABS)

1	EBSD System JEOL SEM JSM 6610LV Quantax EBSD 400i-EBSD System (integrated) with EDS Detector as software
2	NI Data Acquisition System consisting of 6 items
3	VIC-3D, 3D Digital Image Correlation (DIC) System
4	Bio Safety Cabinet with Accessories, Cat No. 302481150
5	Cryo 6 Plus W/Monitor 100-240V with Factory Installed Level Monitor and Wooden Case
6	Bioquant Osteo Bone Biology Research Software, Item: BQ-OST-V
7	Semi Continuous OC EC Field Analyzer completer specifications as per order, S/N: SC00046-4
8	Shimadzum Servopulser, Model: EHF-LV010k2-020 consisting of items as follows:
9	FT Stage, FUII Instrument Tilt

10	NI Data Acquisition System consisting of 11 items
11	Basic Plasma Cleaner, 230V P/N PDC-32G-2 with Quartz Sample Tray for PDC-32G-2
12	Celsius M740 Workstation with CPU2660U3
13	3-Axis Nano Max, Closed Loop Piezo and Stepper Motors (MAX341IM)
14	Economy Dry Oxygen Service Pump 230V SR#MY17370017, Item: PDC-OPE-2 with Accossories
15	Master Node Super Micro Super Server, 1028R-BOT NR consisting of 3 items
16	ENCCD Camera, Photometrics High Resolution Cooled Monochrome, Item Code: FV0-512-Delta-M-FQ-16-AC
17	Single Column Mini UTM with Peel Test Facility, P/N 346-57310-44, Model: EZ-X L-HS E (Single Column) consisting of 16 items
18	GC-2010 Plus ATF, Microprocessor based high performance Gas Chromatography
19	FTA1000 Contact Angle Surface Tension System, Model: F23A141
20	Automatic Bomb Calorimeter with 8 accessories
21	NI Data Acquisition System consisting of 11 items
22	Fully Automatic Verticle Laboratory Line Autoclave, Model: 3870 ELV(D-Line), 85L
23	IBM Server with IBM Power Linux 7R1
24	Bose Low Load Fatigue Testing Machine (DA) with 16 accessories
25	Life Science Research Equipment, Biodent Mechanical Tissue Tester, KVS Stage 1 Ostero Probe Mechanical Tissue Tester, 130 Probes
26	X-cite XLEDI Live Cell Configuration, Item Code: 010-00322R (IX) Solid State Light Source with Parts/Accessories
27	KEM Portable Density Meter
28	DMS 500 System (UK), Fast response Particle Size Spectrome for Engine Exhaust Application with 6 accessories
29	Hele-Shaw Apparatus, Part/Model: H9 and Header Tank,
30	Malvern Zetasizer NanoS with Accessories, S/N: MAL1162091, P/N: ZEN1600
31	TFML-40 (25 Watt Transilluminator) Single, 302/365nm 20x40cm Filter, S/N J126474 with accessories
32	Tensile Module/Fatigue Stage for SEM/FESM with DDS3 Controller with Software and Accessories as per PO
33	HM430 Sliding Microtome
34	High Speed Camera, FASTCAMSA5, Model: 775KM2
35	Contract Reference Piezo Actuators and Control Electronics with Accessories (total 5 items)
36	Centrifuge 5804000013, w/o Rotor, 230V/50-60Hz, S/N 5804CR663382
37	VL-EDU.01.1, LMS Virtual Lab Educational Bundle, 3 seats for 3 years
38	Levitator Unit 100 kHz Standard, Prod. ID: 11-0130911-102 with Power Supply and Other Accessories
39	Freeze Dryer/Lyophilizer, P/N: 101525 consisting of components and accessories as per PO/Ledger
40	Leica High Speed Microscope with 12 accessories
41	Leica DM IL Configurable Microscope

42	Bass Module for Experiment in Fluid Mechanics, HM150
43	Operating Principal of Pelton Turbine, HM150.19
44	Operating Principal of Francis Turbine, HM150.20
45	FLIR T650sc 25 Degree (Incl. Wi-Fi) with FLIR Research IR Max Software, S/N: 55910938
46	FLIR T650SC Degree Including Wi-Fi, S/N: 55911705 with FLIR Research Max Software (1 license)
47	FASTCAM SA4 200K M 8GB, SN: 10020524444 with Tamron 70-200mm f2.8 SP Di Lens, MT055XPR03 Tripod with MN808RC4 Head, High Power LED Lamp and Fitted Transit Case for FASTCAM SA4
48	nanotom S, Nanofocus X-Ray computed Tomography Scanner (Micro CT), 180 KV NNT0000-PA2417, S/N NNT01A0004-241715, NNT01A0004-24175 with 6 accesories
49	FASTCAM AX100 200K M 8GB, S/N: 10442432636
50	Thermal Conductivity Analyser (completer system with six accessories)
51	Semi Automatic Grinding and Polishing Machine, Model: LOBOPOL-30, complete specifications as per purchase order
52	THC and CH4 FID Hydrocarbon Analyser with Accessories
53	Piezo Actuators and Control Electronics
54	Eppendorf Transferman 4x, Micromanipulator with dual speed, joystic for direct and dynamic movement control, Part No. 5193000.012 along with P/N 5176000.017, 5175220.005 and 5192301.000
55	FTIR Based Exhaust Gas Emission Analyzer, Model: SESAM i60 FT with 3 years Warranty
56	Charge Amplifier Desktop Housing 230V AC BNC, USB and RS-232C Interface Connection and Voltage Input for Sensors with Integrated Piezotron Electronics
57	Piezo Pressor Sensor for Combustion Engines, 6058A41 with Accessories
58	Metrohm Ion Chromatography System, Model: 930 Compact IC Flex consisting of 22 items/parts
59	RiTA Model: K1500XRF Generator with Standard Accessories
60	ST MS APT-01 Dual Axis Solar Automatic Tracker System with LP01 Levelling Plate (with Spirit Level) with Mounting Accessories for Pyrheliometer
61	Tool and Cutter Grinder, HMT/ GT28TM with Accessories
62	CNC Lathe Machine, Model: PTC4
63	High End Graphical Computational Workstation, Model: Tyron Camerero DS300TR-34
64	High End Graphical Computational Workstation Turon Comerero DS300TR-34, S/N TX1141611
65	Gas Analyzer, Pressure/Vacuum Sensor, Temperature Sensors, Moisture Meter & Producer Gas Flow Meter
66	Premium Upright Freezer, Model: U410, 14.5cu ft. with Galaxy C01705+HT
67	Downdraft Biomass Gasifier with Accessories, Model: ESB-R10
68	Scratch Tester, G-SST300-0000, TR-101
69	Advance PQ & Energy Analyzer, Make: Fluke, Model: 435-II, S/N 2980313
70	Solid State 4 Pocket 3 K.W. 270 Deg Beam Bent Electron Beam Gun with Power Supply (controlling by three phase & thyristor controlled) with Scan unit & Turret Drive

71	Shaftaligner Laser Alignment Kit with rechargeable Batteries with wireless communication
72	Vacuum Box Coater for Co-evaporation C2LT Electrodes- 2 Nos., 200A Power Supplier for Co-evaporation and standard gadgetory with liquid nitrogen
73	PXIe-8840 Quad-Core Win7(64 Bit), P/N: 784007-04
74	Stir Casting Magnesium Melting Furnace, Model: MSCF1000CA-B
75	Ultrasonic Homogeniser 750 Watt with Temperature Controller, Time Controller and Energy Controller, Stand(04712-92), Sound Enclosure(04710-48), Converter, Tool Kit, 13mm Dia. Probe, SS Temperature Probe (04711-50), Converter Clamp (04714-91)
76	Engine Dynamometer and Conditioning Unit, Model: AG-150 DYNO, S/N 242/216
77	Journal Bearing Demonstration Apparatus TR60
78	Nano 17 F/T Transducer with axial, Batch#4675367006
79	NI 9201 (Analog Module) consisting of 15 items
80	Prefiltration Kit Smart System, P Code: PREF1LDQ3 with 4 accessories
81	Kinova's Robotic Manipulator Arm Actuators K-75+ - AM7536 0003
82	Manual cum CNC Milling Machine, Model: PMX
83	Digas 444N5G Exhaust Gas Sampler SL1164, ID No. TINMDD4N502
84	Parts of Vision Measuring System Navitar 12x200mm with 12mm Focus Navitar
85	Ultrasonic Homogeniser 500 Watt with Temperature Controller, Timer Controller and Energy Controller, Stand, Sound Enclosure, Converter, Tool Kit, 13mm Dia. Probe, Temperature Probe (04711-50) and Clamp
86	Upright Trinocular EPI-Fluorescence Microscope with Color Cooled CCD Camera, Make: AJAYOPTIK, Model: Microscan
87	Gas Cylinder for Calibration and Operation TINPPASTA.23A, Gases (H2/HE.SA & CEH8 One Gas Bottle Each), Liquid N2 Storage Dewar Flask, Compressor
88	PXIe-6124, 19-bit, 4 MS/s Simultaneous Sampling Multifunction DAQ, P/N 780536-01
89	Keithley 2450 Interactive Digital Source Meter, S/N 4333018 with 1 year warranty
90	10 KW Soundproof Producer Gas Genset, Control Panel, Excide Battery
91	PXI2-6124, 16-bit, 4 MS/s Simultaneous Sampling Multifunction DAQ, P/N: 780536-01
92	Thermal CVD cum High Vacuum Annealing System, Model: T-TCVD3-M with Laptop, Argon Gas Cylinder, Hydrogen Acetylene and 10 KVA UPS
93	Solero MW Generator with Standard Accessories, SL#QBY0002714 and Solero Applicator, 14cm, Batch: 17430822, Exp. 24/09/2020
94	Research Engine Steup Diesel Engine, Wiring Harness Open ECU, ECU Software Logics+Data Set Calibration Software
95	One Cylinder Dual Fuel Research Engine Set up with Medaavi Open ECU Make: Medha, Model: 1CD_s_DFavi
96	Kinova's MICO2, PJ0065 019 with Robotic Manipulator includes Carrying Case, Mounting Kit, Power Supply Unit (PSU), PSU Cord, 24V Power Supply, USB Cable, Joystick Kinova's SDK (Software Development Kit) and KG-2 (Gripper with 2 Finger)
97	Accessories for ER and MR Modules for Rheometer consisting of following items:
00	
98	Santec' make Hydraulic Hot Press, Capacity: 30 Ton with Suitable Mold

100	FLSC 1000 Spectro Fluid Scan C1000 (Handled Lubricant condition monitor) with all accessories
101	Two Stroke EFI Engine Test Rig with Development ECU
102	Acoustic Chamber with Water Curtain M-19000155 Type Dust Collector, Model: AC 45.35.29 with MEC Abracive Blasting Cabinet Pressure Blaster, Model: PR-9182
103	Kuka Robots KR6 R960 with KRC4 Compact DC1x12x55 controller with accessories
104	High Speed Precision Lathe Machine, NH22/1000 with standard accessories and 6 items of special accessories
105	High Speed Precision Lathe Machine, NH22/1000 with standard accessories and 3 items of special accessories
106	AUL CDS 450 Emission Analyser VNR Engine
107	Single Cylinder 4 Stroke Computerized Variable Compression Ratio Multi Fuel Engine Test Rig., Apex Model 240PE
108	3D Printer Aion MK2
109	Multipurpose Micro Machining Setup, Model: Hyper-15, Table Top Integrated Multiprocess CNC Machine Tool with Desktop Computer/Laptop (windows based) and other accessories
110	MT-Wire EDM Device - Wire EDM attachment for Wire-Cut
111	MT-W Dress 01 - Wire Dress unit to produce Micro-Electrode for Micro-Holes
112	Motorized XYZ Stage, Model: RCMTS-200-600
113	Advanced Control Education Kit MicroLab Box consisting of DS1202 Power PC, Part No. ACE_MLBX_1302T, Dual Core 2GHz processor board and DS1302/I/O board top panel, carrier bag, CDP-MP RTI_EMC_BS and MLBX GNU complier, CM SN: 3-3759430, DS1202 SN: 865700, 796854, DS1302 SN: 799371, 758903
114	FASTCAM AX100 200K M 16GB S/N: 10442440856 with Accessories
115	Rheonik Mass Flowmeter Model: RHM-04 with Electronic REgistration Unit Model: RHE-26 (Instrument No. 26642) & (RHM Instrument No. 26416)
116	Downdraft Biomass Gasifier with Appropriate Gas Cooling & Cleaning System
117	Downdraft Biomass Gasifier with Accessories, Model: ESB-R10
118	Gas Analyzer, Pressure/Vacuum Sensor, Temperature Sensors, Moisture Meter & Producer Gas Flow Meter
119	Thermal Conductivity Testing Equipment
120	Cold Spray System PCS-100 System
121	MEC Tilting Turntable for Cold Spraying System: TA-6136

AWARDS AND HONOURS 2018-19 (STUDENTS)

- Mr. Rakesh Kumar received 3rd best presentation award for his work titled "Modeling of Fatigue Crack Initiation in Hydrogen Charged Polycrystalline Nickel" at SICE 2018 held during July 25-27, 2018 at Hyderabad.
- Mr. Aman Arora for receiving the third best poster award for his work titled "In-situ Study of the Effect of Hydrogen on Fatigue Crack Initiation in Polycrystalline Nickel" at SICE 2018 held during July 25-27, 2018 at Hyderabad

- Mr. Sirsat Ajinkya Vishnu was one of the winners of 100 BEST STORIES of "Augmenting Writing Skills for Articulating Research (AWSAR)" competition sponsored by DST. He won this award for his article titled "Air vehicle which flaps its wing and fly"
- Ms. Sakshi Gupta won "Best poster Award" on "Indo-French workshop on Robotics for Rehabilitation" at CSIR-CSIO.

INVITED LECTURES BY FACULTY

Dr. Chandra Shekhar Sharma

 "Energetically Efficient Thermal Management of Microprocessors with Highly Non-Uniform Power Maps", Mechanical Engineering, Indian Institute of Technology Madras, February 5, 2019.

Dr. Chandrakant K Nirala

- "Training program under TEQIP III on "Renewable Energy", Government Engineering College Bodh Gaya, Februray 8, 2019.
- "National Level Training Program on "Green Manufacturing", National Institute of Technical Teachers Training and Resarch, Chandigarh, February 14, 2019.

Dr. Devranjan Samanta

 COMFLU 2018 (12th International Conference on Complex Fluids and Soft Matter), Department of Chemical Engineering, Indian Institute of Technology Roorkee, December 6-8, 2018

Dr. Himanshu Tyagi

- "Sustainable Energy Application: Water Purification", The Third International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC), Indian Institute of Technollogy Roorkee, December 2018
- Session chair: "7th Intl. and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP)", Indian Institute of Technology Bombay, December 2018
- Expert lecture in workshop on Frontiers in Solar Technologies (FST-2018), National Institute of Technology, Silchar, September 27-28, 2018.

Dr. Ramjee Repaka

- "FMFP2018 at IITB, additional approval of 2 SCL obtained from Director through Dean(FA)", Indian Institute of Technology Bombay, December 10-13, 2018
- "ASME-IMECE 2018", USA, November 8-16, 2018
- Invited Talk And Technical Seminar in 5th NLASEME-2018, Chandigarh University, Chandigarh, April 6, 2018

Dr. Ravi Kant

- "Expert lecture on Repair and Maintenance of Machine Tools", National Institute of Technical Teachers Training and Resarch, Chandigarh, January 23, 2019
- Expert lecture on "Repair and Maintenance of Machine Tools", National Institute of Technical Teachers Training, Chandigarh, January 23, 2019
- Expert lecture at on "Advances in Manufacturing", National Institute of Technical Teachers Training, Chandigarh, Jauray 15, 2019

Prof. Sarit K. Das

 "Smart On-Chip Cooling using Parallel Channels", Mechanical Engineering, Indian Institute of Technology Madras, Fberuary 5, 2019

LECTURES BY VISITING EXPERTS:

			_
Sr.	Name of the experts with affiliation	Topic	Date
No.			
1.	Prof. Braham Prakash, Luleå University of	"Current Trends in Tribology	February 8, 2019
	Technology, Luleå, SWEDEN	Research"	
	Tsinghua University, Beijing, China	UNA	F-1
2.	Dr. Jayant Jain, Associate Professor, Department of Materials Science and	"Magnesium alloys for light weight applications"	February 19, 2019
	Engineering,Indian Institue of Technology	weight applications	2019
	Delhi		
3.	Dr. Krishna Vijayaraghavan, Associate	"Design, Control and	June 5, 2018
	Professor, School of Mecha tronic Systems	Diagnostics of Renewable	
	Engineering at Simon Fraser University,	Energy Systems"	
	Canada.		
4.	Prof. Patrick E. Phelan, Arizona State	"Buildings of the Future: A	September 15,
	University, USA	Glimpse of What Comes After	2018
		Net Zero Energy and Carbon	
5.	Dr. Peter Theobald, Cardiff University, UK	Neutrality" "GIAN course on	September 17-21,
J.	Di. Feter Theobaid, Cardin Oniversity, OK	Biomechanics of Injury and	2018
		Prevention"	2010
6.	· Dr. Qiyuan Li (Research Associate,	"Solar thermal-driven	February 12,
	UNESCO Centre for Membrane Science	desalination: Advancing	2019
	and Technology, School of Chemical	membrane distillation modules	
	Engineering, UNSW, Australia	and systems at UNSW"	
	Dr. Robert A. Taylor (Associate		
	Professor, School of Mechanical and		
	Manufacturing Engineering, and the School of Phot ovoltaic and Renewable		
	Energy Engineering, UNSW, Australia		
7.	Dr. Rohit N. Karnik, Mechanical Engineer,	"Unconventional	August 2, 2018
	MIT, USA	Nanomaterials and Paradigms	3,
		for water purification and	
		quality monitoring in the 21st	
		Century"	

VISITS ABROAD BY THE FACULTY

Sr. No.	Name	Country	Details of visit	Date
1.	Dr. Chandrakant K Nirala	Sweden	51st CIRP Conference on Manufacturing Systems	May 16-18, 2018
2.		Belgrade, Serbia	Paper presentation titled "Tracking hydrogen embrittlement using short fatigue crack behavior of metals" in 22nd European Conference on Fracture (ECF22)	
3.	Dr. Devranjan Samanta	University of Limerick, Ireland	Paper presentation titled Dynamics of polymer droplets post impact on hydrophobic surfaces"	July 17-20, 2019
4.	Prof. Harpreet Singh	USA	•	May 31-June 6, 2018

	Dr. Ramjee	USA	ASME-IMECE 2018	November 8-16, 2018
5.	Repaka	Auckland University of Technology, New Zeland	Summer Visitation	
6.	Dr. Ranjan Das	Beijing, China	International Heat Transfer Conference	August 9-16, 2018
7.	Dr. Ravi Kant	University of Cranfield, UK	Summer Visitation Program	May 25- July 13, 2018
8.	Dr. Sarit K. Das	Beijing, China	International Heat Transfer Conference	August 9-16, 2018

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name	Country	Details of visit	Date
1.	Gargi Khurana	Vienna, Austria	The 12th European Fluid Mechanics Conference	September 7-15, 2018
2.	Kapil Garg	MIT USA		
3.	Mohit Raj Saxena	Germany	Conference	September 14- 21, 2018
4.	Rachit Kumar Sharma	Cambridge	Cambridge International Manufacturing Symposium + Tigress Workshop	September 25- 4, 2018
5.	Rajwinder Singh	France	12th International Fatigue Congress Conference	June 27- July1, 2018
6.	Rakesh Kumar	Germany	Conference	October- November2018
7.	Sundeep Singh	Prague, Czech Republic	IUPESM2018	June 1-6, 2018
8.	Vivek Jaiswal	Vienna, Austria	The 12th European Fluid Mechanics Conference	September 7-15, 2018
9.	Viney Ghai	Boston, USA	Conference, 2018 MRS Fall Meeting Abstract Late Breaking Status (Poster)	November 22 to Dec 02, 2018
10.	Vivek Jaiswal	Americal Physical Society, USA	71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, Georgia	November 16-23, 2018

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED):

Sr. No.	Funding Agency	Name of Faculty Member	Title of Project	Sanctioned Amount
1	Indian Space Research Organisation (ISRO)	Dr. Lipika Kabiraj	Nanoparticle-enhanced gel propellants	0.20
2	Industrial Consultancy	Dr. Jitendra Prasad	Tire Design and Optimization Using Finite Element Method	0.12
3	DST	Dr. Dhiraj K Mahajan	Biodegradable Polymeric Stents: From Synthesis of Functionalized Raw Material to its Fabrication using Micro- Injection Moulding Process Category Near Net	0.48
4	SERB-IMPRINT	Dr. Prabir Sarkar	Micro Green Roofing	0.58
5	IMPRINT -2	Dr. Putul Halder & Dr. Prabir Sarkar	Next Generation Earthquake Loss Estimation Tool for Hilly Regions	0.35
6	SERB	Dr. Sarabjeet Singh, Sidhu, Beant College of Engineering and Technology,Gurdaspur, Mentor Prof. Harpreet Singh	Teachers Associateship For Research Excellence (TARE)	0.18
7	Industrial Consultancy	Dr. Dhirak K Mahajan PI, Dr. Asad H Sahir and S.S.Padhee Co-PI	Verification and reporting on achievement of disbursement link indicator (DLI#4) by IIT Ropar as a independent verification agency for TEQIP phase III of MHRD Govt. of India	0.47
8	SERB	Dr. Srikant Sekhar Padhee	Non-linear and Non-classical Thermo- mechanical Analysis of Functionally Graded Cylinders: Asymptotically Accurate Analytic Formulation	0.39
			Total(Rupees in Crore)=	2.77

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Programs offered : B.Tech., Ph.D.

No. of Students : B.Tech. : 12

Ph.D. : 05

Head of the Department : Prof. P. K. Raina

No. of faculty members : 05
No. of staff members : 01

Technical Staff : Nil

Administrative Staff: 01

Thrust Area : Physical Metallurgy

Extractive Metallurgy,

Mechanical Metallurgy

Energy and Nanomaterials

Transport Materials and related areas

No. of Publications : 3

FACULTY MEMBERS



PROF. P. K. RAINA
Professor
Ph.D (Indian Institute of Technology Kanpur)
Nuclear Physics and
Astrophysics



DR. KHUSHBOO RAKHA
Assistant Professor
Ph.D (Deakin University
Australia)
Advanced High Strength Steels
(Nano-structured Bainitic
Steels, Ultra Low Alloyed
Steels, TWIP Steels and Dual
Phase Steels)



DR. NEHA SARDANA
Assistant Professor
Ph.D (IMPRS-MLU, Halle,
Germany)
Size-Property (electrical,
mechanical and optical)
relationship of Nanomaterials
for different applications.
Plasmon based materials and
metamaterials for optical
sensing devices in Visible and
IR regime.



DR. PRIYA GHATWAI
Visiting Faculty
Ph.D (University of Virginia)
Processing-Structure-PropertyPerformance Relationships in
Materials; Magnetic
Nanocomposites; Electron
Microscopy; Materials
Sustainability/Materials & the
Environment; Phase
Transformations



PRASAD
Assistant Professor
Ph.D (Technische Universität
Darmstadt, Germany)
Polymer-derived porous
ceramics, Metal matrix
composite, Membranes for
hydrogen purification,
Chemiresistor gas sensors,
Hydrogen storage materials,
Photocatalysts for wastewater
decontamination

DR. RAVI MOHAN

FACILITIES

No. of Labs : UG : 01

Research: 02

Name of the lab (UG) : Physical Metallurgy Laboratory

Name of Research labs

S. No.	Name of labs (Research Labs)	Name of the Head of the Research lab	Name of equipment
1.	Energy and Environmental Materials Laboratory	Dr. Ravi Mohan Prasad	Gas Sensing Set-up, High-Temperature Furnace
2.	Nanostructured & Optical Materials Laboratory	Dr. Neha Sardana	Optical Measurement Set- up

AWARDS AND HONOURS 2018-19 (FACULTY)

 Dr. Neha Sardana, Early Career Researcher (ECR) from IIT Ropar, UK-India Interdisciplinary Workshop on Advanced Biomaterials and Biosensors (ABB-2018), Newton Fund, British Council, UK-IIT Ropar, 2018.

INVITED LECTURES BY FACULTY

Dr. Neha Sardana

- "Optics: Nature, Metamaterials, and Applications" Electronics and Communication Engineering, Indian Institute of Information & Technology Allahabad, Februray 11, 2019
- "Spectroscopy: UV-Vis-NIR and Raman", Applied Sciences, PEC Univ. of Technology Chandigarh, June 22, 2018
- "Optical Characterization Techniques", Workshop on Advanced Techniques in Nano Science and Technology, Institute of Nano Science and Technology, December 4, 2018

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Dr. Dheepa Srinivasan	Design Thinking Workshop for GE102 students: Chemical Engineering group	August 29, 2018
2	Dr. Dheepa Srinivasan	Design Thinking Workshop for the rest of the GE102 students	October 14, 2018

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

S. No.	Name of Faculty Member	Title of Project	Funding Agency
1.	Dr. Ravi Mohan Prasad (Co-PI)	Design, Development, and Demonstration of Indigenous Hydrogen Storage and Fuel Cell System for Mobile and Stationary Applications of 5 kW Capacity	IMPRINT (MHRD- MNRE)
2.	Dr. Ravi Mohan Prasad (PI)	Selective Gas Detection and Protection of Sensing Layer in Harsh Environments using Silicon- Containing Polymer-Derived Ceramic Filters,	DST-SERB
3.	Dr. Neha Sardana (PI)	Tailorable plasmonic metamaterial substrates	SERB-ECR
4.	Neha Sardana (Co-PI)	Air Purification Device for harmful pollutant and VOC sequestration: Economical and reusable	DST-TDP

DEPARTMENT OF PHYSICS

Programs offered : MSc -MS (R), Ph.D

No. of Students : M.Sc. : 46

Ph.D : 46

Head of the Department : Dr. Asoka Biswas

No. of faculty members : 17
No. of staff members : 04

Technical Staff : 03

Administrative Staff : 01

Thrust Area : Light-Matter Interaction and Quantum Information,

Condensed Matter

Nuclear Physics

Gravity and String (Theory)

No. of Publications : 41 (J)

FACULTY MEMBERS



Dr. Asoka Biswas
Associate Professor
Ph.D (Physical Research
Laboratory, Ahmedabad)
Quantum Computation and
Information, Quantum
Thermodynamics, Cavity
Optomechanics



Dr. Deepika ChoudhuryAssistant Professor
Ph.D (Indian Institute of
Technology Roorkee)
Experimental Nuclear Physics



Dr. Debangsu Roy
Assistant Professor
Ph.D (Indian Institute of
Science, Bangalore)
Insulating spintronis, Spin
transfer torque & Spin orbit
torque in magnetic
heterostructures



Prof. Ishwar Singh Tyagi
Visiting Professor
Ph.D (University of Roorkee)
Condensed Matter Theory,
Quantum Entanglement in
Strongly Correlated Systems



Dr. Kailash Chandra Jena
Assistant Professor
Ph.D (Indian Institute of
Technology Madras)
Nonlinear Laser Vibrational
Spectroscopy, Interfacial Water
Structure, Binding of Ions to
Amino Acids, Lipids and
Proteins, Radiation Induced
Effects and Deformation at
Interfaces



Dr. Mukesh KumarAssistant Professor
Ph.D (Indian Institute of Technology Delhi)
Functional and Renewable energy materials, Thin film photovoltaics, sensors and photodetectors



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



Dr. Pushpendra P. Singh Assistant Professor Ph.D (Inter-University Accelerator Center, New Delhi / Aligarh Muslim University) Experimental Nuclear Physics and Applications



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



Dr. Rakesh KumarAssistant Professor
Ph.D (Indian Institute of
Technology Bombay)
Theoretical and Experimental
Condensed Matter Physics



Prof. R. G. Pillay
Visiting Professor / DAE - Raja
Ramanna Fellow
Ph.D (TIFR, Mumbai University)
Nuclear Physics, Accelerator
Physics and Technology,
Condensed Matter and Low
temperature Physics



Dr. Shubhrangshu Dasgupta Associate Professor Ph.D (Physical Research Laboratory, Ahmedabad) Quantum Optics, Quantum Plasmonics, Quantum Biology



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



Dr. Sandeep GautamAssistant Professor
Ph.D (Physical Research
Laboratory Ahmedabad)
Ultracold quantum gases at
zero and finite temperatures
(Theory)



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



Dr. Vishwa Pal
Assistant Professor
Ph.D (Jawaharlal Nehru
University, New Delhi)
Phase locking of lasers,
Optical computing, Controlling
coherence of lasers, Diffractive
optical components, VECSELs,
Nonlinear dynamics of lasers

FACILITIES

No. of Labs : UG : 02

PG : 04 Research : 07

Name of the lab Undergraduate Lab and Faculty Incharge

Dr. Sandeep Gautam (Faculty Incharge):

- General Physics Lab
- · Optics Lab

Name of the lab Postgraduate Lab and Faculty Incharge:

Dr. Puspendra Pal Singh and Dr. S. Sarkar

- Condensed Matter
- Nuclear Physics Lab

Dr. Kailash Chandra Jen (Faculty Incharge):

• M.Sc. Optics Lab (equipment: UV-Vis Spectrometer)

Dr. Rakesh Kumar (Faculty Incharge):

M.Sc. Electronics Lab

Name of Research labs

Sr. No.	Name of Research Labs	Name of the Head of the Research lab	Name of the Equipments
1.	Material Deposition Lab	Dr. S. Sarkar	 DC/RF magnetron sputtering facility Sonicator with heater Spin coater Balance Dip coater Ion gun Environment Chamber

Graphene lab: (Dr. Rakesh Kumar):

- · 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 (Dr. R.V. Nair):

- 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 (Dr. R.V. Nair):

- Low temperature oven
- · LG Refrigerator to keep chemicals

Central facility (Dr. R.V. Nair):

UV-Vis-NIR Spectrophotometer

NuStaR Research Lab (Dr. Pushpendra P. Singh):

- (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.

Functional and Renewable Energy Materials (FREM) Lab (Dr. Mukesh Kumar):

- Combinatorial sputtering system
- Double chamber sputtering unit
- Solar Simulator
- Keithley SMU (6430)
- Thermal CVD
- Miniprobe station
- · Hall measurement
- EQE/IQE measurement
- Semiconductor Parameter Analyser (Keithley 4200)
- Spectrophotometer (Bentham)
- · 2 zone quartz tube furnace

Non-Linear Light Scattering & Bio Photonics Lab (Dr.K.C.Jena):

- Sum Frequency Generation Vibrational Spectrometer
- FTIR Spectrometer and Microscope
- · 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

AWARDS AND HONOURS 2018-19 (FACULTY)

Dr. Mukesh Kumar:

- Faculty Research and Innovation Award, 2019, IIT Ropar
- Selected as member of Indian National Young Academy of Science (INYAS), 2019
- Received Young Achiever Award from Department of Atomic Energy, Bhabha Atomic Research Centre, Gov. of India during 63rd Solid State Symposium held at Hisar, Haryana from Dec 18-22, 2018
- DAE Young Scientist Research Award, 2015-2018
- Bhaskara Advanced Solar Energy Fellow, Department of Science and Technology and Indo-US Science and Technology Forum (IUSSTF), 2015

AWARDS AND HONOURS 2018-19 (STUDENT)

Raman-Charpark Fellowship (Ms. Priya Ph.D scholar)

INVITED LECTURES BY FACULTY

Dr. Mukesh Kumar

- 2019 Invited talk, MRSI-AGM-2019, IISc Bangalore, Feb 12-15, 2019
- 2018 Invited talk, ISSMD-2018, VNIT Nagpur, Nov 30-Dec 02, 2018
- 2018 Invited talk, GLAD-2018, IIT Delhi, March 30-31, 2018
- 2018 Invited talk, AMN-2018, JUIT-Noida, March 15-17, 2018

Dr. Kailash Chandra Jena

- Invited Talk, "Topical Meeting on Photonics", NISER Bhubaneswar, March 28-29, 2019.
- Invited Talk, "Symposium on Spectroscopic and computational studies of complex chemical systems at different time and length scales", IIT Kanpur, 22nd December, 2018.
- Invited Talk, "7th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2018)", BARC, Mumbai, 22 29th November 2018.
- Invited Talk, "UK-INDIA Interdisciplinary Workshop on Advanced Biomaterials and Biosensors", IIT Ropar, 13-15th November, 2018.
- Invited Talk, "Radiation and Photochemistry Division", BARC, Mumbai, India, 21st June, 2018.
- Invited Talk, "Max-Planck Institute for Polymer Research", Mainz, Germany, 24th April, 2018.

Dr. Rakesh Kumar

 Invited lecture, "Superconductivity and its applications", 24th October 2018, Chitkara University, Solan, HP

Prof. R. G. Pillay

- 6th IAPT National Student Symposium on Physics, NSSP2018, DEPARTMENT OF PHYSICS, Centre of Advanced Studies in Physics, PANJAB UNIVERSITY, CHANDIGARH, October 4-6, 2018
- Physics Colloquium at NISER, Bhubaneswar on 7th Jan'19, Title: Exploring nature of neutrinos: Search for neutrino-less double beta decay

Dr. Pushpendra Pal Singh

 6th IAPT National Student Symposium on Physics, organised by the Indian Association of Physics Teachers, October 4 - 6, 2018, Panjab University, Chandigarh. Pushpendra P. Singh / Nuclear interactions: from what we know to applications

Dr. S. Dasgupta

 Invited Talk: International Conference on Quantum and Atom Optics,IIT Patna, December 16-18, 2018

Dr. Rajesh V Nair

- Facets of Photonics, IISER Pune India Dec. 24-26, 2018.
- Topical Meeting on Photonics, March 28-29, 2019, NISER Bhubaneswar.

Dr. Vishwa Pal:

- Simulating spin system with coupled lasers XLIM Research Institute, University of Limoges, Limoges, France, 28 August 2018.
- Simulating XY spin systems with coupled laser networks International Conference on Laser, Optics and Photonics, Paris, France, 23-24 August 2018.
- Degenerate cavity lasers and their applications International conference on Laser, Optics and Photonics, Paris, France, 23-24 August 2018.
- Phase locking of large network of coupled lasers Indian Institute of Information Technology Una, NIT-Campus, Hamirpur, Himachal Pradesh, 23 April 2019.

Dr. Shankhadeep Chakrabortty

• Invited talk: Departmental Seminar, Department of Mathematical Sciences, Durham University, UK.

Dr Sourav Bhattacharya

 Invited talk in the international conference: "Field Theoretic Aspects of Gravity" (SN Bose Centre, Kolkata, December, 2018)

Dr. Debangsu Roy

 Invited talk under the sub header of Emerging Mem and Logic/Spintronics (4C) at 4 th ICEE-International Conference on Emerging Electronics, Bangalore, India. 17-19th December, 2018.

LECTURES BY VISITING EXPERTS:

Sr. No.	Name of the experts with affiliation	Торіс	PHYSeminar / Colloquium	Date
1	Prof. Sushant G. Ghosh, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi.	Black holes with a regular center.	PHYSeminar	15th May 2018
2	Dr. Sunil Kumar Department of Physics, Indian Institute of Technology Delhi, New Delhi	Spectroscopy and nonlinear optics using coherent THz radiation	PHYSeminar	11th June 2018
3	Prof. Darren Bagnall, Dean, School of Engineering, Macquarie University, Australia	Advanced photovoltaic devices and materials	PHYSeminar	31 st July 2018
4	Prof. Dharam Vir Ahluwalia, IIT Guwahati	The new fermion My contributions to Neutrino Oscillations	PHYSeminar	Talk 1: 19th July 2018 Talk 2: 20th July 2018
5	Prof. Venkataraman Balakrishnan, Emeritus Professor, IIT Madras	Some Mathematical Aspects of Special Relativity	Institute Colloquium	March 26, 2018
6	Seven distinguished speakers: • Prof. N. Madhavan, IUAC, New Delhi • Prof. Pratap Raychaudhuri, TIFR, Mumbai • Prof. Subhendra Mohanty, PRL, Ahmedabad • Prof. Parongama Sen, Univ. of Calcutta • Dr. Anand Kumar Jha, IIT Kanpur • Prof. Urjit Yajnik, IIT Bombay • Prof. Sarit K. Das, IIT Ropar		3 rd Physics Day	August 17-18, 2018
7	Prof. Debabrata Goswami, IIT Kanpur Prof. Achanta Venugopal, TIFR Mumbai	On controlling the properties of laser both in space and time: 2018 Nobel Prize in Physics Finally Ashkin traps a Nobel	Nobel Colloquium	20th December, 2018
8	Prof. Achanta Venugopal, TIFR Mumbai	Plasmonic structures for short pulse interaction with matter	PHYSeminar	21 st December, 2018

9		Dr. Brijesh Kumar Singh from Central University of Rajasthan	Structured super-oscillating optical beams: spot size beyond the diffraction limit and stiff optical traps	PHYSeminar	16 th January 2019
1	0	Prof. Dimiter L. Balabanski, Romania	Experimental programme with high-brilliance gamma beams at ELI-NP	PHYSeminar	08 th February 2019

VISITS ABROAD BY THE FACULTY

Sr.	Name of the	Country	Detail of visit with date
No. 1	Dr. Kailash Chandra Jena	Germany	Invited Talk, "Switching On and Off of Interfacial Water ordering at air/aqueous", Max Planck Institute for Polymer Research, Mainz, Germany, 24 th April, 2018.
2	Dr. Mukesh Kumar	USA	Summer visitation programme 2018 RICE University Houston, Texas From 16-7-2018 to 17-7-2018
3	Dr. Pushpendra P. Singh	Australia	Collaboration visit to Australia National University, Canberra, From 08-07-2018 to 04-08-2018
4	Dr. Vishwa Pal	France	Two Invited talks in Laser Tech 2018 during 23-25 August in Paris, France. Invited talk 1: Degenerate cavity lasers and their applications Invited talk 2: Simulating XY spin systems with coupled laser networks AND Invited talk and collaboration purpose, visited XLIM Research Institute-CNRS, University of Limoges, Limoges, France, during 27-28 August 2018. Delivered an invited talk on "Simulating spin systems with coupled lasers", and visited several Photonics labs of XLIM, and discussed the opportunities for collaboration between the two institutions
5	Dr. Shankhadeep Chakrabortty	Japan	Strings 2018, Okinawa Institute of Science and Technology Graduate University (OIST), Japan, during June 25-29, 2018. Invited Talk: Departmental Seminar, Department of Mathematical Sciences, Durham University, UK.

VISITS ABROAD BY THE STUDENTS:

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Mr. Suman Chand	Brazil	Workshop on Quantum Information and Thermodynamics at International Institute of Physics, Natal-Brazil (08-03-2019 to 28-03-2019)
2	Mr. Rudra N. Sahoo	Japan	Nucleus-Nucleus Collision 2018 Conference in Omiya, Saitama, Japan (03-12-2018 to 09-12-2018
3	Ms. Arshiya Sood	Germany	Scientific Research visit at Nuclear Spectroscopy Department and the Detector lab -GSI Germany (22-08- 2018 to 25-08-2018) And Zakopane International Conference on Nuclear Structure effects on fission fragment mass distribution 12C+169 TM System at Zakopane, Poland(26-08- 2018 to 02-09-2018)
4	Mr. Naveen Kumar	USA	Bhaskara Advanced Solar Energy (BASE) Internship Program at Binghamton University, New York, USA (01-04-2018 to 30-06-2018)

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

Dr. Asoka Biswas

• Completed (DST-SERB): Spin-assisted squeezing and quantum computing in cavity optomechanics.

Dr. S. Dasgupta and Dr. Asoka Biswas

- Ongoing (DST-SERB): Quantum gate and generation of non-classical states using spin-chain at the metal-dielectric interface
- · Rajesh V Nair
- DST-SERB, Young Scientist Strat Grant, Finite-size and disorder-induced modification of spontaneous emission in nanophotonic structures. (completed)
- CSIR, Investigation of light transport and emission in resonant disordered nanophotonic structures (Completed)
- INSA, Two-dimensional meta-surfaces to mold the light scattering and emission. (Completed)
- Indo-Russia (DST-RFBR), Active plasmonics: Modifying the light emission of quantum emitters using optical resonances induced by metal-dielectric nanophotonic structures (On-going)

Kailash C. Jena

- DRDO (ERIP), Confined Interfacial Structure and Orientation of Polyphosphazene Polymers at Solid and Liquid Surfaces (on-going)
- DST-SERB (Core Grant), In Situ Probing of Intermolecular Interactions at Buried Polymer Nanocomposite Aqueous Interfaces by Sum Frequency Generation Vibrational Spectroscopy for Biofouling Applications (on-going)

Sandeep Gautam

• DST-SERB, Theoretical investigation of the multi-component condensates at zero and finite temperatures (on-going)

PROJECT AND FELLOWSHIP:

Dr. Pushpendra Pal Singh

- ERAMUS+ European Mobility Project:,2018-1-TR01-KA107-056585 / Pushpendra P. Singh / IIT Ropar India Asia. The project covers mobility of 4 scientists from IIT Ropar for a duration of 5 months in European labs.
- SERB-ITS Fellowship: SERB ITS fellowship to Ms. Arshiya Sood Oral presentation on "Fission-like events 12C+169Tm system", 53rd Zakopane Conference on Nuclear Physics "Extremes of the Nuclear Landscape", Zakopane, Poland, August 26 September 02, 2018.

Dr. Vishwa Pal

- Marie-Curie project (MSCA Individual fellowship) with Dr. Alain Barthelemy (XLIM, France), approved by the European Commission in the framework of Horizon 2020.
- Title: Controlled Space-Time dynamics in nonlinear Multimode fiber with gain for the next generation of high power Ultrafast fiber Lasers (STiMUL)

CENTER FOR BIOMEDICAL ENGINEERING (CBME)

Programs offered : B. Tech Minor, M. Tech., Ph.D

No. of Students : B.Tech. : N/A

M.Tech: 16

MS (R) : N/A

Ph.D : 16

Head of the Department : Dr. Srivatsava Naidu

No. of faculty members : Core Faculty : 5

Associate Faculty : 8

No. of staff members : Technical Staff: NIL

Administrative Staff : 1

Thrust Area : Biomedical Imaging

Medical Devices

Cancer Diagnostics and Therapy

Biomaterials and Tissue Engineering

Immunology and Vaccine development

No. of Publications : 13

FACULTY MEMBERS



DR. ASHISH K SAHANI
Assistant Professor
Ph.D. (Indian Institute of
Technology Madras)
Diagnostic and therapeutic
ultrasound, Biomedical
instrumentation, and Medical
signal processing



DR. DURBA PAL
Assistant Professor
Ph.D. (Visva Bharti University,
Santiniketan)
Tissue engineering and
Regenerative Medicine; Cell
based Therapeutics in disease
biology



PROF. JAVED N.
AGREWALA
Professor
Ph.D. (Sarojini Naidu Medical
College, Agra)
Immunology of Infectious
Diseases, Vaccines, and Gut
Microbiome



DR. RAJESH KUMAR
Assistant Professor
Ph.D.(Norwegian University of
Science and Technology
Norway)
Bioimaging, Advanced
Microscopy and Spectroscopy,
Biomedical Photonics



DR. SRIVATSAVA NAIDU
Assistant Professor
Ph.D. (Justus-Liebig University,
Giessen, Germany)
Therapeutic targeting of basal
transcriptional machinery; Noncoding RNA as cancer
therapeutics

ASSOCIATE FACULTY



DR. DEEPTI R BATHULA
Assistant Professor
Computer Science &
Engineering
Ph.D. (Yale University, USA)
Medical Image Processing and
Analyses; Pattern recognition;
Machine Learning and
Computer Vision



DR. JITENDRA PRASAD
Assistant Professor
Mechanical Engineering
Ph.D. (Michigan State
University, USA)
Biomechanics, Bone Fracture
Healing, Mechanotransduction,
Structural and Multidisciplinary
Design Optimization,
Computational Mechanics, and
Agent Based Modelling



DR. KAILASH CHANDRA JENA Assistant Professor Physics Ph.D. (Indian Institute of Technology Madras) Interfacial water structure, protein folding, soft matter interfaces, and colloids and model membrane systems



DR. NARINDER SINGH
Assistant Professor
Chemistry
Ph.D. (Guru Nanak Dev
University, Amritsar)
Nano-particles, calix [4] arenes,
and tripodal Frameworks for
chemo-sensor development



DR. NAVIN KUMAR Associate Professor Mechanical Engineering Ph.D. (Indian Institute of Technology Delhi) 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 Image Processing, Healthcare Apps and Analytics, Medical *Imaging*



DR. RAMJEE REPAKA Associate Professor Mechanical Engineering Heat Transfer; Thermal` Engineering



DR. YASHVEER SINGH Assistant Professor, Chemistry Chemistry Polymeric biomaterials for drug delivery and tissue Engineering applications

RESEARCH FACILITIES

Real Time PCR; Electrophoresis Units; Water Purification System; Cell Counter; CO2 Incubator along with compatible shaker; Autoclave; Balance; Compound Microscope; Inverted Microscope; Radio Frequency Generator, Refrigerated Centrifuge, UV Trans Illuminator, Fluorometer, Deep Freezer, Biosafety cabinet, pH Meter, Freeze Dryer, Binocular Microscope, Fluorescence Microscope, Fatigue Testing Machine, cell culture facility, micro plate reader, chemidoc, flow cytometer, cryotome.

No. of Labs UG : Nil

> PG :05

Research : 04

Name of the lab : Tissue Engineering & Regenerative Medicine Laboratory

: Dr. Durba Pal Head of the Research lab

Name of the Equipments

1) CO2 incubator 9) Western blotting apparatus 2) Biosafety Cabinet 10) **PCR**

3) Inverted Fluorescent Microscope 11) **UV-Vis Spectrophotometer**

Refrigerated Centrifuge Tissue Homogenizer 4) 12)

-80°C Freezer Water bath 13) 5)

Flow Cytometer Dry Bath 6) 14)

7) Cryotome 15)

8) Vertical & amp; Horizontal 16) -20C Freezer Electrophoresis

Refrigerator 17)

Cell counter

Name of the lab : BM605 and BM606 Head of the Research lab : Dr. Ashish Sahani

Name of the Equipments

 UHK-TA Ultimate Human Physiology Teaching Kit

- 2) Flash Finder 3D Printer
- 3) FabX 3D Printer
- 4) Palmsens 4
- 5) Emotiv Epoc 14 Channel EEG
- 6) FLIR TG165 Spot Thermal Camera
- 7) 445 nm Blue Light Power Beam Burning Laser Pointer
- 8) NI USB-6001
- 9) Keysight EDUX1002G Oscilloscope

10) Soldering Station

- 11) Bench Drill Machine
- 12) Dremel 3000-15 130-Watt Multi-Tool Kit
- 13) Bosch GST 700 Plastic Jig Saw Blue
- 14) Raspberry Pi Board
- 15) Arduino Development Board
- 16) LOBOT 6 DOF Aluminum RC Robot Arm Gripper
- 17) DIY 5DOF Robot Arm Five Fingers Metal Mechanical Paw

Name of the Lab : Research Ultrasound System (Under procurement)

Name of the Equipments: Multi Functional Patient Care Manikin

AWARDS AND HONOURS 2018-19 (FACULTY)

Dr. Javed N. Agrewala

1. **Prof. Javed N. Agrewala** has been awarded prestigious **JC BOSE FELLOWSHIP- 2018** for his work on developing vaccination against tuberculosis

INVITED LECTURES BY FACULTY

Dr. Ashish Sahani

- 1. Institutional Research Day Celebrations at Dayanand Medical College, Ludhiana, January 2019.
- 2. 1st BID Hub workshop, Department of Anesthesia, PGIMER, Chandigarh.
- 3. The Second meeting of Orthopedics Research Society, Research Wing, TYNOR, Mohali, India, December 18, 2019

Dr. Srivastava Naidu

- 1. PAN IIT CANCER, Department of Biotechnology, Indian Institute of Technology Madras, February 2, 2019
- 2. 38th Annual Convention of Indian Association for Cancer Research, PGIMER, Chandigarh, March 1-3, 2019

Dr. Durba Pal

1. "Epigenetic Modification of miRNA 200b contributes to Diabetic Vasculopathy" at 8th Professor R.N. Chakravarti memorial Oration CME on "Multi-omics approaches to Disease", Department of Experimental Medicine and Biotechnology, PGIMER, October 1, 2018

- 2. "Vasculogenic reprogramming of skin fibroblasts by anti-sense oligonucleotide inhibition of miRNA-200b rescuing diabetic wound angiogenesis" in NANOBIOTECK 2018, Indian Society of Nanomedicine (ISNM), All India Institute of Medical Sciences (AIIMS), New Delhi, INDIA, October 24-27, 2018
- 3. Invited for a short story talk under the program of "Gyan Vigyan" on "Diabetes and Obesity", Parasar Bharti, All Indian Radio, Jalandhar, India, Recorded on March 11, 2019 at 11:00 AM and broadcasted in the radio on September 14, 2018 at 4:05 PM
- 4. Invited for a short story talk under the program of "Yuva Chikitsak Shodhkarta" on "miR-200b davayee par shodh-madhumeh rogiyon ke liye upyogi", Prasar BHarti, All India Radio, Jalandhar, India, Recorded on September 7, 2018 at 11:00 AM and broadcasted in the radio on September 13, 2018 at 4:05 PM.

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Dr. Pramod Kumar Gupta, Associate Professor, Department of Biostatistics, PGI Chandigarh	Biostatistics	October 13-14, 2018
2	Prof. Dipankar Nandi, Indian Institute of Science, Bangalore	Nobel winning discoveries in the Bio-medical field	November 2, 2018
3	Dr. Vidur Mahajan, Associate Director of Mahajan Imaging and head of R&D of CARING Research	"CARING - A Story of High Quality Research Through Collaboration"	November 22, 2018
4	Dr. Naveen Kalra, Professor of Radio-diagnosis at PGIMER, Chandigarh	"Scope and Challenges of Thermal Ablative Therapies of Tumors"	November 27, 2018
5	Mr. Ganesh Jangir, CEO of Newndra Innovations	"Empowering people with Unpowered Assistive Innovations"	January 18, 2019
6	Dr. Gaurav Ahuja	"Molecular Insight's into Cardiac Development and Ageing"	January 18, 2019
7	Dr. Rajendra Kurapati	"Biomedical Applications and Biodegradability of Graphene Family Materials"	January 22, 2019

8	Mr. Mohammad Ameel, Senior Consultant, Healthcare Technologies (Medical devices) at National Health Systems Resource Centre (NHSRC)	"Medical device regulations and standards"	February 4, 2019
9	Dr. Bikash Medhi, Professor of Pharmacology, PGIMER and Dr. Ajay Prakash, Assistant of Pharmacology, PGIMER,	"Ethics, clinical trials and informed consent process while validating medical devices."	February 8, 2019

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. Durba Pal	USA	To perform research on lipid nanoparticles in the Ohio State University, Ohio, USA, May 25, 2018– June 14, 2018

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Debasmita Mukherjee	The Ohio State University Wexner Medical Centre, USA (Summer Internship) Technical University	May 21 - August 10, 2018 September 1,
		Darmstadt, Germany (M.Tech Project)	2018 to 31, March 2019
2	Joohi Chauhan	Participated and Presented poster in the conference of MICCAI'18 Core, Granada, Spain	September 16 - 20, 2018

MAJOR RESEARCH PROJECTS (ONGOING/COMPLETED)

Dr. Ashish K Sahani

- 1. Development of a novel cuff-less central blood pressure measurement device (Ongoing from ISIRD grant)
- 2. Development of mercury free blood pressure measurement apparatus and disposal strategy of existing mercury manometers (Ongoing in collaboration with DMC&H Ludhiana)
- 3. Development of a new device to detect onset of epileptic seizure to reduce the occurrence of SUDEP (Ongoing in collaboration with DMC&H Ludhiana)

Dr. Srivastava Naidu

- Investigation of the functional roles of the RNA polymerase I transcription factor complex selectivity factor 1 by CRISPR/Cas9 assisted genome engineering (ECR, SERB)
- 2. An integrative transcriptomics approach to investigate the global gene expression trends in response to hyperactive RNA polymerase I transcription (DBT Ramalinga) swami Re-entry Fellowship
- 3. A pilot study to develop micro RNAs based non-invasive diagnostic method for the early detection of the oral squalors cell carcinoma (Bio X consortium)
- 4. Role of micro RNAs in the regulation of RNA polymerase I transcription a validation study for Cancer therapy (ISIRD, IIT Ropar)

Dr. Durba Pal

1. Project title: "Understanding the role of adipose tissue remodelling in exercise induced insulin sensitivity"

Total fund (IIT Ropar): Rs. 29.89996 lakh

Duration of the Project: 06.07.2018 - 05.07.2021

Funded by: Department of Biotechnology (DBT), New Delhi, INDIA

2. Project title: "Role of micro RNAs in obesity induced adipocyte reprogramming causing inflammation and insulin resistance"

Total fund: Rs. 47.82360 lakh

Duration of the Project: 17.07.2018 - 16.07.2021

Funded by: Scientific and Engineering Research Board (SERB), New Delhi, INDIA

3. Project title: "Exploring the role of hypoxymiR in CAF cells plasticity in the regulation of breast tumor angiogenesis"

Total fund: Rs. 18 lakh

Duration of the project: 23-07-2018-22.07.2021

Funded by: Scientific and Engineering Research Board (SERB), New Delhi, INDIA

PUBLICATIONS @IIT ROPAR





DEPARTMENT OF CHEMICAL ENGINEERING

Journals

- 1. C. Rana, M. Mishra, and A. De Wit, "Effect of anti-Langmuir adsorption on spreading in porous media," Epl, vol. 124, no. 6, 2018.
- 2. C. Sasmal, "Analysis of the effects of inclination angle, nanoparticle volume fraction and its size on forced convection from an inclined elliptic cylinder in aqueous nanofluids," J. Therm. Anal. Calorim., vol. 136, no. 3, pp. 1433–1445, 2019.
- 3. T. K. Hota and M. Mishra, "Non-modal stability analysis of miscible viscous fingering with non-monotonic viscosity profiles," J. Fluid Mech., vol. 856, pp. 552–579, 2018.

- 4. V. Sharma, S. Pramanik, C. Y. Chen, and M. Mishra, "A numerical study on reaction-induced radial fingering instability," J. Fluid Mech., vol. 862, pp. 624–638, 2019.
- 5. Y. Zhang, A. H. Sahir, E. C. D. Tan, M. S. Talmadge, R. Davis, M. J. Biddy, and L. Tao, "Economic and environmental potentials for natural gas to enhance biomass-to-liquid fuels technologies," Green Chem., vol. 20, no. 23, pp. 5358–5373, 2018.

DEPARTMENT OF CHEMISTRY

- 1. A. K. Kar and R. Srivastava, "An efficient and sustainable catalytic reduction of carbon-carbon multiple bonds, aldehydes, and ketones using a Cu nanoparticle decorated metal organic framework," New J. Chem., vol. 42, no. 12, pp. 9557–9567, 2018.
- 2. A. K. Padhan and D. Mandal, "Thermoreversible self-healing in a fluorous crosslinked copolymer," Polym. Chem., vol. 9, no. 23, pp. 3248–3261, 2018.
- 3. A. Kumar, S. Samanta, and R. Srivastava, "Systematic Investigation for the Photocatalytic Applications of Carbon Nitride/Porous Zeolite Heterojunction," ACS Omega, vol. 3, no. 12, pp. 17261–17275, 2018.
- 4. A. Kumar and R. Srivastava, "FeVO 4 decorated –SO 3 H functionalized polyaniline for direct conversion of sucrose to 2,5-diformylfuran & 5-ethoxymethylfurfural and selective oxidation reaction," Mol. Catal., vol. 465, no. January, pp. 68–79, 2019.

- A. Tiwari, V. Singh, and T. C. Nagaiah, "Tuning the MnWO 4 morphology and its electrocatalytic activity towards oxygen reduction reaction," J. Mater. Chem. A, vol. 6, no. 6, pp. 2681–2692, 2018.
- 6. A. K. Kar and R. Srivastava, "Selective synthesis of Cu-Cu 2 O/C and CuO-Cu 2 O/C catalysts for Pd-free C-C, C-N coupling and oxidation reactions," Inorg. Chem. Front., vol. 6, no. 2, pp. 576–589, 2019.
- 7. A. Saini, R. Kaur, N. Singh, A. Kuwar, and N. Kaur, "High Performance Fluorescent Turn-On Probe for Amitriptyline Based on Hybrid Nanoassembly of Organic-Inorganic Nanoparticles," ACS Appl. Bio Mater., vol. 2, no. 1, pp. 135–143, 2019.
- 8. B. Ugale, S. Kumar, T. J. Dhilip Kumar, and C. M. Nagaraja, "Environmentally Friendly, Co-Catalyst-Free Chemical Fixation of CO 2 at Mild Conditions Using Dual-Walled Nitrogen-Rich Three-Dimensional Porous Metal-

- Organic Frameworks," Inorg. Chem., vol. 58, no. li, pp. 3925–3936, 2019.
- B. Sarmah and R. Srivastava, "Selective two-step synthesis of 2,5diformylfuran from monosaccharide, disaccharide, and polysaccharide using H-Beta and octahedral MnO2 molecular sieves," Mol. Catal., vol. 462, no. October 2018, pp. 92–103, 2019.
- 10. B. Sarmah, B. Satpati, and R. Srivastava, "One-pot tandem conversion of monosaccharides and disaccharides to 2,5-diformylfuran using a Ru nanoparticle-supported H-beta catalyst," Catal. Sci. Technol., vol. 8, no. 11, pp. 2870–2882, 2018.
- 11. B. Sarmah, R. Kore, and R. Srivastava, "An efficient halometallate ionic liquid functionalized mesoporous ZSM-5 for the reduction of carbon-carbon multiple bonds," Inorg. Chem. Front., vol. 5, no. 7, pp. 1609–1621, 2018.
- 12. B. Sarmah, B. Satpati, and R. Srivastava, "Selective Oxidation of Biomass-Derived Alcohols and Aromatic and Aliphatic Alcohols to Aldehydes with O2/Air Using a RuO2-Supported Mn3O4 Catalyst," ACS Omega, vol. 3, no. 7, pp. 7944–7954, 2018.
- 13. B. K. Billing, P. Dhar, N. Singh, and P. K. Agnihotri, "Augmenting static and dynamic mechanical strength of carbon nanotube/epoxy soft nanocomposites: Via modulation of purification and functionalization routes," Soft Matter, vol. 14, no. 2, pp. 291–300, 2018.
- 14. B. K. Billing, Mayank, P. K. Agnihotri, and N. Singh, "Development of pyrene-stacked carbon nanotube-based hybrid: Measurement of NO3-i onsusing fluorescence spectroscopy," Analyst, vol. 143, no. 14, pp. 3343–3352, 2018.
- 15. D. Bains, G. Singh, N. Kaur, and N. Singh, "Development of Biological Self-Cleaning Wound-Dressing Gauze for the Treatment of Bacterial

- Infection," ACS Sustain. Chem. Eng., vol. 7, no. 1, pp. 969–978, 2019.
- 16. F. Rossi, N. T. Duong, M. K. Pandey, M. R. Chierotti, R. Gobetto, and Y. Nishiyama, "Determination of the 15 N chemical shift anisotropy in natural abundance samples by proton-detected 3D solid-state NMR under ultrafast MAS of 70 kHz," Magn. Reson. Chem., no. January, pp. 294–303, 2019.
- 17. G. Singh, P. Raj, H. Singh, and N. Singh, "Colorimetric detection and ratiometric quantification of mercury(ii) using azophenol dye: 'Dip & read' based handheld prototype device development," J. Mater. Chem. C, vol. 6, no. 46, pp. 12728–12738, 2018.
- 18. H. Sharma, J. S. Sidhu, W. M. Hassen, N. Singh, and J. J. Dubowski, "Synthesis of a 3,4-Disubstituted 1,8-Naphthalimide-Based DNA Intercalator for Direct Imaging of Legionella pneumophila," ACS Omega, vol. 4, no. 3, pp. 5829–5838, 2019.
- 19. H. Singh, J. S. Sidhu, D. K. Mahajan, and N. Singh, "A carbon quantum dot and rhodamine-based ratiometric fluorescent complex for the recognition of histidine in aqueous systems," Mater. Chem. Front., vol. 3, no. 3, pp. 476–483, 2019.
- 20. J. S. Sidhu, A. Singh, N. Garg, N. Kaur, and N. Singh, "Gold conjugated carbon dots nano assembly: FRET paired fluorescence probe for cysteine recognition," Sensors Actuators, B Chem., vol. 282, no. October 2018, pp. 515–522, 2019.
- 21. J. Sindhu, Mayank, A. K. K. Bhasin, N. Kaur, N. Singh, and K. K. Bhasin, "Disaggregation-induced ESIPT: A novel approach towards development of sensors for hyperglycemic condition," New J. Chem., vol. 43, no. 5, pp. 2065–2076, 2019.
- 22. J. S. Sidhu and N. Singh, "FRET and PET paired dual mechanistic carbon

- dots approach for tyrosinase sensing," J. Mater. Chem. B, vol. 6, no. 24, pp. 4139–4145, 2018.
- 23. J. Singh Sidhu, A. Singh, N. Garg, N. Kaur, and N. Singh, "A highly selective naphthalimide-based ratiometric fluorescent probe for the recognition of tyrosinase and cellular imaging," Analyst, vol. 143, no. 18, pp. 4476–4483, 2018.
- 24. Malhotra, S. Shankar, R. Rai, and Y. Singh, "Broad-Spectrum Antibacterial Activity of Proteolytically Stable Self-Assembled $\alpha\gamma$ -Hybrid Peptide Gels," Biomacromolecules, vol. 19, no. 3, pp. 782–792, 2018.
- 25. K. L. Reddy, P. K. Sharma, A. Singh, A. Kumar, K. R. Shankar, Y. Singh, N. Garg, and V. Krishnan, "Aminefunctionalized, porous silica-coated NaYF 4:Yb/Er upconversion nanophosphors for efficient delivery of doxorubicin and curcumin," Mater. Sci. Eng. C, vol. 96, no. September 2018, pp. 86–95, 2019.
- 26. M. Singh, N. Singh, J. R. Ascenso, and Μ. Marcos, Ρ. Dihomooxacalix[4]arene-gold nanohybrid based colorimetric sensor for sensitive and selective detection of iodide," Supramol. Chem., vol. 31, no. 5, pp. 313-321, 2019. N. Sharma, S. S. Dhankhar, and C. M. Nagaraja, "A Mn(II)-porphyrin based metal-organic framework (MOF) for visible-lightassisted cycloaddition of carbon dioxide with epoxides," Microporous Mesoporous Mater., vol. 280, no. October 2018, pp. 372-378, 2019.
- 27. Mayank, N. Kaur, and N. Singh, "Structural insights and influence of V599 mutations on the overall dynamics of: BRAF protein against its kinase domains," Integr. Biol. (United Kingdom), vol. 10, no. 10, pp. 646–657, 2018.
- 28. M. Verma, A. Kaur, H. Kaur, N. Kaur, and N. Singh, "Selective Determination of Silver Metal Ion Using Polyamine-Based Ratiometric Chemosensor in an Aqueous Medium

- and Its Real-Time Applicability as a Silver Sink," ChemistrySelect, vol. 3, no. 27, pp. 7792–7799, 2018.
- 29. M. Verma, N. Kaur, and N. Singh, "Naphthalimide-Based DNA-Coupled Hybrid Assembly for Sensing Dipicolinic Acid: A Biomarker for Bacillus anthracis Spores," Langmuir, vol. 34, no. 22, pp. 6591–6600, 2018.
- 30. M. K. Pandey and Y. Nishiyama, "A one-dimensional solid-state NMR approach for 14 NH/ 14 NH overtone correlation through 1 H/ 1 H mixing under fast MAS," Phys. Chem. Chem. Phys., vol. 20, no. 40, pp. 25849–25853, 2018.
- 31. M. K. Pandey, J. T. Damron, A. Ramamoorthy, and Y. Nishiyama, "Proton-detected 3D 1 H anisotropic/ 14 N/ 1 H isotropic chemical shifts correlation NMR under fast magic angle spinning on solid samples without isotopic enrichment," Solid State Nucl. Magn. Reson., vol. 97, no. December 2018, pp. 40–45, 2019.
- 32. M. Yadav, R. S. R. Velampati, D. Mandal, and R. Sharma, "Microwave-Assisted Size Control of Colloidal Nickel Nanocrystals for Colloidal Nanocrystals-Based Non-volatile Memory Devices," J. Electron. Mater., vol. 47, no. 7, pp. 3560–3567, 2018.
- 33. 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.
- 34. N. Sharma, S. S. Dhankhar, S. Kumar, T. J. D. Kumar, and C. M. Nagaraja, "Rational Design of a 3D Mn II Metal-Organic Framework Based on a Nonmetallated Porphyrin Linker for Selective Capture of CO 2 and One-Pot Synthesis of Styrene Carbonates," Chem. A Eur. J., vol. 24, no. 62, pp. 16662–16669, 2018.

- 35. N. Kaur, S. Chopra, G. Singh, P. Raj, A. Bhasin, S. K. Sahoo, A. Kuwar, and N. Singh, "Chemosensors for biogenic amines and biothiols," J. Mater. Chem. B, vol. 6, no. 30, pp. 4872–4902, 2018.
- 36. N. Sharma, P. K. Sharma, Y. Singh, and C. M. Nagaraja, "A Self-Healing Metal-Organic Gel (MOG) Exhibiting pHResponsive Release of a Chemotherapeutic Agent, Doxorubicin: Modulation of Release Kinetics by Partial Dehydration of Matrix," ACS Omega, vol. 4, no. 1, pp. 1354–1363, 2019.
- 37. N. Thakur, M. Kumar, S. Das Adhikary, D. Mandal, and T. C. Nagaiah, "PVIM-Co 5 POM/MNC composite as a flexible electrode for the ultrasensitive and highly selective non-enzymatic electrochemical detection of cholesterol," Chem. Commun. (Camb)., vol. 55, no. 34, pp. 5021–5024, 2019.
- 38. P. K. Sharma, S. Taneja, and Y. Singh, "Hydrazone-Linkage-Based Self-Healing and Injectable Xanthan-Poly(ethylene glycol) Hydrogels for Controlled Drug Release and 3D Cell Culture," ACS Appl. Mater. Interfaces, vol. 10, no. 37, pp. 30936–30945, 2018.
- 39. P. Rani and R. Srivastava, "Integration of a metal-organic framework with zeolite: A highly sustainable composite catalyst for the synthesis of γ-valerolactone and coumarins," Sustain. Energy Fuels, vol. 2, no. 6, pp. 1287–1298, 2018.
- 40. P. Rani and R. Srivastava, "Exploring the dicationic gemini surfactant for the generation of mesopores: a step towards the construction of a hierarchical metal-organic framework," Inorg. Chem. Front., vol. 5, no. 11, pp. 2856–2867, 2018.
- 41. P. Raj, A. Singh, A. Singh, A. Singh, N. Garg, N. Kaur, and N. Singh, "Pyrophosphate Prompted Aggregation-Induced Emission: Chemosensor Studies, Cell Imaging,

- Cytotoxicity, and Hydrolysis of the Phosphoester Bond with Alkaline Phosphatase," Eur. J. Inorg. Chem., vol. 2019, no. 5, pp. 628–638, 2019.
- 42. R. Rani, Mayank, P. Thangarasu, and N. Singh, "Fine Tuning of Polymer-Coated Gold Nanohybrids: Sensor for the Selective Detection of Quinalphos and Device Fabrication for Water Purification," ACS Appl. Nano Mater., vol. 2, no. 1, pp. 1–5, 2019.
- 43. R. Dhiman and C. M. Nagaraja, "Synthesis, Structure, and Water Oxidation Activity of Ruthenium(II) Complexes: Influence of Intramolecular Redox Process on O 2 Evolution," Eur. J. Inorg. Chem., vol. 2018, no. 24, pp. 2826–2834, 2018.
- 44. R. Y. Sathe, S. Kumar, and T. J. Dhilip K u m a r, "B N a n a l o g u e o f [2,2]paracyclophane functionalized with Sc and Ti for hydrogen storage," Int. J. Hydrogen Energy, vol. 44, no. 13, pp. 6663–6673, 2019.
- 45. R. Kaur, S. K. Sahoo, A. Kuwar, N. Kaur, and N. Singh, "Rhodamine based NIR and ratiometric fluorescent sensor for selective identification of potassium ion: application in biological sample," Supramol. Chem., vol. 31, no. 1, pp. 36–44, 2019.
- 46. R. Arumugam, S. Sarkar, T. Banerjee, S. Sinha, and P. S. Dutta, "Dynamic environment-induced multistability and critical transition in a metacommunity ecosystem," Phys. Rev. E, vol. 99, no. 3, pp. 1–12, 2019.
- 47. S. Chand, M. Mondal, S. C. Pal, A. Pal, S. Maji, D. Mandal, and M. C. Das, "Two azo-functionalized luminescent 3D Cd(ii) MOFs for highly selective detection of Fe 3+ and Al 3+," New J. Chem., vol. 42, no. 15, pp. 12865–12871, 2018.
- 48. S. N. Chavan, A. K. Padhan, and D. Mandal, "Self-assembly of fluorous amphiphilic copolymers with ionogels and surface switchable wettability," Polym. Chem., vol. 9, no. 17, pp. 2258–2270, 2018.

- 49. S. D. Adhikary, A. Tiwari, T. C. Nagaiah, and D. Mandal, "Stabilization of Cobalt-Polyoxometalate over Poly(ionic liquid) Composites for Efficient Electrocatalytic Water Oxidation," ACS Appl. Mater. Interfaces, vol. 10, no. 45, pp. 38872–38879, 2018.
- 50. S. Ghosh, S. Pradhan, and I. Chatterjee, "A survey of chiral hypervalent iodine reagents in asymmetric synthesis," Beilstein J. Org. Chem., vol. 14, pp. 1244–1262, 2018.
- 51. S. Chhabra, A. Kushwaha, and T. J. Dhilip Kumar, "Quantum dynamics study of rotational transitions of NCCN induced by He collision," J. Chem. Phys., vol. 149, no. 17, 2018.
- 52. S. Kumar, R. Y. Sathe, and T. J. Dhilip Kumar, "Sc and Ti-functionalized 4-tert-butylcalix[4] arene as reversible hydrogen storage material," Int. J. Hydrogen Energy, vol. 44, no. 25, pp. 12724–12732, 2019.
- 53. S. S. Dhankhar and C. M. Nagaraja, "Construction of a 3D porous Co(ii) metal-organic framework (MOF) with Lewis acidic metal sites exhibiting selective CO 2 capture and conversion under mild conditions," New J. Chem., vol. 43, no. 5, pp. 2163–2170, 2019.
- 54. S. S. Chourasiya, A. A. Wani, C. M. Nagaraja, A. K. Chakraborti, and P. V. Bharatam, "N-(acridin-9-yl)arenesulfonamides: Synthesis,

- quantum chemical studies and crystal structure analysis to establish the tautomeric preferences," Tetrahedron, vol. 74, no. 27, pp. 3634–3641, 2018.
- 55. S. S. Dhankhar, N. Sharma, and C. M. Nagaraja, "Construction of bifunctional 2-fold interpenetrated Zn(ii) MOFs exhibiting selective CO 2 adsorption and aqueous-phase sensing of 2,4,6-trinitrophenol," Inorg. Chem. Front., vol. 6, no. 4, pp. 1058–1067, 2019.
- 56. V. Singh, A. K. Padhan, S. Das Adhikary, A. Tiwari, D. Mandal, and T. C. Nagaiah, "Poly(ionic liquid)-zinc polyoxometalate composite as a binder-free cathode for high-performance lithium-sulfur batteries," J. Mater. Chem. A, vol. 7, no. 7, pp. 3018–3023, 2019.
- 57. V. Singh and T. C. Nagaiah, "In situ incorporation of cobalt nanoclusters and nitrogen into the carbon matrix: a bifunctional catalyst for the oxygen depolarized cathode and chlorine evolution in HCl electrolysis," J. Mater. Chem. A, vol. 7, no. 16, pp. 10019–10029, 2019.
- 58. V. Singh, A. Tiwari, and T. C. Nagaiah, "Facet-controlled morphology of cobalt disulfide towards enhanced oxygen reduction reaction," J. Mater. Chem. A, vol. 6, no. 45, pp. 22545–22554, 2018.

DEPARTMENT OF CIVIL ENGINEERING

- K. V. Mitkari, M. K. Arora, and R. K. Tiwari, "Detecting glacier surface changes using object-based change detection," Int. Geosci. Remote Sens. Symp., vol. 2018-July, pp. 5180–5183, 2018.
- 2. V. Saini and R. K. Tiwari, "An object-based image analysis approach for determining the pattern of urban growth in the first planned city of India," no. October, p. 35, 2018.

- A. Tripathi, and R.K. Tiwari, "C-band SAR Interferometry based flood inundation mapping for Gorakhpur and adjoining areas". In ICCECE 2019, Kolkata, Publication awaited. (Best Paper Award)
- 2. A. Tripathi, and R.K. Tiwari, (2019), "C-band SAR Interferometry based flood inundation mapping for Gorakhpur and adjoining areas". In ICCECE 2019, Kolkata, Publication awaited. (Best Paper Award)
- A. Tripathi, and R.K. Tiwari, (2019), "Utilization of spaceborne C-Band SAR data for analysis of flood impact on agriculture and its management". Accepted for presentation In ISPRS GEOGLAM to be held from February 18th to 20th at New Delhi.
- A.N. Roy Chowdhury, C.M. Wang, and D. Fernando, Effect of end support height on vibration frequencies of deep beams. The 25th Australasian Conference on the Mechanics of Structures and Materials (ACMSM25). Brisbane, Australia, December 4 – 7, 2018.(paper presented)
- K. V. Mitkari, M.K. Arora, and R.K. Tiwari, "Detecting glacier surface changes using object-based change detection' In: Proceedings of IEEE International Geosciences and Remote Sensing Symposium 2018, 23rd-27th July, Valencia, Spain (Full Length Paper).
- N. Gupta, and S. R. Chavan, Behaviour of extreme rainfall over India, 1st International Conference on Sustainable Water Management, 10-11 December 2018, Chandigarh, India.
- 7. N. Gupta, and S. R. Chavan, Assessment of tail behavior of probability distributions of daily precipitation data over India, 23rd International Conference on Hydraulics, Water Resources and Coastal Engineering, National Institute of Technology Patna, India December

- 19-21, 2018, ISH HYDRO 2018 International, (Reference Number :118)
- N. Gupta, and S.R. Chavan, (2018), Behaviour of extreme rainfall over india, 1st International Conference on Sustainable Water Management, 10-11 December 2018, Chandigarh, India.
- N. Gupta, and S.R. Chavan, (2018), Assessment of tail behavior of probability distributions of daily precipitation data over India, 23rd International Conference on Hydraulics, Water Resources and Coastal Engineering, National Institute of Technology Patna, India December 19-21, 2018, ISH - HYDRO 2018 International, (Reference Number :118)
- 10. R. Sebastian, and T.G. Sitharam, (2018) "Numerical simulation of wave propagation across multiple parallel rock joints using DEM", Proceedings, Indian Geotechnical Conference, 13-15 December, Bangalore.
- 11. R. Sebastian, and T.G. Sitharam, (2018) "Numerical simulation of wave propagation across multiple parallel rock joints using DEM", Proceedings, Indian Geotechnical Conference, 13-15 December, Bangalore.
- 12. R.K. Tiwari, "Glacial Retreat: Climate Change is Responsible Geomorphology Hastens the Process." Presented in International Workshop on Climate Change and Extreme Events in the Himalayan Region, IIT Mandi.
- 13. R.K. Tiwari, (2019), "Glacial Retreat: Climate Change is Responsible Geomorphology Hastens the Process." Presented in International Workshop on Climate Change and Extreme Events in the Himalayan Region, IIT Mandi, 18-20 April, 2019, Mandi, India.
- 14. S. Pattnaik, and S.R. Chavan, (2018),

- Hydro-climatological Change Detection in Cauvery River Basin of India, European Geosciences Union General Assembly 2018, Vienna, Austria, Vol. 20, EGU2018-15549, 2018.
- 15. S. Pattnaik, and S.R. Chavan, (2018), Hydro-climatological Change Detection in Cauvery River Basin of India, European Geosciences Union General Assembly 2018, Vienna, Austria, Vol. 20, EGU2018-15549, 2018.
- 16. S. Maheshwari, and S.R. Chavan, Magnitude frequency analysis to assess effective discharge for sediment transport in Godavari river basin, 1stInternational Conference on Sustainable Water Management, 10-11 December 2018, Chandigarh, India
- 17. S. Maheshwari, and S.R. Chavan, Determination of Effective Discharge responsible for sediment transport in Cauvery River basin, 23rd International Conference on Hydraulics, Water Resources and Coastal Engineering, National Institute of Technology Patna, India December 19-21, 2018, ISH HYDRO 2018 International, (Reference Number:118)
- 18. S. Maheshwari, and S.R. Chavan, Assessment of impact of change in DEM resolution on sediment yield in Beas river basin, India, European Geosciences Union General Assembly 2018, Vienna, Austria, Vol. 20, EGU2018-14795, 2018.
- S. Maheshwari, and S.R. Chavan, (2018), Magnitude frequency analysis to assess effective discharge for sediment transport in Godavari river basin, 1st International Conference on Sustainable Water Management, 10-11 December 2018, Chandigarh, India
- 20. S. Maheshwari, and S.R. Chavan, (2018), Determination of Effective Discharge responsible for sediment transport in Cauvery River basin, 23rd International Conference on

- Hydraulics, Water Resources and Coastal Engineering, National Institute of Technology Patna, India December 19-21, 2018, ISH - HYDRO 2018 International, (Reference Number :118)
- 21. S. Maheshwari, and S.R. Chavan, (2018), Assessment of impact of change in DEM resolution on sediment yield in Beas river basin, India, European Geosciences Union General Assembly 2018, Vienna, Austria, Vol. 20, EGU2018-14795, 2018.
- 22. S. Muthulingam, "Flexural Capacity of Corroding RC Elements Based on Gaussian Representation of Corrosion Loss," "Advanced Structures, Materials and Methodology in Civil Engineering" held at Dr. B. R. Ambedkar National Institute of Technology Jalandhar, November 03–04, 2018.
- 23. V.B. Soorya, T.M. Rahul, and S.S. Arkatkar, 2018. Simulation of Classified Lane-Wise Vehicle Count at Toll Plazas Using Monte Carlo Simulation and Probability Based Discrete Random Number Generation, 3rd National conference on Recent Advances-Traffic Engineering, 11-12 August 2018, SVNIT Surat.
- 24. V. Saini, and R.K. Tiwari, "Remote sensing-based time-series analysis for monitoring urban sprawl: A case study of Chandigarh capital region." In: Proceedings of National Symposium on Advancements in Geospatial Technology for Societal Benefits, Space Applications Center (ISRO), 5-7 December 2018, Ahmedabad, India. (Proceedings yet to be out)
- 25. V. Saini, R.K. Tiwari, "Monitoring urban sprawl using object-based image analysis of multi-temporal remote sensing data." In: Proceedings of Women Science Congress, 106th Indian Science Congress, 5-6 January 2019, LPU, Punjab, India.
- 26. V. Saini, and R.K. Tiwari, (2018). An

- object-based image analysis approach for determining the pattern of urban growth in the first planned city of India. In: Proceedings of Remote Sensing Technologies and Applications in Urban Environments III, (9 October 2018); SPIE Remote Sensing, 10-13 Sept. 2018, Berlin, Germany, vol. 10793, pp. 107930T-1 107930T-8. doi: 10.1117/12.2502077.
- 27. V. Saini, and R.K. Tiwari, (2018). Remote sensing-based time-series analysis for monitoring urban sprawl: A case study of Chandigarh capital region. In: Proceedings of National Symposium on Advancements in Geospatial Technology for Societal Benefits, Space Applications Center (ISRO), 5-7 December 2018, Ahmedabad, India. (Proceedings yet to be out)
- 28. V. Saini, and R.K. Tiwari, (2019). Monitoring urban sprawl using object-based image analysis of multi-temporal remote sensing data. In: Proceedings of Women Science Congress, 106th Indian Science Congress, 5-6 January 2019, LPU, Punjab, India.
- 29. Managed aquifer recharge and its impact on fluoride contamination in Rajasthan. Conference: Hydrochemistry and Human Health: Ineson 2018, Geological Society, Burlington House, London.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

- A. Dhall, A. Kaur, R. Goecke, and T. Gedeon, "EmotiW 2018: Audio-Video, Student Engagement and Group-Level Affect Prediction," 2018.
- 2. D. Chang, A. K. Chauhan, S. Kumar, and S. K. Sanadhya, "Revocable identity-based encryption from codes with rank metric," Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics), vol. 10808 LNCS, pp. 435–451, 2018.
- 3. D. Chang, A. Jati, S. Mishra, and S. K. Sanadhya, "Cryptanalytic time-memory trade-off for password hashing schemes," Int. J. Inf. Secur., vol. 18, no. 2, pp. 1–18, 2018.
- D. Deb, J. Jose, S. Das, and H. K. Kapoor, "Cost effective routing techniques in 2D mesh NoC using onchip transmission lines," J. Parallel Distrib. Comput., vol. 123, pp. 118–129, 2019.
- G. Sharma, S. Jyoti, and A. Dhall, "Hybrid neural networks based

- approach for holoscopic microgesture recognition in images and videos," Proc. 13th IEEE Int. Conf. Autom. Face Gesture Recognition, FG 2018, pp. 808–814, 2018.
- 6. K. Goswami, H. K. Mondal, S. Das, and D. S. Banerjee, "State Preserving Dynamic DRAM Bank Re-Configurations for Enhanced Power Efficiency," Proc. Int. Symp. Qual. Electron. Des. ISQED, vol. 2019–March, pp. 131–137, 2019.
- L. Mehta and A. Dhall, "Fast face and saliency aware collage creation for mobile phones," Proc. - 13th IEEE Int. Conf. Autom. Face Gesture Recognition, FG 2018, p. 788, 2018.
- 8. N. Jangamreddy, V. Sethi, and S. Pal, "Web-Based Gesture Recognition System for Controlling Heterogeneous IoT devices using Deep Learning," 2019 11th Int. Conf. Commun. Syst. Networks, vol. 2061, pp. 700–702.
- 9. N. N. Anandakumar, M. P. L. Das, S. K.

- Sanadhya, and M. S. Hashmi, "Reconfigurable Hardware Architecture for Authenticated Key Agreement Protocol Over Binary Edwards Curve," ACM Trans. Reconfigurable Technol. Syst., vol. 11, no. 2, pp. 1–19, 2018.
- P. Patil, S. Murala, A. Dhall, and S. Chaudhary, "MsEDNet: Multi-Scale Deep Saliency Learning for Moving Object Detection," Proc. 2018 IEEE Int. Conf. Syst. Man, Cybern. SMC 2018, pp. 1670–1675, 2019.
- R. Balani, C.-C. Han, R. K. Rengaswamy, I. Tsigkogiannis, and M. Srivastava, "Multi-level software reconfiguration for sensor networks," p. 112, 2007.
- 12. R. R. Madireddy and A. Mudgal, "Approximability and hardness of geometric hitting set with axis-parallel rectangles," Inf. Process. Lett., vol. 141, pp. 9–15, 2019.
- 13. R. R. Madireddy and A. Mudgal, "NP-hardness of geometric set cover and hitting set with rectangles containing a common point," Inf. Process. Lett., vol. 141, pp. 1–8, 2019.

- 1. A. Behal, A. Vyas and S. Pal, "Local Traffic Optimization by Exploiting the Mobility of Smart Devices", 2019 11th International Conference on Communication Systems & Networks (COMSNETS), Bengaluru, India, 2019.
- A. Dhall, A. Kaur, R. Goecke, and T. Gedeon, "Emotiw 2018: Audio-video, student engagement and group-level affect prediction." In Multimodal Interaction (ICMI), ACM International Conference on , pages 653-656, October 2018. ACM
- A. Mehta, K. Malik, V. M. V. Gunturi, A. Goel, P. Sethia, A, Aggarwal, "Load Balancing in Network Voronoi Diagrams Under Overload Penalties," in Proc. of DEXA, 2018, pp 457-475.
- 4. A. Mehta, K. Malik, V. Gunturi and et.

- 14. S. V. Peri and A. Dhall, "DisguiseNet: A contrastive approach for disguised face verification in the wild," IEEE Comput. Soc. Conf. Comput. Vis. Pattern Recognit. Work., vol. 2018–June, pp. 25–31, 2018.
- 15. S. Pal, A. Ghosh, and V. Sethi, "Vehicle Air Pollution Monitoring Using IoTs," vol. 2, pp. 400–401, 2018.
- S. Ghosh, A. Dhall, and N. Sebe, "Automatic Group Affect Analysis in Images via Visual Attribute and Feature Networks," Proc. - Int. Conf. Image Process. ICIP, pp. 1967–1971, 2018.
- S. Ghosh and A. Dhall, "Role of group level affect to find the most influential person in images," Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics), vol. 11130 LNCS, pp. 518–533, 2019.
- X. Huang, A. Dhall, R. Goecke, M. Pietikainen, and G. Zhao, "Multimodal Framework for Analyzing the Affect of a Group of People," IEEE Trans. Multimed., vol. 20, no. 10, pp. 2706–2721, 2018.
 - al: "Load Balancing in Network Voronoi Diagrams under Overload Penalties." 29th Intl. Conference on Database and Expert Systems Applications, DEXA 2018
- G. Sharma, S. Jyoti, and A. Dhall, "Hybrid Neural Networks Based Approach for Holoscopic Micro-Gesture Recognition in Images and Videos." In Automatic Face & Gesture Recognition (FG 2018), 2018 13th IEEE International Conference on, pages 808-814, 2018. IEEE.
- 6. J. Singh, and A. Dhall, "Garuda: A Deep Learning Based Solution for Capturing Selfies Safely." In Proceedings of the 24th International Conference on Intelligent User Interfaces Companion, 2019. ACM

- 7. K. Fizza, N. Auluck, O. Rana and L. Bittencourt, "PASHE: Privacy aware Scheduling in a Heterogeneous Fog Environment", The Sixth IEEE International Conference on Future of Internet of Things and Cloud, August 6-8, Barcelona, Spain, 2018.
- 8. K. Fizza, N. Auluck, A. Azim, "Improving the Interactivity and Security of Diabetes Data using Fog Computing (Poster)", The Ninth Student Research Conference, University of Ontario Institute of Technology, Oshawa, Canada, May 3, 2018.
- K. Fizza, N. Auluck, O. Rana and L. Bittencourt, "PASHE: Privacy aware Scheduling in a Heterogeneous Fog Environment", The Sixth IEEE International Conference on Future of Internet of Things and Cloud, August 6-8, Barcelona, Spain, 2018.
- K. Fizza, N. Auluck, A. Azim, "Improving the Interactivity and Security of Diabetes Data using Fog Computing (Poster)", The Ninth Student Research Conference, University of Ontario Institute of Technology, Oshawa, Canada, May 3, 2018.
- L. Mehta,; and A. Dhall, "Fast Face and Saliency Aware Collage Creation for Mobile Phones." In Automatic Face & Gesture Recognition (FG 2018), 2018
 13th IEEE International Conference on, pages 788, 2018. IEEE.
- 12. Li, Baoxiang, S.S. Jha, and H. Chuin Lau. "Route Planning for a Fleet of Electric Vehicles with Waiting Times at Charging Stations." In European Conference on Evolutionary Computation in Combinatorial Optimization (Part of EvoStar), pp. 66-82. Springer, Cham, 2019.
- 13. N. Singh, and A. Dhall, "Clustering Based Over Sampling - Learning from Class Imbalanced Data." In Proceedings of the NIPS Workshop on Challenges and Opportunities for Al in

- Financial Services: the Impact of Fairness, Explainability, Accuracy, and Privacy, pages 1-4, 2018.
- 14. P. Patil, S. Murala, A. Dhall, and S. Chaudhary, "MsEDNet: Multi-Scale Deep Saliency Learning for Moving Object Detection." In System Man & Cybernetics (SMC 2018), IEEE International Conference on, pages 1-5, 2018.
- 15. R. Kaur, V. Goyal, V. Gunturi, "Finding The Most Navigable Path in Road Networks: A Summary of Results." 29th Intl. Conference on Database and Expert Systems Applications, DEXA 2018
- R. Kaur, V. Goyal, V. M. V. Gunturi, "Finding the Most Navigable Path in Road Networks: A Summary of Results," in Proc. of DEXA, 2018, pp. 440-456.
- 17. R.R. Madireddy, A. Mudgal, and S. Pandit, "Hardness Results and Approximation Schemes for Discrete Packing and Domination Problems." In 12th Annual International Conference on Combinatorial Optimization and Applications (COCOA 2018): 421-435, 2018.
- 18. S. Ghosh, and A. Dhall, "Role of Group Level Affect to Find The Most Influential Person in Images." In Human Behavior Understanding (HBU) Workshop, ECCV, pages 1-5, 2018.
- 19. S. Ghosh, A. Dhall, and N. Sebe, "Automatic Group Affect Analysis in Images via Visual Attribute and Feature Networks." In Image Processing (ICIP 2018), IEEE International Conference on, pages 1-5, 2018. IEEE.
- 20. S. Jyoti, and A. Dhall, "Automatic Eye Gaze Estimation using Geometric & Texture-based Networks." In Pattern Recognition (ICPR 2018), IAPR International Conference on, pages 1-5, 2018. IEEE.
- 21. S.V. Peri, and A. Dhall, "DisguiseNet: A

Contrastive Approach for Disguised Face Verification in the Wild." In CVPR Workshop on Disguised Faces in the Wild, volume 4, 2018. 22. S. Pal, A. Ghosh, V. Sethi, "Vehicle Air Pollution Monitoring Using IoTs", in Proc. of 16th ACM International Conference on Embedded Networked Sensor Systems (SenSys), Shenzhen, China, 2018.

- 23. S.S. Phaye, A. Sikka, A. Dhall and D. Bathula, "Multi-level Dense Capsule Networks." In Computer Vision (ACCV), Asian Conference (accepted), pages 1-5, December 2018.
- 24. X. Huang, A. Dhall, R. Goecke, M. Pietikainen, and G. Zhao, "Multi-modal Framework for Analyzing the Affect of a Group of People." IEEE Transactions on Multimedia, 1. 2018.

Book Chapters:

(1) V. M. V. Gunturi, I. Brugere, S. Shekhar, "Modeling and Analysis of Spatiotemporal Social Networks", Encyclopedia of Social Network Analysis and Mining, 2nd Ed, 2018

DEPARTMENT OF ELECTRICAL ENGINEERING

- 1. A. Dudhane and S. Murala, "Cardinal color fusion network for single image haze removal," Mach. Vis. Appl., vol. 30, no. 2, pp. 231–242, 2019.
- 2. A. Sharma, I. J. Garcia Zuazola, R. Martnez, A. Perallos, and J. C. Batchelor, "Channel-based antenna synthesis for improved in-vehicle UWB MB-OFDM communications," IET Microwaves, Antennas Propag., pp. 1–10, 2019.
- 3. B. Rawat, M. M. Vinaya, and R. Paily, "Transition Metal Dichalcogenide-Based Field-Effect Transistors for Analog/Mixed-Signal Applications," IEEE Trans. Electron Devices, vol. 66, no. 5, pp. 2424–2430, 2019.
- 4. G. Dua and R. Mulaveesala, "Applicability of active infrared thermography for screening of human breast: a numerical study," J. Biomed. Opt., vol. 23, no. 03, p. 1, 2018.
- G. M. Galshetwar, L. M. Waghmare, A. B. Gonde, and S. Murala, "Multi-dimensional multi-directional mask maximum edge pattern for biomedical image retrieval," Int. J. Multimed. Inf. Retr., vol. 7, no. 4, pp. 231–239, 2018.

- 6. M. Mandal, M. Verma, S. Mathur, S. K. Vipparthi, S. Murala, and D. Kranthi Kumar, "Regional adaptive affinitive patterns (RADAP) with logical operators for facial expression recognition," IET Image Process., vol. 13, no. 5, pp. 850–861, 2019.
- 7. M. Mandal, M. Chaudhary, S. K. Vipparthi, S. Murala, A. B. Gonde, and S. K. Nagar, "ANTIC: antithetic isomeric cluster patterns for medical image retrieval and change detection," IET Comput. Vis., vol. 13, no. 1, pp. 31–43, 2018.
- 8. M. Mandal, P. Saxena, S. K. Vipparthi, and S. Murala, "CANDID: Robust Change Dynamics and Deterministic Update Policy for Dynamic Background Subtraction," Proc. Int. Conf. Pattern Recognit., vol. 2018–August, pp. 2468–2473, 2018.
- 9. M. Yadav, R. S. R. Velampati, and R. Sharma, "Colloidal Synthesized Cobalt Nanoparticles for Nonvolatile Memory Device Application," IEEE Trans. Semicond. Manuf., vol. 31, no. 3, pp. 356–362, 2018.
- 10. M. Yadav, R. S. R. Velampati, D. Mandal, and R. Sharma, "Microwave-

- Assisted Size Control of Colloidal Nickel Nanocrystals for Colloidal Nanocrystals-Based Non-volatile Memory Devices," J. Electron. Mater., vol. 47, no. 7, pp. 3560–3567, 2018.
- 11. P. W. Patil and S. Murala, "FgGAN: A cascaded unpaired learning for background estimation and foreground segmentation," Proc. 2019 IEEE Winter Conf. Appl. Comput. Vision, WACV 2019, pp. 1770–1778, 2019.
- 12. P. W. Patil and S. Murala, "MSFgNet: A Novel Compact End-to-End Deep Network for Moving Object Detection," IEEE Trans. Intell. Transp. Syst., vol. PP, pp. 1–12, 2018.
- 13. R. Sharma and S. Bardhan, "Stock market development and economic growth: Evidence from bootstrap panel Granger causality test," J. Econ. Dev., vol. 43, no. 3, pp. 57–83, 2018.
- 14. P. Patil, S. Murala, A. Dhall, and S. Chaudhary, "MsEDNet: Multi-Scale Deep Saliency Learning for Moving Object Detection," Proc. 2018 IEEE Int. Conf. Syst. Man, Cybern. SMC 2018, pp. 1670–1675, 2019.

- A. Dudhane and S. Murala, "CDNet: Single Image De-Hazing Using Unpaired Adversarial Training," WACV-2019, pp. 1147-1155, Waikoloa Village, Hawaii, USA, 2019
- 2. A. Dudhane and S. Murala, "C2MSNet: A novel approach for single image haze removal," WACV-2018, pp. 1397-1404, Lake Tahoe, USA, 2018.
- 3. M. Mandal, P. Saxena, S.K. Vipparthi and S. Murala, "CANDID: Robust Change Dynamics and Deterministic Update Policy for Dynamic Background Subtraction," ICPR-2018, pp. 2468-2473, Beijing, China, 2018.
- P.W. Patil, S. Murala, A. Dhall and S. Chaudhary, "MsEDNet: Multi-Scale Deep Saliency Learning for Moving Object Detection,", SMC-2018, pp.

- 15. P. Banerjee, A. K. Bhunia, A. Bhattacharyya, P. P. Roy, and S. Murala, "Local Neighborhood Intensity Pattern—A new texture feature descriptor for image retrieval," Expert Syst. Appl., vol. 113, pp. 100–115, 2018.
- 16. S. Roy, "Worst-case temporal aggregate power ramp distributions for a PAC wind turbine," Energy Syst., vol. 9, no. 4, pp. 1095–1113, 2018.
- 17. S. Dutta, A. Mukhopadhyay, A. K. Choudhary, and C. C. Reddy, "Response of Conductive and PTFE-Coated Polyester Filters to Cold Fly Ash at Different Dust Charge Levels," J. Inst. Eng. Ser. E, vol. 99, no. 2, pp. 219–226, 2018.
- S. Chaudhary and S. Murala, "TSNet: Deep Network for Human Action Recognition in Hazy Videos," Proc. -2018 IEEE Int. Conf. Syst. Man, Cybern. SMC 2018, pp. 3981–3986, 2019.
- 19. S. Roy, "Run-of-river hydro generation in presence of sub-daily source flow variations," Energy, vol. 172, pp. 1268–1276, 2019.
 - 1670-1675, Miyazaki, Japan, 2018.
- 5. P.W. Patil and S. Murala, "FgGAN: A Cascaded Unpaired Learning for Background Estimation and Foreground Segmentation," WACV-2019, pp. 1770-1778, Waikoloa Village, Hawaii, USA, 2019.
- 6. S. Chaudhary and S. Murala, "TSNet: Deep Network for Human Action Recognition in Hazy Videos,", SMC-2018, pp. 3981-3986, Miyazaki, Japan, 2018. (Accepted)
- "Microgrid Fault Detection Methods: Reviews, Issues and Future Trends", IEEE Conf. on Innovative Smart Grid Technologies (ISGT) Asia, 2018, May 2018, Singapore.
- 8. "A simple strategic SVC placement scheme for enhanced voltage stability

- margins", 20th National Power System Conference (NPSC 2018).
- "Distribution-level Synchrophasor Estimation", 20th National Power System Conference (NPSC 2018).
- "A smart Demand Response Management Scheme for Direct Load Control in Residential Grid" 20th National Power System Conference (NPSC 2018).
- 11. "C2MSNet: A novel approach for single image haze removal," WACV-2018, Lake Tahoe, USA, 2018.
- 12. "LEDNet: Deep Network for Single Image Haze Removal," ICVGIP-2018, IIIT Hyderabad, India, 2018.

- 13. "TSNet: Deep Network for Human Action Recognition in Hazy Videos,", SMC-2018, Miyazaki, Japan, 2018.
- 14. "MsEDNet: Multi-Scale Deep Saliency Learning for Moving Object Detection,", SMC-2018, Miyazaki, Japan, 2018
- 15. "CDNet: Single Image De-Hazing Using Unpaired Adversarial Training," WACV-2019, pp. 1147-1155, Waikoloa Village, Hawaii, USA, 2019.
- 16. "FgGAN: A Cascaded Unpaired Learning for Background Estimation and Foreground Segmentation,", WACV-2019, pp. 1770-1778, Waikoloa Village, Hawaii, USA, 2019.

DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

Journals

- G. Eds, D. André, and C. Becker, "Title: "' Do Time Now, Buy Time for Future': Phallic Deception and Techno- Sexual Agency in Margaret Atwood 's The Heart Goes Last " Author: Rano Ringo and Jasmine Sharma Source: Messengers from the Star: On Science Fiction and Fantasy. No. 4 (2019): 73-Published by: ULICES / CEAUL URL: http://messengersfromthestars.letras. ulisboa.pt/journal/archives/article/dotime- ' Do Time Now , Buy Time for Future ': Phallic Deception and Techno- Sexual Agency in Margaret Atwood 's The Heart Goes Last Rano Ringo," vol. 4, no. 4, pp. 73-87, 2019.
- 2. R. Sharma and S. Bardhan, "Stock Market Development and Economic

- Growth: Evidence from Bootstap Panel Granger Causality Test," J. Econ. Dev., vol. 43, no. 3, pp. 57–83, 2018.
- 3. T. Space, "Liminality and Otherness: Exploring Transcultural Space in Rita Dove's The Yellow House on the Corner.' Liminality and Otherness: Exploring Liminality and Otherness: Exploring Transcultural Space in Rita Dove's The Yellow House on the Corner Lekha Roy and Rano Ringo," no. December, 2018.
- 4. Sinha, A., Jha, S., Amritesh, "Green Agrevolution Pvt. Ltd.: Delivering 3600 'Seed-to-Market' Solution" Emerging market Case Studies, Emerald., vol. 19, no.1.

- A. Ahmad, Amritesh (2019), "Persuasion from Electronic Word of Mouth: An Integrative Dual Process Model." International Conference on Digital Economy, ICDE, 8-9th February, 2019, IIM Raipur.
- 2. A. Ahmad, Amritesh (2018), "Electronic Word-of-Mouth (eWOM) Processing: A three Stage Dual Process Model." PANIITIMC 2018 conference, Nov 30 Dec 2, 2018, IIT Roorkee.

DEPARTMENT OF METALLURGICAL & MATERIAL ENGINEERING

Journals

- P. Jain et al., "Dual band graphene based metamaterial absorber for terahertz applications," 2018 IEEE 13th Nanotechnol. Mater. Devices Conf. NMDC 2018, vol. 2, pp. 1–4, 2019.
- 2. S. Bansal et al., "Bilayer graphene/HgCdTe based very long infrared photodetector with superior external quantum efficiency, responsivity, and detectivity," RSC Adv., vol. 8, no. 69, pp. 39579-39592, 2018.
- 3. S. Bansal et al., "A highly efficient bilayer graphene-HgCdTe heterojunction based p + -n photodetector for Long Wavelength Infrared (LWIR)," 2018 IEEE 13th Nanotechnol. Mater. Devices Conf. NMDC 2018, no. Cd, pp. 1-4, 2019.

DEPARTMENT OF MATHEMATICS

- 1. A. K. Verma and A. K. Gupta, "Limited resources in multi-lane stochastic transport system," J. Phys. Commun., vol. 2, no. 4, p. 045020, 2018.
- 2. A. K. Verma, N. Sharma, and A. K. Gupta, "PHYSICAL REVIEW E 97, 022105 (2018) Far-from-equilibrium bidirectional transport system with constrained entrances competing for pool of limited resources," vol. 022105, pp. 1–10, 2018.
- 3. A. Sairam Kaliraj, "Injectivity of sections of close-to-convex harmonic mappings with functions convex in one direction as analytic part," Issues Anal., vol. 25, no. 2, pp. 131–143, 2019.
- 4. B. S. Panda, A. Pandey, and S. Paul, "Algorithmic aspects of b-disjunctive domination in graphs," J. Comb. Optim., vol. 36, no. 2, pp. 572–590, 2018.
- 5. C. Rana, M. Mishra, and A. De Wit, "Effect of anti-Langmuir adsorption on spreading in porous media," Epl, vol. 124, no. 6, 2018.
- 6. I. R. Kayumov, S. Ponnusamy, and A. S. Kaliraj, "Riesz-Fejér Inequalities for

- Harmonic Functions," Potential Anal., 2018.
- 7. K. Kaur, A. Gill, and M. Prabhakar, "Arc shift number for some virtual knots," Trends Math., pp. 87–101, 2019.
- 8. K. Kaur, M. Prabhakar, and A. Vesnin, "Two-variable polynomial invariants of virtual knots arising from flat virtual knot invariants," J. Knot Theory Its Ramifications, vol. 27, no. 13, p. 1842015, 2018.
- M. A. Henning and A. Pandey, "Algorithmic aspects of semitotal domination in graphs," Theor. Comput. Sci., vol. 766, pp. 46–57, 2019.
- N. Sharma, A. K. Verma, and A. K. Gupta, "The robustness in dynamics of out of equilibrium bidirectional transport systems with constrained entrances," Phys. Lett. Sect. A Gen. At. Solid State Phys., vol. 382, no. 21, pp. 1383–1388, 2018.
- 11. P. S. Dutta, Y. Sharma, and K. C. Abbott, "Robustness of early warning signals for catastrophic and non-catastrophic transitions," Oikos, vol. 127, no. 9, pp. 1251–1263, 2018.

- 12. R. Arumugam and P. S. Dutta, "Synchronization and entrainment of metapopulations: A trade-off among time-induced heterogeneity, dispersal, and seasonal force," Phys. Rev. E, vol. 97, no. 6, pp. 1–11, 2018.
- 13. R. Arumugam, S. Sarkar, T. Banerjee, S. Sinha, and P. S. Dutta, "Dynamic environment-induced multistability and critical transition in a metacommunity ecosystem," Phys. Rev. E, vol. 99, no. 3, pp. 1–12, 2019.
- 14. S. Kundu, B. K. Bera, D. Ghosh, and M. Lakshmanan, "Chimera patterns in three-dimensional locally coupled systems," Phys. Rev. E, vol. 99, no. 2, pp. 1–10, 2019.
- 15. S. Singla, S. C. Martha, and T. Sahoo, "Mitigation of structural responses of a very large floating structure in the presence of vertical porous barrier," Ocean Eng., vol. 165, no. February, pp. 505–527, 2018.
- 16. S. Sarker, U. Feudel, C. L. Meunier, P. Lemke, P. S. Dutta, and K. H. Wiltshire, "To share or not to share? Phytoplankton species coexistence puzzle in a competition model incorporating multiple resource-limitation and synthesizing unit concepts," Ecol. Modell., vol. 383, no. November 2017, pp. 150–159, 2018.
- 17. S. Kaur and M. Khan, "A note on normal complement problem for split metacyclic groups," Commun. Algebr., vol. 0, no. 0, pp. 1–7, 2019.
- 18. T. Midha, A. B. Kolomeisky, and A. K. Gupta, "Interactions in nonconserving driven diffusive systems," Phys. Rev. E, vol. 98, no. 4, pp. 19–25, 2018.

- 19. T. Midha, L. V. F. Gomes, A. B. Kolomeisky, and A. K. Gupta, "Theoretical investigations of asymmetric simple exclusion processes for interacting oligomers," J. Stat. Mech. Theory Exp., vol. 2018, no. 5, 2018.
- T. Midha, A. B. Kolomeisky, and A. K. Gupta, "Effect of interactions for one-dimensional asymmetric exclusion processes under periodic and bath-adapted coupling environment," J. Stat. Mech. Theory Exp., vol. 2018, no. 4, 2018.
- 21. T. Chatterjee and S. S. Khurana, "A note on generalizations of Stieltjes constants A note on generalizations of Stieltjes constants Introduction Euler introduced the constant γ which is defined as," no. January, 2019.
- 22. T. Chatterjee and S. Dhillon, "Linear Independence of Harmonic Numbers over the field of Algebraic Numbers," no. 1, pp. 1–23, 2018.
- 23. T. Chatterjee, M. Murty, and S. Pathak, "A vanishing criterion for Dirichlet series with periodic coefficients," pp. 69–80, 2018.
- 24. T. K. Hota and M. Mishra, "Non-modal stability analysis of miscible viscous fingering with non-monotonic viscosity profiles," J. Fluid Mech., vol. 856, pp. 552–579, 2018.
- 25. V. Sharma, S. Pramanik, C. Y. Chen, and M. Mishra, "A numerical study on reaction-induced radial fingering instability," J. Fluid Mech., vol. 862, pp. 624–638, 2019.

- 1. A. Pandey and B.S. Panda, "Domination in some subclasses of bipartite graphs, Discrete Applied Mathematics," 252 (2019) 51-66.
- 2. B.S. Panda, A. Pandey and S. Paul. "Algorithmic aspects of b-disjunctive domination in graphs, Journal of Combinatorial Optimization," 36 (2018) 572-590
- 3. M. A. Henning and A. Pandey, "Algorithmic aspects of semitotal domination in graphs, Theoretical Computer Science," 766 (2019) 46-57.

DEPARTMENT OF MECHANICAL ENGINEERING

- A. Babu, H. S. Arora, H. Singh, and H. S. Grewal, "Microwave synthesized composite claddings with enhanced cavitation erosion resistance," Wear, vol. 422–423, no. January, pp. 242–251, 2019.
- 2) A. Chattopadhyay and P. Dhar, "Deterministic role of frequency, amplitude and concentration regimes on the complex dielectric relaxation of colloidal complex fluids," Colloids Surfaces A Physicochem. Eng. Asp., vol. 555, no. May, pp. 304–313, 2018.
- A. K. Tiwari and N. Kumar, "Establishing the relationship between loading parameters and bone adaptation," Med. Eng. Phys., vol. 56, pp. 16–26, 2018.
- 4) A. Katiyar, T. Nandi, P. Katiyar, P. Dhar, and N. E. Prasad, "Enhanced cluster order-disorder transition-induced dilatancy in silane-functionalized nanosilica colloids," Soft Matter, vol. 15, no. 9, pp. 2092–2102, 2019.
- 5) A. Kumar, K. Singh, S. Verma, and R. Das, "Inverse prediction and optimization analysis of a solar pond powering a thermoelectric generator," Sol. Energy, vol. 169, no. November 2017, pp. 658–672, 2018.
- 6) A. Milionis, C. S. Sharma, R. Hopf, M. Uggowitzer, I. S. Bayer, and D. Poulikakos, "Engineering Fully Organic and Biodegradable Superhydrophobic Materials," Adv. Mater. Interfaces, vol. 6, no. 1, pp. 1–10, 2019.
- A. R. Harikrishnan, P. Dhar, S. Gedupudi, and S. K. Das, "Governing Influence of Thermodynamic and Chemical Equilibria on the Interfacial Properties in Complex Fluids," J. Phys. Chem. B, vol. 122, no. 14, pp. 4141–4148, 2018.
- 8) A. R. Harikrishnan, P. Dhar, P. K. Agnihotri, S. Gedupudi, and S. K. Das,

- "Correlating contact line capillarity and dynamic contact angle hysteresis in surfactant-nanoparticle based complex fluids," Phys. Fluids, vol. 30, no. 4, 2018.
- 9) A. R. Harikrishnan, P. Dhar, S. Gedupudi, and S. K. Das, "Oscillatory solutothermal convection-driven evaporation kinetics in colloidal nanoparticle-surfactant complex fluid pendant droplets," Phys. Rev. Fluids, vol. 7, no. 3, pp. 1–21, 2018.
- 10) B. Kundu, R. Das, P. A. Wankhade, and K. S. Lee, "Heat transfer improvement of a wet fin under transient response with a unique design arrangement aspect," Int. J. Heat Mass Transf., vol. 127, pp. 1239–1251, 2018.
- 11) B. Kumar and P. Sarkar, "Effect of sustainability-related activity on behaviour: Consumer vs. designer," IOP Conf. Ser. Mater. Sci. Eng., vol. 404, no. 1, 2018.
- 12) C. S. Sharma, C. Stamatopoulos, R. Suter, P. R. Von Rohr, and D. Poulikakos, "Rationally 3D-Textured Copper Surfaces for Laplace Pressure Imbalance-Induced Enhancement in Dropwise Condensation," ACS Appl. Mater. Interfaces, vol. 10, no. 34, pp. 29127–29135, 2018.
- 13) D. Gurera, B. Bhushan, and N. Kumar, "Lessons from mosquitoes' painless piercing," J. Mech. Behav. Biomed. Mater., vol. 84, no. November 2017, pp. 178–187, 2018.
- 14) F. Lambiase, S. Genna, and R. Kant, "Optimization of laser-assisted joining through an integrated experimental-simulation approach," Int. J. Adv. Manuf. Technol., vol. 97, no. 5–8, pp. 2655–2666, 2018.
- 15) F. Lambiase, S. Genna, and R. Kant, "A procedure for calibration and validation of FE modelling of laser-assisted metal to polymer direct

- joining," Opt. Laser Technol., vol. 98, pp. 363–372, 2018.
- 16) 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.
- 17) G. S. Goindi, A. D. Jayal, and P. Sarkar, "Application of ionic liquids in interrupted minimum quantity lubrication machining of plain medium carbon steel: Effects of ionic liquid properties and cutting conditions," J. Manuf. Process., vol. 32, pp. 357–371, 2018.
- 18) G. Sapra, P. Kumar, N. Kumar, R. Vig, and M. Sharma, "Effect of processing conditions on the electrical resistance of MWCNT/epoxy nanocomposite based strain sensors," J. Mater. Sci. Mater. Electron., vol. 29, no. 22, pp. 19264–19277, 2018.
- 19) G. Singh, P. Raj, H. Singh, and N. Singh, "Colorimetric detection and ratiometric quantification of mercury(ii) using azophenol dye: 'Dip & read' based handheld prototype device development," J. Mater. Chem. C, vol. 6, no. 46, pp. 12728–12738, 2018.
- 20) G. Singh and R. Das, "Energy Saving Potential of a Combined Solar and Natural Gas-Assisted Vapor Absorption Building Cooling System," J. Sol. Energy Eng., vol. 141, no. 1, p. 011016, 2018.
- 21) H. Singh, J. S. Sidhu, D. K. Mahajan, and N. Singh, "A carbon quantum dot and rhodamine-based ratiometric fluorescent complex for the recognition of histidine in aqueous systems," Mater. Chem. Front., vol. 3, no. 3, pp. 476–483, 2019.
- 22) H. S. Bedi, B. K. Billing, and P. K. Agnihotri, "Interfacial shear strength of carbon nanotubes based hybrid composites: Effect of loading rate,"

- Frat. ed Integrita Strutt., vol. 13, no. 48, pp. 571–576, 2019.
- 23) J. G. Verma, S. Kumar, and P. K. Kankar, "Crack growth modeling in spur gear tooth and its effect on mesh stiffness using extended finite element method," Eng. Fail. Anal., vol. 94, no. December 2017, pp. 109–120, 2018.
- 24) J. Prasad et al., "Engineering curriculum development based on education theories," Curr. Sci., vol. 114, no. 9, pp. 1829–1834, 2018.
- 25) J. P. A. Yadav, B. Yadav, N. Kumar, A. K. Bansal, and S. Jain, "Revealing the Role of Structural Features in Bulk Mechanical Performance of Ternary Molecular Solids of Isoniazid," Mol. Pharm., vol. 15, no. 11, pp. 5252–5262, 2018.
- 26) K. Garg, V. Khullar, S. K. Das, and H. Tyagi, "Parametric study of the energy efficiency of the HDH desalination unit integrated with nanofluid-based solar collector," J. Therm. Anal. Calorim., vol. 135, no. 2, pp. 1465–1478, 2019.
- 27) K. Regulagadda, S. Bakshi, and S. K. Das, "Triggering of flow asymmetry by anisotropic deflection of lamella during the impact of a drop onto superhydrophobic surfaces," Phys. Fluids, vol. 30, no. 7, 2018.
- 28) K. Regulagadda, S. Bakshi, and S. K. Das, "Droplet ski-jumping on an inclined macro-textured superhydrophobic surface," Appl. Phys. Lett., vol. 113, no. 10, 2018.
- 29) K. Garg, V. Khullar, S. K. Das, and H. Tyagi, "Performance evaluation of a brine-recirculation multistage flash desalination system coupled with nanofluid-based direct absorption solar collector," Renew. Energy, vol. 122, pp. 140–151, 2018.
- 30) K. Saini, D. Discher, and N. Kumar, "Static and time-dependent mechanical response of organic matrix of bone," J. Mech. Behav. Biomed. Mater., vol. 91, no. August 2018, pp. 315–325, 2019.

- 31) L. Siddharth and P. Sarkar, "A Multiple-Domain Matrix Support to Capture Rationale for Engineering Design Changes," J. Comput. Inf. Sci. Eng., vol. 18, no. 2, p. 021014, 2018.
- 32) M. Parihar, M. Penugonda, V. Nair, and C. K. Nirala, "Drilling and Milling μeDM A Comprehensive and Comparative Evaluation," Procedia CIRP, vol. 72, pp. 1410–1414, 2018.
- 33) M. R. Saxena and R. K. Maurya, "Effect of Fuel Injection Strategy on Nano-Particle Emissions from RCCI Engine," SAE Tech. Pap. Ser., vol. 1, pp. 1–16, 2018.
- 34) N. Singh, T. Nanda, B. R. Kumar, S. K. Das, and V. Singh, "In situ investigations of microstructural changes during tensile deformation of AISI 304L stainless steels," Arch. Civ. Mech. Eng., vol. 19, no. 3, pp. 672–679, 2019.
- 35) P. Dhar, G. Khurana, H. Anilakkad Raman, and V. Jaiswal, "Superhydrophobic Surface Curvature Dependence of Internal Advection Dynamics within Sessile Droplets," Langmuir, vol. 35, no. 6, pp. 2326–2333, 2019.
- 36) P. Dhar, L. S. Maganti, and A. R. Harikrishnan, "Electrohydrodynamic fibrillation governed enhanced thermal transport in dielectric colloids under a field stimulus," Soft Matter, vol. 14, no. 21, pp. 4278–4286, 2018.
- 37) P. K. Agnihotri, V. Ghai, and H. Singh, "Optically Graded Ultra Dark Absorber for Visible and Near-infrared Wavelength Range," Sci. Rep., vol. 8, no. 1, pp. 6–11, 2018.
- 38) P. A. Wankhade, B. Kundu, and R. Das, "Establishment of non-Fourier heat conduction model for an accurate transient thermal response in wet fins," Int. J. Heat Mass Transf., vol. 126, pp. 911–923, 2018.
- 39) P. Sihota, R. N. Yadav, V. Dhiman, S. K. Bhadada, V. Mehandia, and N. Kumar, "Investigation of diabetic patient's fingernail quality to monitor type 2

- diabetes induced tissue damage," Sci. Rep., vol. 9, no. 1, pp. 1–11, 2019.
- 40) P. Sarkar, "Understanding the Relationship between Aesthetics and Product Design," vol. 5, no. 3, pp. 363–368, 2018.
- 41) Q. Li et al., "An integrated, solar-driven membrane distillation system for water purification and energy generation," Appl. Energy, vol. 237, no. January, pp. 534–548, 2019.
- 42) R. Das, R. N. Yadav, P. Sihota, P. Uniyal, N. Kumar, and B. Bhushan, "Biomechanical Evaluation of Wasp and Honeybee Stingers," Sci. Rep., vol. 8, no. 1, pp. 1–13, 2018.
- 43) R. Singh, A. Singh, P. K. Singh, and D. K. Mahajan, "Role of prior austenite grain boundaries in short fatigue crack growth in hydrogen charged RPV steel," Int. J. Press. Vessel. Pip., vol. 171, no. February, pp. 242–252, 2019.
- 44) R. Nayak, O. J. Lobo, D. Chatterjee, and S. K. Das, "Effect of geometrical parameters on slug behaviour and two phase pressure drop in microchannel T-junctions," Chem. Eng. Process. Process Intensif., vol. 130, no. December 2017, pp. 76–87, 2018.
- 45) R. K. Maurya and M. R. Saxena, "Characterization of ringing intensity in a hydrogen-fueled HCCI engine," Int. J. Hydrogen Energy, vol. 43, no. 19, pp. 9423–9437, 2018.
- 46) R. Das and B. Kundu, "Direct and inverse approaches for analysis and optimization of fins under sensible and latent heat load," Int. J. Heat Mass Transf., vol. 124, pp. 331–343, 2018.
- 47) R. Kant and S. N. Joshi, "Numerical investigations into influence of scanning path curvature on deformation behavior during curvilinear laser bending of magnesium sheets," J. Therm. Stress., vol. 41, no. 3, pp. 313–330, 2018.
- 48) R. K. Sharma, S. Pallakonda, G. Raju, P. Sarkar, E. Singla, and H. Singh, "An Approach to Evaluate Sustainability of a Production Process Based on its Lca

- and Environment Impact Analysis: A Case Study on a Food Product," Mater. Today Proc., vol. 5, no. 5, pp. 12467–12473, 2018.
- 49) R. K. Maurya, M. R. Saxena, and R. Yadav, "Engine Using Stochastic Reactor Model with," no. x, pp. 1–12, 2019.
- 50) R. K. Maurya and N. Akhil, "Experimental Investigation on Effect of Compression Ratio, Injection Pressure and Engine Load on Cyclic Variations in Diesel Engine Using Wavelets," SAE Tech. Pap. Ser., vol. 1, pp. 1–13, 2018.
- 51) R. K. Maurya, P. Jaggi, and M. R. Saxena, "Crank-Angle Resolved Exergy Analysis of Ethanol Fueled HCCI Engine Using Newly Reduced Ethanol Oxidation Mechanism," SAE Tech. Pap. Ser., vol. 1, pp. 1–13, 2018.
- 52) S. S. Salvi et al., "Technological Advances to Maximize Solar Collector Energy Output: A Review," J. Electron. Packag., vol. 140, no. 4, p. 040802, 2018.
- 53) S. Singh, A. Singla, and E. Singla, "Modular Manipulators for Cluttered Environments: A Task-Based Configuration Design Approach," J. Mech. Robot., vol. 10, no. 5, p. 051010, 2018.
- 54) S. Samanta, S. Khilari, K. Bhunia, D. Pradhan, B. Satpati, and R. Srivastava, "Double-Metal-Ion-Exchanged Mesoporous Zeolite as an Efficient Electrocatalyst for Alkaline Water Oxidation: Synergy between Ni-Cu and Their Contents in Catalytic Activity Enhancement," J. Phys. Chem. C, vol. 122, no. 20, pp. 10725–10736, 2018.
- 55) S. Verma and R. Das, "Concept of Triple Heat Exchanger-Assisted Solar Pond Through an Improved Analytical Model," J. Sol. Energy Eng., vol. 141, no. 5, p. 051003, 2019.
- 56) S. Kumar and G. Bhardwaj, "A new enrichment scheme in XFEM to model crack growth behavior in ductile materials," Theor. Appl. Fract. Mech., vol. 96, no. May, pp. 296–307, 2018.

- 57) S. Kumar, Y. Wang, L. H. Poh, and B. Chen, "Floating node method with domain-based interaction integral for generic 2D crack growths," Theor. Appl. Fract. Mech., vol. 96, no. May, pp. 483–496, 2018.
- 58) S. Swaminathan et al., "Microstructural evolution and high temperature oxidation characteristics of cold sprayed Ni-20Cr nanostructured alloy coating," Surf. Coatings Technol., vol. 362, no. October 2018, pp. 333-344, 2019.
- 59) S. Verma, R. Das, and A. Kumar, "Transient thermal modelling and optimization of a solar collector-type pond considering an improved decay of radiative intensity," Int. J. Therm. Sci., vol. 139, no. February, pp. 440–449, 2019.
- 60) S. Guo, D. Samanta, Y. Peng, X. Xu, and X. Cheng, "Symmetric shear banding and swarming vortices in bacterial superfluids," Proc. Natl. Acad. Sci., vol. 115, no. 28, pp. 7212–7217, 2018.
- 61) T. P. S. Sarao, H. Singh, and H. Singh, "Enhancing Biocompatibility and Corrosion Resistance of Ti-6Al-4V Alloy by Surface Modification Route," J. Therm. Spray Technol., vol. 27, no. 8, pp. 1388–1400, 2018.
- 62) T. Tian et al., "An Elastic Interfacial Transistor Enabled by Superhydrophobicity," Small, vol. 14, no. 51, pp. 1–9, 2018.
- 63) V. Bhalla, V. Khullar, and H. Tyagi, "Investigation of factors influencing the performance of nanofluid-based direct absorption solar collector using Taguchi method," J. Therm. Anal. Calorim., vol. 135, no. 2, pp. 1493–1505, 2019.
- 64) V. Jaiswal, R. K. Dwivedi, A. R. Harikrishnan, and P. Dhar, "Magnetohydrodynamics- and magnetosolutal-transport-mediated evaporation dynamics in paramagnetic pendant droplets under field stimulus," Phys. Rev. E, vol. 98, no. 1, p. 13109, 2018.

- 65) V. Bhalla, V. Khullar, and H. Tyagi, "Experimental investigation of photothermal analysis of blended nanoparticles (Al2O3/Co3O4) for direct absorption solar thermal collector," Renew. Energy, vol. 123, pp. 616–626, 2018.
- 66) V. Ghai, P. Ranjan, A. Batish, and H. Singh, "Atomic-level finishing of aluminum alloy by chemo-mechanical magneto-rheological finishing (CMMRF) for optical applications," J. Manuf. Process., vol. 32, no. April, pp. 635–643, 2018.

Selective Volumetric Receivers for Harnessing Solar Thermal Energy," Vol. 6B Energy, no. February, p. V06BT08A053, 2016. 68) X. Niu et al., "Review of materials used in laser aided additive manufacturing

67) V. Khullar, H. Tyagi, T. P. Otanicar, Y. L.

Hewakuruppu, and R. A. Taylor, "Solar

68) X. Niu et al., "Review of materials used in laser-aided additive manufacturing processes to produce metallic products," Front. Mech. Eng., no. Lm, pp. 1–17, 2018.

- A. Negi, S. Kumar, "Crack growth simulation in quasi-brittle materials using a localizing gradient damage model." 63rdCongress of the Indian Society of Theoretical and Applied Mechanics (ISTAM 2018), December 20-23, 2018, Dayananda Sagar University, Bengaluru, India.
- 2. D. Monga, S. Soni, and H. Tyagi, "Role of Optical Coefficients and Blood Perfusion on Thermal Response During Nanoparticle Assisted Hyperthermia", Paper No. FMFP2018-175, Proceedings of the 7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP), IIT Bombay, Mumbai, India, Dec. 10-12, 2018.
- 3. H.A. Chate*, A. Kumar*, P. Sarkar, C. Bakli, 2018. "Analysis of Performance of Soft Pelton Turbine Buckets with Hydrodynamic Slip for Small Scale Applications." Proceedings of the 7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP), December 10-12, 2018, IIT Bombay, Mumbai, India.
- Jitender*, P. Sarkar, 2018. "Understanding the relationship between aesthetics and product design." International conference on Research trends in Engineering, Applied Science and Management (ICRTESM-2018), 11th march 2018,

- Punjab University Campus, Chandigarh, India.
- Tyagi, "Utilization Of Nanofluid-Based Direct Absorption Solar Collector For Humidification-Dehumidification (HDH) Desalination System: A Numerical Study", Paper No. IMECE2018-87318, ASME 2018 International Mechanical Engineering Congress & Exposition, Pittsburgh, Pennsylvania, USA, Nov. 9-15, 2018.
- K. Garg, S.S. Salvi, V. Bhalla, V. Khullar, S.K. Das, and H. Tyagi, "Thermal Performance of Direct Absorption Solar Collector Based Single Stage Flashing Desalination System", 5th International Conference on Computational Methods for Thermal Problems (ThermaComp2018), Indian Institute of Science (IISc), Bangalore, India, Jul. 09-11, 2018.
- 7. K. Garg, V. Khullar, S.K Das and H. Tyagi, "Numerical Study of Nanofluid-Based Solar Collector for Humidification-Dehumidification (HDH) Desalination." ASME 2018 International Mechanical Engineering Congress and Exposition, 2018.
- 8. M.R. Saxena and R.K. Maurya, (2018) "Effect of Diesel Injection Timing on Peak Pressure Rise Rate and Combustion Stability in RCCI Engine."
- 9. M.R. Saxena, R.K. Maurya, (2018)

- "Effect of Butanol Addition on Performance, Combustion Stability and Nano-Particle Emissions of a Conventional Diesel Engine."
- M.R. Saxena, R.K. Maurya, (2018) "Effect of Fuel Injection Strategy on Nano-Particle Emissions from RCCI Engine."
- 11. R. Kant and S.N. Joshi, "A Numerical Investigation into the Effect of Forced Convection Cooling on the Performance of Multi-scan Laser Bending Process." Application of Lasers in Manufacturing, 2019.
- 12. R.K. Maurya, N. Akhil, "Experimental Investigation on Effect of Compression Ratio, Injection Pressure and Engine Load on Cyclic Variations in Diesel Engine Using Wavelets." SAE Technical Paper 2018-01-5007, 2018.
- 13. R.K. Maurya, N. Akhil, "Experimental Investigation on Effect of Compression Ratio, Injection Pressure and Engine Load on Cyclic Variations in Diesel Engine Using Wavelets." SAE Technical Paper 2018-01-5007, 2018.
- 14. R.K. Maurya, P. Jaggi, and M.R. Saxena (2018) "Crank-Angle Resolved Energy Analysis of Ethanol Fueled HCCI Engine Using Newly Reduced Ethanol Oxidation Mechanism."
- 15. S.B. Dhage,*A.D. Jayal, P. Sarkar, 2018. "Effects of surface texture parameters of cutting tools on friction conditions at tool-chip interface during dry machining of AISI 1045 steel," 16th Global Conference on Sustainable Manufacturing, Lexington Kentucky, USA, October 2-4, 2018.

- 16. S. Gupta, A. Agrawal and E. Singla, "New Trends in Medical and Service Robotics, 2019. Wearable Upper Limb Exoskeletons: Generations, Design Challenges and Task Oriented Synthesis."
- 17. S.S. Salvi, K. Garg, V. Bhalla, V. Khullar, and H. Tyagi, "Numerical Modelling of Thermal Energy Storage Using Phase Change Materials: Energy Efficient Buildings Application", 5th International Conference on Computational Methods for Thermal Problems (ThermaComp2018), Indian Institute of Science (IISc), Bangalore, India, Jul. 09-11, 2018.
- 18. S. Sharma, P. Sarkar, "Biomimicry: Exploring Research, Challenges, Gaps, and Tools."
- Research into Design for a Connected World, 2019.
- 19. R.K. Sharma*, P. Sarkar, H. Singh, 2017. "Sustainability in supply networks: a literature survey on determining factors and initiatives adopted." 2017 IEEE 2nd International Conference on Environmental Management and Green Technologies (ICEMGT), Chennai, Tamil Nadu, India.
- 20. R. K. Sharma*, S. Pallakonda*, G. Raju*, P. Sarkar, E. Singla, H. Singh, 2017. "Evaluating sustainability of the manufacturing process of a food product based on energy and resource inputs." International Conference on Materials, Manufacturing and Modelling, 9-11 March 2017. VIT.
- 21. "Transition to turbulence in pipe flow of Non-Newtonian solutions"- CompFlu, December 6-9, IIT Roorkee

Books:

1. Dixit U.S. and Kant R, 2018 "Simulations in Design and Manufacturing" Springer India.

Book Chapters:

- 1. J. Narayan, E. Singla, S. Soni, and A. Singla, "ANFIS Based Path Planning of 5-DOFs Spatial Manipulator for Medical Applications", Sage Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, Vol. 232 (7), pp. 726-732, Impact Factor 1.124, 2018.
- 2. K. Garg, V. Khullar, S.K. Das, and H. Tyagi, (2019) "Application of Nanofluid-Based Direct Absorption Solar Collector in Once-Through Multistage Flash Desalination System", In: Tyagi, H., Agarwal, A., Chakraborty, P., Powar, S., (eds.), Advances in Solar Energy Research, Springer.
- 3. R. Kant, and S.N. Joshi, "A Numerical Investigation into the Effect of Forced Convection Cooling on the Performance of Multi-Scan Laser Bending Process" in "Application of Lasers in Manufacturing" edited by Dixit U.S. and Joshi S.N., Chapter 2, Springer India, 2018.
- 4. S. Gupta, A. Agrawal, E. Singla, "Wearable Upper Limb Exoskeletons: Generations, Design Challenges and Task Oriented Synthesis", New Trends in Mssedical and Service Robotics, Mechanisms and Machine Science, Vol 64, 134-142, 2019.
- 5. S. Singh, A. Singla, and E. Singla, "Modular Manipulators for Cluttered Environments: A Task-Based Configuration Design Approach", ASME Journal of Mechanisms and Robotics, Vol. 10 (5), pp. 051010-1-11, Impact Factor 2.23, 2018.

Edited Books:

1. H. Tyagi, A. Agarwal, P. Chakraborty, S. Powar, (eds.), 2019, Advances in Solar Energy Research, Springer.

DEPARTMENT OF PHYSICS

- A. K. Chauhan and A. Biswas, "Atomic swap gate, driven by position fluctuations, in dispersive cavity optomechanics," J. Mod. Opt., vol. 66, no. 4, pp. 438–447, 2019.
- 2. A. Sood et al., "Entrance Channel Effects on Fission Fragment Mass Distribution in \$ ^ {12}\$C+\$^{169}\$Tm System," Acta Phys. Pol. B, vol. 50, no. 3, p. 291, 2019.
- 3. A. V. Agrawal et al., "Controlled Growth of MoS 2 Flakes from in-Plane to Edge-Enriched 3D Network and Their Surface-Energy Studies," ACS Appl. Nano Mater., vol. 1, no. 5, pp. 2356–2367, 2018.
- B. K. Parida, M. Ranjan, and S. Sarkar, "Influence of obliquely incident primary ion species on patterning of CoSi binary mixtures: An experimental

- study," Phys. B Condens. Matter, vol. 545, no. April, pp. 34–39, 2018.
- B. K. Parida, M. Ranjan, and S. Sarkar, "Morphological instabilities in argon ion sputtered CoSi binary mixtures," Curr. Appl. Phys., vol. 18, no. 9, pp. 993–1000, 2018.
- D. Lohani and S. Sarkar, "Nanoscale Topographical Fluctuations: A Key Factor for Evaporative Colloidal Self-Assembly," Langmuir, vol. 34, no. 43, pp. 12751–12758, 2018.
- 7. D. Tomar, S. Chaudhary, and K. C. Jena, "Self-assembly of I-phenylalanine amino acid: Electrostatic induced hindrance of fibril formation," RSC Adv., vol. 9, no. 22, pp. 12596–12605, 2019.
- 8. D. Singh and S. Dasgupta, "Role of Coherence in Excitation Transfer

- Efficiency to the Reaction Center in Photosynthetic Bacteria Chlorobium tepidum," ChemistrySelect, vol. 4, no. 9, pp. 2703–2710, 2019.
- K. Arora, N. Goel, M. Kumar, and M. Kumar, "Ultrahigh Performance of Self-Powered β-Ga 2 O 3 Thin Film Solar-Blind Photodetector Grown on Cost-Effective Si Substrate Using High-Temperature Seed Layer," ACS Photonics, vol. 5, no. 6, pp. 2391–2401, 2018.
- 10. K. Kaur et al., "Critical role of Zn/Sn ratio to enhance Cu-Zn-Sn-S solar cell efficiency by suppressing detrimental Cu 2-x S secondary phase," Sol. Energy Mater. Sol. Cells, vol. 179, no. November 2017, pp. 22–30, 2018.
- M. Kumar et al., "Photoactivated Mixed In-Plane and Edge-Enriched p-Type MoS 2 Flake-Based NO 2 Sensor Working at Room Temperature," ACS Sensors, vol. 3, no. 5, pp. 998–1004, 2018.
- 12. M. Kumar, Q. Qiao, K. Kaur, K. Arora, and B. Behzad, "Nanoscale charge transport and local surface potential distribution to probe defect passivation in Ag doped Cu 2 ZnSnS 4 absorbing layer," Nanotechnology, vol. 30, no. 6, p. 065706, 2018.
- 13. M. K. Sharma et al., "Systematic study of precompound neutron emission in α -particle-induced reactions," Phys. Rev. C, vol. 98, no. 5, p. 54607, 2018.
- 14. M. Shuaib et al., "Effects of projectile break-up on fusion cross sections at energies near and above the Coulomb barrier: A case of incomplete fusion," Phys. Rev. C, vol. 98, no. 1, pp. 1–10, 2018.
- 15. N. Kumar, A. Dubey, B. Bahrami, S. Venkatesan, Q. Qiao, and M. Kumar, "Origin of high carrier mobility and low residual stress in RF superimposed DC sputtered Al doped ZnO thin film for next generation flexible devices," Appl. Surf. Sci., vol. 436, pp. 477–485, 2018.

- 16. P. Kumar, K. Jha, P. K. Raina, and P. P. Singh, "Quasi shell gap at 23 F," Nucl. Phys. A, vol. 983, pp. 210–222, 2019.
- 17. P. Wadhwa, S. Kumar, T. J. Kumar, A. Shukla, and R. Kumar, "Bandgap Tunability in a One-Dimensional System," Condens. Matter, vol. 3, no. 4, p. 34, 2018.
- 18. P. Wadhwa, S. Kumar, T. J. Dhilip Kumar, A. Shukla, and R. Kumar, "Effect of edge defects on band structure of zigzag graphene nanoribbons," J. Appl. Phys., vol. 123, no. 16, pp. 1–6, 2018.
- Priya, O. Schöps, U. Woggon, and R. V. Nair, "Inhibited spontaneous emission using gaplike resonance in disordered photonic structures," Phys. Rev. A, vol. 98, no. 4, pp. 1–10, 2018.
- 20. R. Chriki, S. Mahler, C. Tradonsky, V. Pal, A. A. Friesem, and N. Davidson, "Spatiotemporal supermodes: Rapid reduction of spatial coherence in highly multimode lasers," Phys. Rev. A, vol. 98, no. 2, pp. 1–11, 2018.
- 21. R. N. Sahoo et al., "Entrance Channel Effect on Incomplete Fusion," Acta Phys. Pol. B, vol. 49, no. 3, p. 585, 2018.
- 22. R. N. Sahoo et al., "Sub-barrier fusion in the Cl 37 + Te 130 system," Phys. Rev. C, vol. 99, no. 2, pp. 1–10, 2019.
- 23. R. N. Sahoo et al., "Insights into the low energy incomplete fusion," Nucl. Phys. A, vol. 983, pp. 145–165, 2019.
- 24. R. V. Nair, "The interaction between optical Tamm state and microcavity mode in a planar hybrid plasmonic-photonic structure," Photonics Nanostructures Fundam. Appl., no. April, p. 100702, 2019.
- 25. S. Bhattacharya, P. Charalambous, T. N. Tomaras, and N. Toumbas, "Comments on the entropic gravity proposal," Eur. Phys. J. C, vol. 78, no. 8, pp. 1–13, 2018.
- 26. S. Rajamani et al., "Enhanced solarblind photodetection performance of

- encapsulated Ga 2 O 3 nanocrystals in Al 2 O 3 matrix," IEEE Sens. J., vol. 18, no. 10, pp. 4046–4052, 2018.
- 27. S. Sharma and R. V. Nair, "Nanophotonic control of the color center emission from nanodiamonds," Opt. Lett., vol. 43, no. 16, p. 3989, 2018.
- 28. S. G. Nakhate et al., "Isotope-selective laser photoionization of tin in supersonic atomic beam," Appl. Phys. B Lasers Opt., vol. 125, no. 2, pp. 1–6, 2019.
- 29. S. K. Saini and R. V. Nair, "Quantitative analysis of gradient effective refractive index in silicon nanowires for broadband light trapping and antireflective properties," J. Appl. Phys., vol. 125, no. 10, 2019.
- 30. S. Sharma, Priya, S. K. Saini, and R. V. Nair, "A versatile micro-reflectivity setup for probing the optical properties of photonic nanostructures," Rev. Sci. Instrum., vol. 90, no. 2, 2019.
- 31. S. Bhattacharya, S. R. Kousvos, S. Romanopoulos, and T. N. Tomaras, "Cosmological screening and the

- phantom braneworld model," Eur. Phys. J. C, vol. 78, no. 8, pp. 1–8, 2018.
- 32. S. Rajamani et al., "Deep UV narrowband photodetector based on ion beam synthesized indium oxide quantum dots in Al 2 O 3 matrix," Nanotechnology, vol. 29, no. 30, 2018.
- 33. S. Chand and A. Biswas, "Critical-point behavior of a measurement-based quantum heat engine," Phys. Rev. E, vol. 98, no. 5, pp. 1–8, 2018.
- 34. S. Bhattacharya, "Particle creation by de Sitter black holes revisited," Phys. Rev. D, vol. 98, no. 12, p. 125013, 2018.
- 35. S. Gautam and S. K. Adhikari, "Self-trapped quantum balls in binary Bose-Einstein condensates," J. Phys. B At. Mol. Opt. Phys., vol. 52, no. 5, 2019.
- 36. V. Pal et al., "Generating flat-top beams with extended depth of focus," Appl. Opt., vol. 57, no. 16, p. 4583, 2018.
- 37. Y. Chen, D. Roy, E. Cogulu, H. Chang, M. Wu, and A. D. Kent, "First harmonic measurements of the spin Seebeck effect," Appl. Phys. Lett., vol. 113, no. 20, 2018.

- 1. A. N. K. Reddy, V. Pal, S. Mahler, N. Davidson and A. A. Friesem, "Flat-top laser distributions over an extended regions", 6th International School and Conference", Saint-Petersburg OPEN 2019" on Optoelectronics, Photonics, Engineering and Nanostructures, Saint Petersburg Academic University of the Russian Academy of Science, Russia, April 22 25, 2019.
- 2. B. Rana and K.C. Jena, "Structural and Orientational Investigations of Polyvinylpyrrolidone (PVP) polymer at Air/Water Interface by Sum Frequency Generation Vibrational Spectroscopy", 7th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2018), BARC, Mumbai, 22-29th November 2018.
- 3. B. Rana and K.C. Jena, "Probing the Conformation and Orientation of Water Molecules at Air/Water Interface in the Presence of Polyvinylpyrrolidone Using Nonlinear Optical Vibrational Spectroscopy", DAE-BRNS National Laser Symposium (NLS-19), CAT, Indore, 3 6th December, 2018.
- 4. B. Rana, and K. C. Jena, "Probing Water Molecules in Vicinity if Ions at Air/Water Interface Using Sum Frequency Generation Vibrational Spectroscopy", National Conference on Advances in Spectroscopy: Molecules to Materials-2018, IITRAM, Ahmedabad, 4-6th October, 2018
- D. Tomar, S. Chaudhary, and K.C. Jena, "pH-triggered self-assembly from L-Phenylalanine", National Conference on Advances in

- Spectroscopy: Molecules to Materials-2018, IITRAM, Ahmedabad, 4-6th October. 2018.
- 6. D. Tomar and K.C. Jena, "Bulk vs surface: molecular structure of N,N dimethylformamide-water binary system", International Conference on Advanced Vibrational Spectroscopy, Auckland, New Zealand, July, 2019
- D. Tomar and K.C. Jena, "Bulk and Interfacial molecular insights of DMFwater binary mixture", DAE-BRNS National Laser Symposium (NLS-19), CAT, Indore, 3 – 6th December, 2018.
- D. Tomar, I. Sodhi, S. Samal, A.T. Sangamwar, and K.C. Jena, "Understanding Drug-Polymer Interaction at TheAir/Biorelevant Interface by Nonlinear Vibrational Spectroscopy", 7th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2018), BARC, Mumbai, 22 29th November 2018.
- H. Kaur, S. Chaudhary, D. Tomar and K.C. Jena, "Probing in-situ hydrolysis of silicon alkoxide at air/aqueous interface using nonlinear vibrational spectroscopy", International Conference on Advanced Vibrational Spectroscopy, Auckland, New Zealand July, 2019
- H. Kaur and K.C. Jena, "Investigation of Molecular Structure of Silicone at polymer/air interface Using Sum Frequency Generation Vibrational Spectroscopy," DAE-BRNS National Laser Symposium (NLS-19), CAT, Indore, 3-6th December, 2018.
- 11. H. Kaur, S. Chaudhary, N. Singh and K.C. Jena, "Probing In-Situ Molecular Level Interaction between Tetraethyl Orthosilicate and Water at Air/Aqueous Interface by using Nonlinear Laser Spectroscopy", 7th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2018), BARC, Mumbai, 22-29th November 2018.

- 12. H. Kaur, M. Verma, N. Singh, and K.C. Jena, "Monitoring Molecular Rearrangement of Polyethylenimine Derivative in The Presence of DNA at Air/Water Interface by using Nonlinear Optical Laser Spectroscopy", 7th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2018), BARC, Mumbai, 22-29th November 2018.
- 13. H. Kaur, M. Verma, N. Singh, and K.C. Jena, "Unraveling the Bulk and Interfacial Behavior of DNA Binding by Polyethylenimine Derivatives", National Conference on Advances in Spectroscopy: Molecules to Materials-2018, IITRAM, Ahmedabad, 4-6th October, 2018
- 14. Priya and R.V. Nair, "Finite-size induced changes in light propagation and emission in photonic crystals", META19: The 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Lisbon Portugal in July 2019.
- 15. Priya and R. V. Nair, PHOTONICS 2018: International Conference on Fiber Optics and Photonics, December 2018, IIT Delhi, India.
- 16. S. Kaur and K.C. Jena, "Probing the influences of mono- and divalent salts on the Interfacial molecular Structure of Phosphazene and water structure Air/Water Interface Studied by using Nonlinear Laser Spectroscopy", DAE-BRNS National Laser Symposium (NLS-19), CAT, Indore, 3 6th December, 2018.
- 17. S. Kaur and K.C. Jena, "Interfacial Structure of Phosphazene Polymer and the Impact of Various Salts at Air/Water Interface Studied By Sum Frequency Generation Vibrational Spectroscopy", 7th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2018), BARC, Mumbai, 22 29th November 2018.

- 18. S.K. Saini and R.V. Nair, PHOTONICS 2018: International Conference on Fiber Optics and Photonics, December 2018, IIT Delhi, India.
- S. Mahler, V. Pal, C. Tradonsky, R. Chriki, A. A. Friesem, and N. Davidson, "Dynamics of dissipative defects in coupled phase oscillators", IPS 2018 (64th Annual meeting of the Israel Physical Society), Hebrew University of Jerusalem, Jerusalem, Israel, 9 December 2018.
- 20. S. Sharma and R.V. Nair, PHOTONICS 2018: International Conference on Fiber Optics and Photonics, December 2018, IIT Delhi, India.
- 21. S. Sharma and R.V. Nair, "Modified spontaneous emission from color centers of nanodiamonds using photonic stop gaps," Student Conference on Optics and Photonics (SCOP) 2016 at PRL Ahmadabad October 4-6, 2018.
- 22. V. Pal, C. Tradonsky, S. Mahler, R. Chriki, A. A. Friesem, and N. Davidson, "Simulating XY spins with network of coupled lasers", International Conference on Fiber Optics and Photonics (PHOTONICS 2018), IIT Delhi, India, 12-15 December 2018.
- 23. V. Pal, C. Tradonsky, R. Chriki, A. Bordosky, N. Kaplan, I. Grossinger, A. A. Friesem, N. Davidson, "Diffractive elements for generating top-hat beams with extended depth of focus", International Conference on Fiber Optics and Photonics (PHOTONICS 2018), IIT Delhi, India, 12-15 December 2018.
- 24. Non-central forces of effective interactions, Pawan Kumar, S. Sarkar, P. K. Raina, Pushpendra P. Singh, and P. K. Rath, DAE Symp. on Nucl. Phys. 63, 138 (2018).
- 25. Contribution of central and noncentral components of NN force to monopole matrix elements, Kanhaiya Jha, P. Kumar, S. Sarkar, P. K. Raina,

- and P. K. Rath DAE Symp. on Nucl. Phys. 63, 212 (2018).
- 26. Two-body matrix elements calculations of Neutrinoless double beta decay of 76 Ge using nuclear, shell model, Shahariar Sarkar, Pawan Kumar, Kanhaiya Jha, and P.K. Riana DAE Symp. on Nucl. Phys. 63, 296 (2018).
- 27. Effect of coupling on sub-barrier fusion: The case of 37 Cl + 130 Te systemRudra N. Sahoo, Malika Kaushik, Arshiya Sood, Pawan Kumar, Arzoo Sharma, Swati Thakur, Pushpendra P. Singh, P. K. Raina, Rohan Biswas, Abhishek. Yadav, J. Gehlot, S. Nath, N. Madhavan, Md. Moin Shaikh, Manoj K. Sharma, B. J. Roy, Anjali Rani, A. Banerjee, Unnati Gupta,Nabendu K. Deb, B. P. Singh, and R. Prasad,DAE Symp. on Nucl. Phys. 63, 492 (2018).
- 28. Strings 2018, Okinawa Institute of Science and Technology Graduate University (OIST), Japan, during June 25-29, 2018.
- 29. Indian String Meeting 2018, Indian Institute of Science Education and Research, Thiruvananthapuram, December 2018.
- 30. "A Variational Theory of Magnetic Field Dependent Thermoelectric Power of Anderson Lattice Model. Presented in 63rd DAE Solid State Physics Symposium in Hisar (18 22 Dec. 2018). (With S. Panwar).
- 31. "Role of Correlated Hopping on Magnetic Properties of Spin - half Falicov - Kimball Model on a Triangular Lattice." Presented in the International Conference on Advances in Basic Sciences in Bhiwani . (7-9 Feb. 2019) (With S. Kumar and M. Rangi).

CENTRE FOR BIOMEDICAL ENGINEERING

- D. Banerjee, A. Sinha, S. Saikia, B. Gogoi, A. K. Rathore, A. S. Das, D. Pal, A. K. Buragohain, S. Dasgupta, "Inflammation-induced mTORC2-AktmTORC1 signaling promotes macrophage foam cell formation," Biochimie, vol. 151, pp. 139-149, 2018.
- J. Chauhan, R. Goswami, and P. Goyal, "Using Deep Learning to Classify Burnt Body Parts Images for Better Burns Diagnosis", Processing and Analysis of Biomedical Information, SaMBA-MICCAI, Granada, Spain, September 16-20, 2018
- J. Chauhan, P. Goyal, "Burn Image Classification Using Deep Convolutional Neural Network", at BMEiCON, Thailand, November 21-24, 2018
- Monika, N. Singh, J.R. Ascenso & P.M. Marcos (2019): "A Dihomooxacalix[4] arene-gold nanohybrid based colorimetric sensor for sensitive and selective detection of iodide, Supramolecular Chemistry" DOI: 10.1080/10610278.2019. 1575380
- 4. W M. Au-Yeung, A K Sahani, E.M Isselbacher, A. Armoundas, "Reduction of False Alarms in the Intensive Care Unit Using Optimized Machine Learning Based Approach, "npj Digital Medicine, 2019, 2 (1)
- G. Gaurav, A. K. Sahani, and A. Sahoo, "An EEG based Quantitative Analysis of Absorbed Meditative State," in International IEEE/EMBS Conference on Neural Engineering (NER), 2019, pp. 57–60. San Francisco, CA, USA.
- Autophagy 2019 Aug 29. doi: 10.1080/15548627.2019.1658436 [IF: 11.10]. Induction of autophagy through Clec4e in combination with TLR-4: an innovative strategy to restrict the survival of Mycobacterium tuberculosis. Pahari S, Negi S, Aqdas M, Arnett E, Schlesinger LS, Agrewala JN.

- 7. Front Immunol. 28 May 2019 [IF: 6.4]. Gut microbiota regulates mincle mediated activation of lung dendritic cells to protect against Mycobacterium tuberculosis. Negi S, Pahari S, Bashir H, Agrewala JN.
- 8. Front Microbiol. 28 May 2019 [IF: 4.01]. Curdlan limits Mycobacterium tuberculosis survival through STAT-1 regulated Nitric oxide production. Negi S, Pahari S, Das DK, Khan N, Agrewala JN.
- 9. Sci Rep. 9:2019:3092. [IF: 5.6] ImmtorLig_DB: repertoire of virtually screened small molecules against immune receptors to bolster host immunity. Chatterjee D, Kaur G, Muradia S, Singh B, Agrewala JN.
- 10. BMC Microbiol. 19:2019:64. A genomic analysis of Mycobacterium immunogenum strain CD11_6 and its potential role in the activation of T cells against Mycobacterium tuberculosis. Kaur G, Chander AM, Kaur G, Maurya SK, Nadeem S, Kochhar R, Bhadada SK, Agrewala JN*, Mayilraj S*.
- 11. Cancer Medicine 8:2019:246. Low prevalence of anti-xenobiotic antibodies among the occupationally exposed individuals is associated with a high risk of cancer. Sajid M, Agrewala JN.
- 12. Front Immunol. 9:2018:1650 [IF: 6.4]. TLR-3 stimulation skews M2 macrophages to M1 through IFN-αβ signaling and restricts tumor progression. Vidyarthi A, Khan N, Agnihotri T, Negi S, Das DK, Colegio OR, Tewari MK, Agrewala JN.
- 13. J Trans Med. 16:2018:279 [IF: 4.2]. A lipidated bi-epitope vaccine comprising of MHC-I and MHC-II binder peptides elicits protective CD4 T cell and CD8 T cell immunity against Mycobacterium tuberculosis. Rai PK, Chodisetti SB, Maurya SK, Nadeem S, Zeng W, Janmeja AK, Jackson DC, Agrewala JN.

STUDENT AFFAIRS



IIT ROPAR



धियो यो नः प्रचोदयात्

STUDENT RESIDENCY STATUS

Batch	Numbers	Hostel		
	Undergraduate Boys			
First Year (2018)	246	Transit Campus -I		
Second Year (2017)	240	Transit Campus -I		
Third Year (2016)	136	Main Campus		
Fourth Year (2015)	113	Main Campus		
	Undergraduate Girls			
First Year (2018)	44	Transit Campus -I		
Second Year (2017)	14	Transit Campus -I		
Third Year (2016)	12	Main Campus		
Fourth Year (2015)	6	Main Campus		
	Undergraduate Back- loggers			
2012	1	Main Campus		
2014	9	Main Campus		
2014 (Girls)	2	Main Campus		
	Research Scholars			
Boys	163			
Girls	110			
	M. Tech/M.Sc/MS			
Boys	198			
Girls	65			
Transit Campus -I (Mercury, Venus, Neptune & Jupiter)				
Main Campus (Satluj, Beas, Raavi)				
Total Hostel Residents = 1359 (Boys = 1106, Girls = 253)				

LIFE @ IIT ROPAR



STUDENT ACTIVITIES CENTRE

Academic

- 1. Initiated foreign-exchange for summer intern and semester exchange
- 2. Initiated Inter-IIT semester exchanges programme.
- 3. Workshop by famous software company like MATLAB and Wolfrom



Fig. Recreational activity by Academic Council

Utility

- 1. Invited vendors for the opening shops in utility block and six shops in the utility block were inaugurated.
- 2. Invited Amul, Verka, Nestle and Coffe Day to open an outlet in the campus. The outlet will be opening soon.
- 3. A dedicated juice corner is going to open for the Transit Campus residence.



Fig. Inauguration of six shops at the main campus

Governance

- A PAN (presence across the nation) level discussion was organized at IIT Ropar for the first time, named Student Leadership Summit where various agenda were discussed that IIT Ropar is facing.
- 2. Amendment of the constitution was discussed with higher authority, and it is under discussion in Dean's meeting.

3. As an IIT, Academic should be taken on the priority basis so Convinced higher authority to open post for two areas (Academics and Alumni) as alumni are the backbone of any institute.





Fig. Student Leadership Summit,Official pic with Director Sir, Conference discussion, Outing at Virasat-e-Khalsa, Gala Dinner

Transport

- 1. A bus facility for Chandigarh was started.
- 2. In contact with PUNBUS officers to start a bus facility from the main campus to the famous cities.

General

- Ensured regular training for the security panels and the security of students of IIT Ropar, especially for the main campus residence.
- 2. E-cell was established.
- 3. A student council website was launched with updated info.
- 4. Issues related to girls were addressed, always took the inputs of women cell representative.
- Coordinated CMG and Horticulture officers for the betterment of the area nearby hostels. Grounds, lights and plantation nearby hostels were taken on the priority basis.



BOARD OF SPORTS ACTIVITIES

- 1. Summer Sports Camp was organised to start preparations for Inter IIT Sports Meet.
- 2. Sadbhavna match of Cricket on Independence day to increase the bonding between students and faculty.
- 3. Unity run on 31st October in the memory of Sardar Patel.







4. IIT Ropar Cricket Championship in which mixed teams were formed from all batches and programmes and a team of faculty and staff was included as well.







5. VollyCom, in which mixed teams were formed from all students, faculty and staff.





- 6. Inter Year Sports Championship was organized in January to promote sports across all the the students in various programmes.
- 7. Strengthon the Annual fitness and weightlifting event was organized in February.
- 8. AAROHAN the Annual sports festival of IIT Ropar was organized from March 15-17, 2019 in which around 500 students from 15 colleges participated.
- Vollycom 2 was organized on the same lines of Vollycom but on a larger scale with sponsorship and goodies.

BOARD OF HOSTEL ACTIVITIES

Diwali, the festival of lights, was celebrated with great enthusiasm by the IIT Ropar fraternity. The festivities commenced with a bonfire coupled with Antakshari and other fun activities, followed by a Rangoli making competition where students woke up the Picasso sleeping in their souls and ended the beautiful course of nights with cultural competition like dance, singing, mono acting etc.

It is a matter of great pride that most of our students decided to go green this Diwali. So to respect their feelings and our mother earth, we decided not to burst any crackers on this auspicious day and celebrated a Green Diwali.







Holi

The festival of Holi was celebrated with great pomp and fervor in both the campuses. Holika Dahan ritual was performed which was followed by fun games
We celebrated Holi with a mixture of colors and music. Special lunch was served as a part of the celebration.





Kabaddi Tournament:

A kabaddi tournament was organized in IIT Ropar on 27th and 28th October 2018.
 Many students participated in it. Winners were awarded with prizes.

Krishna Janmashtami

- Matkiphor event was organised on the occasion of Krishna janmashtami where many students celebrated the birth of Lord Krishna.
- Intra college chess and carom board competition was organized on 25th August under samagam. Winners were awarded with prizes.

Lohri and Makar Sankranti:

- Lohri, the Punjabi folk festival, was celebrated on 13th january with bonfire, dhol, various cultural events, enthusiasm and a lot of fun.
- Makar Sankranti was celebrated on 14th January with an event of Kite flying where a lot of students participated.
- PUBG event: A PUBG event was organized under samagam on 9th February. Winners were given cash prizes.



Ugadi:

 Ugadi festival was celebrated by students of IIT Ropar and a special lunch was organized on this occasion.

BOARD OF CULTURAL ACTIVITIES

• Independence Day Celebrations on August 15, 2018 were lined with cultural events and a Fine Arts competition.











- Western Dance Workshop in September 2018 was conducted in the campus.
- Bhangra Workshop was also organised by the students of IIT Ropar in the month of September 2018.
- **Gotipua Dance**, a regional dance from Odisha, was organised under SPICMACAY on the evening of October 18, 2018.





• A **Dandiya Night** was organised on October 18, 2018 for bringing the festive vibes in home.





The evening of October 18, 2018 also marked the inauguration of ZEITGEIST:
 An Arcade Affair, the Annual Cultural Festival of IIT Ropar. It aimed at bringing various artformps of the world on a common platform at IIT Ropar, at the same time developing competition. With the help of more than 300 volunteers, Zeitgeist witnessed participation of 2000+ from various colleges of the country and a four times increase in footfall as compared to the previous edition.



- Media Conclave
 – aimed at bringing different journalists and academicians on a common platform to discuss and debate on a much welcomed topic of future – Skill India.
- **Zeitgeist Got Talent**—it gave school students an opportunity to showcase their versatile talents on a recognized platform in front of eminent personalities.
- Critically acclaimed artists from all around the world were invited to bring different artforms to the arena. The Havas Group from Uzbekistan, Malang Group from Rajasthan, Gatka from Punjab, Magic Show etc.
- Kavi Sammelan marked the advent of poetry and Hindi and Urdu Shayri to the festival.
 Rahat Indauri along with Shambhu Shekhar mesmerized the audience with their much acclaimed compositions.
- Star Nights were lined up with some of the renowned artists of the world Vishal shekhar, DJ Olly Esse and Ranjit Bawa.
- A talk by the TVF fame **Jeetu** was also organised.
- A new concept of Silent DJ was also introduced to the attendees of the fest.











 All the BOCA clubs organised competitions for students on the occasion of Diwali along with hostel activities.



- The Dance club D'cyphers and the Dramatics club Undekha organised a workshop during the winter break.
- All the cultural and literary clubs of IIT Ropar participated in the Inter IIT Cultural Meet 2018 from December 27, 2018 to December 30, 2018.
- IIT Ropar bagged 8th position in overall ranking in Inter-IIT Cultural meet, beating IIT Kanpur and IIT Madras in the race.
- We stood 3r din Stage Play and Nukkad Natak competitions, 2nd in Mono acting and 4th in Group Dance



- Lohri and Makar Sakranti were celebrated on January 13, 2019. Music and Bhangra events were organised along with hostel activities.
- Republic Day celebrations were marked with cultural events and Fine Arts competition.







 To promote in house participation and showcase the existing talent of the institute, Inter Batch Cultural Competition (IBCC 2k19) was organised from February 1 to February 3, 2019. It consisted of events from the BOCA and BOLA clubs. Cooking event was introduced for the first time in the institute.



 To display the cultural talent of our college houses in front of various other colleges of the country, the Culmination night of BAJA SAEINDIA 2019 was marked by Bhangra and Music Band performance by our dance and music club.



 Pre Holi celebrations consisted of Colour Run on March 19, 2019, bringing home the culture of foreign countries.





- · Some other achievements by our cultural clubs:
- ALANKAR (Music club) participated and secured first position at PECfest.
- ARTURO (Photography club) participated in IIT Delhi's cultural fest.
- ARTURO (Photography club) participated in IIT BHU's cultural fest.
- ARTURO (Photography club) participated in Fotomela IIT (ISM) Dhanbad.
- VIBGYOR (Fine Arts club) participated in IIT Delhi's cultural fest.
- Dance club participated in IIT Mandi's cultural fest.

OTHER ACTIVITIES

SPIC MACAY

S No.	Event name	Name of the performer	Date of Event
1	Carnatic music vocal workshop	Ms. Sudha Raghuraman	March 22 -23, 2019
2	Hindustani Jugalbandi	Pandit Ritesh Mishra and Pandit Rajnish Mishra	February 24, 2019
3	Kuttiyatam	Margi Madhu and Group	November 22, 2018
4	Gotipua Dance	Shri Bijay Kumar Sahoo & Group	October 18, 2018
5	Sitar Maestro	Sh. Nishat Khan & Group	October 07, 2018

Glimpses of the Hindustani Jugalbandi







Glimpses of the Carnatic music vocal workshop







STUDENTS' BODY

Name of post	Secretaries
President, Executive Council (students)	Mr. Akash Verma
General Secretary BOHA	Shashank Roy Saxsena
General Secretary BOCA	Mr. Shashi Prakash Dubey
General Secretary BOSA	Mr. Shareshtha
General Secretary BOLA	Mr. Mohit Sharma
General Secretary BOST	Mr. Lakshay

FACILITIES @IIT ROPAR





धियो यो नः प्रचोदयात्

LIBRARY

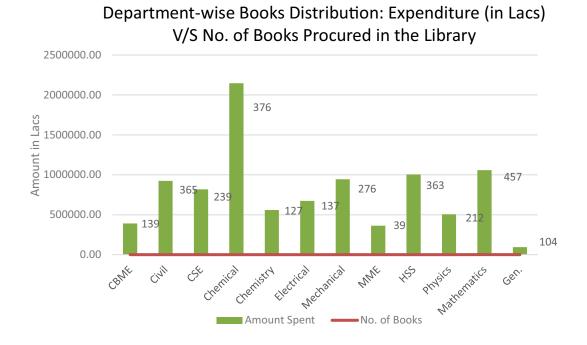
1. INTRODUCTION

Library of IIT Ropar is a hub of learning resources which plays a vital role in support of various academic and research activities at the institute. The main functions of the library include acquiring, processing, preserving and dissemination of print and electronic information resources. The objective of the library is to fulfill the academic and research requirements of students, research scholars, faculty and supporting staff by providing access to quality resources with appropriate delivery systems, tools and services in order to support the institute to achieve its vision and mission.

2. COLLECTION DEVELOPMENT

Collection building is one of the important functions of the library, which involves careful selection of standard learning resources required by the academic and research community at the institute.

The Library has developed its collection by acquiring latest books, journals, reports and other reference and information resources in science, engineering, technology, humanities and social sciences and as well as resources on general reading during the year. The Library is holding an excellent print collection of over 20,000 documents which includes dictionaries, handbooks, encyclopedias, reports of research monographs, multivolume reference works and books on general reading. Apart from this, the library collection also includes CDs/DVDs, annual reports, standards etc. in the areas of science, engineering, technology, humanities and social sciences. In the financial year 2018-19, the library added 2973 new books to its collection which include 2834 books through purchase and 139 books received as gratis. In order to strengthen its digital base, the Library procured 61 electronic books. A brief summary of the books procured in the 2018-19 financial year is shown in the below table:



E-RESOURCES (JOURNALS/DATABASES/STANDARDS/TOOLS)

The library facilitates online access to thousands of e-journals through participation in consortia, such as E-Shodh Sindu (eSS) and the Library also subscribes to several e-journals directly from the publishers as well as through the reputed subscription agencies. Online access is also provided to economic and political databases, scientometric databases such as CMIE, EPWRF, Euromonitor Passport, MathSciNet, Scopus, and Web of Science etc. The library has the access to e-books such as Begell House Engineering Collection, Pearson E-Library Collection, South Asian Archive etc. The library is providing extensive research support services such as citation analysis, usage of reference management tools, copyright and plagiarism support. 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 subscribes to the following electronic and print resources:

Full Text Electronic Journals:

- ACM Digital Library
- ACS Journals
- Acta Arithmetica
- Advances in Structural Engineering from Sage
- AIP Journals
- American Mathematical Monthly
- AMS Journals
- American Naturalist
- Annual Reviews
- APS Journals
- ASCE Library
- ASME Journals
- ASTM COMPASS
- Begell House Engineering Collection
- Canadian Geotechnical Journal from NRC Research Press
- · Canadian Journal of Mathematics
- Chemical Engineering Education
- Chemical Engineering
- CUP Selected Journals
- Earthquake Spectra from Earthquake Engineering Research Institute
- · Economic and Political Weekly
- Emerald Journals
- IEL Online (IEEE Xplore Digital Library)
- IMechE Digital Archive
- International Society of Optics and Photonics (SPIE)
- Institution of Civil Engineers Virtual Library
- IoP Science selected Journals
- Journal of the European Mathematical Society

- JSTOR
- Nature selected Journals
- OSA Online
- OUP Mathematics and Physical Sciences Journals
- Proceedings of National Academic Sciences (PNAS)
- Project MUSE
- ProQuest-ABI/Inform Premier
- PublicationsMathematicae
- Royal Society Proceedings A: Mathematical, Physical and Engineering Sciences
- Revue Francaise de Geotechnique from Geotechnicworld
- RSC Gold
- SAE MOBILUS (SAE Technical Papers & Journals)
- ScienceDirect
- Science Online
- SIAM Journals
- Springer Journals
- Taylor & Francis Journals (Science, Technology, Business, Management, Economics, Humanities & Social Sciences Package)
- Technopress Journals
- Thieme selected Journals
- Walter de Gruyter selected Mathematics Journals
- Wiley Selected Journals

E-Books:

- Begell House Engineering Collection
- Pearson E-Library Collection
- South Asia Archive (SAA)
- World e-Book Library

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:

- J-Gate
- Math SciNet
- Scifinder
- Scopus
- Web of Science

Other Tools:

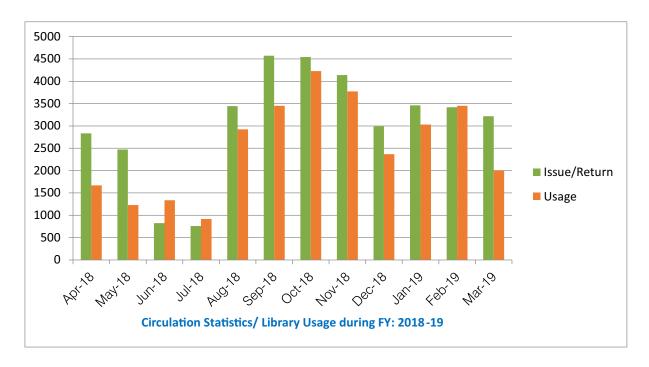
- Grammarly Tool
- Turnitin

Print Journals/ Magazines

- Current Science
- Creative Forum: Journal of Literary & Critical Writings
- · Dialog: a journal of theology
- Economist (The)
- · Electronics for You
- Employment News
- Frontline
- Modern Fiction Studies
- National Geographic
- New Scientist
- PC Quest
- · Reader's Digest
- Science/AAAS
- Time
- · Week (The)

CIRCULATION AND CONSULTATION SERVICE:

The RFID based circulation system at the Library of IIT Ropar is user friendly and works on any time (24/7) basis. During the financial year 2018-19, a total of 36,679 documents were issued at self-service Kiosk/staff station to all categories of users. 30,388 visits have been made by users to consult the library resources physically during the year. The graph below well depicts the circulation/consultation history of books/users during the financial year 2018-19:



PUBLICATIONS

Dinesh K. Siddaiah, (2018) "Enriching library user's experience with Evernote", Library Hi Tech News, Vol. 35 Issue: 7, pp.11-12, https://doi.org/10.1108/LHTN-06-2018-0035

3rd BOOK FAIR

Library has successfully organized the 3rd Book Fair in the Campus during 15-16 November, 2018. More than 16 reputed Publishers/Vendors participated & displayed the latest books in the Book Fair.





SUMMARY OF ACCOUNTS

RECEIPT AND PAYMENT ACCOUNT OF INDIAN INSTITUTE OF TECHNOLOGY ROPAR FOR THE FINANCIAL YEAR 2018-19NANGAL ROAD, RUPNAGAR

RECEIPT	Amount (in	PAYMENT	
	Rs.)		Amount (in
			Rs.)
	31.03.2019		31.03.2019
I. Opening Balances		I. Expenses	
a) Cash Balance	0	a) Establishment Expenses	357371443
b) Bank Balance		b) Academic Expenses	166538000
i) In Current Accounts	0	c) Administrartive Expenses	231433185
ii) In Deposit Accounts (FDR)	1535435465	d) Transportation Expenses	18605577
iii) Savings Accounts (Institute)	9399672	e) Repair & Maintenance	10411527
iv) Savings accounts (R & D)	38603994	f) Prior Period Expenses	0
		g) Finance Cost	3335278
II. Grant-in-Aid		II. Payment against Earmarked/Endowmnet Funds	0
- on Revenue Account	1008500000		
- on Capital Account	50000000		
	50000000		
III. Academic Receipts	103859929	III. Payment against Sponsored Projects/Schemes	120836465
IV. Receipt against Earmarked/Endowmnet Funds		IV. Payment against Sponsored Fellowships and Scholarships	6882530
V. Receipt against Sponsored	136654152	V. Investment and	
Projects/Schemes		Deposits made	
		(a) Out of Earmarked/Endowmnet Funds	0
VI. Receipt against Sponsored Fellowships and Scholarships	2404804	(a) Out of Own Funds (Investments - Others)	0
VII. Income on Investments from		VI. Term Deposits with Scheduled Banks	

a) Earmaked/Endowmnet Funds		FDR (R&D)	300000000
b) Other Investments			
		VII. Expenditure on Fixed Assets and Capital Works in Progress	
VIII. Interest received on		a) Fixed Assets	1519634968
a) FDR	63208288	b) Capital Work in Progress	1360766
b) Loans and Advances	8876		
c) Savings Bank Accounts	15787639	VIII. Other Payments including statutory payments	69746408
d) Saving & FDR (R&D)	11666261		
		IX. Refunds of Grants (Projects)	0
IX. Investments Encashed		X. Deposits and Advances	318893258
Endowment Fund			
		XI. Other Payments	0
X. Term Deposits with Scheduled Banks Encashed			
FDR (R&D)	285400000	XII. Closing Balances	
		a) Cash Balance	0
XI. Other Income (including Prior Period Income)	7191718	b) Bank Balance	
		i) In Current accounts	0
XII. Deposits and Advances	16195757	ii) In deposit accounts (FDR)	560407589
- HEFA TERM LOAN	1050485006	iii) Savings accounts (Institute)	720110933
XIII. Miscellaneous Receipts including Statutory Receipts	72254308	iv) Savings accounts (R & D)	51487942
TOTAL	4457055869	TOTAL	4457055869

GOVERNING BODIES







धियो यो नः प्रचोदयात्

BOARD OF GOVERNORS



CHAIRPERSON
Prof. Sarit K. Das
Director
Indian Institute of Technology
Ropar



MEMBERS
Shri Karan Avtar Singh, IAS
Chief Secretary to Government of
Punjab
Room No. 28, 6th floor
Punjab Civil Secretariat
Chandigarh



Prof. N. Sathyamurthy Honorary Professor Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India



Shri Chetan Pahwa Director Avon Ispat & Power Ltd. Phase VIII, Focal Point, Ludhiana



Dr. V. SumantranPlot-67, 19th Street, Venkateswara
Nagar,
Kottivakkam, Chennai



Shri Sanjiv Goyal Chairman & Managing Director Nectar Life Sciences Ltd. SCO 38-39, Sector 9-D Chandigarh



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



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



SPECIAL INVITEES
Mr. Prashant Agarwal
Director (IITs)
Ministry of Human Resource
Development
Technical Section, Shastri
Bhawan, New Delhi



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



Chairman
Construction Management
Group
Indian Institute of Technology
Ropar



SECRETARY
Sh. B. Nagarajan
Registrar
Indian Institute of Technology
Ropar

SENATE

CHAIRMAN Prof. Sarit Kumar Das

Director Indian Institute of Technology Ropar

MEMBERS

Director

Indian Institute of Science Education and Research Knowledge City, Sector 81 SAS Nagar, Mohali- PO 140306 Punjab, India

Prof. Uma Batra

Director Punjab Engineering College (PEC) Sector-12, Chandigarh-160 014, India

Prof. Rajendra Srivastava

Dean, Indian School of Business Indian School of Business Knowledge City, Sector 81, SAS Nagar Mohali, Punjab - 140 306

Sh. Tejinder Pal Singh Jassal

CTO/Director
Pilot Technology Development Ltd.,
Hong Kong.

Sh. H.S. Cheema

Managing Director Cheema Boilers Pvt. Ltd. Ropar

Prof. P. K. Raina

Professor & Dean (Academics)
Department of Physics
Indian Institute of Technology Ropar

Prof. Deepak Kashyap

Professor & Dean, FA&A Indian Institute of Technology Ropar

Prof. Sanjoy Roy

Professor, Department of Electrical Engineering Indian Institute of Technology Ropar

Prof. Harpreet Singh

Professor & Dean (ICSR&II)
Indian Institute of Technology Ropar

Prof. Ramesh Garg

Professor and Head Department of Electrical Engineering Indian Institute of Technology Ropar

Prof. Raj Chhabra

Visiting Professor and Head Department of Chemical Engineering Indian Institute of Technology Ropar

Prof. J. S. Sahambi

Professor and Associate Dean, FA&A and Dean, TP & C Indian Institute of Technology Ropar

Prof. Javed Agrewala

Professor & Dean (Research)
Centre for Bio-Medical Engineering
Indian Institute of Technology Ropar

Prof. Ishwar Singh Tyagi

Visiting Professor Department of Physics Indian Institute of Technology Ropar

Prof. R. G. Pillay

Visiting Professor Department of Physics Indian Institute of Technology Ropar

Prof. Bijoy Boruah

Visiting Professor
Department of Humanities and Social
Sciences
Indian Institute of Technology Ropar

Prof. C. Raman Suri

Professor-in-Charge Central Research Facility Indian Institute of Technology Ropar

Dr. Anupam Agrawal

Associate Dean Academics (UG)
Indian Institute of Technology Ropar

Dr. C. C. Reddy

Associate Dean (Student Affairs)
Indian Institute of Technology Ropar

Dr. Manoranjan Mishra

Associate Dean Academics (PG) Indian Institute of Technology Ropar

Dr. Rohit Y. Sharma

Associate Dean (IR)
Indian Institute of Technology Ropar

Dr. Asoka Biswas

Associate Professor and Head Department of Physics Indian Institute of Technology Ropar

Dr. Ekta Singla

Associate Professor and Head Department of Mechanical Engineering Indian Institute of Technology Ropar

Dr. Samaresh Bardhan

Assistant Professor and Head Humanities and Social Sciences Indian Institute of Technology Ropar

Dr. Arvind Kumar Gupta

Associate Professor and Head Department of Mathematics Indian Institute of Technology Ropar

Dr. Somitra Kumar Sanadhya

Associate Professor and Head Department of Computer Science & Engineering Indian Institute of Technology Ropar

Dr. T. J. Dhilip Kumar

Associate Professor and Head Department of Chemistry Indian Institute of Technology Ropar

Dr. S Naidu

Assistant Professor & Head Centre for Biomedical Engineering Indian Institute of Technology Ropar

Dr. Nitin Auluck

Associate Professor & Head Computer Centre and IT Services Indian Institute of Technology Ropar

Dr. Narinder Singh

Associate Prof. and Chairman, GATE Department of Chemistry Indian Institute of Technology Ropar

Dr. Himanshu Tyagi

Associate Professor Department of Mechanical Engineering Indian Institute of Technology Ropar

Dr. S. Sarkar

Associate Professor Department of Physics Indian Institute of Technology Ropar

Dr. Somdev Kar

Associate Professor Department of HSS Indian Institute of Technology Ropar

Dr. P. S. Dutta

Associate Professor, Department of Mathematics Indian Institute of Technology Ropar

Dr. V. Mehandia

Assistant Professor Department of Chemical Engineering Indian Institute of Technology Ropar

Dr. Ranjana Sodhi

Assistant Professor Department of Electrical Engineering Indian Institute of Technology Ropar

Dr. Putul Haldar

Assistant Professor Department of Civil Engineering Indian Institute of Technology Ropar

SPECIAL INVITEES

Dr. C.K. Narayanan

Assistant Professor& Chairman, JEE Department of Mathematics Indian Institute of Technology Ropar

Dr. Dhiraj Kumar Mahajan

Assistant Professor Department of Mechanical Engineering Indian Institute of Technology Ropar

Dr. Dinesh K.S.

Deputy Librarian Indian Institute of Technology Ropar

Dr. Ramjee Repaka

Associate Professor & Chief Warden, Indian Institute of Technology Ropar,

Dr. Jitendra Prasad

Assistant Professor Department of Mechanical Engineering Indian Institute of Technology Ropar **General Secretary, Students**

Indian Institute of Technology Ropar

Academic Secretary, Students

Indian Institute of Technology Ropar

Secretary-PG

Indian Institute of Technology Ropar

Research Secretary

Indian Institute of Technology Ropar

Hostel Secretary

Indian Institute of Technology Ropar

SECRETARY

Sh. B. Nagarajan

Registrar

Indian Institute of Technology Ropar

ACADEMIC COMMITTEE FOR UNDERGRADUATE STUDIES (ACUGS)

Name of the Members

Prof. P. K. Raina, Dean (Academics)

- Dr. Anupam Agrawal, Associate Dean (UG)
- Dr. Mukesh Saini, Department of Computer Science & Engineering
- Dr. Brijesh Kumbhani, Department of Electrical Engineering
- Dr. Rakesh K. Maurya, Department of Mechanical Engineering
- Dr. Swati A Patel, Department of Chemical Engineering
- Dr. Ravi Mohan Prasad, Department of Metallurgical and Materials Engineering
- Dr. Naveen James, Department of Civil Engineering
- Dr. Sudipta Kumar Sinha, Department of Chemistry
- Dr. Smruti Ranjan, Department of Humanities & Social Sciences
- Dr. Manju Khan, Department of Mathematics
- Dr. Mukesh Kumar, Department of Physics
- Dr. Srivatsava Naidu, Centre for Biomedical Engineering



RESEARCH PROGRESS EVALUATION COMMITTEE (RPEC)

Name of the Members

Prof. P. K. Raina, Dean (Academics)

Dr. Manoranjan Mishra, Assoc. Dean (PG)

Prof. Javed N. Agrewala, Dean (Research)

Dr. D. Mandal, Department of Chemistry

Dr. Balwinder Sodhi, Department of Computer Science & Engineering

Dr. Durba Pal, Centre for Biomedical Engineering

Dr. Ansu Louis, Department of Humanities & Social Sciences

Dr. Partha S. Dutta, Department of Mathematics

Dr. Rajesh V. Nair, Department of Physics

Dr. Ranjan Das, Department of Mechanical Engineering

Dr. Sam Darshi, Department of Electrical Engineering

Dr. Putul Haldar, Department of Civil Engineering

Dr. Vishwajeet Mehandia, Department of Chemical Engineering

Dr. Ravi Mohan Prasad, Department of Metallurgical and Materials Engineering

Dr. Indranil Chatterjee, Department of Chemistry

ADMINISTRATION

Chief Vigilance Officer
Deputy Librarian
Joint Registrar, Establishment
Deputy Registrar, Accounts
Deputy Registrar, Stores & Purchase
Executive Engineer
Deputy Registrar, Academics
Assistant Registrar, ICSR-II & Research
Assistant Registrar, Student Affairs
Assistant Executive Engineer (Civil)
Sports Officer
Public Relations Officer
Additional Executive Engineer

Dr. Rajendra Srivastava

Dr. Dinesh K. S.

Sh. Ravinder Kumar

Sh. Lagvish Kumar

Sh. Puneet Goel

Sh. T. S. Anand

Sh. C. S. Sham Sundar

Sh. Gautam Sharma

Sh. Puneet Garg

Sh. Saurabh Sharma

Sh. Ajeetpal Singh

Ms. Preetinder Kaur

Sh. Subir Kumar Ghosh



LIBRARY COMMITTEE

CHAIRMAN Prof. P.K. Raina

Dean

Academics

MEMBERS

Dr. C.C. Reddy

Associate Professor Electrical Engineering

Dr. C.K. Naraynan

Assistant Professor, Computer Science & Engineering

Dr. C.M. Nagaraja

Associate Professor Chemistry

Dr. Dinesh K. S.

Deputy Librarian

Dr. Dipanjan Kumar Dey

Assistant Professor Humanities & Social Sciences

Dr. Priya Ghatwai

Visiting Faculty
Metallurgical & Materials Engineering

Dr. Ramjee Repaka

Associate Professor Mechanical Engineering

Dr. Reet Kamal Tiwari

Assistant Professor Civil Engineering

Dr. Swati A. Patel

Assistant Professor Chemical Engineering

Dr. Sourav Bhattacharya

Assistant Professor Physics

Dr. Tapas Chatterjee

Assistant Professor Mathematics

Dr. Yashveer Singh

Assistant Professor Centre for Bio medical Engineering

SCENIC BEAUTY OF ROPAR

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









भारतीय प्रौद्योगिकी संस्थान रोपड़ INDIAN INSTITUTE OF TECHNOLOGY ROPAR