Annual Report 2024-25

भारतीय प्रौद्योगिकी संस्थान रोपड़

INDIAN INSTITUTE OF TECHNOLOGY ROPAR





Annual Report

(APRIL '24- MARCH '25)

2024-25

IIT ROPAR : AT A GLANCE

DEPARTMENTS & CENTERS		
DEPARTMENTS	:	11
CENTERS	:	04
STUDENTS ADMITTED IN AY 2024-25		
UG PROGRAMME	:	432
PG PROGRAMME	:	293
PHD	:	192
STUDENTS STRENGTH		
UG PROGRAMME	:	1588
PG PROGRAMME	:	564
PHD	:	899
NUMBER OF DEGREE AWARDEES		
B. TECH.	:	342
M. TECH.	:	150
M. SC.	:	57
Dual Degree	:	12
PHD	:	40
FACULTY & STAFF STATISTICS		
FACULTY	:	184
NEW JOINING	:	09
STAFF	:	147
NEW JOINING	:	09
RESEARCH PRODUCTIVITY		
JOURNALS	:	624
CONFERENCES	:	171
BOOK CHAPTERS	:	43
BOOKS	:	09
ICSR & II		
NUMBER OF CONSULTANCY PROJECTS	:	176
OUTLAY	:	12.15 CRORE
NUMBER OF SPONSORED PROJECTS	:	58
OUTLAY	:	67.88 CRORE
GRANTS (IN CRORES)		
DST - National Quantum Mission	:	25.01
Meity - NSF	:	3.97
DST	:	2.30
AI - CoE	:	2.00
OTHERS	:	34.6
TOTAL	**:**	**67.88**

CONTENT

Topic	Page No.
FROM THE DIRECTOR'S DESK	: 01
THE INSTITUTE	: 03
EXECUTIVE SUMMARY	: 04
GOVERNING STRUCTURE	: 05
RANKING	: 11
RESEARCH INITIATIVE	: 13
ACADEMICS	: 16
FACULTY & STAFF	: 23
RESEARCH AND DEVELOPMENT ACTIVITIES	: 28
INFRASTRUCTURE AND FACILITIES	: 53
COMMUNITY ENGAGEMENT AND OUTREACH	: 61
PARTNERSHIP	: 70
ALUMNI RELATIONS	: 86
CARRER DEVELOPMENT & PLACEMENT CELL (CDPC)	: 90
TECHNOLOGY BUSINESS INCUBATOR FOUNDATION	: 93
DEPARTMENT OF SCIENCE AND TECHNOLOGY (TECHNOLOGY INNOVATION HUB-AWaDH)	: 99
EVENTS & ACTIVITIES	: 108
राजभाषा गतिविधियाँ	: 126
DEPARTMENTS & CENTRES	: 147
PUBLICATIONS AND RESEARCH PAPERS	: 315
STUDENTS LIFE AND ACTIVITIES	: 381
SUMMARY OF ACCOUNTS	: 402


भारतीय प्रौद्योगिकी संस्थान रोपड़
INDIAN INSTITUTE OF TECHNOLOGY ROPAR
धियो यो नः प्रचोदयात्
IIT ROPAR



FOREWORD FROM THE DIRECTOR

It gives me immense pride to present the Annual Report of the Indian Institute of Technology Ropar for the year 2024–25, a year that reflects our steady progress in education, research, innovation, and global engagement. Since its inception in 2008, IIT Ropar has consistently pursued excellence, guided by the values of academic rigor, innovation, inclusivity, and social responsibility. This report captures the Institute's key achievements and its expanding role as a knowledge hub addressing national and global challenges.

This year, IIT Ropar reinforced its standing in both national and international rankings. In the ninth edition of the National Institutional Ranking Framework (NIRF), the Institute secured the 22nd position in Engineering, 45th in Research Institutions, and 48th overall. Internationally, our presence grew stronger with significant placements in QS and Times Higher Education rankings, reaffirming IIT Ropar's commitment to global standards in education, research, and sustainability.

Our research ecosystem has delivered impactful innovations. A highlight was the development of a patented, affordable, and sustainable mechanical device for knee rehabilitation—an invention with the potential to transform post-surgical care in rural and underserved regions. Another milestone was our pilot initiative to rejuvenate village ponds using a nano-bubble generator, demonstrating IIT Ropar's strong resolve toward environmental sustainability. Equally notable is the research on Himalayan glacial lakes, which has produced critical insights into flood risks and climate resilience, reflecting our contribution to addressing pressing environmental concerns.

Academically, IIT Ropar continues to thrive with its expanding portfolio of undergraduate, postgraduate, and doctoral programs across science, engineering, and humanities. Our specialized research centres—including the Centre for Applied Research in Data Science (CARDS), the Centre for Energy Efficiency and Decarbonization (CREED), and the Centre of Excellence for Defence and Security (CoE–SARDS)—play a pivotal role in bridging academia, industry, and government priorities. With nearly 3,000 students enrolled across programs and almost 900 Ph.D. scholars engaged in advanced research, our academic ecosystem is vibrant and forward-looking.

The Infrastructure development has kept pace with growth. The Har Gobind Khorana Block now houses seven departments with modern labs and seminar halls, while new

hostels and residential facilities have enriched student and faculty life. Our library has expanded its holdings to over 25,000 print resources and more than 13,000 electronic journals, ensuring that IIT Ropar remains a hub of knowledge and discovery.

Our partnerships reflect the global outlook of IIT Ropar. This year, we signed several strategic Memoranda of Understanding with institutions across the UK, Australia, Taiwan, Germany, and the USA, strengthening collaborations in semiconductors, AI, sustainability, defence, and healthcare. These engagements not only broaden opportunities for students and faculty but also ensure our active participation in solving global challenges.

The institute's innovation and entrepreneurship ecosystem has grown remarkably. The Technology Business Incubator Foundation (TBIF) and iHub–AWaDH have nurtured deep-tech startups, fostered industry collaborations, and supported national initiatives such as Atmanirbhar Bharat. Startups incubated at IIT Ropar are delivering solutions in critical areas like defence, healthcare, clean energy, and agriculture. This is a testament to the entrepreneurial spirit of our faculty, students, and partners.

Equally important are our alumni, whose achievements worldwide continue to inspire us. With a network of over 3,700 alumni, IIT Ropar is proud to see its graduates excelling in academia, industry, and public service. Their continued engagement strengthens our community and expands our impact.

The placement record for 2024–25 is a reflection of the high-quality education imparted at IIT Ropar. With leading global and national organizations offering opportunities across engineering, technology, and consulting our students are well prepared to shape the future.

As we mark our 16th Foundation Day, I extend my heartfelt gratitude to the faculty, staff, students, alumni, and partners who have contributed to IIT Ropar's journey. Together, we are building an institution that is not only a leader in science and technology but also a catalyst for inclusive growth and national progress.

Looking ahead, IIT Ropar will continue to push the boundaries of research, nurture talent, and strengthen its global footprint while staying rooted in its commitment to nation-building.

Prof. Rajeev Ahuja
Director, IIT Ropar



THE INSTITUTE

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

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

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

EXECUTIVE SUMMARY

The Annual Report 2024–25 highlights IIT Ropar's progress across academics, research, innovation, infrastructure, and international collaborations.

On the academic front, IIT Ropar continued to expand its undergraduate, postgraduate, and doctoral programs, with nearly 3,000 students enrolled and close to 900 Ph.D. scholars driving research. Specialized centres such as CARDS, CREED, and CoE–SARDS enabled cutting-edge interdisciplinary work aligned with national priorities.

In national rankings, IIT Ropar secured 22nd position in Engineering and 45th in Research Institutions under NIRF 2024, while its global standing was reaffirmed through QS and Times Higher Education rankings. These reflect the Institute's rising global reputation in education, research, and sustainability.

Key research outcomes included the development of a patented knee rehabilitation device, a pilot pond-cleaning initiative using nano-bubble technology, and critical assessments of Himalayan glacial lakes prone to floods. Such innovations demonstrate IIT Ropar's ability to address healthcare, environmental, and climate challenges.

Infrastructure advancements featured the Har Gobind Khorana Block, expanded residential facilities, and enhanced library resources—supporting both academic and extracurricular growth.

The Institute strengthened its global footprint by signing multiple MoUs with reputed institutions and industries worldwide, fostering joint research, student mobility, and knowledge exchange. Collaborations with partners in defence, clean energy, semiconductors, healthcare, and AI further reflect IIT Ropar's commitment to industry-relevant research.

The entrepreneurship ecosystem thrived through the Technology Business Incubator Foundation (TBIF) and iHub–AWaDH, which nurtured 39 active startups across sectors like defence, clean energy, and healthcare. These initiatives reinforce the Institute's role in building an Atmanirbhar Bharat.

Alumni engagement expanded, with the network growing to over 3,700 members, while placements recorded strong outcomes with top recruiters across technology and industry domains.

In its 16th year, IIT Ropar has reaffirmed its role as a hub of knowledge, innovation, and societal impact—driving India's aspirations for sustainable and inclusive growth.

GOVERNANCE STRUCTURE



BOARD OF GOVERNORS

Chairperson:

1. **Shri Adil Siraj Zainulbhai**
   Chairperson, BoG, IIT Ropar,
   Indian Institute of Technology Ropar,
   Rupnagar – 140001, Punjab.

Members

2. **Prof. Rajeev Ahuja**
   Director,
   Indian Institute of Technology Ropar,
   Rupnagar – 140001, Punjab.

3. **The Chief Secretary**
   Government of Punjab,
   Punjab Civil Secretariat,
   Chandigarh – 160001.

4. **Prof. N. Sathyamurthy**
   Honorary Professor,
   IISER Mohali.

5. **Shri Chetan Pahwa**
   Director,
   Avon Ispat & Power Ltd.
   G.T. Road,
   Ludhiana- 141014.

6. **Shri Sanjiv Goyal**
   Chairman & Managing Director,
   Nectar Lifesciences Ltd.,
   SCO 38-39, Sector 9-D,
   Chandigarh – 160009.

7. **Prof. CC Reddy**
   Professor, Department of Electrical Engineering,
   Indian Institute of Technology Ropar,
   Rupnagar – 140001, Punjab.

8. **Prof. Jitendra Kumar**
   Professor, Department of Mathematics,
   Indian Institute of Technology Ropar,
   Rupnagar – 140001, Punjab.

Special Invitee

9. **The Director (IITs)**
   Ministry of Education,
   Technical Section-1,
   Shastri Bhawan, New Delhi.

Secretary

10. **Dr. Dinesh K.S.**
    Officiating Registrar &
    Secretary, Board of Governors,
    Indian Institute of Technology Ropar,
    Rupnagar – 140001, Punjab.

SENATE

Chairperson

1. **Prof. Rajeev Ahuja**
   Director & Chairman, Senate
   Indian Institute of Technology Ropar

Members:

2. **Prof. Sanjoy Roy**
   Professor, Department of Electrical Engineering
   Indian Institute of Technology Ropar

3. **Prof. Harpreet Singh**
   Professor, Department of Mechanical Engineering
   Indian Institute of Technology Ropar

4. **Prof. J. S. Sahambi**
   Professor, Department of Electrical Engineering
   Indian Institute of Technology Ropar

5. **Prof. Javed Agrewala**
   Professor, Department of Bio-medical Engineering
   Indian Institute of Technology Ropar

6. **Prof. Navin Kumar**
   Professor & Head , Department of Mechanical Engineering
   Indian Institute of Technology Ropar

7. **Prof. Manoranjan Mishra**
Professor, Department of Mathematics
Indian Institute of Technology Ropar

8. **Prof. C.C. Reddy**
Professor & Head, Department of Electrical Engineering
Indian Institute of Technology Ropar

9. **Prof. Narinder Singh**
Professor, Department of Chemistry
Indian Institute of Technology Ropar

10. **Prof. Rajendra Srivastava**
Professor & Dean (Post Graduate & Research)
Indian Institute of Technology Ropar

11. **Prof. Jitendra Kumar**
Professor & Head, Department of Mathematics
Indian Institute of Technology Ropar

12. **Prof. Rohit Y Sharma**
Professor, Department of Electrical Engineering
Indian Institute of Technology Ropar

13. **Prof. T.J. Dhilip**
Professor, Department of Chemistry
Indian Institute of Technology Ropar

14. **Prof. Nagaraja C.M.**
Professor, Department of Chemistry
Indian Institute of Technology Ropar

15. **Prof. Prabal Banerjee**
Professor, Department of Chemistry
Indian Institute of Technology Ropar

16. **Prof. Nitin Auluck**
Professor & Head, Dept. of Computer Science & Engineering
Indian Institute of Technology Ropar

17. **Prof. Anupam Agrawal**
Professor, Department of Mechanical Engineering
Indian Institute of Technology Ropar

18. **Prof. Syed A. Bari**
Former Vice Chancellor
Central University of Gujarat and Kuvempu University

19. **Prof. Arun Kumar Grover**
Honorary Emeritus Professor
Department of Applied Sciences
Punjab Engineering College, Sector 12, Chandigarh

20. **Prof. Sanjay Mittal**
Department of Aerospace Engineering
Indian Institute of Technology Kanpur

21. **Dr. Rajesh V. Nair**
Dean (Faculty Affairs & Administration)
Indian Institute of Technology Ropar

22. **Dr. Pushpendra Pal Singh**
Dean (Research & Development)
Indian Institute of Technology Ropar

23. **Dr. Arun Kumar**
Dean (Student Affairs)
Indian Institute of Technology Ropar

24. **Dr. Sachin Kumar**
Dean (Under Graduate Studies)
Indian Institute of Technology Ropar

25. **Dr. Pardeep Duhan**
Associate Dean (Hostel Management)
Indian Institute of Technology Ropar

26. **Dr. S. Muthulingam**
Associate Dean (Infrastructure)
Indian Institute of Technology Ropar

27. **Dr. Neha Sardana**
Dean (IR & AA)
Indian Institute of Technology Ropar

28. **Dr. Sarang Prakash Gumfekar**
Associate Dean (Continuing Education and Outreach Activities)
Indian Institute of Technology Ropar

29. **Dr. Navin Gopinathan**
Head, Department of Chemical Engineering
Indian Institute of Technology Ropar

30. **Dr. Sagar Rohidas Chavan**
Head, Department of Civil Engineering
Indian Institute of Technology Ropar

31. **Prof. Navin Kumar**
Head, Department of Mechanical Engineering
Indian Institute of Technology Ropar

32. **Dr. Debaprasad Mandal,**
Head, Department of Chemistry
Indian Institute of Technology Ropar

33. **Dr. Atharva Poundarik**
Head, Department of Bio-medical Engineering
Indian Institute of Technology Ropar

34. **Dr. Kailash Chandra Jena**
Head, Department of Physics
Indian Institute of Technology Ropar

35. **Dr. Amritesh**
Head, Department of Humanities & Social Sciences
Indian Institute of Technology Ropar

36. **Dr. Pratik Kumar Ray**
Head, Department of Metallurgical and Materials Engineering
Indian Institute of Technology Ropar

37. **Dr. Santosh Kumar Vipparthi**
Head, School of Artificial Intelligence and Data Engineering
Indian Institute of Technology Ropar

38. **Dr. Aparna Nandha**
Assistant Professor, Department of Humanities & Social Sciences
Indian Institute of Technology Ropar

39. **Dr. Puneet Pasricha**
Assistant Professor, Department of Mathematics
Indian Institute of Technology Ropar

40. **Dr. Chandrakant K Nirala**
Head, Central Workshop
Indian Institute of Technology Ropar

41. **Dr. Avijit Goswami**
Chairman, Central Research Facility
Indian Institute of Technology Ropar

42. **Librarian**
Indian Institute of Technology Ropar

43. **Sh. H. S. Cheema**
Managing Director
Cheema Boilers Pvt. Ltd., Ropar

Invitees

44. **Dr. G Sankara Raju Kosuru**
Associate Professor and Chairman, JAM
Department of Mathematics
Indian Institute of Technology Ropar

45. **Dr. Neeraj Goel**
Assistant Professor and Chairman, JEE
Department of Computer Science & Engineering
Indian Institute of Technology Ropar

46. **Dr. Kailash Chandra Jena**
Associate Professor and Chairman, GATE
Indian Institute of Technology Ropar

47. **Dr. Arun Kumar**
Coordinator, Center for Applied Research in Data Science
Indian Institute of Technology Ropar

48. **President, Student Council**
Indian Institute of Technology Ropar

49. **General Secretary, Academic Affairs**
Indian Institute of Technology Ropar

50. **Ph.D. Representative**
Indian Institute of Technology Ropar

51. **General Secretary, Hostel Affairs**
Indian Institute of Technology Ropar

Secretary

52. **Dr. Dinesh K.S.**
Officiating Registrar
Indian Institute of Technology Ropar

ACADEMIC COMMITTEE FOR UNDERGRADUATE STUDIES

1 Dr. Puneet Goyal, Department of Computer Science And Engineering
2 Dr. Brijesh Kumbhani, Department of Electrical Engineering
3 Dr. Devranjan Samanta, Department of Mechanical Engineering
4 Dr. L.Vijay Anand, Department of Civil Engineering
5 Dr. Saikat Roy, Department of Chemical Engineering
6 Dr. Kishant Kumar, Department of Chemical Engineering
7 Dr. Khushboo Rakha ,Department of Metallurgical and Materials Engineering
8 Dr. Bhavesh Garg, Department of Humanities and Social Sciences
9 Dr. Manju Khan, Department of Mathematics
10 Dr. Shankhadeep Chakrabortty, Department of Physics
11 Dr. Rajesh Kumar, Department of Biomedical Engineering
12 Dr. Manoj Kumar Pandey, Department of Chemistry

ACADEMIC COMMITTEE FOR POSTGRADUATE STUDIES (ACPGS)

1 Prof. Rajendra Srivastava, Dean PG & Research – Chairperson
2 Dr. Sachin Kumar, Dean UG
3 Dr. Sarang Gumfekar, Associate Dean, CEOA
4 Dr. Yashveer Singh, Department of Chemistry
5 Dr. Manish Agrawal, Department of Mechanical Engineering
6 Dr. Danveer Singh, Department of Physics
7 Dr. S.C. Martha, Department of Mathematics
8 Dr. Smruti Ranjan Behera, Department of Humanities and Social Sciences
9 Dr. Jagpreet Singh, Department of Computer Science and Engineering
10 Dr. A.V. Raviteja, Department of Electrical Engineering
11 Dr. Ratan Sarmah, Department of Civil Engineering
12 Dr. Khushboo Rakha, Department of Metallurgical and Materials Engineering
13 Dr. Manigandan S., Department of Chemical Engineering
14 Dr. Srivastava Naidu, Department of Biomedical Engineering
15 Dr. Jitendra Prasad, Center for Engineering Education
16 Dr. Deepak Singh, Center for Applied Research in Data Science
17 Dr. Puneet Goyal, School for Artificial Intelligence and Data Engineering
18 Sh. Lagvish Kumar, Joint Registrar, Academics
19 Sh. Vipin Kumar, Assistant Registrar, Academics
20 Mr. A. Pratap Chaudhary, Research Secretary

LIBRARY COMMITTEE

1 Prof. Harpreet Singh – Chairman
2 Dr. Asad Hasan Sahir – Member
3 Dr. Balesh Kumar – Member
4 Dr. C.M. Nagaraja – Member
5 Dr. Devarshi Das Mrinal – Member
6 Dr. Dinesh K.S. – Member
7 Dr. L. Vijay Anand – Member
8 Dr. Rajesh Kumar – Member
9 Dr. Rajiv Kumar – Member
10 Dr. Rano Ringo – Member
11 Dr. Ritu Gupta – Member
12 Dr. Shashi Shekhar Jha – Member
13 Dr. Srikant Sekhar Padhee - Member

STUDENT MEMBERS (NON-VOTING)

1 Mr. Garv Raj – UG
2 Ms. Ishita Garg – UG
3 Ms. Palak Agarwal – UG
4 Mr. Bhuvnesh Kumar – PG
5 Mr. Sriram Vishal S – PG
6 Mr. Vaasu Gupta - PhD Scholar

RANKING



RANKING

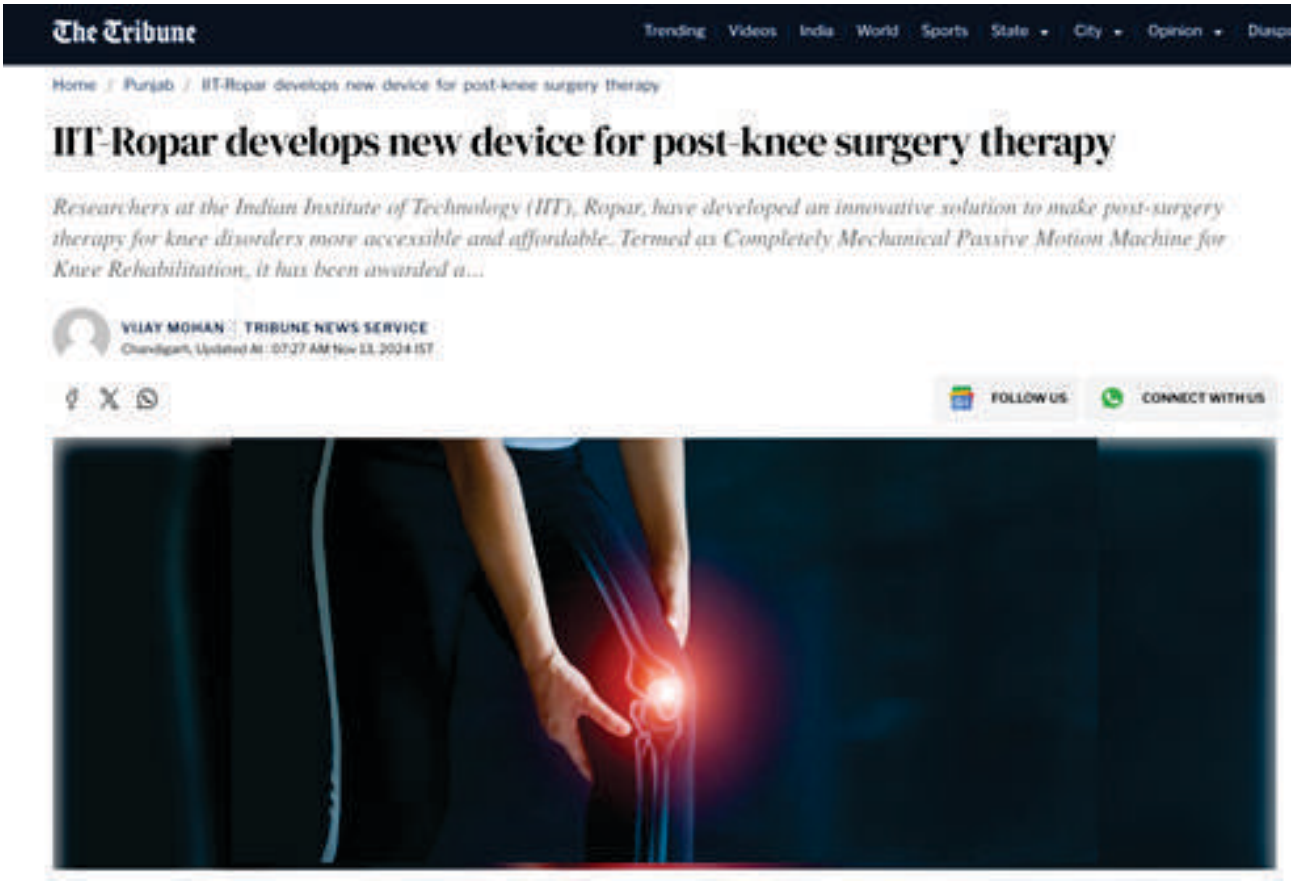
- The Government of India, Ministry of Education (MoE) started the National Institutional Ranking Framework to evaluate higher education institutions across the country (NIRF). On August 12, 2024, the ninth edition of the NIRF was released.
- In this edition of the NIRF, IIT Ropar achieved a commendable **overall ranking of 48th and 22nd position in the engineering category and 45th position in the Category of Research Institutions.**
- IIT Ropar has also continued to receive recognition at the global level. IIT Ropar is ranked at **148th position in the QS Asian University Rankings** for Southern Asia and is also ranked in the **521-540 range in the QS Asian University Rankings.** IIT Ropar has secured 90th position in the QS World University Rankings for Southern Asia. Furthermore, IIT Ropar is **ranked 1201 in the QS Sustainability Ranking.**
- In 2025, Times Higher Education **World University Rankings,** IIT Ropar is **ranked in the 801-1000 range.** These rankings continue to demonstrate IIT Ropar's commitment to excellence in the areas of education and research and sustainability.

RESEARCH INITIATIVES



RESEARCH INITIATIVES BY IIT ROPAR

IIT Ropar has developed a patented mechanical knee rehabilitation device that revolutionizes post-surgical therapy. The new Completely Mechanical Passive Motion Machine for Knee Rehabilitation (Patent No. 553407) provides an affordable, off-grid alternative to traditional motorized CPM machines. Using a piston and pulley system, the device requires no electricity, batteries, or motors, making it lightweight, portable, and ideal for use in areas with unreliable power supply. This cost-effective solution helps patients recover from knee surgeries by improving joint mobility and reducing stiffness. It is particularly beneficial in rural areas where access to advanced medical technology is limited. The device offers a sustainable, eco-friendly option for knee rehab, enabling patients to perform therapy at home and reducing the need for hospital visits.The team behind the device, led by Dr. Abhishek Tiwari, aims to improve access to healthcare, making it a game-changer for knee rehabilitation in India and beyond.


The Tribune

Trending Videos India World Sports State City Opinion

Home / Punjab / IIT-Ropar develops new device for post-knee surgery therapy

IIT-Ropar develops new device for post-knee surgery therapy

Researchers at the Indian Institute of Technology (IIT), Ropar, have developed an innovative solution to make post-surgery therapy for knee disorders more accessible and affordable. Termed as Completely Mechanical Passive Motion Machine for Knee Rehabilitation, it has been awarded a...

VIJAY MOHAN | TRIBUNE NEWS SERVICE

Chandigarh, Updated At : 07:27 AM Nov 13, 2024 IST

FOLLOW US CONNECT WITH US

A pilot project to clean village ponds using a nano bubble generator developed by IIT Ropar was launched in Jasse Majra, in collaboration with the Department of Water Supply and Sanitation. The initiative, supported by MLA Dinesh Chadha, aims to remove odour and impurities. If successful, it will be extended to other villages. Developed by IIT Ropar Technology and Innovation Foundation (iHub – AWaDH) for agriculture and water technology development hub.


THE TIMES OF INDIA

IIT Ropar's nanobubble method to clean village ponds

Indian scientists have identified 374 glacial lakes in the Himalayas with potential to cause catastrophic floods. Among these, 50 are classified as “very highly hazardous,” posing serious risks of Glacial Lake Outburst Floods (GLOFs), akin to the 2013 Kedarnath and 2023 Sikkim events. Researchers at IIT Ropar—Dr. Reet Kamal Tiwari, Ankit Tyagi, and Deepali Gaikwad—analyzed 851 glacier-connected lakes, assessing their vulnerability using 12 key topographic criteria based on known flood triggers. Over 550 lakes were found to be at moderate (198), high (324), or very high (50) risk levels, spanning 232 sq km. A country-wise analysis showed the highest number of high-hazard lakes in India (100), followed by Nepal (52) and Bhutan(50).



DH

Home | India | Karnataka | Opinion | World | Business | Sports | Video | Entertainme

Home › Science ›

Over 370 Himalayan glacial lakes could cause massive floods, 50 of which are 'very highly hazardous': Study

Gurudongmar – a tourist attraction - and South Lhonak in Sikkim, Samadar Tapu in Himachal Pradesh and a few lakes in Ladakh are among those water bodies ranked high to very high hazard potential.

Kalyan Ray |

Last Updated : 28 December 2024, 20:46 IST

Follow Us :

A turquoise glacial lake nestled in the Himalayan mountains. Credit: iStock Photo

New Delhi: Indian scientists have identified 50 glacial lakes in the Himalayas as "very highly hazardous" with the potential to trigger massive glacial lake outburst floods like what happened at Kedarnath in 2013 or in Sikkim last year while another 324 such lakes have been categorised as "highly hazardous".

ACADEMICS



ACADEMICS

Since its establishment in 2008, the Indian Institute of Technology Ropar (IIT Ropar) has been at the forefront of advancing science, engineering, and technology in India. With a commitment to academic excellence, innovation, and global engagement, the Institute is steadily growing into a nationally and internationally recognized center of learning and research.

IIT Ropar offers programs across:

- **Seven Engineering Departments:** Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, and Metallurgical & Materials Engineering.
- **Four Science Departments:** Chemistry, Mathematics, and Physics.
- **Humanities and Social Sciences:** Fostering critical thinking, ethics, and interdisciplinary dialogue.

In addition to its academic departments, the Institute hosts several **specialized interdisciplinary research centres,** which drive innovation and address real-world challenges:

- **Centre for Applied Research in Data Science (CARDS)**
- **Centre of Research for Energy Efficiency and Decarbonization (CREED)**
- **Centre of Excellence for Studies and Applied Research in Defence and Security (CoE–SARDS)**
- **Centre for Engineering Education (CEE)**
- **Indo-Taiwan Joint Research Centre on Artificial Intelligence and Machine Learning**

These centres are pivotal in enabling cutting-edge research, promoting industrial collaboration, and contributing to national priorities in sectors such as energy, defence, artificial intelligence, and education reform.

As of April 2025, the Institute has:

- **1,570 students enrolled in B.Tech. programs**
- **361 in M.Tech. programs**
- **4 students in the MS Programme in Data Science**
- **197 in M.Sc. programs**
- **18 in B.Sc.–B.Ed. programs**
- **2 students in Dual Degree (B.Tech.–M.Tech.) programs**
- **899 Ph.D. research scholars**

These figures reflect IIT Ropar's dynamic growth and its commitment to nurturing future leaders in academia, industry, and public service.

The Institute's faculty comprises highly accomplished researchers and educators trained at leading institutions in India and abroad. Their contributions continue to shape IIT Ropar's vibrant academic environment and research ecosystem.

Student Enrollment and Demographics

The number of students and scholars ADMITTED during year 2024-25

Sr. No.	Department	B.Tech.	M.Tech.	M.Sc.	B.Sc.-B.Ed	Ph.D	MS PROGRAMME IN DATA SCIENCE
1.	Biomedical Engineering	–	13	–	–	15	–
2.	Chemical Engineering	33	3	–	–	17	–
3.	Chemistry	–	–	24	5	23	–
4.	Civil Engineering	34	25	–	–	17	–
5.	Computer Science & Engineering	82	21	–	–	22	–
6.	Center for Applied Research in Data Science (CARDS)	–	–	–	–	2	–
7.	Center of Research for Energy Efficiency and Decarbonization (CREED)	–	–	–	–	1	–
8.	Electrical Engineering	81	53	–	–	25	–
9.	Engineering Physics	24	–	–	–	–	–
10	Humanities & Social Studies	–	–	–	–	8	–
11.	Mathematics	–	–	22	7	21	–
12.	Mathematics & Computing	36		–	–	–	–
13.	Mechanical Engineering	79	62	–	–	16	–
14.	Artificial Intelligence	19	13	–	–	0	–
15.	Metallurgical and Materials Engineering	26	6	–	–	8	–
16.	Physics	–	–	23	6	17	–
17.	Data Science and Management	–	–	24	–	–	–
18.	School of Artificial Intelligence and Data Engineering	–	–	–	–	–	04
	Total	414	196	93	18	192	04

Numbers of students (Category wise)

Sr. No.	Programme	General	OBC	SC	ST	EWS	IR	PD	Male	Female
1.	B.Tech.	158	115	64	31	42	0	4	332	82
2.	M.Tech.	74	55	28	8	21	10	0	165	31
3.	MS Programme in Data Science	04	-	-	-	-	-	-	04	0
4.	M.Sc.	44	25	11	6	7	0	0	62	31
5.	B.Sc.-B.Ed	8	6	2	0	2	0	0	12	6
6.	Ph.D	87	50	24	8	16	7	0	112	80

The number of students and scholars ON ROLL in the year 2024-25

Sr. No.	Department	B.Tech.	M.Tech.	M.Sc.	B.Sc.-B.Ed	Ph.D	MS PROGRAMME IN DATA SCIENCE
1.	Biomedical Engineering	–	24	-	–	51	–
2.	Chemical Engineering	112	6	-	–	68	–
3.	Chemistry		-	47	5	112	-
4.	Civil Engineering	127	51	-	-	79	-
5.	Computer Science & Engineering	350	39	-	-	94	-
6.	Center for Applied Research in Data Science (CARDS)	–	-	-	-	2	-
7	Center of Research for Energy Efficiency and Decarbonization (CREED)	–	-	-	-	1	-
8.	Electrical Engineering	334	96	-	-	131	-
9.	Engineering Physics	64	-	-	-		-
10	Humanities & Social Studies	–	-	-	-	55	-
11.	Mathematics	–	-	40	7	75	
12.	Mathematics & Computing	148	-	-	-		-
13.	Mechanical Engineering	298	112	-	-	109	-
14.	Artificial Intelligence	41	28	-	-	0	-
15.	Metallurgical and Materials Engineering	96	5	-	-	43	-
16.	Physics	–	-	49	6	79	-
17.	Data Science and Management	–	-	61	-	-	-
18.	School of Artificial Intelligence and Data Engineering	-	-	-	-	-	04
	Total	**1570**	**361**	**197**	**18**	**899**	**04**

Numbers of ON ROLL students (Category wise)

Sr. No.	Department	GEN	IR	OBC	SC	ST	(EWS)	PD	Male	Female
1.	B.Tech.	605	0	428	242	123	156	16	1256	314
2.	Dual Degree				02				02	00
3.	M.Tech.	141	21	100	48	18	33	0	304	57
4.	MS PROGRAMME IN DATA SCIENCE	4	-	-	-	-	-	-	4	0
5.	M.Sc.	97	1	48	25	9	16	1	133	64
6.	**B.Sc.-B.Ed**	8	6	2	0	2	0	0	12	6
7.	Ph.D	504	202	100	15	58	17	3	592	307

NO. OF DEGREES AWARDED

Sr. No.	Department	B.Tech.	Dual Degree	M.Tech.	M.Sc.	Ph.D
1	Artificial Intelligence	-	-	14	-	-
2	Biomedical Engineering	-	-	11	-	2
3	Chemical Engineering	19	-	6	-	1
4	Chemistry	-	-		20	1
5	Civil Engineering	32	-	25	-	4
6	Computer Science & Engineering	93	-	18	-	6
7	Electrical Engineering	80	-	33	-	3
8	Humanities & Social Studies	-	-	-	-	4
9	Mathematics	-	-	-	19	7
10	Mathematics and Computing	33	-	-	-	
11	Mechanical Engineering	66	12	43	-	5
12	Metallurgical and Materials Engineering	19	-	-	-	2
13	Physics	-	-	-	18	5
	Total	**342**	**12**	**150**	**57**	**40**

SCHOLARSHIPS

B. Tech.

Merit cum Means Scholarship

The merit-cum-means scholarship is given to deserving undergraduate students on the basis of All India Rank in JEE Advanced and having parental annual Income less than or equal to 4.5lacs. These are permissible to about 25% of the students. The recipient of the Merit cum Means scholarship is exempted from payment of tuition fees and is granted Rs. 1000/- per month as pocket allowance.

Institute free studentship

The institute offers free studentship to 10% of students on the basis of means only. The students are exempted from paying tuition fees. For this category, the parental annual income should be less than or equal to Rs. 4.5 lacs

Institute merit prize and certificate

The Institute offers merit prizes and certificates to top 7% of the students from each of the 4 year B. Tech. programme. 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 whose parental annual income is less than or equal to 4.5lacs.

B.Tech

Merit cum Means Scholarship

The merit-cum-means scholarship is given to deserving M.Sc. students on the basis of JAM rank and having parental annual income less than or equal to 4.5lacs. These are permissible to about 25% of the students. The recipient of the Merit cum Means scholarship is exempted from payment of tuition fees and is granted Rs. 1000/- per month as pocket allowance.

Scholarship given in the 1st semester of AY 2024-25*			
Sr. No.	**Scholarship name**	**Number of Student**	**Amount of Scholarship**
1	Merit-cum-means Scholarship*	291	65,97,674
2	Free Studentship Scholarship (10%)*	6	2,00,004
3	Merit Prize & Certificate (top 7% students)*	87	2,17,500
4	Free Messing Scholarship *	24	3,93,990
5	JEE Advanced rank merit scholarship	2	1,50,000
	Total	**410**	**75,59,168**

Scholarship for 2nd semester of AY 2024-25*			
Sr. No.	**Scholarship name**	**Number of Student**	**Amount of Scholarship**
1	Merit-cum-means Scholarship*	293	66,61,834
2	Free Studentship Scholarship (10%)*	9	3,00,006
3	Merit Prize & Certificate (top 7% students) *	50	1,25,000
4	Free Messing Scholarship *	24	4,28,540
5	JEE Advanced rank merit scholarship	2	1,50,000
	Total	**378**	**76,65,380**

Total Amount spent on the financial assistance to B.Tech students is Rs. 76,65,380/- (2024-25)

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 allowance of Rs.1000/-.

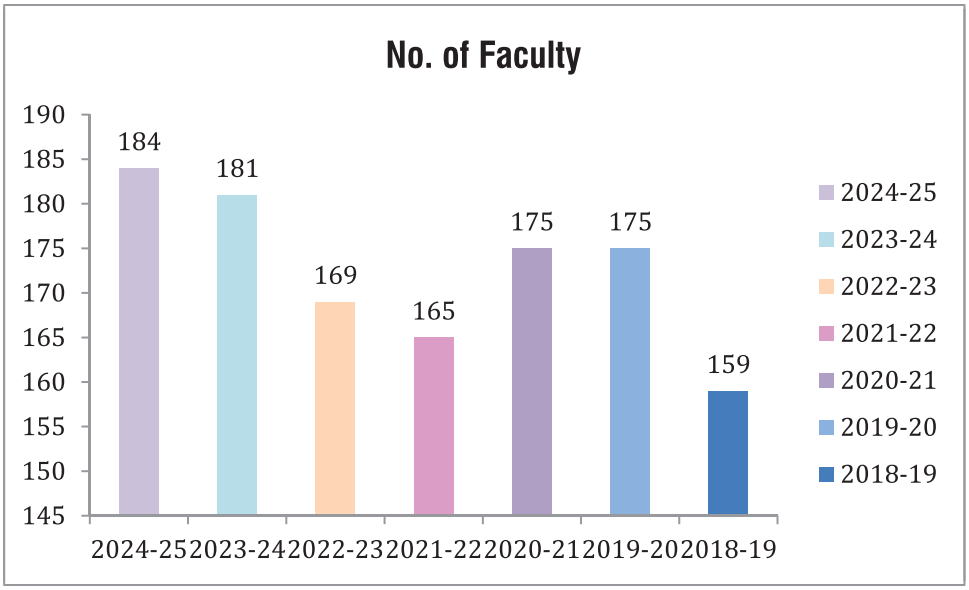
1st semester of AY 2024-25			
Sr. No.	**Scholarship name**	**Number of Student**	**Amount of Scholarship**
1	Merit cum Means Scholarship	32	2,67,530

2nd semester of AY 2024-25*			
Sr. No.	**Scholarship name**	**Number of Student**	**Amount of Scholarship**
1	Merit cum Means Scholarship	29	2,39,412

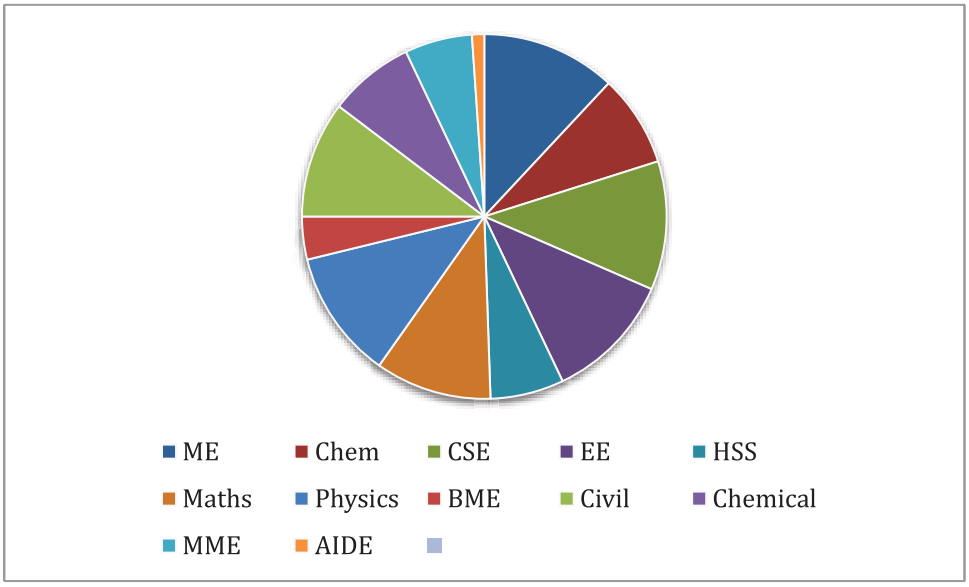
FACULTY AND STAFF



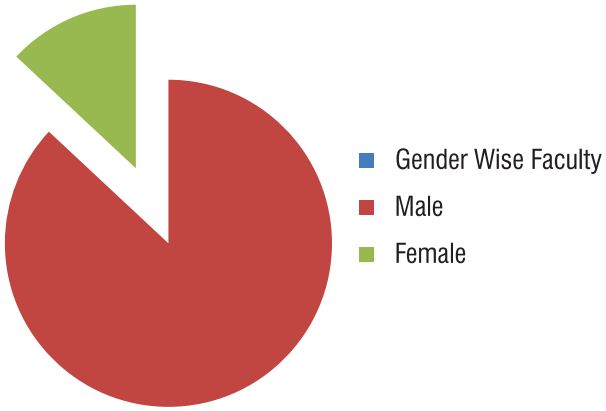
YEAR WISE TOTAL NUMBER OF FACULTY



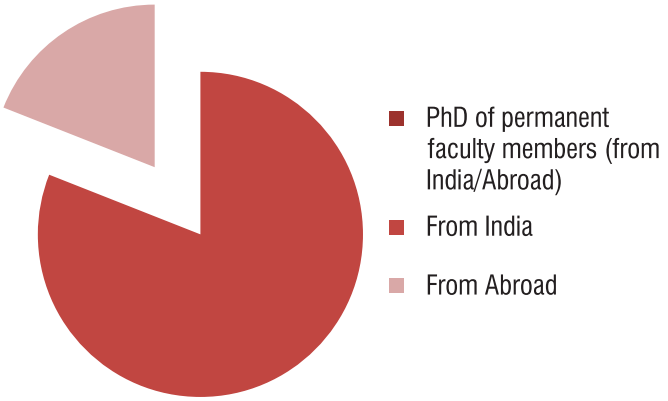
DEPARTMENT WISE FACULTY DISTRIBUTION 2024-25



GENDER WISE FACULTY % 2024-25



PHD OF FACULTY MEMBERS % 2024-25



In Position (Faculty)

Faculty	Distinguished Visiting/ Honorary Professor	Adjunct Faculty	Professor of Practice
184	02	12	03

Appointed During 2024-25 (Faculty)

Faculty	Distinguished Visiting/ Honorary Professor	Adjunct Faculty	Professor of Practice
09	02	07	03

Appointed During 2024-25 (Faculty)

ID No	Name	Designation	Department	Joining Date
10216	Dr. Sukrit Gupta	Assistant Professor Gr. I	Biomedical Engineering	21.01.2025
10227	Dr. Lakhan Bainsla	Assistant Professor Gr. I	Physics	21.01.2025
10228	Dr. Vijay Kumar Singh	Assistant Professor Gr. I	Physics	27.01.2025
10229	Dr. Neelam Gunjyal	Assistant Professor Gr. II	Civil Engineering	06.02.2025
10230	Dr. Abhinav	Assistant Professor Gr. II (OC)	AIDE	12.02.2025
10231	Dr. Sambit Bapari	Assistant Professor Gr. I	Metallurgical and Materials Engineering	17.02.2025
10232	Dr. Ashwini B	Assistant Professor Gr. II (OC)	AIDE	17.02.2025
10233	Dr. Konda Srinivasrao	Assistant Professor Gr. I	Physics	21.02.2025
10234	Dr. Surya Kant Sahdeo	Assistant Professor Gr. I	Civil Engineering	19.03.2025

Resigned or Relieved faculty during 2024-25

ID No	Name	Designation	Department	Date of Relieving
10054	Dr. Ranjan Das	Associate Professor	Mechanical Engineering	24.05.2024
10188	Dr. Abhishek Sharma	Assistant Professor	Electrical Engineering	26.11.2024
10165	Dr. Bidhan Chandra Sardar	Assistant Professor	Mathematics	27.12.2024

Extraordinary leave/Deputation / Sabbatical (Faculty)

Name	Designation	Department	Date	Nature of Leave
Dr. M.V Gunturi	Assistant Professor	Computer Science and Engineering	26.02.2023 - 31.07.2025	Extraordinary leave
Dr. S Murala	Associate Professor	Electrical Engineering	28.06.2023 - 30.06.2025	Extraordinary leave
Dr. Himanshu Tyagi	Associate Professor	Mechanical Engineering	06.12.2024 - 05.12.2025	Extraordinary leave
Dr. Durba Pal	Associate Professor	Biomedical Engineering	01.02.2025 - 31.07.2025	Sabbatical Leave

In Position (Staff)

Staff	Male	Female	Appointed in 2024-25	Resigned in 2024-25
147	112	35	9	7

Staff Appointed (2024-25)					
Sr. No.	Employee Code	Name	Designation	Department	Date of Joining
1	30200	Sh. Abhishek Kotnala	Junior Technical Superintendent	Electrical Engineering	05.06.2024
2	30201	Sh. Bijendra Kumar Meena	Junior Technical Superintendent	Mechanical Engineering	03.09.2024
3	30202	Dr. Krishan Kumar	Junior Technical Superintendent	Mechanical Engineering	24.10.2024
4	30203	Dr. Neetu Bansal	Technical Officer	CRF	14.11.2024
5	30204	Sh. Amit Banshiwal	Junior Assistant	Student Affairs	14.02.2025
6	30205	Sh. Anuj Sharma	Junior Engineer (Civil)	Construction and Planning	21.02.2025
7	30206	Ms. Kanchan Mishra	Junior Assistant	Academics	24.02.2025
8	30207	Ms. Jyoti Giri	Junior Hindi Translation Officer	Hindi Cell	03.03.2025
9	30073	Ms. Amrit Kaur	Junior Superintendent	Registrar Office	19.03.2025
Staff Resigned or Relieved (2024-25)					
Sr. No.	Employee Code	Name	Designation	Department	Date of Relieving
1	30181	Karishma Chaudhary	Junior Engineer (Electrical)	Works & Estate	05.04.2024
2	30199	Mahesh Kumar Meena	Junior Superintendent	Stores & Purchase	24.06.2024
3	30120	Sh.Anil Kumar	Junior Lab Assistant	IT Section	26.06.2024

4	30078	Sh. Saurabh Sharma	Assistant Executive Engineer (Civil)	Works & Estate	15.07.2024
5	30162	Sh. Vivek Kumar	Junior Lab Assistant	Physics	03.09.2024
6	30159	Ms. Preeti Garg	Placement Officer	CDPC	29.11.2024
7	30102	Sh. Devendra Kumar	Junior Lab Assistant	Electrical Engineering	26.12.2024

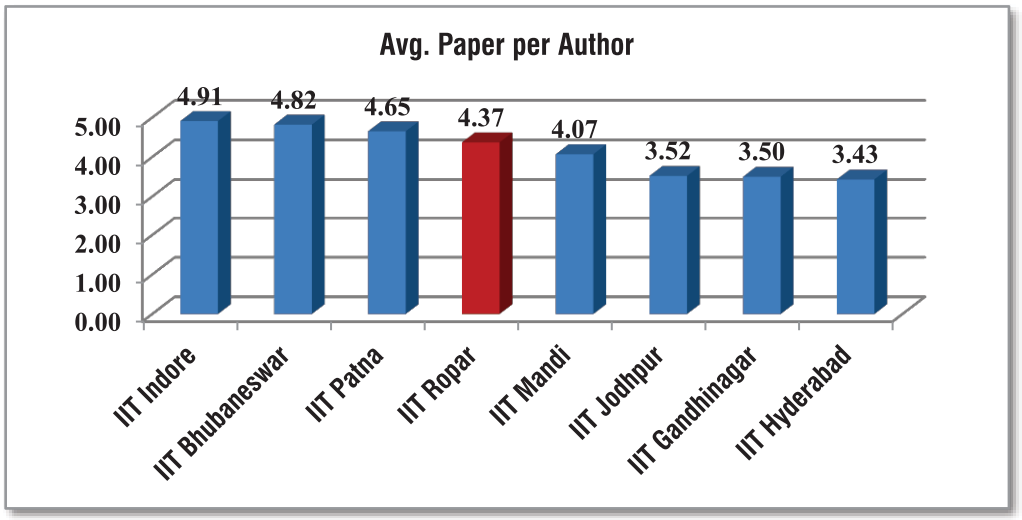
Staff Promoted through LDE (2024-25)

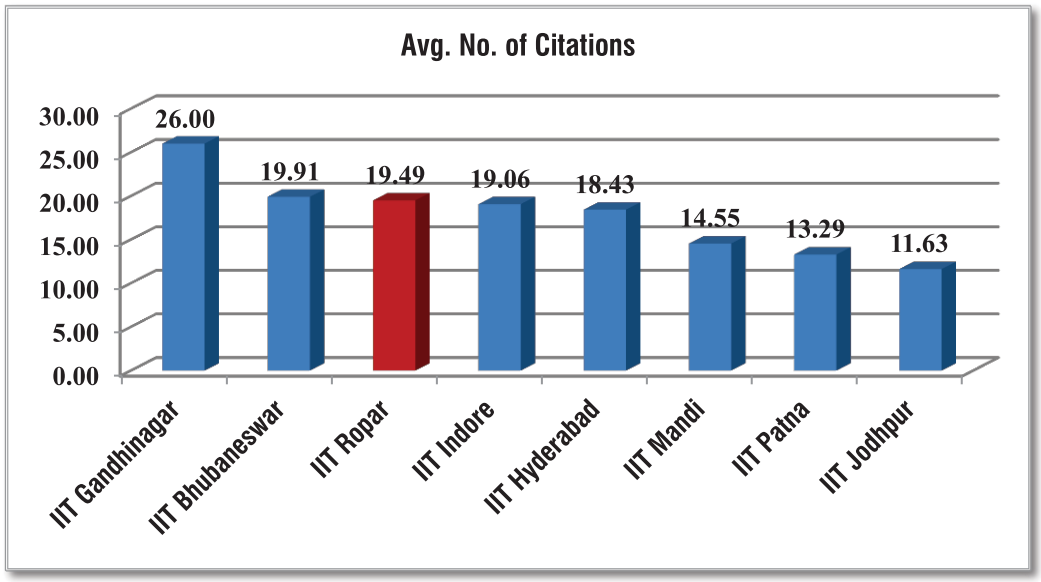
Sr. No.	Employee Code	Name	Designation	Department	Date of Promotion
1	30078	Sh. Ravinder Singh	Junior Superintendent	Academics	15.07.2024
2	30102	Sh. Jitender Kumar Sayal	Junior Assistant	Biomedical Engineering	18.07.2024
3	30120	Sh. Sarbjeet Singh	Junior Assistant	MME	18.07.2024
4	30159	Sh. Amod Kanhere	Assistant Registrar	Academics	03.10.2024

RESEARCH AND DEVELOPMENT ACTIVITIES



IIT Ropar puts immense emphasis on promoting cutting edge research and publications of high quality. We firmly believe that this is the key to our recognition in the international research community. We offer Ph.D degrees in all disciplines. At present, we have 899 Ph.D scholars in the institute. 40 Ph.D scholars have successfully awarded the degree and 192 scholars have joined the Ph.D program during the last one year.



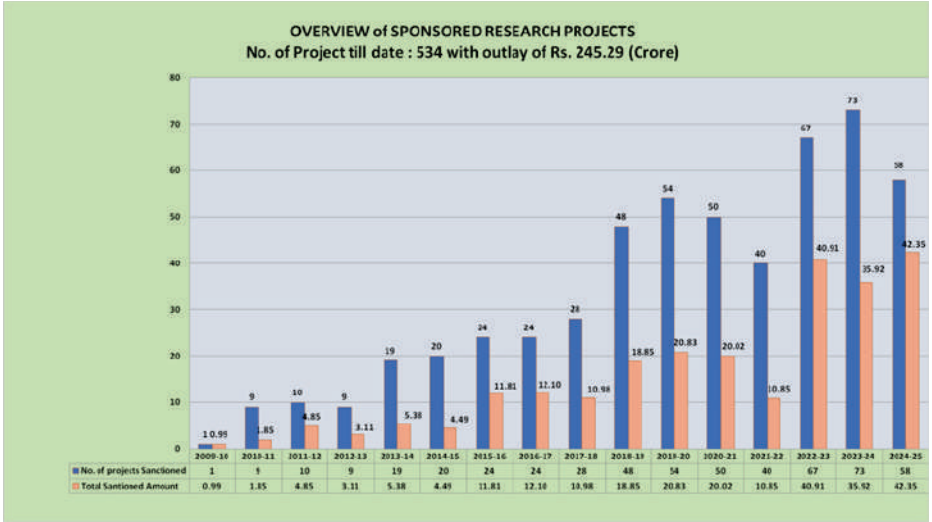


THE GROWTH OF R&D IN THE LAST YEAR

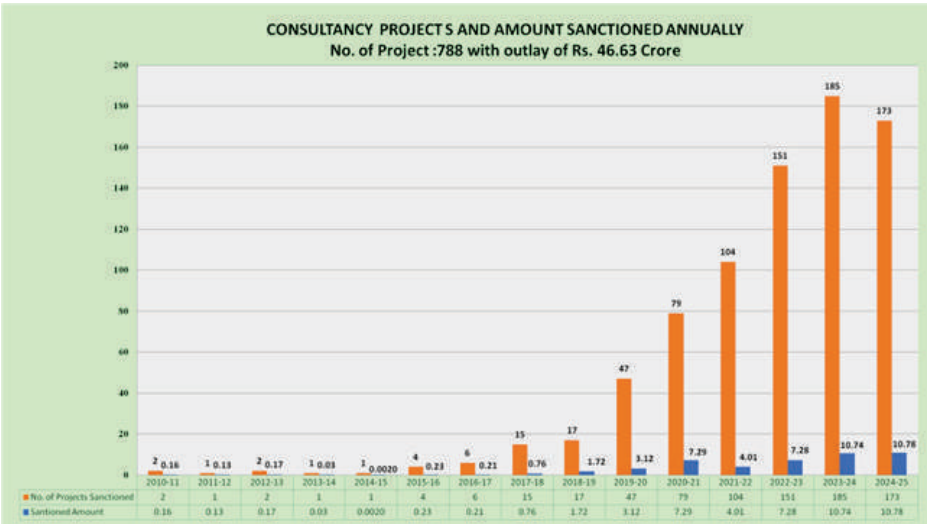
- **CSR Funds :** With the greater emphasis on corporate funding, the Institute has received/sanctioned CSR funding of Rs. 1.41 crore from different industries. In the coming years, the same is going to increase manifolds through continuous and rigorous efforts of the R & D team.
- **Research Initiation Support (IRIS):** Institute Research Initiation Support (IRIS) scheme has been announced for supporting newly joined faculty members at Indian Institute of Technology Ropar. This grant is constituted to give new faculty members a “leg-up” in their future research without waiting for a proposal to be approved by the external funding agencies or the regular Ph.D. intake in the institute to add research personnel to their group.
- **Summer Internship for Noetic Exposure (SINE) Program:** SINE program has been

- announced for giving an opportunity to exceptionally qualified UG/PG students so execute an innovative R&D project under the guidance of IIT Ropar faculty members. The students at different engineering institutes in India or abroad, who are within Top #15 Ranks in their respective program/branch, are eligible to apply. Around 67 SINE interns were trained under the SINE programme.
- The Board of Industrial Consultancy, Sponsored Research, and Industrial Interaction (BICSRII) has been renamed the Research & Development Advisory Board to provide advisory for the formulation and execution of various Research and development policies.
- Dr. Akhilesh Gupta, Senior Advisor & Head, DST Government of India, chairs our Research & Development Advisory Board.
- The financial power of the Project's PI/CI has been increased to Rs 1.00 lakh. The PI/CI of the concerned project can now sanction a purchase of up to Rs 1.00 lakh from project funds.
- The travel forms for project staff/students/interns can be approved by the project's principal investigator.
- The financial power of Dean (R&D) has been increased to Rs 15.00 lakh.

SPONSORED RESEARCH PROJECTS



CONSULTANCY RESEARCH PROJECTS



Major Funded Research Area

- Advance Manufacturing
- Clean Energy
- Healthcare Technology
- Smart Mobility
- AI & ML
- Agriculture Technology
- Defense Related Research
- Nanotechnology
- Environmental Research
- Advanced Electronics
- Sensors
- Renewable and Clean Energy
- Advanced Materials for Future Applications
- Medical Instrumentation and Design
- Quantum Technology
- Digital Agriculture
- Industry 4.0 inspired

LIST OF SPONSORED PROJECTS

Sr. No.	Funding Agency	Name of Faculty Member	Department	Collaboration with	Title of Project	Amount (in Crores) 2024-25
1	SERB-CRG	Dr. Navaneeth K.M.	Mechanical Engineering		Investigations on the effect of geochemical and microbial reactions on underground hydrogen storage in porous media	0.31
2	SERB-CRG	Dr. Himanshu Tyagi (PI) and Dr. Devranjan Samanta (Co-PI)	Mechanical Engineering		Solar Energy-Driven Photothermal Membrane Distillation System	0.32
3	SERB-CRG	Dr. Chandi Sasmal	Chemical Engineering		Nanobubble dispersed elastic turbulence: a novel, energy-efficient, and eco-friendly smart enhanced oil recovery (sEOR) method	0.44
4	ICMR-CARE	Dr. Prabal Banerjee	Chemistry	RCB Faridabad, CCMB Telangana Hyderabad, THSTI-Faridabad and IISER Mohali	Establishment of Centre for Advanced Research for Rapid Development of Host-directed broad Antivirals	1.20
5	DRDO-ARBD	Dr Prabhat K Agnihotri, IIT PI and Dr. Rajendra Munian (Co-PI)	Mechanical Engineering		Interface engineering to improve the quasi-static and dynamic transverse mechanical properties of carbon fiber/epoxy composites	0.89
6	AI-CoE	Dr. Pushpendra Pal Singh (CPM)	Physics	IIT Jammu	Leveraging the potential of AI for sustainable agriculture and food security	2.00

7	SERB-CRG	Dr. Arghya Banerjee	Chemical Engineering		Selective hydrogenation of Furfural to Tetrahydrofurfuryl alcohol (THFA) over supported Pd-Co catalysts: Experimental and Theoretical Study	0.45
8	SERB-CRG-ANRF	Dr. Saikat Roy	Chemical Engineering		Memory formation and self-organization in cyclically driven granular media	0.55
9	SERB-CRG	Dr. Rajesh Kumar Gupta	Physics		Some aspects of non-relativistic conformal field theory	0.22
10	STARS-MoE	Dr. C N Tharamani	Chemistry		Utilization and conversion of carbon dioxide to value-added fuels and simultaneous power generation via aqueous Zn-CO2 batteries	0.50
11	SPARC-MoE	Dr. Kailash Chandra Jena	Physics		Exploiting Mechanistic Studies of the Development of Low-Cost Sensors for Long Term Water Quality Monitoring	0.67
12	DBT-BT	Dr. Bodhisatwa Das	Biomedical Engineering		Development of carbonaceous filler reinforced biopolymer nanocomposite for semi biologic hernial mesh fabrication	0.33
13	DRDO	Dr. Rajiv Kumar (PI) and Prof. Harpreet Singh (Co-PI)	Metallurgical and Materials Engineering		Cold spray coating of high entropy alloys on Nickel- Aluminium-Bronze alloy to improve its cavitation erosion and corrosion behaviour in the marine environment	0.62
14	AERB	Dr. Abhishek Tiwari	Metallurgical and Materials Engineering		Evaluation of orientation and temperature department flow behaviour of Zr-2.5 Nb pressure tube and its constitutive modelling	0.50
15	CSIR	Dr. Durba Pal	Biomedical Engineering		Identification of novel obe sity-induced adipokine(s) that promotes adipocyte senescence: a senotherapeutics approach for treating insulin resistance and type 2 diabetes	0.25

16	DBT	Dr. Bodhisatwa Das (Co-PI)	Biomedical Engineering	Dr. Arunangshu Ghosh (NIT Patna) PI (Total project Cost Rs. 2775740)	Development of a novel soft-robotic joint for potential assistive applications using piezoelectric composite elastomer based synthetic muscle fibres	0.11
17	SERB-CRG	Dr. Prince Kumar Singh (Co-PI)	Metallurgical and Materials Engineering	Dr. Swati Sharma, Metallurgical and Materials Engineering, Malviya National Institute of Technology, Jaipur, Rajasthan (PI) Total project cost Rs. 46,64,088/-	Development of ultra-high hardness steel through grain refinement for automotive and defence industries: A novel approach	0.12
18	DRDO-CARS-DGNSM	Prof. Harpreet Singh (PI) and Dr. Ravi Kant (Co-PI)	Mechanical Engineering		Process Parameters optimization for Laser Ablation Resistive Coating	0.58
19	SERB-SRG	Dr. Shray Pathak	Civil Engineering		:Analysis of urban flood risks for coastal and non-coastal regions under future climate scenarios: an attempt to promote sponge cities using nature-based solutions	0.15
20	DST/INT-Portugal	Dr. Mitesh Surana (Co-PI)	Civil Engineering	Dr. Yogendra Singh, IIT Roorkee, PI. Total project cost is Rs. 38,52,498/-	Evaluation and Retrofitting of Existing Building for Safe and Sustainable Built Environment	0.20
21	Telecom Centre of Excellence India under TTDF Scheme	Dr. Devarshi Das	Electrical Engineering		Electromagnetic Interference Mitigation Techniques for Analog and Mixed-Signal CMOS Integrated Circuits in 6G Environment for Robust Front	1.21
22	Telecom Centre of Excellence India under TTDF Scheme (6G)	Dr Ashwani Sharma (PI) and Dr. Santosh Kumar Vipparthi (Co-PI)	Electrical Engineering	IIT Indore (Dr. Sumit Gautam) Share is Rs. 10450233	ARISE ML ML driven SixG AR optimization for Advanced Self sustainable IoT devices	2.71

23	Telecom Centre of Excellence India under TTDF Scheme	Dr. Sam Darshi	Electrical Engineering		Secure Ubiquitous Connectivity for 6G V2X using Rate Splitting Multiple Access Enabled Joint Sensing and Communication	1.00
24	Telecom Centre of Excellence India under TTDF Scheme	Dr. Brijesh Kumbhani	Electrical Engineering		Quality of Service (QoS) improvement through efficient integration of FR-1 and FR-2 in 6G Open RAN	0.73
25	Telecom Centre of Excellence India under TTDF Scheme	Dr. Satyam Agarwal	Electrical Engineering		Electromagnetic Interference Mitigation Techniques for Analog and Mixed-Signal CMOS Integrated Circuits in 6G Environment for Robust Front	3.00
26	CDRI Fellowship PrograMetall urgical and Materials Engineering	Dr. Putul Haldar (Team Leadar) and Zimmy Singh Naorem (Ph.D scholar) Team Member	Civil Engineering		Seismic Vulnerability and Risk Assessment in Hilly Region (SeisVARA_Hill)	0.06
27	MeitY	Dr. Santosh Kumar Vipparthi	Electrical Engineering	Jointly with C-DAC, IIT Roorkee, IIT Gandhinagar and IIIT Hyderabad (Total project cost is Rs.178882000/-	Development of Quantum machine learning usecases and Application	1.12
28	Ministry of Mines	Dr. Avala Lavakumar (PI) and Dr. Dr. Prince Kumar Singh (Co-PI)	Metallurgical and Materials Engineering		Solid state recycling of copper scrap: A sustainable approach for producing high strength, high conductivity copper wire	0.43
29	DST-Inspire Faculty Award	Dr. Gurleen Kaur	Mathematics		Monomial groups and their group algebras	1.10
30	SERB-CRG	Dr. M. Prabhakar	Mathematics		Twisted links and twisted virtual braids	0.27
31	DST-Indo-Portugal Joint Project	Dr. Mitesh Surana and Dr. Aditya as Co-Pis	Civil Engineering	IIT Roorkee as the lead institute (Prof. Yogendra Singh as PI (Total project cost:3852498)	Evaluation and Retrofitting of Existing Buildings for Safe and Sustainable Built Environment	0.20

32	SERB-NPDF	Dr. Kalyan Chakravarthi Meka under the mentorship of Dr. Prof. C.C. Reddy	Electrical Engineering			0.27
33	ICSSR (Special call on Vision Viksit Bharat@2047)	Dr. Sreekumar Jayadevan	Humanities and Social Sciences		Impact of Human-Wildlife Conflicts (HWC) on the Tribal Communities of South India: towards a Sustainable and Indigenous Solution	0.22
34	MeitY	Dr. Basant Subba	Computer Science and Engineering		Information Security Education and Awareness (ISEA) Project Phase III in Fintech Security (including Blockchain)	0.48
35	DBT	Dr. Sujata Pal (PI) and Dr. Deepti R Bathula (Co-PI)	Computer Science and Engineering		Real Time Dertection of Plant Diseases using Federated Learning and Improved YOLO	0.34
36	State Disaster Mitigation (SDM)	Dr. Putul Haldar	Civil Engineering		Development of Indigenous Seismic Vulnerability and Risk Assessment (Seis VARA) Tool Tailored for the State of Punjab	0.81
37	State Disaster Mitigation (SDM)	Dr. Putul Haldar	Civil Engineering		Earthquake Risk and Engineering towards Seismic Safety of Building Stock in Punjab	0.93
38	State Disaster Mitigation (SDM)	Dr. Putul Haldar	Civil Engineering		Assessment of Local Site Effects Specific to State of Punjab: A pre-requisite for Seismic Risk Reduction	0.98
39	SERB-CRG	Dr. Shashi Shekhar Jha	Computer Science and Engineering		Autonomous Multi-UAV Control for Area Coverage during Floods using Deep Reinforcement Learning	0.33
40	NTTM, Ministry of Textiles	Dr. Raheena M (PI) and Dr. Naveen James & Dr. Navin Gopinathan (Co-PI)	Civil Engineering/Chemical		Investigating the viability of Recycled wool fabric as sustanable geosynthetic material	0.50

41	MeitY-NSF	Dr. Lakhan Bainsla (CI) and Dr. Rakesh Kumar and Dr. Vivekanand Shukla (Co-CI)	Physics	Jointly with IIT Delhi and University of Minnesota (Total cost 499.20 lakh	Energy-efficient quantum materials based magnetic tunnel junctions for unconventional computing applications	3.97
42	NTTM, Ministry of Textiles	Dr. Raheena M	Civil Engineering		Edu-24-00071	1.25
43	DST-National Quantum Mission (NQM)	Dr. Girish Kulkarni and Dr. Vishwa Pal (Member-PI)	Physics	Total Project cost is Rs. 94 Crores with the collaboration with IIT Kanpur (Lead PI)	Design and Development of Quantum Entanglement-enhanced imaging systems	25.01
44	ANRF-CRG	Dr. Tapas Chaterjee	Mathematics		Special Values of $ L-functions: p-adic and q-analogues	0.30
45	Malaviya Mission Teacher Training PrograMetallurgical and Materials Engineering (MMTTP), Ministry of Education, Govt. of India	Dr. Pushpendra Pal Singh & Dr. Sudarshan Iyengar	Physics & Computer Science and Engineering		Malaviya Mission - Teacher Training PrograMetallurgical and Materials Engineering (MMTTP)	0.82
46	NITI Aayog, GoI	Dr. Bhavesh Garg	Humanities and Social Sciences		Macroeconomics Forecasting Framework for Vision 2047 Policy Document	0.02
47	DST-National Quantum Mission (NQM)	Dr. Devarshi Das (PI) and Dr. Neeraj Goel (Co-PI)	Electrical Engineering & Computer Science and Engineering		Design and Demonstration of a Highly Scalable Quantum Computer using Semiconducting Qubits	1.32
48	LAM Joint Development project	Dr. Prabhat K Agnihotri	Mechanical Engineering		BP-PDMS composite TIM as a replacement for the silicone-based gels in bias bowl assembly	0.36

49	CPRI	Dr. J. Kalaiselvi (PI) and Dr. Saifullah Payami)Co-PI)	Electrical Engineering		Fault Investigation and Early Detection of High-Frequency Transformer inter turn faults in Dual Isolated Output (Three port) PV Integrated Dual Active Bridge Converter for DC microgrids	0.38
50	ISRO	Dr. Debaprasad Mandal	Chemistry		RES-VSSC-2023-031: Epoxies adhesives with high Tg (>300 degree Celsius)	0.21
51	Ministry of New and Renewable Energy (Hydrogen Division)	Dr. Tarak Mondal	Chemical Engineering		Pilot plant demonstration of Hydrogen production from agricultural waste through integrated pyrolysis and catalytic steam reforming process	1.76
52	ANRF/IRG	Dr. Chandrakant Kumar Nirala	Mechanical Engineering		Enhancing Micro-EDM Precision with ML-Based Prediction and High-Fidelity Plasma Modeling	0.60
53	ANRF/IRG	Dr. Santosh Kumar Meena	Chemical Engineering		Design and Developmwnt of Gold Nanobipyramids and Dye Based Nano-hybrids for Enhanced Sensing Application: Theoretical and Experimental Ivestigation	0.60
54	ANRF/IRG	Dr. Ickkshaanshu Sonkar	Civil Engineering		Redefining physical Crop Modeling by Capturing Root Adaptations Under Extreme Climate Stress	0.57
55	TEXMiN Foundation	Dr. Kishant Kumar	Computer Science and Engineering		Laboratory and Pilot Scale Assessment for RECOVERY AND Purification of Valuable Elements from Lithium/ Cobalt/ Nickel/ Manganese/ Iron Systems	0.25
56	National Mission of Himalayan Studies (NMHS)	Dr. Rahul TM (Co-PI)	Civil Engineering	Collaboration with Dr. Manoj M. (PI) IIT Delhi with total cost of project is Rs. 7,453,848/-	A Decision Support Framework for Infrastructure and Operational Planning of Electric Freight considering Disaster Vulnerability and Topography in an Indo-Himalayan Region	0.17

57	Royal Society of Chemistry Award grant	Dr. C N Tharamani	Chemistry		Royal Society of Chemistry Researcher Collaborations Grant	0.05
58	DST	Department of Chemical	Chemical Engineering		DST- FIST Program	2.30
Additional amount received during FY 2024–25 for ongoing projects initiated in FY 2023–24.						0.85
Total						**67.88**

LIST OF CONSULTANCY PROJECTS

Sr. No.	Funding Agency	Name of Faculty Member	Department	Title of Project	Amount	Project Status
1	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of Structural Design and Drawing of Drain	0.002832	Complete
2	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Field visit to ISBT Mohali Site to Assess the Structural Audit and Stability Scope	0.00295	Complete
3	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Proof checking of Geneal Arrangement Subnission Drawings & Structural Model for Proposed Budget/Non-Star Hotel building "South EX PLAZA" at 'khasra No.-898.M Village Noornagar Ghazibad. (U.P.) for M/s Onish Infra	0.00413	Complete
4	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof checking of the design and drawings of ROB at project Ch. 146.533 of NH-56	0.00708	Complete
5	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof checking of the design of spherical bearings	0.01	Complete
6	Industrial Consultancy	Dr. Naveen James and Dr. Ratan Sarmah (CI)	Civil Engineering	Evaluation (Prior, During Execution & Post Execution) of Pilot Works of Relining of Sirhind Feeder Canal	0.06	Complete
7	Industrial Consultancy	Dr. Shashi Shekhar Jha	Computer Science and Engineering	Unique Code Generation Based on the Patient Records Provided in te Hospital Forms	0.03	Complete
8	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana	Civil Engineering	Vetting of General Arrangement Drawings of Extended Phase of Vardhman City Center (VCC) Ludhiana, Punjab	0.01	Running

9	Industrial Consultancy	Dr. Raheena M (CI) and Dr. Naveen James & Dr. Resmi Sebastian (Co-CI)	Civil Engineering	Cyclic Triaxial and Resonant Column Testing	0.02	Complete
10	Industrial Consultancy	Dr. Neha Sardana	Metallurgical and Materials Engineering	Nanoparticle's sysnthesis fo paint formulations	0.02	Running
11	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Technical and Structural Audit of Bottling Plant	0.01	Complete
12	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Technical and Structural Audit of Bottling Plant	0.01	Complete
13	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Technical and Structural Audit of Bottling Plant	0.01	Complete
14	Industrial Consultancy	Dr. Rahul TM	Civil Engineering	Vetting of Flexible Pavement Design	0.01	Complete
15	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Quality & Structural Audit for ESIC Staff Quarters in Jalandhar, Punjab	0.09	Running
16	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Checking/Vetting of the Structural Design of Commercial Colony Being Setup on Land Area Measuring 3.46975 acres (1.40375 Hectare), (Licece no. 268 of dated 27/12/2023) in Sector-92 District Gurugram. Haryana by Diya Realtech Pvt. Ltd. in Collaboration with Shishta Buildwell LLP	0.02	Complete
17	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Checking/Vetting of the Structural Design of Resort Being Setup on the Land Area Measurng 46412.058 sqm, situated in the revenue Estate of Village Abhytpur, Sohna, District-Gurugram, Haryana Which is being developed by M/S Prominent Porpbuild LLP	0.02	Complete
18	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Third-Party Technical Inspection Services for the work Design and Construction of 256 Dus for ORs at Ambala Cantt.	0.30	Complete
19	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Vetting of Structural Drawings of Proposed Excaliber Hostels and Banquets at Bathinda, Punjab, owned by Excaliber Hostels and Banquets Pvt. Ltd.	0.03	Running

20	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking revised design and drawing of CBT block and Cafeteria	0.01	Complete
21	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking design and drawing of CBT block and Cafeteria	0.01	Complete
22	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Design Vetting for MCC Building at Udaipur (H.P.)	0.004248	Complete
23	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking design and drawing of Precast Boundary Wall	0.01	Complete
24	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the design and drawing of Living Shelter	0.004248	Complete
25	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Design Vetting for CLC Building at Jubbal (H.P.)	0.01	Complete
26	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of Proposed 42m EFF. Span Bridge	0.004956	Complete
27	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of Proposed LGFS BUILDINGS	0.00354	Complete
28	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of LGFS buildings for West Bengal Project	0.03	Complete
29	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Launching Scheme of 110 M Long 2-Lane Motor Bridge Kali River	0.01	Complete
30	Industrial Consultancy	Dr. Putul Haldar	Civil Engineering	Vetting of Structural of "Proposed Warehouse at ESR Park; B03 & B04, Chakan, Pune, Part II"	0.05	Complete
31	Industrial Consultancy	Dr. Reet Kamal Tiwari	Civil Engineering	Mining Survey	1.44	Running
32	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of LGFS buildings for Sikkim Project	0.01	Complete
33	Industrial Consultancy	Dr. Tarak Mondal (CI) and Dr. Prabhat K. Agnihotri (Co-CI)	Chemical Engineering/ Mechanical Engineering	Investigation of the Feasibility of the use of BCCL Coal in TSPL Boiler and Study the Possible Consequences that may aries in the Process	0.06	Running
34	Industrial Consultancy	Dr. Putul Haldar (CI) and Mr. Rajeev Rai (External Consultanat)	Civil Engineering	Site Visit for Assessment of Leakage of Clarifier Stage-1 at GHTP, Lehra Mohabat	0.01	Complete

35	Industrial Consultancy	Dr. Sarang P. Gumfekar	Chemical Engineering	Development of Electrically Conductive INK for Microelectronic Application	0.12	Running
36	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Checking/Vetting of the Structural Design of Commercial Colony Being Setup on Land Area Measuring 2.36875 acres (0.9585 Hectare), (Licece no. 48 of 2022) in Sector-89 District Gurugram. Haryana M/s Receptive Buildwell LLP	0.02	Complete
37	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Checking/Vetting of the Structural Design of resort being Setup on the Land Area Measuring 46412.058 sqm situated in the revenue Estate of Village Abhypur, Sohna, District-Gurugram, Haryana which is being developed by M/s Prominent Porpbuild LLP	0.02	Complete
38	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Proof checking of Geneal Arrangement Subnission Drawings & Structural Model for Proposed hotel building at Khasra No. 1253, 1253m, Village Shahpur Bamheta, Ghaziabad (U.P.)	0.01	Complete
39	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural and Technical audit of your Bottling Plant	0.01	Complete
40	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Vetting of Structural Drawings of Proposed Tower-F&G of Eutopia (Phase-II), Ghaziabad	0.03	Running
41	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Vetting of Structural Drawings of Proposed Staff Accommondation at Rajgarh, Chhatarpur, Madhya Pradesh, by EIH Limited-Rajgarh & Hotel	0.01	Running
42	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Conducting a structural audit of the SBI branch Rajpura (Patiala Road), Punjab	0.03	Complete
43	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Proof checking of general arrangement submission drawings & structural model for the proposed commercial building for Mr. Harish Sehgal at Plot No. 33, Techzone-4, Greater Noida	0.01	Complete

44	Industrial Consultancy	Dr. Putul Haldar	Civil Engineering	Assessment and Repair Solution of "Leakage of Clarifier Stage-I at GHTP, Lehra Mohabat"	0.04	Complete
45	Industrial Consultancy	Prof. Narinder Singh	Chemistry	Enhancing Hydrophilicity of Pyridinium Salt: Strategies Through Biomolecule Conjugation / Molecular Recognition and Chemical Tailoring	0.15	Running
46	Industrial Consultancy	Dr. Putul Haldar	Civil Engineering	Proof checking of structurl drawings of Commercial Building (B+G+2) Owned by Karan Dhand, Loacated at Ludhiana	0.01	Complete
47	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Launching Scheme of BRO Gurez (45mSpan)	0.01	Complete
48	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Launching Scheme of 80M for BRO	0.01	Complete
49	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana	Civil Engineering	Vetting of Structural Drawings and Design for Provision of the Advanced Center fo Ophthalmology and Visual Sciences at Army Hospital (R&R), Delhi Cantt-10	0.01	Complete
50	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of Barrel Shed Structure	0.002124	Complete
51	Industrial Consultancy	Dr. Narinder Singh	Chemistry	Assistance in Analyzing water Samples Study From Buddha Nullah, Ludhiana	0.15	Complete
52	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Structural Design of Viaduct From Chainage 82.675 to 83.147 Daulatpur Chock-aukerian in Connection with NLDM-TLR-MEX New B.G. Link	0.10	Complete
53	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural & Technical Audit of bottling plant	0.01	Complete
54	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural & Technical Audit of bottling plant	0.01	Complete
55	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural & Technical Audit of bottling plant Sabacchus Distillery Pvt. Ltd.	0.01	Complete
56	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural & Technical Audit of bottling plant of Mohan Meakin LTD Solan Brewery	0.01	Complete
57	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural & Technical Audit of bottling plant of VRV Foods Ltd.	0.01	Complete

58	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Vetting of Structural Drawings of Proposed Office Building at UID No. B035-15776, Abadi Pushp Vihar, Sua Road Village Barewal Awana, Ludhiana	0.02	Complete
59	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Testing of Road Materials for NHAI PIU Amritsar	0.05	Running
60	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Structural Design of Ahmedabad Railway Station Redevelopment	0.28	Running
61	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the bearingsdesign for PWD, HP	0.01	Running
62	Industrial Consultancy	Dr. Naveen James and Reet Kamal Tiwari	Civil Engineering	Soil investigation and survey for repair/renewal of retaining wall, drain road and allied infrastructure along the road from NH-5 to patta ka mor water supply installation at Dagshal under para 35 of DWP 2020	0.06	Running
63	Industrial Consultancy	Dr. Naveen James and Reet Kamal Tiwari	Civil Engineering	Soil investigation and survey for Provn of road Veer Yodha Dwar MT park and road PAO (OR) to Tirah line at 14 GTC Subathu	0.17	Running
64	Industrial Consultancy	Dr. Atharva Poundrik (CI) and Dr. Anupam Agrawal, Dr. Mahendra Sakare and Dr. Satyam Agrawal (Co-CI)	Mechanical Engineering Biomedical Engineering Electrical Engineering	Techno-Commercial Audit of CIIIT Centre at IKGPTU Kapurthala and Sultanpur Lodhi Campus	0.12	Running
65	Joint R&D project (donation)	Dr. Sudarshan Iyengar	Computer Science and Engineering	Unrestricted Grant from Fotografik	0.12	Running
66	Industrial Consultancy	Dr. Rohit Y. Sharma	Electrical Engineering	Performance Optimization of MCM-K and MCM-V layout and Signal/Power Integrity Analysis	0.01	Complete
67	Industrial Consultancy	Dr. Prabhat K Agnihotri	Mechanical Engineering	Determining the compression strenght and bulk modulus of Qsil-216	0.01	Running

68	Industrial Consultancy	Dr. C C Reddy	Electrical Engineering	Reliability of four modules of relays with output voltage and input signal capturing for 10927 cycles continuous application at room temperature	0.02	Running
69	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of 45m MJB PMT at Road Khalsar-Agham	0.01	Running
70	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof checking the design Bridge Piers	0.01	Running
71	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof checking of 2 Lane Bridge Over Betwa River	0.05	Running
72	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Operational Management and Process Optimization during Loratadine Production	0.08	Running
73	Industrial Consultancy	Dr. Dhiraj K. Mahajan (CI) and Dr. Reet Kamal Tiwari (Co-CI)	Mechanical Engineering/ Civil Engineering	Design of in-situ water channel fabrication with in-build batching plant	0.12	Running
74	Industrial Consultancy	Dr. Khushboo Rakha	Metallurgical and Materials Engineering	Improvement in Cleanlines of Automotive Steels	0.17	Running
75	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural & Technical Audit of M/s Zannat Beverage Pvt. Ltd.	0.0059472	Running
76	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Vetting of structural Drawings & Calcultaions for Status of Shaheed-E-Azam Sardar Bhagat Singh ji Near Shaheed-E-Azam Sardar Bhagat Singh International Airport at Mohali	0.0059	Running
77	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Bridges Launching Schemes	-	Running
78	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Proof Checking of submission drawings and design of Academic block for the proposed educational building of plot no. 23, RP-III, Greater Noida (UP) for M/s Shri Ram Education TRUST	0.01	Running
79	Industrial Consultancy	Dr. S. Manigandan	CREED	Detailed Energy Audit at M/s HIM Teknoforge's Manpura Plant	0.03	Running
80	Industrial Consultancy	Dr. S. Manigandan	CREED	Targeted Energy Audit at M/s Globe Precision Pvt. Ltd.	0.02	Running

81	Industrial Consultancy	Dr. Narinder Singh	Chemistry	Material Characterization and Development of Coat-Effective Performance Balls: A Comparative Study with Benchmark Standards	0.06	Running
82	Industrial Consultancy	Dr. Deepti R. Bathula	Computer Science and Engineering	FMRI Data Processing & Analysis - A hands-on Workshop	0.04	Running
83	Industrial Consultancy	Dr. Naveen James and Dr. Reet Kamal Tiwari	Civil Engineering	Ash Dyke Annual Stability	0.05	Running
84	Industrial Consultancy	Dr. Putul Haldar	Civil Engineering	Vetting of Structural Drawings of ESR B07, Chakan Project	0.03	Complete
85	Industrial Consultancy	Dr. Ashwani Sharma	Electrical Engineering	Development of Switched Beam Antenna	0.14	Running
86	Industrial Consultancy	Dr. Navin Gopinathan (CI), Dr. Sarang P. Gumfekar (CI)	Chemical Engineering	Investigation of Underground water Chemistry for Pharmaceutical Industry	0.03	Running
87	Industrial Consultancy	Dr. Navin Gopinathan (CI), Dr. Sarang P. Gumfekar and Dr. Jayaram Valluru (Co-CI)	Chemical Engineering	Investigation of wastewater treatment perfomane, Zero liquid discharge (ZLD) process and water audit	0.04	Running
88	Industrial Consultancy	Dr. Aditya Singh Rajput (CI) and Dr. Mitesh Surana (Co-PI)	Civil Engineering	Vetting of Bridge Substructure, Lakhanpur Odisha	0.02	Complete
89	Industrial Consultancy	Dr. Aditya Singh Rajput (CI) and Dr. Mitesh Surana (Co-PI)	Civil Engineering	Vetting of structural design and drawing of Sacred Heart Convent School at Bathinda, Punjab.	0.02	Complete
90	Industrial Consultancy	Dr. Dhiraj K. Mahajan	Mechanical Engineering	Surface Chemical Evaluation Using FTIR Method	0.00295	Running
91	Industrial Consultancy	Dr. C. C. Reddy	Electrical Engineering	Investigation on Aging and Life of Different AC Cable Insulations	0.28	Running
92	Industrial Consultancy	Dr. K. Ramachandra Sekhar	Electrical Engineering	Troble Shooting and Feasibilty Study of Godrej IPMSM based Compressor for Refrigiration System	0.04	Running
93	Industrial Consultancy	Dr. Avala Lavakumar	Metallurgical and Materials Engineering	Development of BI-Metallic Blade for Petrochemical Industry	0.08	Running

94	Industrial Consultancy	Dr. C. C. Reddy	Electrical Engineering	Derating Calculation for Distribution Cable of AEML in Mumbai	0.12	Running
95	Industrial Consultancy	Dr. Sarang P. Gumfekar	Chemical Engineering	Investigation of Anti-Infestation Bopp-Based Advanced Packaging Materials	0.41	Running
96	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Structural and Technical Audit of HPGIC Bottling Plants	0.01	Running
97	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Design & Drawings G+2 Office Building at MCC	0.01	Running
98	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Design & Drawings of Industrial Shed	0.01	Running
99	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Structural Design of PEB Sheds	0.01	Running
100	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of Agra Canal Arch Bridge	0.10	Running
101	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Audit of M/s Queen Distillers and Bottlers Pvt. Ltd.	0.01	Running
102	Industrial Consultancy	Dr. Dhiraj K. Mahajan	Mechanical Engineering	Petrographic Study of Draft Tube Silt	0.01	Running
103	Industrial Consultancy	Dr. Ashwani Sharma	Electrical Engineering	DROBE: Areal Swarm Drone Antenna with Smart Beam Teachnology	0.07	Running
104	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Design & Drawings of HIGH Level Bridges in Sector 66-B IT-City SAS Nagar	0.03	Running
105	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of (50M) AT km 42.50 on Road Sasoma-Warshi-Anout over	0.02	Running
106	Industrial Consultancy	Dr. Naveen James & Dr. Reet Kamal Tiwari (CI)	Civil Engineering	Ash Dyke Annual Stability Audit	0.05	Running
107	Industrial Consultancy	Dr. Naveen James	Civil Engineering	Vetting of the Soil Investigation Report for Engineering Procurement & Construction (EPC) of Provision of Storage Sheds Including Ancillary Buildings at MUNAKOT Mil Station Pithoragarh. (Report-2) BH 46 to BH 82	0.0047199	Running
108	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking the Design & Drawings of Bikaner LGSF Building	0.01	Running
109	Industrial Consultancy	Dr. Naveen James	Civil Engineering	Vetting the Two Soil Investigation Reports	0.01	Running

110	Industrial Consultancy	Dr. Rahul TM	Civil Engineering	Testing of Material Sample	0.0011505	Running
111	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Technical Services for Proof-checking of the Structural Drawings of the Earth Retaining Structures for 10 Projects	0.12	Running
112	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Vetting of Submission Structural Drawings of Future World, Plot No. GH-16E, Sector-1, Located in Greater Noida	0.08	Running
113	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of UG Bunkers	0.01	Running
114	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Strctural Design Adequacy of Bearings	0.01	Running
115	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of LGFS structures for Kargil Project	0.004956	Running
116	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of UG Bunkers II	0.01	Running
117	Industrial Consultancy	Dr. Brajesh Rawat (CI) and Dr. Prabhat K. Agnihotri (Co-CI)	Civil Engineering	Demonstration and Training on High Power RF Circuit Design, Simulation and Experiment	0.41	Running
118	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design and drawing of 200m spam suspension bridge	0.04	Running
119	Industrial Consultancy	Dr. Naveen James	Civil Engineering	Vetting of the soil investigation report titled " Geotechnical Investigation work for BPCL Hathua LPG Decanting Railway Siding Project, Gopalganj, Bihar	0.00486	Running
120	Industrial Consultancy	Dr. Naveen James	Civil Engineering	Vetting of the slope mitigation work a Deodhar village, Kullu	0.02	Running
121	Industrial Consultancy	Dr. Indramnai Dhada	Civil Engineering	Structural and Technical Audit of Bottling Plant Himalyan Gold Beverages	0.0059472	Running
122	Industrial Consultancy	Dr. Somdev Kar	Humanities and Social Sciences	PLUMERIA V2-BENGALI	0.004231	USD 25 PER HOUR

123	Industrial Consultancy	Dr. Deepti R. Bathula (CI) and Dr. Balwinder Sodhi (Co-CI)	Computer Science and Engineering	AI/ML Approach to PPD Risk Prediction Using Passive Data	0.05	Running
124	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design and Drawing of 220 KV angel tower foundation	0.01	Running
125	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design and Drawing of 220 KV HBPI foundation	0.01	Running
126	Industrial Consultancy	Dr. C C Reddy	Electrical Engineering	Evaluation of different bonding systems and selections for chandivali project, Mumbai	0.32	Running
127	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Conducting NoN-Destructive Testing on NoN- Conformity Structures at Ferozepur Large Surface Water project	0.01	Running
128	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design Adequacy of Four Lane Flyover at Aligarh-Ramghat	0.02	Running
129	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design Adequacy of 2 lane Flyover at Junction of Sultanwind Bypass	0.02	Running
130	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Conducting NoN-Destructive Testing on NoN- Conformity Structures at Fazilka Large Surface	0.01	Running
131	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design Adequacy of Bridge Over River Ganga on Gaipura-Gopiganj Marg (Rampur Ghat) in Distt. Mirzapur	0.10	Running
132	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Conducting NoN-Destructive Testing on NoN- Conformity Structures at Abohar Large Surface	0.01	Running
133	Industrial Consultancy	Dr. Naveen James	Civil Engineering	Stability Analysis for Raising the Banks in the Pilot-Project Reach of Sirhind Feder Canal	0.03	Running
134	Industrial Consultancy	Dr. Reet Kamal Tiwari	Civil Engineering	Supervision of Prelimanary survey work at Kaza of HIC power transmission line	0.01	Running
135	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Structural Audit of 10 PSWC-owned grain storage warehouse complexes	0.12	Running

136	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Technical Services for Proof-checking of the Structural Drawings of the Earth Retaining Structures (D-Wall) for Proposed Residential Project AURUM Section-59 Gurugram by SB Continental Infraventures Pvt. LTD	0.01	Running
137	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Road Material Testing for Project Director, Nhai piu, Amritsar	0.06	Running
138	Industrial Consultancy	Dr. Vishwajeet Mehandia, Prof. Narinder Singh and Dr. Muthulingam Subramaniyan	Chemical, Chemistry, Civil Engineering	Preparation of DPR for Comprehensive & Feasibility Plan for Sustainable Landfill Site Management for Expansion of TSDF in 10.41 Acre of Land, Village-Nimbua, district SAS Nagar Punjab-140507	0.42	Approx
139	Industrial Consultancy	Dr. Sudarshan (PI) and Prof. Harpreet Singh (Co-PI)	Computer Science and Engineering	Punjabi Speech Data (Collection & Transcription)	0.30	Running
140	Industrial Consultancy	Dr. Manigandan S.	Chemical Engineering	Energy Audit for Verka-Ludhiana Plant	0.05	Running
141	Industrial Consultancy	Dr. Manigandan S. (CI) and Dr. Tarak Mondal (CO-CI)	Chemical Engineering	Comprehensive Audit of M/s Veer Plastics Pvt. Ltd.	0.04	Running
142	Industrial Consultancy	Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Third-Party Technical Inspection Services for the work "Resurfacing of Runway and Aircraft Operating Area at Air Force Station Halwara	0.35	Running
143	Industrial Consultancy	Dr. Naveen James	Civil Engineering	Vetting the Three Soil Investigation Reports	0.01	Running
144	Industrial Consultancy	Dr. Mitesh Surana	Civil Engineering	Vetting of preliminary General Arrangement Submission Drawings and Issuing Structural Stability Certificate for Proposed Budget Hotel Building at Khasra No. 370/2 Part, Village Kunda, Delhi Road, Meerut (U.P.) BY Mr. Avinash Garg	0.01	Running
145	Industrial Consultancy	Dr. Resmi Sebastian	Civil Engineering	Vetting of Geotechnical Report	0.00354	Running
146	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of Single or ACCN for HQ CE	0.01	Running

147	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design Adequacy of Bridge components: ROB on Jakhal-Jamalpur Shaikhan RLY Station on Jakhal-Hissar Section of Ambala Division	0.01	Running
148	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of Protection Wall	0.01	Running
149	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of Bearings	0.01	Running
150	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of P41-p44 Viaduct No.-4 From CH 75.53 to 76.265 Daulatpur Chowk to Talwara Section in Connection New B.G Link	0.01	Running
151	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of pipeline Steel Truss Superstructure and High Level Bridge on Ghaggar River	0.01	Running
152	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of Academic Block and Hostel of KGBV	0.01	Running
153	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of Extension of 100 Bed Hotel at KGBV Campus	0.01	Running
154	Industrial Consultancy	Dr. Putul Haldar	Civil Engineering	Preparation and Proof Checking of Structural Drawings for Extension f Siwalik College of Pharmacy	0.02	Running
155	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural Design Adequacy of Vehicular Underpass, Re Walls, Drains in Panipat - Jalandhar Section of NH-1 the State of Punjab	0.02	Running
156	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of 4 Lane VUP at Bhankarpur Junction of NH-152	0.02	Running
157	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof Checking of the revised design and drawings of bridges (2x40 m) for BRO	0.01	Running
158	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Structural design Adequacy of Bridge components: "Delhi-Shahdara-Shamli-Tapri" 2 Lane Road Over Bridge	0.01	Running
159	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Chemical Analysis of Concrete Sample	0.02	Running

160	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Structural audit with remedial measures for ESIC Staff Quarter and Hostel Building in Amritsar, Punjab	0.10	Running
161	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana (CI)	Civil Engineering	Structural audit for ESIC Dispensary in Kapurthala, Punjab	0.02	Running
162	Industrial Consultancy	Dr. Indramani Dhada	Civil Engineering	Survey, Technical Feasibility and Financial Vetting of the Estimates Framed for Construction of 60-Meter wide road Ch. 0.00 to 0.950, RCC Box Culvert in Narkhatha, Sector-27 and 28 Gorakhpur Industrial Development authority (GIDS) Gorakhpur	0.03	Running
163	Industrial Consultancy	Prof. Narinder Singh	Chemistry		0.30	Running
164	Industrial Consultancy	Dr. Khushboo Rakha (CI) and Dr. Nitish Bibhanshu, Dr. Hariprasad Gopalan (Co-CI)	Metallurgical and Materials Engineering	Development of drawn Al Wires for Chaff Application (Phase I)	0.42	Running
165	Industrial Consultancy	Dr. Narinder Singh	Chemistry	Enhancing Effluent Treatment:A Study on the Reduction of COD in MEE Distillate	0.13	Running
166	Industrial Consultancy	Dr. Dhiraj K. Mahajan	Mechanical Engineering	Support for Design and Development of 1.5kW and 15 kW Graphic bipolar plates-based Fuel Cells and their integration in Fuel Cell Electric Vehicles	0.38	Running
167	Industrial Consultancy	Dr. Samir Chandra Roy	Mechanical Engineering	Mechanical and Chemical Test as per relevant Standard IS: 2062-E450 BR	0.01	Running
168	DLED-Donation	Dr. Sudarshan Iyengar	Computer Science and Engineering	Prof. Dhananjay Lab for Education Design	1.21	Running
169	Industrial Consultancy	Dr. Rahul TM	Civil Engineering	Vetting of highway plan and profile of Gaur Chowk	0.01	Running

170	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Construction if approaches of road over bridge (2 lane) as per design in RZZ/PSC girder, slabs, reinforced earth (RE) wall including construction of approch road, road safety itmes and other allied works in liew of level crossing no. 249 (Special class) at Km. 1124/13-15 (1124.70) on Moradabad- Lucknow Section	0.03	Running
171	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Proof hecking the Design & Drawings of ZINC ALUME (ZNAL) Tanks	0.002823	Running
172	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Vetting of structural design of Gaur chowk	0.01	Running
173	Industrial Consultancy	Dr. Muthulingam Subramaniyan	Civil Engineering	Design and Drawing of RCC Box Culvert and Drain	0.03	Running
174	Industrial Consultancy	Dr. Indramani Dhada (PI) and Dr. Bibhu Prasad (Co-PI)	Civil Engineering / Electrical Engineering	Vetting of Estimates for GIDA, Sector-27 and 28 Gorakhpur Industrial Development Authority (GIDA) Gorakhpur	0.33	Running
175	Industrial Consultancy	Dr. Reet Kamal Tiwari (CI) and Dr. Shray Pathak (Co-CI)	Civil Engineering	Regarding classroom training of Engineering of Water Resources Department, Punjab	0.13	Running
176	Industrial Consultancy	Dr. Aditya Singh Rajput and Dr. Mitesh Surana	Civil Engineering	Structural Audit for Overhead Storage Reservoir (OHSR) OF 25000 Litres at ESI hospital Mandi Govindgarh	0.02	Running
Additional amount received during FY 2024–25 for ongoing projects initiated in FY 2023–24.						0.04
					12.15	

INFRASTRUCTURE AND FACILITIES



CAMPUS DEVELOPMENT

The Indian Institute of Technology Ropar (IIT Ropar) continues to strengthen its infrastructure to support academic, residential, and recreational needs. The Har Gobind Khorana Block is a state-of-the-art academic facility that houses seven key departments, featuring modern research laboratories, seminar halls, faculty offices, and dedicated seating spaces for PhD scholars. On the residential front, the Brahmaputra Hostel accommodates upto 520 students in a mix of single and triple occupancy rooms and offers common and recreational areas to foster a vibrant student life. The campus also includes well-planned housing for faculty and staff: Type 6 residences consist of six block (G+1) with four apartments each, Type 5 residences comprise three blocks (G+3) with eight apartments as per block, and Type 3 residences feature two blocks (G+2) with 12 apartments each. Enhancing the sports infrastructure, a new pavilion with separate changing rooms for boys and girls is being constructed near the cricket field in the sports zone. This multi-purpose facility not only supports athletic events but also improves the overall spectator and participant experience, reflecting the Institute's commitment to holistic campus development.



Har Gobind Khorana Block



BRAHMPUTRA HOSTEL



TYPE 6 RESIDENCES (24 nos.)



TYPE 5 RESIDENCES (24 nos.)



TYPE-3 RESIDENCES (24 Nos.)

CAMPUS FACILITIES

LIBRARY

INTRODUCTION

The Nalanda Library of IIT Ropar is an invaluable storehouse of knowledge and learning resources, which plays a fundamental and advance role in support of various academic and research activities at the institute. The objective of the library is to provide users with the required information resources and support by offering latest services which are integrated with teaching, learning and research activities. The main functions of the library include selecting, acquiring, processing, preserving and dissemination of print and electronic information resources. The services include providing access to quality print and electronic resources with appropriate delivery systems, tools and services in order to support the institute to achieve its vision and mission.

2. COLLECTION DEVELOPMENT

One of the core responsibilities of the Library at IIT Ropar is collection building, which involves the careful selection of standard learning resources required by the academic and research community. In alignment with its Collection Development Policy, the Library has continued its efforts to acquire the most relevant and up-to-date resources across diverse disciplines, including:

- Science, Engineering, and Technology
- Humanities and Social Sciences
- General Reading and Reference Materials

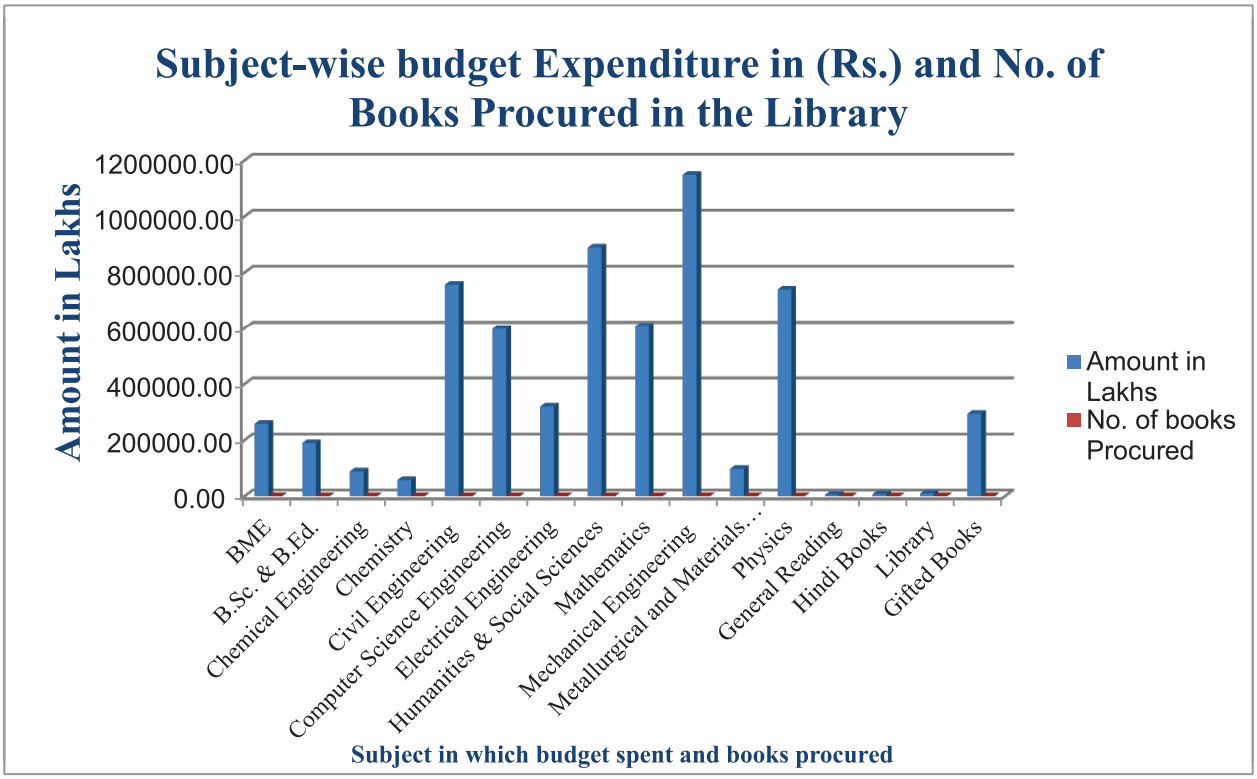
2.1 Collection Highlights

- Total number of print resources: Over 25,000+ large print documents
- Categories include:
  - Multi-volume reference sources
  - Dictionaries and encyclopedias
  - Manuals and technical reports
  - Research monographs
  - Works on cognitive sciences
  - Theses and dissertations
  - Annual reports, Standards, and CD/DVDs

Books Acquired in FY 2024–2025

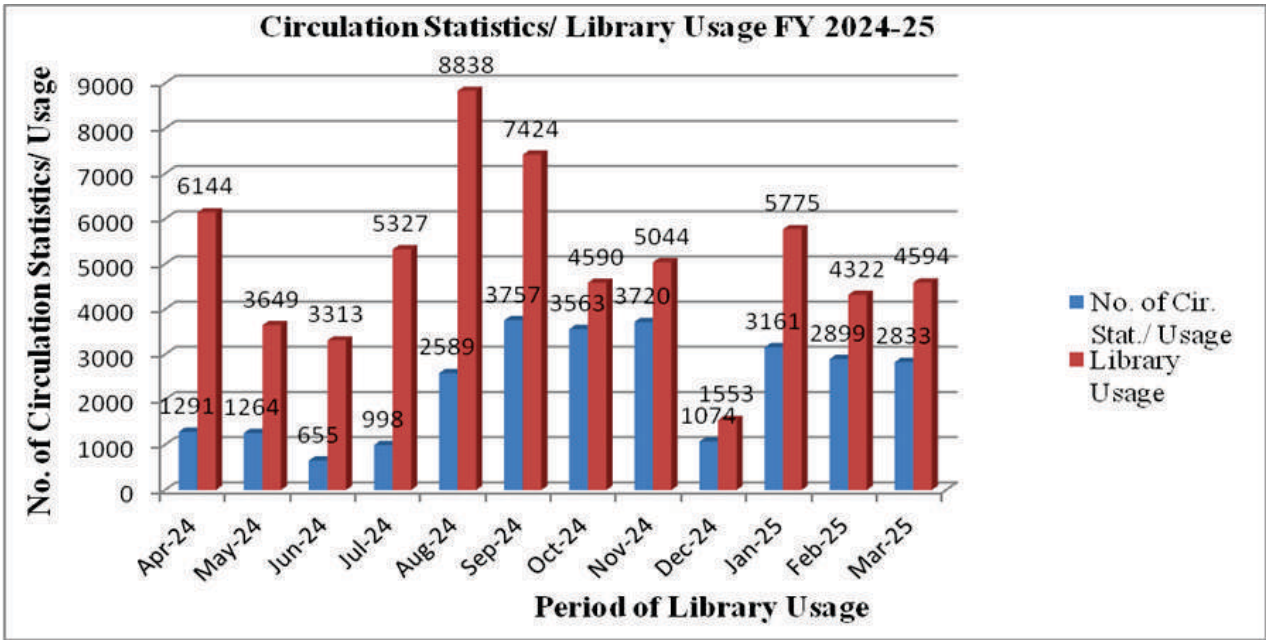
- Total Books Acquired: 1377
- Books Received through Gratis: 161

This comprehensive collection supports the evolving academic and research needs of IIT Ropar, fostering a knowledge-rich environment for learning and innovation.



3. CIRCULATION AND CONSULTATION SERVICE

The library circulation operations have been automated using RFID-based LMS-KOHA software. During the academic year 2024-25 total 27804 documents were issued/consultations at self-service Kiosk/staff station to all categories of users. 60573 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 financial year 2024-25.



4. SUBSCRIPTION OF JOURNALS/DATABASES/STANDARDS/ MAGAZINES/ SOFTWARE TOOLS IN ELECTRONIC & PRINT

Journals, databases, standards, grammar, and anti-plagiarism tools are essential resources for supporting research at the institute. The Nalanda Library, IIT Ropar, facilitates access more than 13,000 electronic journals from 30 publishers through its participation in the One Nation One Subscription (ONOS) initiative of the Ministry of Education (MoE), Govt. of India. The library also subscribes to several e-journals/databases/tools directly from publishers as well as through reputed subscription agencies. The tables below list both electronic and print resources available through the library and include detailed usage statistics, such as the number of full-text downloads, views, and report access, for subscribed electronic resources.

4.1 Electronic Journals/Databases accessible through One Nation One Subscription (ONOS) initiative:

Sr. No.	List of Electronic Resources (E-Journals/Databases/Tools)	Usage Statistics (No. of full-text downloads/Views/Reports/Users)
1.	AAAS- Science	NA
2.	ACM Digital Library	5176
3.	American Chemical Society Journals	137649
4.	American Institute of Aeronautics and Astronautics (AIAA) Journals	New Publisher added through ONOS
5.	American Institute of Physics Journals	15566
6.	American Mathematical Society Journals	NA
7.	American Physical Society - ALL	24885
8.	American Society for Microbiology Journals	New Publisher added through ONOS
9.	Annual Reviews Journals	1173
10.	ASCE Journals Online	6448
11.	ASME Journals Online	2872
12.	Bentham Science Journals	New Publisher added through ONOS
13.	BMJ Journals	New Publisher added through ONOS
14.	Cambridge University Press Journals	New Publisher added through ONOS
15.	Cold Spring Harbor Laboratory Press Journals	New Publisher added through ONOS
16.	Elsevier ScienceDirect Journals	290736
17.	Emerald Publishing Journals	7479
18.	ICE Publishing Journals	New Publisher added through ONOS
19.	IEEE Journals	161833
20.	IndianJournals.com	New Publisher added through ONOS
21.	Institute of Physics Journals	18558
22.	Lippincott Williams & Wilkins (Wolters Kluwer) Journals	New Publisher added through ONOS
23.	Oxford University Press Journals	3418
24.	Project Muse	425
25.	Sage Publishing Journals	New Publisher added through ONOS
26.	SPIE Digital Library	New Publisher added through ONOS
27.	Springer Nature Journals	65728
28.	Taylor and Francis Journals	22867
29.	Thieme Journals	2119
30.	Wiley Journals	49055

NA - Not Available

4.2 Electronic Journals/Databases subscribed other than ONOS:

Sr. No.	List of Electronic Resources (E-Journals/Databases/Tools)	Usage Statistics (No. of full-text downloads/Views/Reports/Users)
1.	JSTOR Archive	7340
2.	Optica (OSA)	1947
3.	RSC Gold	86416
4.	Scopus	275599
5.	SciFinder N	19857
6.	MathSciNet	14740
7.	Web of Science	4485
8.	Proceedings of the National Academy of Sciences (PNAS)	2983
9.	Annals of Mathematics from Princeton University	111
10.	Acta Arithmetica from Institute of Mathematics, Polish Academy of Sciences	NA

NA - Not Available

4.3 Databases/Tools:

Sr. No.	Name of the Database/Tool
1.	Prowess IQ
2.	States of India
3.	Turnitin (Anti-Plagiarism) Tool
4.	Grammarly Tool
5.	Overleaf

4.4 e-Magazine and Newspaper Platform:

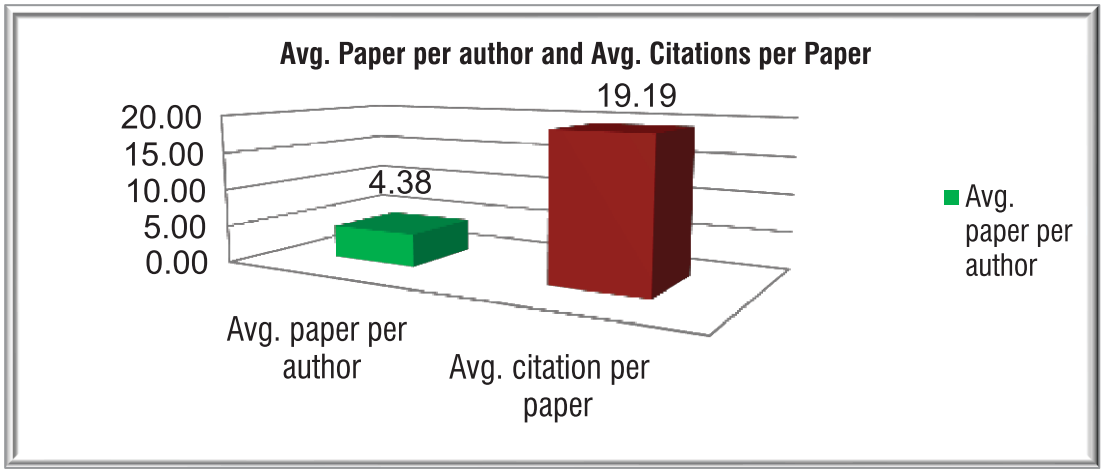
Sr. No.	Name of the e-Magazine and Newspaper Platform
1.	PressReader

4.5 Print Journals/Magazines:

Sl. No.	Title
A	**Print Journals**
1.	American Scientist
2.	National Geographic
3.	New Scientist
4.	Reader's Digest
5.	Time Asia
B	**Print Magazines**
1.	Auto Today
2.	Careers 360
3.	Competition Success Review *(Print+Online)*
4.	DataQuest
5.	Digit Magazine
6.	Down to Earth *(Print+Online)*
7.	Electronics for you
8.	Frontline
9.	General Knowledge (GK) Today

10.	India Today *(Print+Online)*
11.	Open Source for You
12.	Outlook
13.	PCQuest
14.	Pratiyogita Darapan
15.	Science Reporter
16.	Sportstar
17.	T3 India
18.	The Economist *(Print+Online)*
19.	Voice & Data
20.	Hans- Hindi Magazine

5. AVERAGE PAPER PER AUTHOR AND AVERAGE CITATION PER PUBLICATION:



Source: Scopus data as on 31.03.2025

6. MEETINGS ATTENDED:

6.1 Dr. Tarvinder Singh Handa

1. Attended the "Conclave on Future of Libraries and 10th All IIT Librarian Meet" during 25th – 26th October, 2024 organized by IIT Bombay.

6.2 Dr. Harpreet Kaur

1. Invited as a Resource Person for ASLIP CONCLAVE 2024 National Conference on Technological breakthrough and libraries: Present and beyond on 7th -8th November, 2024 organized by Association of Senior Library & Information Professionals (ASLIP) in Association with CSIR-Institute of Microbial Technology, Chandigarh at V.C. VORA Auditorium, CSIR-Institute of Microbial Technology, Sector 39-A, Chandigarh.

7. OTHER FACILITIES

Guest House:

The Institute hosts a Guest House in the campus named Shaheed Bhagat Singh Visitor's Hostel. The Guest House has 30 Business Rooms and 4 Executive Suites along with a Multipurpose Hall for the events. The Guest House provides boarding facilities for Institute's guests and visitors, newly appointed faculty members, staff members, delegates and participants attending conferences, seminars, symposium and workshops etc.

Transport Services:

Since the Institute Campus is located on the outskirts of the city, the institute provides transport facilities to the staff, faculty, students, and residents of the campus with two AC buses with 39 seats in each bus. The institute also arranges local trips on daily basis for the

faculty and the staff to meet their day to day needs in the market. In addition to this, the institute also runs a bus for staff and faculty from Mohali to Ropar and back.

Food Court/Food Outlets:
The Institute has a common Indoor Food Court area and a Night Canteen which hosts reputed different food joints in it. These food joints serve different types of foods i.e. Indian, South Indian, Chinese, Fast Food and Juice Corner etc. The Institute also have outlet of reputed brands such as Urban Desi Chai, Nestea Maggi Point, Burger House and there is a night canteen to serve the student community during night time also.

Utility Block
The Utility Block of the Institute hosts various shops such as salon (Men and Women), stationery shop, departmental store and pharmacy shop to cater the daily needs of the campus dwellers. In addition, a State Bank of India branch in the Utility Block provides easy access to essential banking services, including depositing and withdrawing funds, paying bills etc. Utility Block also hosts a Post Office which provides various services of the India Post.

COMMUNITY ENGAGEMENT AND OUTREACH



The Office of Continuing Education and Outreach Activities (CEOA), IIT Ropar conducts world-class certificate programmes for participants from Industry, Government Organizations, and Academia. The certificate programmes offered include executive education programmes for career advancement of working professionals and executives, programmes for skill enhancement of manpower in industry with latest know-hows and developments in the subject, and functional development programmes (FDPs) for government organizations and academic institutions. The certificate programmes focus on thrust areas of regional, national, and global importance, and provide a platform for interaction and collaborations between faculty members and industry personnel. The CEOA office also organizes programmes and events related to the social and educational outreach activities of the Institute.

CERTIFICATE PROGRAMMES		
Sr. No.	**Name of Programme / Event**	**Details**
1.	Certificate programme on Applied Deep Learning for Computer Vision and beyond	The certificate programme on Applied Deep Learning for Computer Vision and Beyond organized by School of Artificial Intelligence and Data Engineering. **Period:** May 2024 to December 2024. **Number of participants:** 27
2.	Residential Bootcamp on Entrepreneurship Development	Entrepreneurship and Rural Development Centre (ERDC), in collaboration with Indian Institute of Technology Ropar, organized "Enlightening the Entrepreneurial Spirit" Residential Bootcamp on Entrepreneurship development at IIT Ropar. **Period:** June 15 to June 19, 2024 **Number of participants:** 70+ participants from 30+schools across Punjab, Haryana, Delhi, and Chandigarh.
3	Certificate programme on Solar Energy Grid Integration, Energy- Efficient BLDC Motor Drive systems and DSP control Simulation training	The certificate programme on Solar Energy Grid Integration, Energy-Efficient BLDC Motor Drive systems and DSP control Simulation training has been conducted at the Institute by the Centre of Research for Energy Efficiency and Decarbonization (CREED). **Period:** October 5 to October 6, 2024. **Number of participants:** 32

4	Certificate program on Green Computing: Challenges, Opportunities and recent Innovations	The Certificate program on Green Computing: Challenges, Opportunities and recent Innovations has been conducted at the Institute by the Centre of Research for Energy Efficiency and Decarbonization (CREED). **Period:** Nov 9 to Nov 10, 2024. **Number of participants:** 40
5	Certificate program on Advances in Water Management	The certificate program on Advances in Water Management has been conducted at the Institute by the office of Continuing Education and Outreach Activites. **Period:** Nov 11 to Nov 15, 2024. **Number of participants:** 10
6	Science Teachers Training Program for JNV Teachers	Science Teachers Training Program for JNV Teachers has been conducted at the Institute by the office of Continuing Education and Outreach Activites. **Period:** Nov 18 to Nov 22, 2024. **Number of participants:** 52
7	Maths Teachers Training Program for JNV Teachers	Maths Teachers Training Program for JNV Teachers has been conducted at the Institute by the office of Continuing Education and Outreach Activites. **Period:** Dec 19 to Dec 23, 2024. **Number of participants:** 53
8	Certificate program on Science of Bhagavad Gita	The certificate program on Science of Bhagavad Gita proposed by Center of Excellence for Indigenous Knowledge System (CoE-IKS). **Period:** Jan to April, 2025

INTERNSHIPS AND TRAINING		
1	Summer Internship Program for students from other institutes.	The Institute conducted Summer internship for the students of other institutes which includes IITs, NITs, IISERs, National Labs, Centrally funded technical Institutions, CEA's, Government Universities, Private Institutions/Universities. Indian Academy of Sciences, DST inspire or similar organization. **Period:** 15 May, 2024 to 15 July, 2024 **Number of students:** 87
2	J&K internships from AICTE	Special Internship program has been organized for J&K (Jammu & Kashmir) students, nominated by AICTE. **Period:** June, 2024 to July, 2024 **No. of students:** 1

INTERNSHIP REPORT 2024-25

CENTER FOR APPLIED RESEARCH IN DATA SCIENCES			
Sr. No.	**Name of the Supervisor**	**Name of the Candidate**	**Name & Address of the University/ Institute from where he/she belongs to:**
1	Dr. Sujata Pal	Abhay Gajanan Shanbhag	Pune Institute of Computer Technology (PICT)
2	Dr. Shashi Shekhar Jha	Abhinav Kumar	Indian Institute of Technology Kharagpur
DEPARTMENT OF CHEMICAL ENGINEERING			
3	Dr. Tarak Mondal	Amber Kumar	Indian Institute of Technology Jammu
4	Dr. Tarak Mondal	Mahesh Nagargoje	MGM Institute of Bioscience and Technology
5	Dr. Jayaram Valluru	Danish Mohammad	National Institute of Technology Surathkal
6	Dr. Asad Sahir	Mujtaba Ahmad Ansari	Zakir Husain College of Engineering and Technology, Aligarh Muslim University, Aligarh
7	Dr Kishant Kumar	Souradip Mitra	Heritage Institute of Technology, Kolkata
8	Dr Kishant Kumar	Sayan Chatterjee	Heritage Institute of Technology, Kolkata
DEPARTMENT OF CHEMISTRY			
9	Dr. Sudipta K Sinha	Yash Singh Sengar	National Institute of Technology Calicut
10	Dr. D. Mandal	Aastha	Punjab University
11	Dr. C. M. Nagaraja	Srinath Das	BIT Mesra, Ranchi, Jharkhand

12	Dr. Indranil Chattejee	Ashmi Rani	Malaviya National Institute of Technology Jaipur
13	Dr. Indranil Chattejee	Anandita	Indian Institute of Technology, Kharagpur
14	Dr. C.N. Tharamani	Srishti	MCM DAV College for Women Chandigarh
15	Dr. T. J. Dhilip Kumar	Versha Sharma	University of Delhi
16	Dr. Anupam Bandyopadhyay	Rahil Hammed Bhat	Jamia Millia Islamia New Delhi
17	Dr. Aslam C Shaikh	Shubham Sharma	Kurukshetra University, Haryana
DEPARTMENT OF CIVIL ENGINEERING			
18	Dr Shray Pathak	Shivanshu Giri	Indian Institute of Technology Roorkee
19	Dr Ickkshaanshu Sonkar	Shubham Sarthak	Indian Institute of Technology Roorkee
20	Dr L Vijay Anand	Kriti Priya	National Institute of Technology Rourkela
21	Dr. Shray Pathak	Roshan Mahto	Indian Institute of Technology Patna
22	Dr. Shray Pathak	Saloni Bauddh	Indian Institute of Technology Patna
23	Dr L Vijay Anand	SURYANSU PANIGRAHI	National Institute of Technology Rourkela
24	Dr. Indramani Dhada	Pramarsha BS	Amrita University, Amrita Nagar, Ettimadai, Tamil Nadu
25	Dr. Indramani Dhada	Farhan Ahmad	Aligarh Muslim University, Aligarh, UP
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING			
26	Dr. Balwinder Sodhi	Sanya Gupta	National Institute of Technology, Hamirpur
27	Dr. Geeta	Kushagra Agarwal	Indian Institute of Information Technology, Guwahati
28	Dr. Jagpreet Singh	Vedant Manoj Yadav	JSPM RSCOE, Tathawade , Pune
29	Dr. Shashi Shekhar Jha	Mihika Dhakray	Vellore Institute of Technology, Chennai
30	Dr. Sudarshan Iyengar	Aryan Sharma	Ganeshi Lal Agrawal University, Mathura

31	Dr. Sudarshan Iyengar	Ayushi Katroliya	Ganeshi Lal Agrawal University, Mathura
32	Dr. Sudarshan Iyengar	Chhavi Goyal	Ganeshi Lal Agrawal University, Mathura
33	Dr. Sudarshan Iyengar	Digant Singh	Indian Institute of Information Technology Dharwad
34	Dr. Sudarshan Iyengar	Jyoti	Banasthali Vidyapith University, Rajasthan
35	Dr. Sudarshan Iyengar	Rudra Gupta	Ganeshi Lal Agrawal University University, Mathura
36	Dr. Sujata Pal	Amol Singh Dhami	Chitkara University, Rajpura
37	Dr. Sujata Pal	Anmolpreet Puri	Thapar Institute of Engineering and Technology, Patiala
38	Dr. Sujata Pal	Deboparna Bhattacharjee	RCC Institute of Information Technology, Kolkata
39	Dr. Sujata Pal	Shriya Sangram Patare	Indian Institute of Information Technology, Dharwad
DEPARTMENT OF ELECTRICAL ENGINEERING			
40	Dr. Satyam Agarwal	Aman Raj	Shri Mata Vaishno Devi University, Jammu and Kashmir
41	Dr. Abhishek Sharma	Ayushi Sharma	National Institute of Technology Hamirpur
42	Dr. Sam Darshi	Shailendra Shukla	Indian Institute of Information Technology, Senapati , Manipur
43	Dr. Satyam Agarwal	Sri Ramana Joshi	Methodist College of Engineering and Technology, Hyderabad
44	Dr. Pardeep Duhan	Kadali Naga Satya Asish	Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram
45	Dr.Devarshi Das	Niharika Goenka	National Institute of Technology Jamshedpur, Jamshedpur
46	Dr. Devarshi Das	Harsh Gupta	Indian Institute of Technology Bhilai, Chhattisgarh
47	Dr. K.R.Sekhar	Nayana J	National Institute of Technology Karnataka
48	Dr. Brijesh Kumbhani	Aswini Samantray	Indian Institute of Technology Bhilai, Chhattisgarh
49	Dr. Abhishek Sharma	Monish.S	National Institute of Technology Karnataka

50	Dr. Saifullah Payami	Abdullah Al Shaheer	Zakir Hussain College of Engineering and Technology, Aligarh Muslim University
51	Dr. Saifullah Payami	Syed Mohammad Hammad	Zakir Hussain College of Engineering and Technology, Aligarh Muslim University
52	Dr. Suman Kumar	Mohit Talwar	Indian Institute of Information Technology, Nagpur
DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES			
53	Dr. Parwinder Singh	Tanya Sharma	Department of Psychology, Savitribai Phule Pune University, Pune
54	Dr. Samaresh Bardhan	Shreya Mondal	Dr. B. R. Ambedkar School of Economics University, Bengaluru
DEPARTMENT OF MATHEMATICS			
55	Dr. Manmohan Vashisth	Anubhav Sharma	Indian Institute of Science Education and Research (IISER) Mohali
56	Dr. Manmohan Vashisth	K V Aparna	Indian Institute of technology Gandhinagar
57	Dr. Manmohan Vashisth	Santhakumar V	Indian Institute of Technology Bombay
58	Dr. Santanu Sarkar	Sonali Saha	Indian Institute of Technology Hyderabad
59	Dr. Subhash Chandra Martha	Sarvesh Kumar	National Institute of Technology Silchar
60	Dr. Arti Pandey	Paras Arya	Indian Institute of Technology Delhi
61	Dr. Arti Pandey	Sakshi Kandpal	Indian Institute of Technology New Delhi
62	Dr. Bidhan Chandra Sardar	Ahan Roy	Institute of Mathematics and Applications, Andharua, Bhubaneswar
63	Dr. Puneet Pasricha	Sneha	South Asian University, New Delhi
64	Dr. Puneet Pasricha	Rahul Konar	Indian Statistical Institute, Kolkata
65	Dr. Hari Vansh Rai Mittal	Anushka Tushar Seth	Institute of Chemical Technology, Mumbai
66	Dr. Tapas Chatterjee	Sourav Mandal	Ramakrishna Mission Vivekananda Educational and Research Institute, West Bengal
67	Dr. Tapas Chatterjee	Satya Prakash	Indian Institute of Technology Gandhinagar

68	Dr. Tapas Chatterjee	Mouma Pramanik	Sant Longowal Institute of Engineering and Technology(SLIET), Sangrur
DEPARTMENT OF MECHANICAL ENGINEERING			
69	Prof. Harpreet Singh	Keeratjot Singh	Guru Nanak Dev Engineering College, Ludhiana
70	Dr. Chander Shekhar Sharma	Samyak Kumar Mishra	Thapar Institute of Engneering and Technology, Patiala
71	Dr. Ravi Kant	Mukesh Kumar	Punjabi University Guru Kashi Campus, Talwandi Sabo, Dist. Bathinda
72	Dr. Navin Kumar	Divyanshu Bajpai	National Institute of Technology Andhra Pradesh
DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING			
73	Dr. Ravi Mohan Prasad	Sunidhi Verma	Jharkhand University of Technology
74	Dr. Neha Sardana	Aneesh A Kalkunte	National Institute of Technology, Calicut
75	Dr. Abhihsek Tiwari	Suman Saurav	Visvesvaraya National Institute of Technology, Nagpur
76	Dr. Atharva Paundarik	Mohamad Rayes	National Institute of Technology, Calicut
77	Dr. Avala Lava Kumar	Vishnu Prasad C	Kannur University, Kerala
DEPARTMENT OF PHYSICS			
78	Dr. Danveer Singh	Siya Shahin Pallath	Cusat University, Kochi, Kerala
79	Dr. Danveer Singh	Akshay S. Nair	National Institute of Technology Calicut, Kerala
80	Dr. Vivekanand Shukla	Desai Ranveer Shahaji	Indian Institute of Science Education and Research Bhopal
81	Dr. Rakesh Kumar	Sanjana Rani	Government College, Ropar
82	Dr. Ritu Gupta	Punyasha Nayak	Sant Longowal Institute of Engineering and Technology, Sangrur
83	Dr. Ritu Gupta	Kiran Kumari Pal	Indian Institute of Technology Dhanbad
84	Dr. Ritu Gupta	Nidhika	D A V College Amritsar

J&K INTERNSHIP REPORT 2024-25			
DEPARTMENT OF ELECTRICAL ENGINEERING			
Sr. No.	Name of the Supervisor	Name of the Candidate	Name & Address of the University/ Institute from where he/she belongs to:
1	Dr. Santosh Kumar Vipparthi	Mayank Arya	Shri Mata Vaishno Devi University, Katra, Jammu & Kashmir

PARTNERSHIPS



PARTNERSHIPS

Office of International Relations has been very active in maintaining and advancing international relations of IIT Ropar by signing MoUs, hosting foreign delegates, interns and organizing visits. Furthermore, IIT Ropar has registered 39 new international students in Masters and PhD programs funded from ICCR, Study in India and ASEAN (DIA), etc. at IIT Ropar. Many students have shown promising scientific progress in the form of publications and project work. This reflects the institute's growing global presence and its commitment to academic diversity.

MEMORANDUM OF UNDERSTANDING

The MoUs with international universities/institutions include joint academic programs, dual degree options, Research collaboration, faculty and student exchanges, summer internships opportunities etc. IIT Ropar signed MoUs with several globally reputed institutions/organizations as follows:

MoU with Inter Governmental International Organization Colombo Plan Staff College (CPSC), Manilla, Philippines

To conduct joint seminars, workshops, symposia, training programs, and/or conferences/special programs for sharing knowledge and technologies, Collaboration in facilitating study visits and exposures and other innovative educational and training activities for human resource development.

MoU with Coventry University, UK

For co-founded PhD scholarship, staff and student mobility between both parties, undertaking joint research and consultancy activities including joint research grant applications, seminars and academic conferences, and to explore the development of a joint centre of Excellence.



MoU with Minghsin University of Science and Technology (MUST), Taiwan

The two institutions come together to develop cooperation and exchanges especially in the field of semiconductors. Encourage mutually beneficial educational activities involving researchers, scholars, faculty members, teachers, students, educational administrators, and other specialists to lecture, teach, learning, conduct research and develop cooperative programs, Start-ups and Industry partners.

MOU with ANSYS company

To foster greater academic partnership in the areas of electronic packaging, reliability and semiconductors. This MoU aims to promote advanced simulation tools and techniques in all areas of engineering and sciences.



MoU with Western Sydney, Australia

The MoU is for collaborative research projects in areas such as: Automation in agriculture, food production system (on farm and in controlled environment agriculture), water management in agriculture, supply chain systems, food processing and post harvest, agricultural entrepreneurship, joint activities such as conferences, seminars, symposia and lectures, joint publications and other scholarly activities, developing joint academic programmes such as dual degree options and PhD programme, joint academic programs and joint curricula.

MoU with Wheels Global Foundation, USA



One of a kind MoU is signed, for efficient bi-directional information exchange between development and deployment groups, build awareness of the problems and innovative solutions, engage, inspire Pan-IIT alumni community and other stakeholders to support the initiative, leverage all joint resources and channels to engage different groups and communities and deploy the programs to achieve the shared objectives of Rural India Transformation, in support of India's vision of becoming a Developed Economy by 2047.

IIT Ropar and NTF (India) Pvt. Ltd. Forge Landmark Collaboration on Hydrogen-Based Mobility



The Indian Institute of Technology Ropar has signed a consultancy agreement with NTF (India) Pvt. Ltd. a first-of-its-kind collaboration. This partnership, formalized on March 24, 2025, at IIT Ropar, strengthens joint efforts in clean energy, sustainability, and hydrogen-based mobility. The agreement was signed by Shri Rajat Jain, Executive Director, NTF (India) Pvt. Ltd., and Dr. Pushpendra P. Singh, Dean (R&D), IIT Ropar, in the presence of Dr. Dhiraj Kumar Mahajan, consultant of this project and associate professor at the Department of Mechanical Engineering.

IIT Ropar Signs MoU with Shivalik College for Academic and Research Collaboration



Indian Institute of Technology, Ropar signs MoU with Shivalik College of Engineering, Dehradun.This partnership will foster academic collaboration and research in the fields of AI, Data Science, and other emerging technologies. Additionally, the partnership will lead to the establishment of the iHub - AWaDH- IIT Ropar Cyber Physical System Lab, aiming to create increased research opportunities.



MoU Signed between IIT Ropar and HRIT University for Transformative Collaboration

A Memorandum of Understanding (MoU) had been signed between the Indian Institute of Technology, Ropar, and HRIT University, establishing a strategic partnership that had marked a significant

milestone in advancing technical education in India. Through this collaboration, pathways had been created for cutting-edge research, industry-driven skill development, and advanced learning opportunities, thereby empowering students to have been prepared as future-ready technocrats.

MoU with Greenfinch Real Estate

On the occasion of IIT Ropar's 16th Foundation Day, the institute signed an MoU with Greenfinch Real Estate Engineers & Consultants to advance research in decarbonization, energy efficiency, and green building solutions.The collaboration aims to promote impactful research, global outreach through energy audits, knowledge exchange via events, and joint sustainability initiatives—including CSR and community outreach programs.





IIT Ropar Partnered with New Age Education Foundation to Strengthen Industry-Academia Collaboration

The Indian Institute of Technology, Ropar, had partnered with the New Age Education Foundation (NAMTECH), marking a significant step toward fostering mutual growth, innovation, and knowledge exchange. This collaboration had created opportunities for internships, action research projects, faculty development, consultancy, guest lectures, and outreach initiatives such as conferences and symposia. Through this partnership, IIT Ropar and NAMTECH had aimed to bridge the gap between academia and industry, thereby empowering future innovators and driving meaningful change in India's technical education landscape.

IIT Ropar Signed MoU with Government of Himachal Pradesh under Swachh Shahar–Samridh Shahar 2025 Program

The Indian Institute of Technology, Ropar, had signed a Memorandum of Understanding (MoU) with the Government of Himachal Pradesh and the Urban Development Department under the Swachh Shahar–Samridh Shahar 2025 program. This collaboration had marked a transformative step toward empowering startups and fostering skill development in the state.





IIT Ropar Signed Strategic MoU with Fraunhofer Institute for Sustainability & Circular Economy

The Indian Institute of Technology, Ropar, had signed a strategic Memorandum of Understanding (MoU) with the Fraunhofer Institute for Interfacial Engineering and Biotechnology, Germany's leading applied research organization known for driving future technologies and translating research into real-world impact. This collaboration had paved the way for groundbreaking research in sustainability, waste management, and eco-friendly innovations, while further strengthening IIT Ropar's commitment to advancing global sustainability goals.





IIT Ropar Signed MoU with SSR Global Skills Park to Establish Centre of Excellence in Drone Technology at Bhopal

The Indian Institute of Technology, Ropar, had signed a Memorandum of Understanding (MoU) with the SSR Global Skills Park, Government of Madhya Pradesh, to establish a Centre of Excellence (CoE) in Drone Technology at Bhopal.

The agreement had been formalized in August, with Prof. Rajeev Ahuja, Director of IIT Ropar, having signed the MoU in the presence of Sh. Chetanya Kashyap, Minister of MSME, and Sh. Gautam Tetwal, Minister of Skill Development and Employment, Government of Madhya Pradesh.

The CoE had been envisioned to focus on drone development, training, application creation, and support for start-ups. With substantial capital funding of up to ₹10 crores, along with space and facilities provided for the CoE, the initiative had aimed to significantly enhance India's capabilities in drone technology. It had also sought to create job opportunities and address the growing demand for skilled professionals in this emerging field. Furthermore, the CoE had been expected to play a pivotal role in building a robust drone technology ecosystem in central India, fostering research, entrepreneurship, and industrial growth.





IIT Ropar Signed MoU with Homi Bhabha Cancer Hospital, Sangrur for Academic & Research Collaboration

The Indian Institute of Technology, Ropar (IIT Ropar), had signed a Memorandum of Understanding (MoU) with the Homi Bhabha Cancer Hospital, Sangrur, Punjab (HBCH), to support academic and research collaboration. The MoU had been aimed at enhancing academic cooperation through joint courses, collaborative research initiatives, joint Intellectual Property Rights (IPR), co-publications, social awareness programs, and skill development activities conducted via workshops, seminars, and conferences.





IIT Ropar Signed MoU with Rajiv Gandhi National Aviation University to Drive Innovation in Aviation Sector

The Indian Institute of Technology, Ropar, had signed a Memorandum of Understanding (MoU) with the Rajiv Gandhi National Aviation University (RGNAU) to foster collaboration and innovation in aviation and related fields. This collaboration had marked a significant step toward integrating cutting-edge research and advanced technological solutions into India's aviation sector, thereby creating avenues for innovation and capacity building.





IIT Ropar Signed MoU with Footwear Design & Development Institute to Advance Indigenous Footwear Innovation

The Indian Institute of Technology, Ropar, has signed a Memorandum of Understanding (MoU) with the Footwear Design & Development Institute (FDDI), Government of India. The partnership had been aimed at enhancing R&D capabilities, visibility, and core competencies to develop cutting-edge technology while creating opportunities for knowledge exchange and collaboration. Together, both institutions had focused on collaborative research to develop indigenous, futuristic footwear products through a multidisciplinary approach. The agreement had also emphasized equal effort in product technology development, testing, branding, and commercialization.

IIT Ropar's CoE-SARDS Signed MoU with Almerio Defence & Aerospace LLP for Advanced Defence Innovations



The Centre of Excellence in Strategic Areas of Defence and Security (CoE-SARDS) at the Indian Institute of Technology, Ropar, has signed a Memorandum of Understanding (MoU) on November 23, 2024, with Almerio Defence & Aerospace LLP to collaborate on innovative projects in the defense sector. Almerio has been engaged in developing high-security products related to blast-proofing, ballistic protection, high-energy materials, and nuclear protection safeguards, including advancements in smart warehousing and related areas. IIT Ropar has contributed cutting-edge technology and robotics, integrating artificial intelligence and machine learning into defense solutions. This partnership has marked a significant milestone in strengthening academia–industry collaboration to address the challenges faced by defense forces.

IIT Ropar Partnered with Ansys for Academic Collaboration

IIT Ropar has signed an academic collaboration with Ansys to advance research in areas including electronic packaging, reliability, and semiconductors. The partnership has also aimed to promote the adoption of advanced simulation tools and techniques across engineering and science domains.



IIT Ropar Signs MoU with Walchandnagar Industries for Defence Technology Collaboration



IIT Ropar has signed an MoU with Walchandnagar Industries Limited (WIL), a century-old leader in defence, nuclear, and aerospace sectors, to advance research, development, and indigenization of critical technologies. The collaboration will combine IIT Ropar's technical expertise with WIL's manufacturing capabilities to deliver advanced systems for the armed forces. The MoU also includes WIL's mentorship of defence start-ups and mutual sharing of technical know-how.

IIT Ropar, iHub-AWaDH, and University of Ladakh Partner for Agricultural and Water Innovations



IIT Ropar, iHub-AWaDH, and the University of Ladakh (UoL) have signed a Memorandum of Understanding (MoU) to collaborate on advancing technologies in agriculture and water management. The partnership aims to pool expertise and resources to tackle pressing challenges and promote sustainable innovations in these critical sectors.



IIT Ropar and Institution of Civil Engineers Sign MoU for Collaborative Advancement

The Indian Institute of Technology Ropar (IIT Ropar) and the Institution of Civil Engineers (ICE) have signed a Memorandum of Understanding (MoU) to foster collaboration in civil engineering. The agreement was formalized by Prof. Rajeev Ahuja, Director, IIT Ropar, and Dr. S. L. Swamy, President, ICE(S).

Punjab Government and IIT Ropar Collaborate to Train Youth in Drone Technologies

The Punjab Government has signed an MoU with IIT Ropar to provide training in emerging drone technologies, creating new job opportunities in sectors such as aerial cinematography, mapping, surveillance, and agriculture. The MoU was signed by Major General Rambir Mann, Director General C-PYTE, and Prof. Rajeev Ahuja, Director IIT Ropar, in the presence of Employment Generation Minister Aman Arora and senior officials.





IIT Ropar and Homi Bhabha Cancer Hospital & Research Centre Collaborate for Healthcare Innovation

The Homi Bhabha Cancer Hospital & Research Centre (HBCH&RC), also known as Tata Memorial Centre, Mullanpur, New Chandigarh, is partnering with IIT Ropar to advance healthcare and research initiatives. Dr. Ashish Gulia, Director of TMC, New Chandigarh, along with a team of senior doctors, recently visited IIT Ropar to explore collaborative opportunities.

IIT Ropar Launches 'AI for Bharat' Program with NSDC and Masai School

Prof. Rajeev Ahuja, Director of IIT Ropar, has launched the AI for Bharat program in collaboration with the National Skill Development Corporation (NSDC) and Masai School. The initiative is designed to provide students and early-career professionals with hands-on training and experiential learning in Artificial Intelligence, fostering skill development and innovation.



IIT Ropar has entered into an MoU agreement with Colombo Plan Staff College (CPSC), Philippines.





IIT Ropar, iHub-AWaDH, and University of Ladakh Sign MoU for Agriculture and Water Management

IIT Ropar, iHub-AWaDH, and the University of Ladakh (UoL) have signed a Memorandum of Understanding (MoU) to collaborate on technological advancements in agriculture and water management. The partnership aims to combine expertise and resources to address key challenges and drive sustainable innovations.

IIT Ropar and PSPCL Sign MoU for Innovation in Power and Energy

IIT Ropar has signed an MoU with Punjab State Power Corporation Ltd. (PSPCL) to collaborate in the areas of power generation, transmission, distribution, and IT. The partnership will bridge academia and industry, providing real-time data insights for PSPCL and offering IIT Ropar students and faculty practical exposure through live projects with industry experts.





IIT Ropar's KISEM Partners with PEDA and Punjab Agro for Energy Audits

KISEM–IIT Ropar has partnered with the Punjab Energy Development Agency (PEDA) and Punjab Agro plants to conduct energy audits across various units. The initiative supports the Punjab government's decarbonization efforts by promoting energy efficiency, optimizing usage, and reducing carbon footprints in the agricultural sector.

IIT Ropar and Western Sydney University Partner for Academic and Research Collaboration

IIT Ropar has signed an academic collaboration agreement with Western Sydney University to promote innovation, research excellence, and global learning opportunities. The partnership will facilitate joint research, exchange programs, and collaborative initiatives to expand knowledge and create future-ready opportunities for students and faculty from both institutions.





IIT Ropar and IIT Madras Sign MoU for Student Transition to Postgraduate Programs

IIT Ropar and IIT Madras have signed an MoU enabling outstanding students from IIT Madras' BS programs to seamlessly transition into postgraduate studies at IIT Ropar. The agreement, signed by Prof. Rajeev Ahuja, Director IIT Ropar, and Prof. V. Kamakoti, Director IIT Madras, aims to create greater opportunities for talented students, particularly from rural backgrounds, thereby strengthening access to advanced education.

IIT Ropar and Starburst Sign Strategic MoU to Boost India's Space Ecosystem

IIT Ropar has signed a strategic MoU with Global Aerospace & Defence Innovation Catalyst Starburst to accelerate India's role in the global space industry. Under this collaboration, Starburst will establish an early-stage venture capital fund of €100 million to support space startups and emerging technologies. Combining IIT Ropar's technological expertise with Starburst's global innovation network, the partnership aims to empower Indian entrepreneurs and strengthen the country's space ambitions.



IIT Ropar and CRISIL Sign MoU for Collaboration in Data Science and AI

IIT Ropar has signed an MoU with CRISIL to collaborate on research and talent development in data science and artificial intelligence (AI). The partnership will involve faculty-led projects, internships, and recruitment of students as interns and management trainees, addressing the talent gap while driving innovation in these critical domains.





INTERNATIONAL INTERACTIONS

Delegation Visits

Delegation visits from international universities and institutions typically include joint workshops and talks, research collaborations, and opportunities for summer internships. The details are as follows:

- Prof. Ayaka Shimizu from the **Osaka Central Advanced Mathematical Institute (OCAMI), Japan,** visited IIT Ropar on 02.05.2024, for a talk titled 'Region Select on Origami and Link'."
- Prof. Srikanth Karnati, Department of Anatomy and cell biology from the **University of Wurzburg, Germany,** visited IIT Ropar. Prof. Karnati visited Dr. Srivatsava Naidu lab as a part of **"DAAD-IITs Bilateral Exchange of Academics, 2024 fellowship program"**. During this stay (23.08.24 to 01.09.24), he collaborated with Dr. Naidu's lab on "Investigating Hypoxia's Impact on Catalase Expression in Non-Small Cell Lung Cancer."
- Ms. Asli Kusoglu and Mr. Georgi Georgiev from **ELI-NP, Romania** visited IIT Ropar from 12.03.2025 to 18.03. 2025 for delivering a seminar in the Department of Physics, IIT Ropar followed by collaborative discussions.
- Dr. Michael Bradley, Dr. Ajay Dalai and Dr. Venkatesh Meda from **University of Saskatchewan, Canada** visited IIT Ropar on 20.03.2025 for discussion on Energy efficiency and decarbonization,, Biofuels and green energy, Applications of artificial neural networks, and biomedical signal and image processing, Nuclear and plasma physics, Magnetic resonance imaging,Biomechanics, nuclear magnetic resonance spectroscopy, ML and AI applications in Agriculture, and in particular post-harvest food analytics.



Prof. Rajeev Ahuja, Director of IIT Ropar, recently met with the team from Coventry University to deliberate on the establishment of a Joint Centre of Excellence in Applied AI. The partnership had been envisioned to merge Coventry's expertise and facilities in applied research with IIT Ropar's innovation-driven approach to technology. This dialogue had been initiated to advance collaborative AI research and create opportunities for innovation and student development.



Prof. Rajeev Ahuja, Director of IIT Ropar, had met the Hon'ble Union Minister for Education, Shri Dharmendra Pradhan, along with Shri Vineet Joshi, Secretary, Department of Higher Education, at his office in New Delhi. The meeting had been aimed at strengthening engagement with the Ministry of Education to drive transformative changes in the higher education landscape.





IIT Ropar had the honor of hosting Lt. Gen. Devendra Sharma, PVSM, AVSM, SM, GOC-in-C, ARTRAC, on 28th February 2025. During the visit, an MoU had been signed between ARTRAC and IIT Ropar in the presence of Lt. Gen. Sharma and Prof. Rajeev Ahuja, Director IIT Ropar. The collaboration had been established to facilitate the Management Development Program (MDP), including DGCA-certified drone technology and flying training for Officers and Junior Combat Leaders of the Indian Army. The role of IIT Ropar's Technology Business Incubator Foundation (TBIF) had also been highlighted, with incubated startups showcasing deep-tech solutions for defence applications and receiving strategic feedback.

Startup & Innovation Showcase – Foundation Day 2025

As part of IIT Ropar's 16th Foundation Day, the Technology Business Incubator Foundation (TBIF) hosted a Startup and Innovation Showcase, graced by Lt Gen Manoj K. Katiyar, GOC-in-C Western Command, and Prof. Rajeev Ahuja, Director, IIT Ropar. Senior army officials and defense experts also attended the event. Dr. Atharva Poundarik, Director TBIF, highlighted defense-relevant innovations by faculty and student-led startups. A landmark MoU was signed between IIT Ropar and the Western Command to enhance collaboration in defense innovation, strengthening the institute's role in advancing India's Atmanirbhar Bharat mission.





A delegation from National Chung Hsing University (NCHU), Taiwan, has visited IIT Ropar on 1st April 2025 to explore potential collaborations in semiconductors, quantum technologies, and mechanical engineering. The delegation has comprised Dr. Kai-Jung Chi (Associate Vice President for International Affairs), Dr. Reiyu Chein (Lifetime Distinguished Professor and Head, Department of Mechanical Engineering), Dr. Yen-Wei Chu (Distinguished Professor and Director, Graduate Institute of Genomics and Bioinformatics), Dr. Chandrasekar Sivakumar (Postdoctoral Researcher, Department of Physics), and Ms. Inger Tsai (Coordinator, New Southbound Project, Office of International Affairs).



A delegation from IIT Ropar, led by Prof. Rajeev Ahuja, Director, has visited the School of Artillery, Deolali. The team has met Lt. Gen. N. S. Sarna, AVSM, SM, VSM, Commandant, along with staff and instructors, to deliberate on advancing technology for the Indian Army, particularly in artillery, aimed at enhancing operational readiness and effectiveness.





A team of officers from Western Command has visited the Centre of Excellence in SARDS at IIT Ropar to deliberate on critical electrical and electronics challenges faced by the field army. Through detailed discussions and interactions, innovative solutions had been identified to address issues encountered in operational areas.





On 24th September 2024, IIT Ropar has the honor of hosting Shri K. Sanjay Murthy, Secretary, Ministry of Education, Government of India. During the visit, he had engaged in discussions with Prof. Rajeev Ahuja, Director, on the institute's progress and future initiatives.

Shri Murthy had also graced the Kavya Sammelan organized by the Hindi Cell, where he felicitated the winners of Hindi Pakhwada. In addition, he has participated in cleanliness initiatives under Swachh Bharat Abhiyaan 2024, reinforcing the commitment to a cleaner and greener India.





Prof. Rajeev Ahuja, Director of IIT Ropar, has recently met Nobel Prize laureate Prof. Andre Konstantin Geim at the Hindustan Institute of Technology, Chennai. Prof. Ahuja has chaired a panel discussion on the applications of graphene in aerospace and defence, where Prof. Geim's pioneering work has been highlighted as a breakthrough in material science. The discussion had explored the transformative potential of graphene and its future industrial impact. IIT Ropar's commitment has been reaffirmed to fostering collaborations that push the boundaries of science and technology.







Prof. Rajeev Ahuja, Director of IIT Ropar, has recently met Shri Yogi Adityanath, Chief Minister of Uttar Pradesh, and extended an invitation to visit the institute for Shiksha Kumbh/Mahakumbh 2.0. It had also been announced that Smt. Droupadi Murmu, Hon'ble President of India, would grace the event as the Chief Guest. The gathering has been envisioned as a transformative platform bringing together thought leaders, educators, and innovators to shape the future of education in India.

Prof. Rajeev Ahuja, Director of IIT Ropar, has met Shri Nayab Saini, Hon'ble Chief Minister of Haryana, to discuss the upcoming second edition of the Shiksha Mahakumbh. The event, scheduled from 4th to 6th October, has been planned as a prestigious educational gathering, to be graced by Smt. Droupadi Murmu, Hon'ble President of India, as the Chief Guest.



Prof. Rajeev Ahuja, Director of IIT Ropar, has been accorded the honor of meeting Her Excellency Smt. Droupadi Murmu, the 15th President of the Republic of India. During the meeting, he had shared the remarkable progress achieved by IIT Ropar over the past 15 years. Prof. Ahuja has also extended an invitation to the Hon'ble President to visit IIT Ropar in October as the Chief Guest for the International Conference on Holistic Education.



OTHER VISITS / PARTICIPATION

- Shastri Alberta Students in India (SASI) Project 2024-25: In collaboration with the Shastri Indo-Canadian Institute (SICI), two students from Canada completed their Albertan Students in India (ASI) Internship Projects at IIT Ropar.
- Ms. Ayushi Anand from the University of Alberta completed her internship Project titled Treatment of Wastewater Containing Emerging Contaminants using Advanced Oxidation Processes,under the guidance of Dr. Sarang Gumfekar, Department of Chemical Engineering.
- Mr. Gurbir Virk from the Southern Alberta Institute of Technology has completed his Internship Project titled Designing Novel Thermal Interface Materials for the Thermal Management of Electronics under the guidance of Dr. Prabhat Agnihotri. Department of Mechanical Engineering.
- Dr. Atharva Poundarik, Associate Dean International Relations & Alumni Affairs participated in Conclave on Promoting Internationalization held at NITTTR Chandigarh on 26.11.2024.The conclave is envisioned as a forum to engage with embassies, international academic partners, policymakers, and thought leaders, aiming to create opportunities for cross-border academic partnerships and capacity-building initiatives.
- Dr. Atharva Poundarik, Associate Dean International Relations & Alumni Affairs has participated in All IIT International Relation (IR) conclave at IIT (ISM) Dhanbad from 12.12.2024 to 13.12.2024.
- In November 30, 2024, two students (Hitesh Sai Patange (Mechanical Engineering) and Amitoj Singh (Electrical Engineering)) of IIT Ropar appeared for the Test of Chinese as a Foreign Language (TOCFL) and they have passed the TOCFL exam with flying colours. With their excellent scores, both students are now eligible to apply for Taiwan government scholarships.
- Dr. Neha Sardana, Dean International Relations & Alumni Affairs represented IIT Ropar at the Pre-APAIE Indo-French Day, Monday, 24th March 2025, at the Alliance Française de New Delhi.
- Dr. Ashwani, Teacher Xiao and Dr. Neha Sardana, Dean International Relations & Alumni Affairs, attended the **Asia-Pacific Association for International Education (APAIE 2025)** at New Delhi. IIT Ropar, booth at the Study in India pavilion, Yashobhoomi, New Delhi from **March 24-28, 2025** for discovering collaboration opportunities.





- Dr. Neha Sardana, Dean International Relations & Alumni Affairs, visited the Taipei Economic and Cultural Center, to discuss further cooperation between IITRopar and Taiwan Universities on 27th March 2025, New Delhi.



- Dr. Neha Sardana, Dean International Relations & Alumni Affairs, represented IITRopar at the SHASTRI BI-NATIONAL EDUCATION FORUM (SBEF) 2025, Bridging Borders with Sustainable Academic Collaborations, March 27-28, 2025, National Museum, New Delhi.

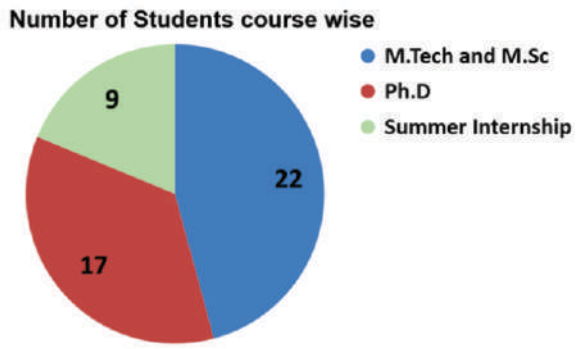


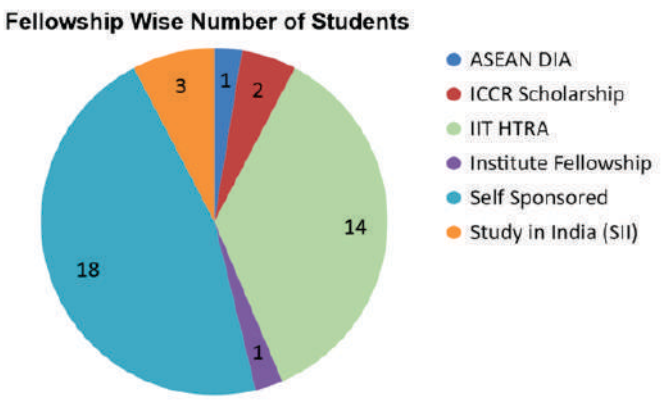
INTERNATIONAL ADMISSIONS AND INTERNSHIPS

Admission of International Students to IIT Ropar

This year has been especially significant for our International Relations (IR) initiatives. Aligned with the Government of India's policy to promote the internationalization of IITs, IIT Ropar has seen an increase in the number of international students. The total number of international students enrolled in our Masters and Ph.D. programs has grown from 32 to 39.

In addition, 21 international students have successfully completed their Masters and Phd studies at IIT Ropar in recent years, reflecting the institute's growing global presence and commitment to academic excellence.





ALUMNI RELATIONS



ALUMNI RELATIONS

Our institute has been actively fostering strong bonds and encouraging greater participation among its alumni in various academic and extracurricular activities. These efforts are made in collaboration with the IIT Ropar Alumni Association, which was founded in February 2013. Our Alumni Student Relation Cell team spearheads initiatives such as the alumni student mentorship program and organizes invited talks by alumni. **As of now, our alumni network has grown to 3750 members, comprising 2178 undergraduate alumni, 1170 postgraduate alumni, and 405 PhD alumni.**

Alumni				
Year	**UG**	**PG**	**Phd**	**Total**
2024	342	219	40	601
TOTAL Alumni	2178	1170	405	3753

Major events conducted during reporting period are as follows:

Interaction-cum-welcoming session for Batch 2023



An Interaction-cum-Welcoming Session for Batch 2023 was held in April 2024 at the Senate Hall. The Alumni Association of IIT Ropar organized this welcoming session which was attended by the graduating B.Tech, M.Tech, M.Sc, and Ph.D. students. The event commenced with a welcome address by Dr. Puneet Goyal, Faculty Coordinator of Alumni Affairs & Associate Professor (CSE) at IIT Ropar, followed by a presentation detailing the structure and activities of the Alumni Association. Mr. Abhijeet Singh, President of the Alumni Association, virtually interacted with the graduating students, extending a warm welcome, sharing updates, and congratulating them on their achievements.

Alumni-Student Talk: Navigating the MBA Journey



To bridge the gap between alumni and current students, an Alumni-Student Talk was held on May 25th, organized by the Alumni Relation Cell and Alumni Association. This virtual session, titled "Navigating the MBA Journey," featured distinguished alumni discussing the multifaceted aspects of pursuing an MBA and its impact on career trajectories. The session provided invaluable insights, real-world experiences, and practical advice for both current students and fellow alumni considering further education or career transitions. Alumni shared how an MBA has contributed to their personal development and enhanced their strategic thinking, leadership, and decision-making skills. The importance of networks formed during the MBA program and how these connections have been pivotal in career growth and opportunities were also highlighted. This event aimed to provide current students with valuable guidance and inspiration for their academic and professional journeys, bridging the gap between academic aspirations and real-world experience.

Student-Alumni Meet

Student-alumni meet was held in Bangalore on June 29th, 2024, at Halcyon Residences. This event was dedicated to reconnecting, reminiscing, and celebrating the memories created by alumni. Alumni shared their entrepreneurship journeys and experiences, including the challenges faced in starting businesses with each other and with the students

Alumni Meet 2024



IIT Ropar hosted an Alumni Meet for the batches of 2014 and 2015 on 28th September 2024.The event began with a warm welcome address by Dr. Atharva Poundarik, Associate Dean (IR & AA), who emphasized the importance of maintaining strong alumni engagement and collaborations. Dr. Puneet Goyal, Alumni Coordinator, followed with an insightful presentation that reminisced about past memories, outlined ongoing alumni activities, and shared future plans for deeper collaborations..Prof. Rajiv Ahuja, Director of IIT Ropar, joined the gathering, praising the remarkable achievements of our institute and alumni across diverse fields and expressing pride in the continuing success stories emerging from our alumni community.



Dr. Ranbir Singh Tinkerers' Lab

On 17th December, 2024, IIT Ropar inaugurated the Dr. Ranbir Singh Tinkerers' Lab (TL), a state-of-the-art facility aimed at inspiring and empowering future engineers and innovators. This 24/7 accessible makerspace was established with the support of the Maker Bhavan Foundation (MBF), thanks to a generous donation from philanthropist Dr. Ranbir Singh, who is an alumnus of IIT Delhi, and now also an honorary alumnus of IIT Ropar.

Pan IIT World of Technology Satellite Conference



IIT Ropar hosted PAN IIT World of Technology (PIWOT) Satellite Conference on 23rd January, 2025. This event was organized in collaboration with the Confederation of Indian Industry (CII) and the conference served as a significant platform to explore advancements and innovations in cutting-edge technologies. The conference brought together leading academicians, researchers, industry experts, and students from across the country. Discussions ranged from the AI revolution in Industry 5.0, Bridging the skilling gap: Preparing future-ready engineers and The role of academia in technology development and indigenization for a Self-reliant armed forces.

Emerging young Alumni Awards

As a part of Foundation day celebrations at IIT Ropar our most outstanding and promising emerging young alumni who have brought pride to IIT Ropar have been awarded with The Emerging Young Alumni Awards. The following four Alumni were awarded during FY 2024-2025.

- Mr. Amandeep Kamboj (Co-founder & CTO of Just Baat AI)- Completed B.Tech in Computer Science Engineering in 2012 for **Entrepreneurship/Startup related category)**
- Dr. Muddasani Satyanarayana (Co-founder & Chief Technology Officer of Vanix Technologies)- Completed PhD in Electrical Engineering in 2024 for **Entrepreneurship/Startup related category.**
- Mr. Parminder Bhatia (Chief AI Officer at GE HealthCare)- Completed B.Tech in Computer Science Engineering in 2012 for **Industry/MNC related category.**
- Dr. Divya Mahajan (Assistant Professor at Georgia Institute of Technology)- Completed B.Tech in Electrical Engineering in 2012 for **Public Services/Academia/Socialist category.**







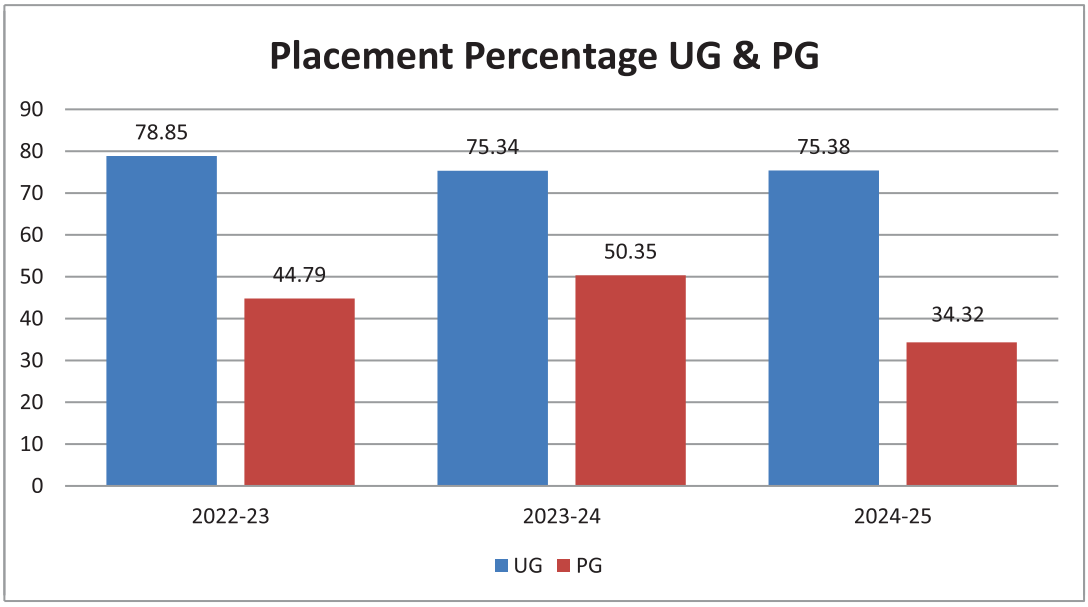
CAREER DEVELOPMENT PLACEMENT CELL (CDPC)



The Career Development and Placement Cell (CDPC) of IIT Ropar plays a pivotal role in facilitating the professional growth and placement opportunities for its students. Committed to bridging the gap between academia and industry, the CDPC organizes various workshops, seminars, and training programs to enhance students' skills and make them industry-ready. It also collaborates with leading companies and organizations to facilitate campus placements, internships, and industrial visits. The CDPC's efforts have enabled students to secure placements in esteemed companies across diverse sectors.

In the academic year 2024-25, 75.38% of undergraduate students at IIT Ropar were placed through on-campus opportunities at an average package of INR 23.50 LPA.

Notable organizations such as BPCL, HPCL, BEL, EIL, MECON, C-DOT, Reliance Indutries,SaaS Labs, Decimal Point Analytics, Texas Instruments, Bechtel, JSW, Jindal Stainless, Potectol, Arcelor Mittal Nippon Steel, Lummus, GE Vernova, and L&T visited IIT Ropar for recruitment in the core engineering domain. Other leading organizations such as Google, Sprinklr, Amazon, Microsoft, DE Shaw, Commerce Robotics Inc. (Japan), Salesforce, Arsaga Partners Inc. (Japan), Arista Networks, GE Healthcare, Strand Life Sciences, Truminds, Mathworks, Oracle, Flipkart, Google, Accenture, Perceptive Analytics, Logic Fruit, Samsung Research, Analog Devices, Zomato, Amex, Future First, Yum Brands, Hi-Tech Robotics and Rapid Fort etc. offered profiles across Software Development, Consulting, Data Analytics, Product Development and other non-core profiles.



There was a good response for internships as well with 85 B.Tech students securing Pre-Placement Offers (PPO). Some of the premier companies/institutes that have offered summer internships to our students (2026 graduating batch).

Adobe, Analog Devices, ARISTA NETWORKS, Auxia, Bank of New York (BNY),Bechtel India Pvt Ltd, Cisco, Cummins India, DE Shaw, Decimal Point Analytics, Futures First, Goldman Sachs, Google, ICICI Bank,JP Morgan Chase, Justbaat AI, Logic Fruit Technologies Pvt Ltd, Microsoft, Nvidia, Optum, Pattern, Salesforce, Samsung Research Institute- Delhi, Samsung Research Institute Noida, SARAS AI Institute, ScrollAR4U Technologies Private Limited, Sprinklr, Tata Steel, Texas Instruments, VISA, Walmart, Future University, etc.

PROFESSIONAL DEVELOPMENT ACTIVITIES

Corporate Connect 3.0

Corporate Connect 3.0 was organized by the CDPC. Corporate Connect is an initiative by the student community of IIT Ropar designed to bridge the gap between academia and industry. This event aims to provide a dynamic platform where students can network, learn, and explore potential career paths. By facilitating interactions with industry professionals, Corporate Connect enables participants to engage in insightful discussions, gain valuable industry perspectives, and connect with mentors who can offer guidance on their career journeys. The event seeks to blend the academic knowledge and innovative spirit of students with the practical experience and expertise of industry leaders, fostering a collaborative environment that nurtures future career development and professional growth.

TECHNOLOGY BUSINESS INCUBATOR FOUNDATION



IIT Ropar's Technology Business Incubator Foundation (TBIF) is committed to building a robust startup ecosystem both within the state and across the country. Established in 2016 as a Section 8 company (non-profit organization), TBIF was set up under the NIDHI-TBI Scheme of the Department of Science and Technology, Government of India. With the vision of nurturing innovation and entrepreneurship, TBIF provides comprehensive support to startups, MSMEs, and entrepreneurs, helping them grow, scale, and contribute meaningfully to the national innovation landscape. Operating from a 20,000 sq. ft. state-of-the-art incubation facility, TBIF offers startups access to cutting-edge technologies, advanced research infrastructure at IIT Ropar, a wide network of technical and business mentors, an investor pool, government grants, CSR funding opportunities, and strategic industry partnerships. These resources enable startups to focus on innovation and market-readiness, equipping them to succeed in competitive environments. Aligned with the Government of India's Atma Nirbhar Bharat Abhiyan (Self-Reliant India Movement), TBIF plays a pivotal role in empowering Indian startups to reduce dependency on global suppliers by fostering indigenous innovations. The incubated startups have shown remarkable agility in spotting opportunities amid challenges, developing affordable, high-quality products and services within constrained timelines and budgets.

At present, TBIF hosts 39 active startups, few in pipeline, few graduated, spanning critical thrust areas such as green technologies. These startups are engaged in the development of pioneering solutions including development and manufacturing of FPGA controllers, embedded systems, and IIoT boards, hydrogen-based energy storage and conversion systems (fuel cells), gyro chassis systems for T90 tanks, AI based telehealth Kiosk, RFID-based power sockets, IoT-enabled biomedical devices for heart rate and SpO2 monitoring, Zero Carbon Affordable Solar Homes, developing FMR, RTK GNSS/GPS receivers, micro UAV system, FPV Drones, Agriculture Drones, Long range UAVs, ML software platforms for industrial manufacturing, offering VRM and VSM solutions across the entire semiconductor foundry lifecycle, Intelligent Imaging System, smartphone-based meat spoilage sensor, Agri-PV system, bamboo products, natural home care products, EV Charging platforms.

Our Vision

To establish TBIF as the premier hub in Northern India for fostering Deep Tech Startups, catalysing innovation, collaboration, and economic growth in the region and beyond.

Core competences of the Incubator

IIT Ropar - TBIF empowers local entrepreneurs, researchers, and students to build deep tech businesses covering a wide variety of technologies and innovations in the thrust areas, including but not limited to the following:

a. Manufacturing
b. IoT, AI, ML
c. Defence & Security
d. Healthcare Technologies
e. Energy and Waste Management

IIT ROPAR-TBIF AT A GLANCE

Performance Parameter	Data
Total number of startups incubated till date	62
Total Nos. of Active Startups	39
Types of startups incubated	Early stage, Pre-revenue stage, Revenue stage
Total no. of startups graduated and inactive till date	23
Average graduation duration time	2-3 years

UPDATES/ACHIEVEMENTS

Following are the updates/ achievement of IIT Ropar TBIF from April 2023- March 2024:

Startup Mahakumbh 2025

IIT Ropar - Technology Business Incubator Foundation (TBIF) was honored to be part of Startup Mahakumbh 2025, India's largest startup gathering held from April 3rd–5th at Bharat Mandapam, New Delhi. The event brought together over 50,000 business visitors, 3,000+ startups, and 1,000+ investors from around the globe. During the event, Hon'ble Minister of Commerce & Industry, Shri Piyush Goyal, urged Indian startups to focus on deep-tech innovations like AI, semiconductors, etc., moving away from foreign-backed models to develop indigenous technologies that drive global competitiveness. This vision aligns with our mission to nurture cutting-edge deep-tech startups. Our incubated startups— Texoedge Innovation Pvt Ltd, Cit-Peels Naturals Pvt Ltd, and Drones Tech Lab — demonstrated impressive innovations, highlighting our focus on innovation-driven growth. They also had the opportunity to interact with Shri Piyush Goyal and showcase their technologies. The event marked a significant milestone, and we are proud to contribute to India's thriving startup ecosystem, advancing the future of technology and innovation.



Visit of Lt Gen Manoj K. Katiyar, PVSM, AVSM, General Officer Commanding, Western Command.

As part of the Indian Institute of Technology, Ropar's 16th Foundation Day celebrations, TBIF had the honor of hosting Lt Gen Manoj K. Katiyar, PVSM, AVSM, General Officer Commanding, Western Command, and Prof. Rajeev Ahuja, Director, IIT Ropar, at the Startup and Innovation Showcase. The General Officer was accompanied by Maj Gen Ajay Mahajan, MGGS SD HQ WC; Maj Gen Sunil Rampal, MG EME HQ WC; Brig Yogesh Kaura, Brig IC Innovation Cell; and Col Dinesh. The incubated startup of TBIF showcase featured advancements in small arms echnology, UAV systems, drone orensics, FPV drones using VR, RTK echnology-based drones, gasoline-owered unmanned helicopters, utomated spectrum management, lectronic warfare, biomedical nnovations, indigenization of rotary ansformers, tactical infrastructure olutions, advanced metal printing echnologies, and cutting-edge sheet metal forming techniques for military omponent design.



Visit of Lt Gen Devendra Sharma, PVSM, AVSM, SM, GOC-in-C, ARTRA

IIT Ropar - Technology Business Incubator Foundation (TBIF) was to host Lt Gen Devendra Sharma, PVSM, AVSM, SM, GOC-in-C, ARTRAC on 28th February 2025.

The visit highlighted drone technology and the role of Indian Institute of Technology, Ropar's incubator in fostering cutting-edge deep-tech solutions for the armed forces. Startups working in this domain had the opportunity to showcase their innovations, receiving valuable feedback and strategic insights to refine their solutions for defense applications. A key milestone of the visit was the signing of an MoU between ARTRAC and IIT Ropar, in the presence of Lt Gen Devendra Sharma, GOC-in-C, ARTRAC and Prof. Rajeev Ahuja, Director, IIT Ropar. This collaboration will facilitate the Management Development Program (MDP), including DGCA-certified training on drone technology and flying training for Officers & Junior Combat Leaders of the Indian Army.





Institute's first E-Summit

IIT Ropar - Technology Business Incubator Foundation (TBIF) successfully hosted the institute's first E-Summit, organized by E-CELL IIT ROPAR and Advitiya, IIT Ropar, sponsored by TBIF. The summit was inaugurated by Dr. Atharva Poundarik, Faculty In-Charge and



Director, TBIF, alongside Ashneer Grover and Madhuri Jain Grover, ollowed by a Star Talk moderated by Deepanshu Sharma and Kartik Yadav, co-founders of Easecruit Pvt. Ltd. Ashneer Grover captivated the audience with candid insights on entrepreneurial mindset, ethical challenges in scaling, VC hesitancy, and valuation strategies, engaging thought-provoking Q&A session that left a lasting impact on the audience.

Easecruit secured funding from an angel investor: Easecruit, an AI-based startup incubated at IIT Ropar - Technology Business Incubator Foundation (TBIF), has successfully secured 3.5 crores in funding from an angel investor, concluding its funding round at an impressive valuation of 31 crores.Easecruit founded in January 2024 by B.Tech students from Indian Institute of Technology, Ropar , Easecruit is transforming the recruitment landscape with its innovative AI Interviewer. This state-of-the-art solution allows recruiters to conduct thousands of technical interviews simultaneously, revolutionizing the first-stage screening process and significantly enhancing efficiency.



PIWOT Satellite Conference 2025

The "PIWOT Satellite Conference 2025," held on January 23rd at Indian Institute of Technology, Ropar, brought together innovators, researchers, and industry leaders to explore cutting-edge technologies and foster collaboration. As part of the event, IIT Ropar - Technology Business Incubator Foundation (TBIF) organized the Startup and Innovation Showcase, along with a Startup Competition to recognize exceptional entrepreneurial talent. The competition was judged by an esteemed panel, including Raj Shah MD MBA, Chairman of the Health Council and Board Member of the WHEELS Global Foundation, USA; Bindukumar Kansupada, MD, MBA, Vice Chairman of the Health Council; and T.K. Mukherjee & CEO of Cybertec, Inc. Easecruit, founded by IIT Ropar students, took first place, while MLworkX Pvt. Ltd. secured second. Both startups were awarded cash prizes for their innovative solutions.





PIWOT TechExpo 2025

IIT Ropar - Technology Business Incubator Foundation (TBIF) had the privilege of participating in the PIWOT TechExpo 2025 in Mumbai, held from January 17th to 19th, organized by PanIIT Alumni India. This exciting event brought together IITs from across India,

offering a platform to showcase innovative products, services, and startup incubators, all aimed at promoting collaboration and driving progress.The event was graced by distinguished dignitaries, including Devendra Fadnavis, Chief Minister of Maharashtra, Abhay Karandikar, and various ministers, alongside industry leaders from multiple sectors. Their presence sparked insightful discussions on the critical role innovation plays in shaping the future. During the expo, we showcased a diverse array of startups, spanning sectors from defense to advanced AI technologies. The event provided invaluable opportunities to connect with IIT alumni, industry experts, investors, and aspiring entrepreneurs.





Showcasing in BioAsia 2025 event

IIT Ropar - Technology Business Incubator Foundation (TBIF) had the privilege of participating in the prestigious BioAsia 2025 event, held from February 26–28, 2024, in Hyderabad. Showcasing our innovative startups and pioneering work, TBIF engaged under the theme “Data and AI: Redefining Possibilities,” highlighting the transformative role of AI-driven technologies in healthcare and life sciences.

MECH TECH 2025



IIT Ropar-TBIF Showcases Cutting-Edge Defence Innovations at MECH TECH 2025" IIT Ropar - Technology Business Incubator Foundation (TBIF) & Centre of Excellence for Studies and Applied Research in Defence and Security (CoE-SARDS), Indian Institute of Technology, Ropar actively participated in MECH TECH 2025, the premier Mechanized Equipment Technology Seminar & Exhibition, hosted by Western Command in collaboration with the Society of Indian Defence Manufacturers (SIDM) and Confederation of Indian Industry (CII) at Chandi Mandir on March 3-4, 2025.

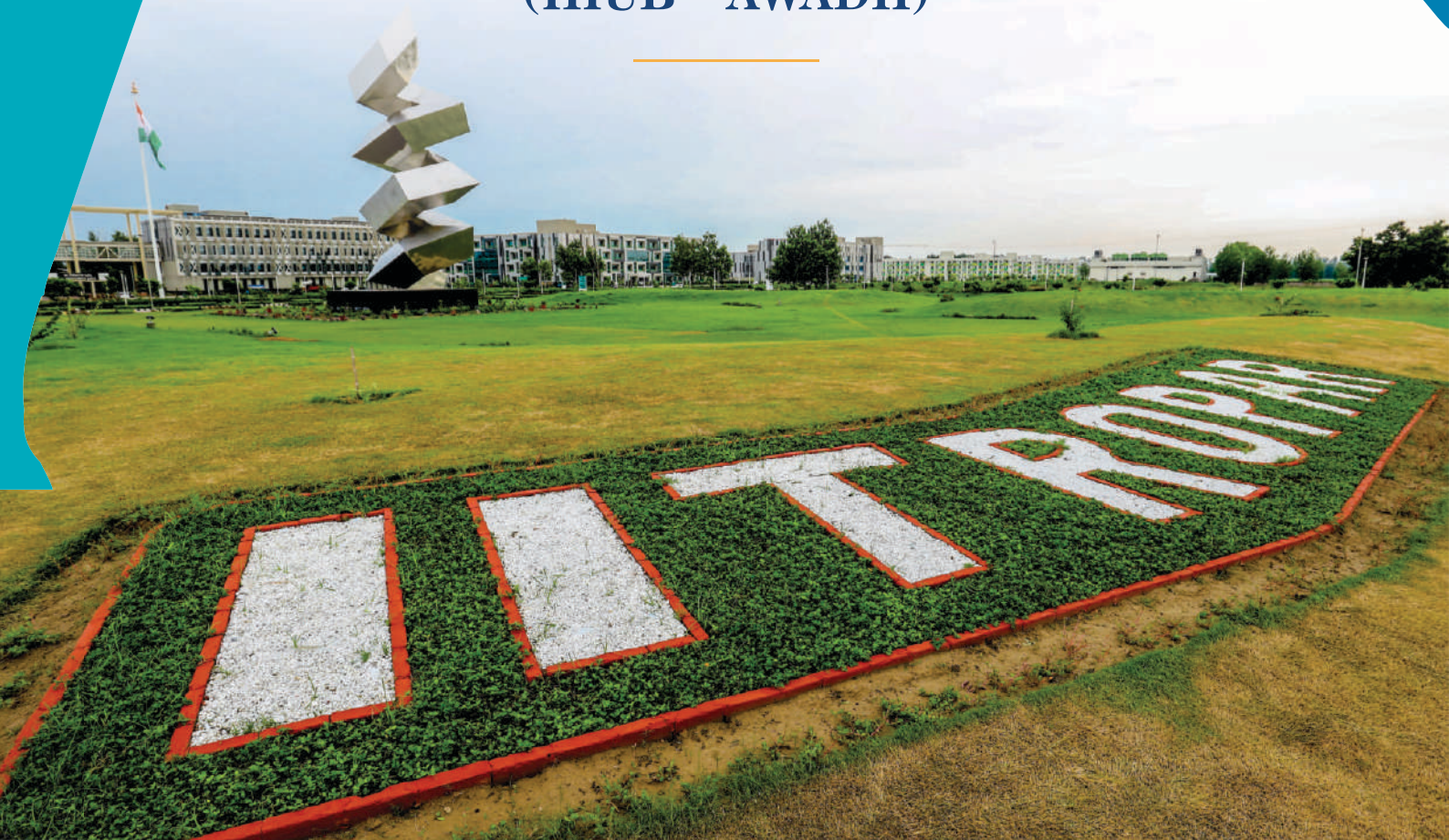
Participation at the Global Bio-India 2024





IIT Ropar - Technology Business Incubator Foundation (TBIF) has exhibited at Global Bio-India 2024 from 12th to 14th September, 2024, one of the most prestigious international platforms for biotech innovation. TBIF is pleased to reflect on this successful event and the significant opportunities it has generated. TBIF highlighted a range of innovative biotech and MedTech solutions developed by our incubates and researchers working in the domain of biomedical engineering. This event provided a fantastic platform to demonstrate our state-of-the-art incubation facilities and our commitment to fostering industry-academia collaboration.

IIT ROPAR TECHNOLOGY AND INNOVATION FOUNDATION FOR AGRICULTURE AND WATER TECHNOLOGY DEVELOPMENT HUB (IHUB – AWADH)



IIT ROPAR TECHNOLOGY AND INNOVATION FOUNDATION FOR AGRICULTURE AND WATER TECHNOLOGY DEVELOPMENT HUB (IHUB – AWADH)

iHub - AWaDH, hosted at the Indian Institute of Technology Ropar, is a pioneering Technology Innovation Hub established under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) by the Department of Science and Technology, Government of India. With a strategic mandate to transform the agriculture and water sectors, AWaDH is developing deep-tech solutions aimed at sustainable development, smart rural economies, and environmental resilience.

Situated within IIT Ropar, the hub leverages the institute's academic prowess, advanced laboratories, and research infrastructure to foster innovation. It acts as both a research accelerator and a startup incubator, providing a dynamic platform where ideas evolve into impactful technologies. Backed by ₹110 crore in government funding, iHub - AWaDH nurtures early-stage innovations and facilitates their journey from lab to market, aligning with national priorities in technology and entrepreneurship.

In addition to research and incubation, iHub - AWaDH hosts a dedicated Skilling Centre at IIT Ropar that plays a vital role in human capital development. Through a series of hands-on workshops, digital training programs, and IoT-based learning modules—especially in the areas of agriculture, water, and sustainability technologies—the center empowers students, innovators, and aspiring professionals with the skills needed to thrive in a deep-tech economy. This integration of research, entrepreneurship, and skilling under one roof positions IIT Ropar as a beacon of innovation-driven growth in India's technology landscape.

TECHNOLOGY DEVELOPMENT LANDSCAPE

IIT Ropar - Technology and Innovation Foundation

Technology Development Landscape: TRL View
Tech Commercialized so far: 12
Market Ready Tech: 54
Technology Projects: 79

TRL Stage	Technologies by TIH		Technologies by Startups (94) Till first Review March 2024
	Agriculture	Water	Agri & Water Tech
TRL 1-3	02	01	0
TRL 4-6	19	06	23
TRL 7-9	42	06	71
Total	**66**	**13**	**94**





IIT Ropar - Technology and Innovation Foundation



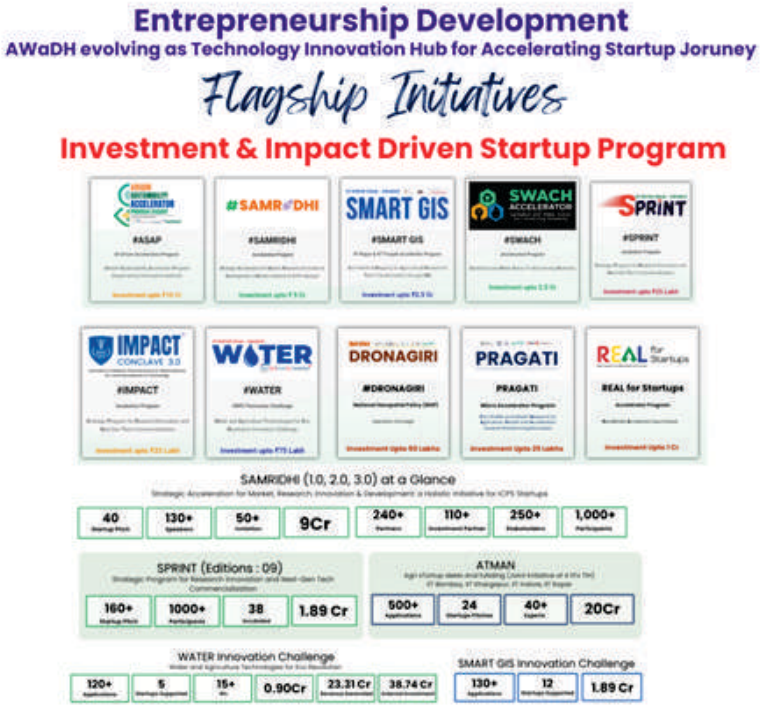




The deep-tech development at iHub - AWaDH is firmly grounded in IIT Ropar's academic ecosystem, enabling cutting-edge R&D across the Technology Readiness Level (TRL) spectrum. So far, 12 technologies have been commercialized, and 54 innovations are market-ready, covering sectors such as smart irrigation, water quality analytics, autonomous systems, and low-cost robotics. A total of 79 research projects are being steered in collaboration with faculty and researchers from IIT Ropar and other top-tier institutions, bridging the gap between lab research and large-scale deployment. These projects reflect the institute's commitment to harnessing research for real-world applications, particularly for farmers and local communities.

STARTUP ECOSYSTEM

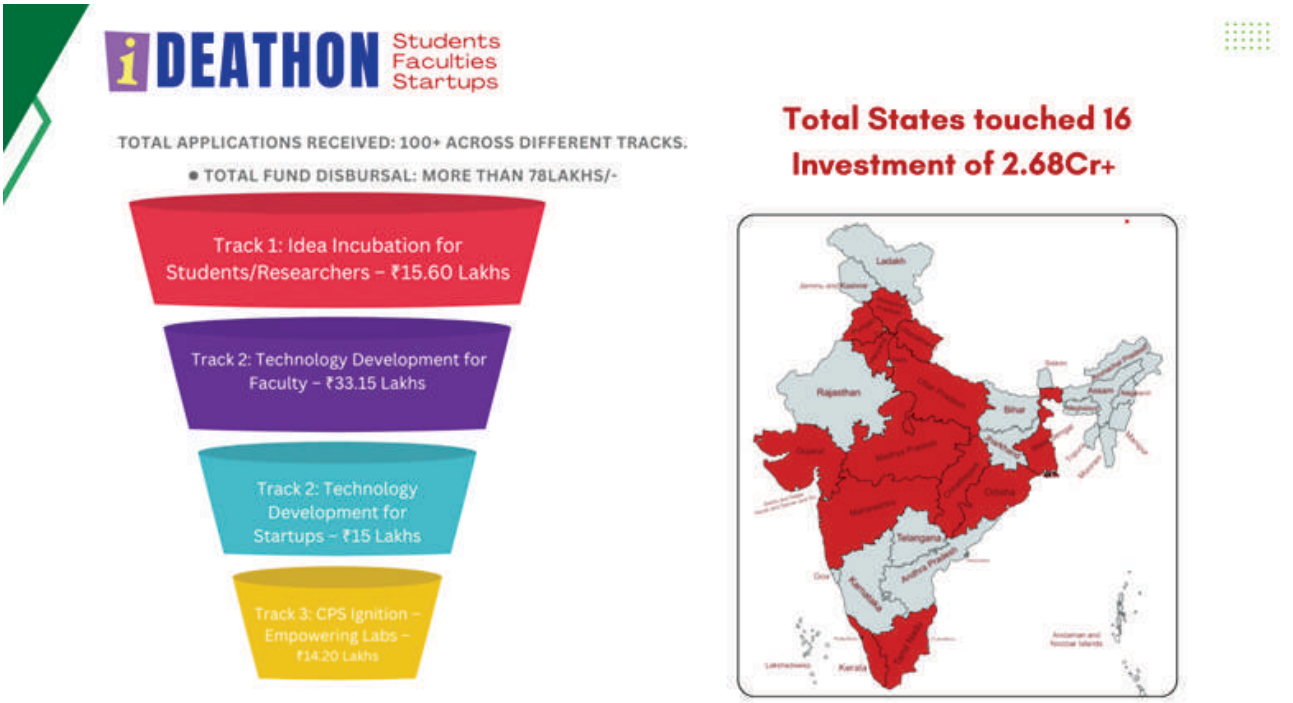






iHub - AWaDH, in synergy with IIT Ropar's innovation culture, has emerged as a vibrant platform for deep-tech entrepreneurship. Over 200 startups have been nurtured under various programs, benefiting from access to labs, mentorship, and funding. Flagship programs like SWACH Accelerator (in partnership with ISC-FICCI) and ASAP (AWaDH Sustainability Accelerator Program) have collectively disbursed more than ₹2 crore in funding support. The foundation has also forged strategic partnerships with investors, incubators, and policy makers to create an enabling ecosystem for market-ready innovations. Many of these startups have co-developed solutions with IIT Ropar researchers, such as AI-powered soil and water analysis tools, showing how academia-industry collaboration can lead to scalable impact.

SPRINT IDEATHON



The SPRINT Ideathon, led by iHub – AWaDH at IIT Ropar, was a vibrant platform empowering students, researchers, startups, and CPS labs to present and scale transformative ideas. The 2025 edition received 107+ applications from recognized universities, startups, and innovators, spanning diverse proposals in tech and skilling. With a fund disbursal of 77 lakhs and a total commitment exceeding 2.68 crore across all categories, the initiative created a meaningful impact across 16 states, driving innovation at a national scale.

GENESIS EIR PROGRAM



iHub – AWaDH at IIT Ropar was selected under the prestigious GENESIS Entrepreneurs-in-Residence (EIR) program by the Ministry of Electronics and IT (MeitY). Through this initiative, AWaDH identified and supported promising early-stage startups, investing 20 lakh in three high-potential ventures, catalyzing innovation in deep-tech and sustainability.

PRAGATI: NATIONAL DEEPTECH STARTUP SUMMIT



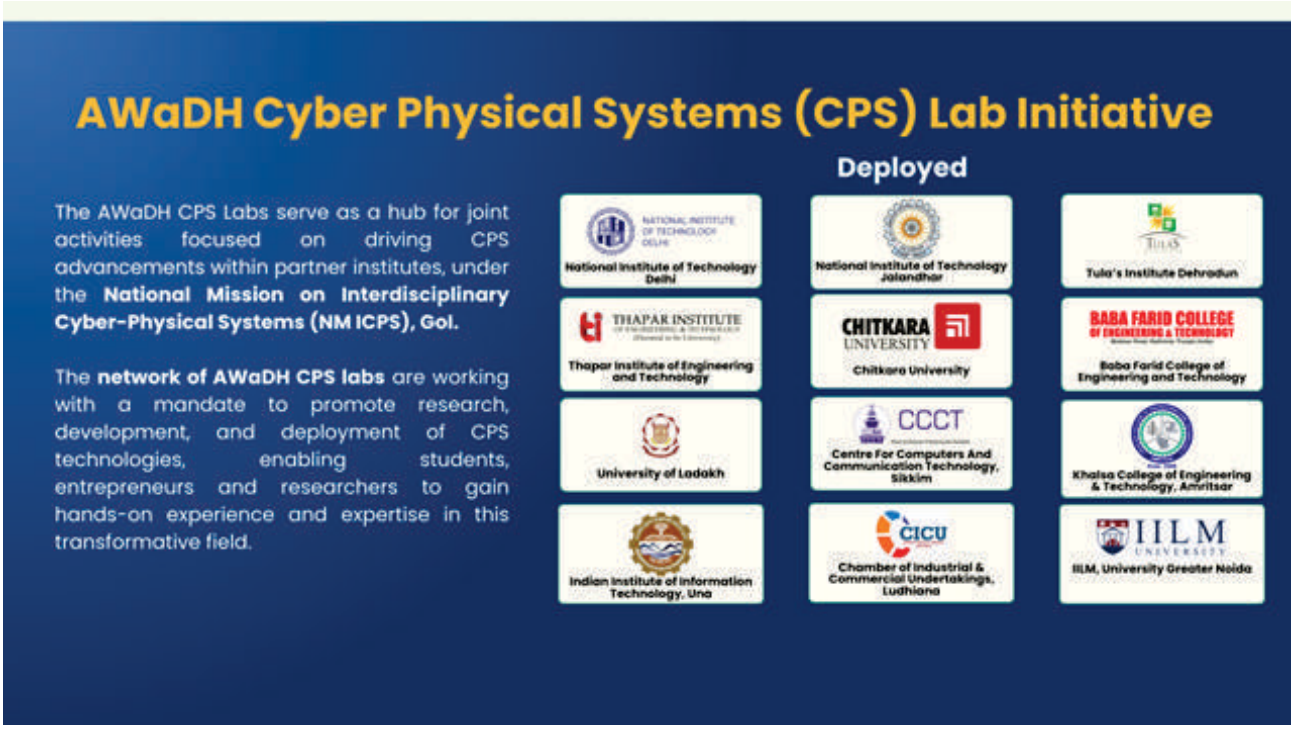
The PRAGATI 2025 summit, organized at AWaDH IIT Ropar, was a national celebration of innovation and deep-tech entrepreneurship. The event highlighted the transformational journey of startups, innovators, and student entrepreneurs associated with iHub - AWaDH. Over 2.6 crore worth of grants and awards were announced during the summit, including GENESIS, DRONAGIRI GIA, and SPRINT Innovation Challenge recognitions. Notably, the summit also saw the release of the Small Farmholding Survey Report, developed in collaboration with the Office of the Principal Scientific Adviser to GoI, offering granular insights into the lives of India's smallholder farmers. The summit reaffirmed IIT Ropar's role as a crucible for innovation-driven development.

SKILLING AND CAPACITY BUILDING



iHub - AWaDH has designed and implemented diverse skilling initiatives aimed at students, researchers, and grassroots communities, often hosted at IIT Ropar's technogically enriched campus. Over 5,000 individuals have benefited from capacity-building efforts that include technical bootcamps, workshops, and innovation challenges. Programs such as Environment IoT Kits for Schools, STEM learning labs, and CPS-focussed fellowships have extended the institute's research capabilities to the next generation of technologists. Regular sessions on intellectual property, startup mentoring, and technology commercialization have ensured that the skilling framework is not just about awareness, but about empowerment.

AWaDH CPS LAB INITIATIVE



To catalyze deep-tech innovation across the nation, iHub - AWaDH at IIT Ropar has led a pioneering effort under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) by establishing a network of 12 Cyber-Physical Systems (CPS) Labs across India. These labs have been strategically set up at institutions such as the **National Institute of Technology Delhi, Thapar Institute of Engineering and Technology, University of Ladakh, Indian Institute of Information Technology, Una, National Institute of Technology Jalandhar, Chitkara University, Centre for Computers and Communication Technology, Sikkim, Chamber of Industrial & Commercial Undertakings, Ludhiana, Tula's Institute, Dehradun, Baba Farid College of Engineering and Technology, Khalsa College of Engineering & Technology, Amritsar, and IILM University, Greater Noida.**

These labs serve as regional epicenters for hands-on skilling, applied research, and real-world problem-solving using technologies like IoT, robotics, AI, and embedded systems. They provide access to modular CPS kits, sensor nodes, data acquisition systems, and prototyping platforms, enabling students, researchers, and entrepreneurs to build, test, and iterate their solutions with ease. By enabling grassroots innovation across diverse geographies—including remote and tier-2/3 regions—this initiative strengthens India's decentralized innovation capacity and bridges critical gaps in applied tech education.

Significantly, this network amplifies the technological footprint of IIT Ropar, positioning it not just as a leader in academic research but as a national enabler of next-gen innovation infrastructure. With more labs in the pipeline, this initiative continues to expand its impact, ensuring that the benefits of cutting-edge technology reach every corner of the country. AWaDH's CPS Lab Initiative stands as a testament to its mission of making innovation inclusive, accessible, and sustainable for all.

CONFERENCES AND GLOBAL DIALOGUE

As a national institute of eminence, IIT Ropar has provided a powerful platform for global discourse through flagship events led by iHub - AWaDH. The Second International

Conference on Agriculture-Centric Computation (ICA 2024), organized in collaboration with IIIT Delhi, featured thought leaders including Prof. Abdulmotaleb El Saddik, Dr. Athula Ginige, and Dr. Amy Reibman, who discussed the future of data-driven agriculture and precision farming. IIT Ropar also welcomed international scholars through partnerships like the Shastri Indo-Canadian Fellowship Program, further reinforcing its role in advancing global academic and research exchange in emerging technologies.



WOMEN IN DEEPTECH

Empowering women in technology is an essential part of the mission at iHub - AWaDH and IIT Ropar. Through initiatives such as the WISE Fund, the hub has supported 53 women entrepreneurs, including 5 women-led tech projects that received funding worth ₹0.99 crore. IIT Ropar has played host to several of these initiatives, ensuring that women innovators have access to the same world-class resources, mentorship, and networks as their peers. Events like Women-in-Tech roundtables and hands-on innovation workshops have encouraged greater representation and inclusivity across the ecosystem.

AWaDH NAMED BEST INCUBATOR IN PUNJAB AT SAMAGAM 2.0

At SAMAGAM 2.0, iHub – AWaDH was recognized as the Best Incubator in Punjab, highlighting its robust support for startups and innovation. The award reaffirms its critical role in nurturing deep-tech entrepreneurship and driving regional growth through IIT Ropar's academic and research strengths.



AWARDS & RECOGNITIONS

iHub - AWaDH, IIT Ropar, has emerged as a national exemplar of innovation, entrepreneurship, and inclusive development, earning prestigious accolades across the Indian deep-tech landscape. In 2024, it was honoured with the BHARAT Incubator Award by the Entrepreneurs Association of India, acknowledging its excellence in



nurturing startups with real-world impact. The Confederation of Indian Industry (CII) recognized AWaDH as the Best Incubator in Startup & Innovation, further validating its strategic alignment with national priorities in science and technology. At SAMAGAM 2.0, a key regional startup forum, AWaDH received the Best Incubator Award from the Ludhiana Angels Network for catalyzing entrepreneurial growth in North India. Its contributions to the food and agriculture ecosystem were also acknowledged by the Indian Chamber of Food and Agriculture, which presented AWaDH with the Innovation Program Leadership Award. Reinforcing its commitment to capacity building, CSR Universe awarded the foundation for its initiatives in Skill Development & Livelihood. AWaDH's work in promoting women-led innovation has been lauded on national platforms, with endorsements from Namita Thapar, Executive Director at Emcure Pharmaceuticals, and a spotlight in Prime Insights, positioning it as a beacon of transformative leadership emerging from IIT Ropar.

EVENT AND ACTIVITIES



Syntacs 25

The Department of Computer Science and Engineering, IIT Ropar, hosted Syntacs 25, a dynamic event celebrating innovation and collaboration. The event featured expert talks on 5G, AI, ML, Blockchain, and edge computing, along with a panel on research and career opportunities. Highlights included:

- Keynotes by industry leaders from 5G, Intel, and academia
- Insightful panel discussions, including a Women's Day special
- A showcase of cutting-edge posters and live demos on AI, VR, drones, and more
- A warm Alumni Meet-Up strengthening the CSE community





International Women's Day Celebrations – IIT Ropar

The Women Forum at IIT Ropar organized a week-long celebration of International Women's Day (March 7–12, 2025), focusing on empowerment, well-being, and inclusivity. Highlights included a session by Ms. Ririi G Trivedi on work-life balance and stress regulation through mindfulness techniques. The events witnessed enthusiastic participation from students, faculty, and staff. Dr. Neha Sardana, Chairperson of the Women Forum, highlighted the role of such initiatives in building a supportive academic environment. The celebration concluded with a powerful Kalarippayattu performance, reflecting strength and resilience.





Visitor's Conference at Rashtrapati Bhavan

A two-day Visitor's Conference at Rashtrapati Bhavan brought together leaders from academia, industry, and government to discuss the future of higher education in India. Hon'ble President of India, Smt. Droupadi Murmu, emphasized the need for globally competitive education, stronger academia-industry linkages, and research aligned with national goals. Union Education Minister Shri Dharmendra Pradhan highlighted NEP 2020 as a national mission focused on flexibility, innovation, and student empowerment. Prof. Rajeev Ahuja, Director, IIT Ropar, spoke on the importance of translational research bridging academia and real-world impact.



IIT Ropar Celebrated International Women's Day 2025

IIT Ropar had celebrated International Women's Day 2025 on 8th March with enthusiasm and inclusivity. The event had featured a traditional dress fashion show, a talent showcase, and a gol gappe eating competition, bringing together participants from across the institute.



16th Foundation Day – IIT Ropar

IIT Ropar had celebrated its 16th Foundation Day on 24th February 2025, marking over 15 years of academic and research excellence. Dr. G. Satheesh Reddy, Former Chairman, DRDO, had graced the occasion as Chief Guest and delivered an address on India's advancements in defence and the role of IITs in fostering self-reliance and innovation.

Prof. Rajeev Ahuja, Director, IIT Ropar, had highlighted key milestones, including:

• Recognition as one of the fastest-growing IITs with strong defence collaborations





• Establishment of a 300 Cr Centre of Excellence in AI for Agriculture
• Introduction of India's first degree in Digital Agriculture
• Strengthening of the TBI Foundation to support startups
• Launch of an AI minor course with large-scale student participation
• Strategic push towards semiconductor research and expanded iHub-AWaDH initiatives

The celebration had also recognized excellence through awards to distinguished staff, faculty, and alumni.

IIT Ropar Commenced 16th Foundation Day Celebrations



IIT Ropar had commenced its 16th Foundation Day celebrations on 21st February 2025 with inspiring talks and workshops. The program had featured an address by Mr. Shaurya Doval, Managing Director of TORCH Investments Ltd., followed by a Capacity Building Workshop for staff led by Sh. Vivek Atray (Ex-IAS) and Col. Daljeet Singh Cheema (Retd.). The day had concluded with interactive discussions and a tour of academic departments and research centres, marking the start of Foundation Week.

Stratify Club Organized Eye Camp and Case Study Competition



Stratify – the Data Science and Management Club at IIT Ropar – had organized two impactful events, reinforcing its focus on learning, innovation, and community welfare. In collaboration with ENN Opticals and supported by Fastrack, Titan Eye+, and Opium Eyewear, the club had conducted a free eye check-up camp at the Utility Circle, which had seen enthusiastic participation from students, faculty, and staff. Additionally, a Case Study Competition had been held in partnership with Gazelle Information Technologies, where participants had presented AI-driven solutions to real-world challenges. The event had been judged by Dr. Amritesh (Assistant Professor, IIT Ropar) and sponsored by Mrs. Sonali, who had also awarded the winners.

EE Research Day 2025 at IIT Ropar

The Department of Electrical Engineering had hosted EE Research Day, inaugurated by Prof. Rajeev Ahuja, Director, IIT Ropar. The event featured keynote talks by industry leaders Mr. K.P. Sharma (VP, Schneider Electric) and Dr. Parthasarathy Ramaswamy (VP, Intel) on IoT, automation, AI/ML, robotics, and embedded systems. Students from IIT Ropar and other institutes actively participated in poster and paper presentations, circuit design challenges, demonstrations, and a hands-on workshop.

Event Highlights:

• **Poster Presentation:** Shivdeep (1st), Subal Beura (2nd), Tushar Nistane (3rd)
• **Paper Presentation:** Azhar Yaseen N J (1st), Om Andri (2nd), Swati Agarwal (3rd)





- **Circuit Design:** Aman Mittal (1st), Krishan Mehara & Azhar Yaseen N J (2nd), Krishna Kumar & Parau Majhi (3rd)
- **Demonstration:** Aaqib Ahmad (1st), Vikas Kumar Malav (2nd), Sundeep Kumar (3rd)

Industry Talk by Stratify, MSDSM Club – IIT Ropar



Stratify, the Data Science and Management Club of IIT Ropar, successfully organized an industry talk by Mr. Palash Bhattacharya, Director of Analytics, Samsung SDS. Centered on the theme "The Pervasive Influence of Data Science on Contemporary Business Paradigms," the session offered valuable insights into the transformative role of data-driven strategies in modern industries. Mr. Bhattacharya shared his expertise and experiences, inspiring students to harness data science for impactful business decision-making.



CESAFIESTA 3.0

IIT Ropar hosted CESAFIESTA 3.0 on February 8–9, 2025, a two-day symposium bringing together leading experts, industry pioneers, and young talent in civil engineering to reimagine the built environment. The event was inaugurated by Shri Amardeep Singh Rai, ADGP Punjab, whose keynote set the tone for collaboration and innovation. With participation from national and international delegates, the symposium fostered impactful discussions, knowledge exchange, and networking opportunities.

International Day of Women and Girls in Science

IIT Ropar, in collaboration with INYAS, celebrated the International Day of Women and Girls in Science on February 11, 2025. The event featured distinguished speakers from Physics, Biology, Chemistry, and Mathematics, making it a resounding success and an inspiring platform for promoting women's participation in science.





IIT Ropar Hosts First E-Summit

IIT Ropar – Technology Business Incubator Foundation (TBIF), in collaboration with E-CELL and Advitiya, successfully organized the institute's first E-Summit. The event was inaugurated by Dr. Atharva Poundarik, Director, TBIF, alongside Ashneer Grover and Madhuri Jain Grover. A highlight of the summit was the Star Talk, where Ashneer Grover shared candid insights on entrepreneurial mindset, scaling challenges, VC hesitancy, and valuations, followed by an engaging Q&A. The summit reinforced TBIF's mission of nurturing a vibrant entrepreneurial ecosystem at IIT Ropar.





76th Republic Day Celebrations

IIT Ropar celebrated the 76th Republic Day with a flag-hoisting ceremony, march-past, and an inspiring address by Prof. Rajeev Ahuja, Director. He emphasized youth leadership, teamwork, and a shared vision for Viksit Bharat, highlighting it as a way of living and progressing collectively. Prof. Ahuja showcased IIT Ropar's achievements, including its thriving startup ecosystem with 150+ startups (25% in deep tech), active collaborations with the armed forces, campus expansion plans, and a growing alumni network. He also commended the institute's success in sports, with students and staff securing gold medals.





PIWOT Satellite Conference

The Office of International Relations and Alumni Affairs, IIT Ropar, hosted the PanIIT World of Technology (PIWOT) Satellite Conference on 23rd January 2025, bringing together experts from academia, industry, and defense. The conference focused on AI, Industry 5.0 skilling, and defense technology, featuring engaging panel discussions. A key highlight was the signing of an MoU with WHEELS Global Foundation, along with visits to TBIF, Central Research Facilities, and the Dr. Ranbir Singh Tinkerers' Laboratory.





Ed-Vantage 2025

The Metallurgical and Materials Society (MetSoc), in collaboration with iHub-AWaDH, IIT Ropar, organized Ed-Vantage 2025, a two-day career workshop on January 24–25, 2025. The workshop focused on preparing students with the skills and insights needed to navigate careers in a rapidly evolving global landscape.





iHub-AWaDH, IIT Ropar Celebrates National Startup Week

iHub-AWaDH at the Indian Institute of Technology Ropar celebrated National Startup Week with an interactive session aimed at fostering innovation and entrepreneurship among students. During the event, a grant of 5 Lakh was awarded to Deepak Garg, Founder of Innow8, for their pioneering work in STEM education. The initiative underscores iHub-AWaDH's commitment to empowering startups and creating impactful learning opportunities, while continuing to serve as a launchpad for visionary innovations driving sustainability and growth.





Lohri Celebrations at IIT Ropar

The IIT Ropar family came together to celebrate Lohri with warmth, togetherness, and gratitude. The event, held at the Senate Hall, began with an inspiring address by Prof. Rajeev Ahuja, Director, IIT Ropar, who highlighted the institute's notable achievements over the past year and emphasized the importance of continued innovation and sustainability in the journey ahead.





METRIX-The 6th Edition

The Department of Mechanical Engineering, IIT Ropar, hosted METRIX (Mechanical Engineering Time for Research Ideas Exchange) on January 6–7, 2025. Since its inception in 2018, METRIX has been a vibrant platform for knowledge-sharing, innovation, and collaboration among research scholars, faculty, and industry experts. This year's edition carried forward the tradition with inspiring discussions and fresh ideas, setting the stage for future breakthroughs.



METRIX 6.0



METRIX 6.0

IIT Ropar & HP PWD Collaborate for Sustainable Infrastructure

The Department of Civil Engineering, IIT Ropar, in collaboration with the Himachal Pradesh Public Works Department (HP PWD), organized a two-day workshop-cum-monitoring conference on sustainable infrastructure development. The event was inaugurated by Hon'ble Public Works and Urban Development Minister, Shri Vikramaditya Singh, along with Prof. Rajeev Ahuja, Director, IIT Ropar, and Shri N.P. Singh, Engineer-in-Chief, HP PWD. This partnership marks a vital step in translating academic research into real-world applications, driving innovation and resilience in infrastructure development across Himachal Pradesh and beyond.







IIT Ropar Hosts Training Programs for JNV Teachers

Indian Institute of Technology Ropar successfully conducted two residential training programs for Science and Math teachers from Jawahar Navodaya Vidyalayas (JNVs) across Punjab, Himachal Pradesh, Jammu & Kashmir, and Ladakh (Chandigarh Region). The programs focused on modern teaching methodologies, advanced subject knowledge, and innovative tools to empower teachers in inspiring the next generation. With 100+ JNV teachers participating, the initiative reaffirmed their commitment to strengthening education in rural India.

IIT Ropar Hosts Sheet Metal Forming 2024 (SMF 2024)

IIT Ropar hosted the Sheet Metal Forming (SMF) 2024 Conference on December 5–6, 2024, with participation from national and international delegates. The event featured experts from AutoForm Engineering, Tata Steel, Ford India, JBM Auto Ltd., Altair, and others. Key highlights included the Rasquinha Memorial Lecture by Dr. Santosh Kumar (VP, Jindal Stainless Ltd.), technical sessions, and panel discussions on the future of sheet metal forming. The conference successfully concluded under the leadership of Prof. Anupam Agrawal, Prof. Navin Kumar, and Prof. Singla.









Vigyanotsav 2.0: Inspiring Young Minds at IIT Ropar

IIT Ropar successfully hosted Vigyanotsav 2.0, organized by Pehchaan Ek Safar and co-organized by the Women's Forum, with active participation from over 20 schools and 120+ students. The event provided a vibrant platform for young minds to

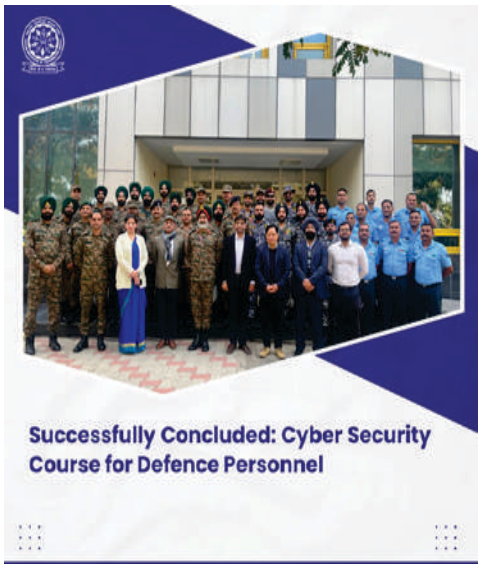
engage in exciting activities, hands-on demonstrations, and discussions that nurtured curiosity and innovation in science and technology. With support from KISEM and Kendriya Vidyalaya, IIT Ropar, Vigyanotsav 2.0 stood out as a meaningful initiative to inspire and encourage the next generation of innovators.

Advanced RF Circuit Design & Simulation Program Conducted at IIT Ropar



The Department of Electrical Engineering, IIT Ropar, conducted an intensive training program on High-Power RF Circuit Design & Simulation for Lam Research scientists from November 25 to December 7, 2024. The immersive program combined in-depth theoretical insights with hands-on practical applications, enabling participants to explore advanced concepts and techniques in RF circuit design. This initiative not only enhanced participants' technical expertise but also fostered collaboration and knowledge exchange between IIT Ropar and Lam Research, further advancing innovation in the field of high-power RF technologies.

Future-Ready Cyber Defence: CoE SARDS Trains Armed Forces Personnel



Under the aegis of CoE SARDS, IIT Ropar, the 12-week Cyber Security Course for Defence Personnel successfully concluded with an inspiring address by Brig RS Chatha, ADG DRZ (West). This second batch comprised 41 students, who were trained extensively on a wide spectrum of topics, including cyber threats, security measures, countermeasures, mitigation techniques, cyber forensics—including malware analysis—and industrial cyber standards. Participants also gained valuable hands-on experience in the state-of-the-art cyber lab, enhancing their practical understanding of real-world cyber challenges. The dedication, enthusiasm, and active participation of the trainees underscored the armed forces' commitment to developing future-ready capabilities in cyber defense, strengthening national security in the digital era.

Vigilance Awareness Week 2024 at IIT Ropar

IIT Ropar successfully organized a Capacity-Building Program as part of Vigilance Awareness Week 2024, focusing on Conduct Rules and e-Procurement. The initiative aimed to equip new inductees as well as mid- and senior-level employees with essential knowledge and skills to uphold integrity and accountability.

The program featured distinguished speakers:

- Sh. Krishna Mohan, Former Addl. Chief Secretary and Home Secretary, Haryana & UT Chandigarh
- Dr. Parmod Kumar Kalia, Former General Manager, Punjab Urban Planning & Development Authority & Punjab Roads and Bridges Development Board

Through such initiatives, IIT Ropar reaffirms its commitment to fostering a vigilant, transparent, and accountable institutional culture.





Alumni Meet 2024 at IIT Ropar

Indian Institute of Technology Ropar hosted a memorable Alumni Meet for the batches of 2014 and 2015 on 28th September 2024, with around 30 alumni traveling from across the country to reconnect with friends, faculty, and their alma mater. The event began with a warm welcome address by Dr. Atharva Poundarik, Associate Dean (IR & AA), highlighting the importance of alumni engagement and collaborations. Dr. Puneet Goyal, Alumni Coordinator, followed with a presentation reminiscing past memories, showcasing ongoing alumni initiatives, and outlining plans for deeper collaborations. Aditya Kumar Sahu, Student Council President, also shared updates on current student-club activities, fostering a sense of continuity between past and present IIT Ropar communities.





Plantation Drive - Ek Ped Maa Ke Naam





On 25th September 2024, Sh. K Sanjay Murthy, Secretary, Ministry of Education, and Prof. Rajeev Ahuja, Director, IIT Ropar, participated in the Plantation Drive – Ek Ped Maa Ke Naam under the Swachh Bharat Mission 2024. During the event, Sh. Murthy highlighted the success of the mission and emphasized the active role of government institutions in promoting a clean and green environment. Around 250 trees were planted, with enthusiastic participation from the IIT Ropar community. Dignitaries including Dr. Dinesh Siddaiah, Officiating Registrar, and Dr. Pushpendra P. Singh, Dean R&D, also joined to support this noble initiative.

Inaugural Address for Cyber Security Course at IIT Ropar



The Centre of Excellence for Studies and Applied Research in Defence and Security (CoE SARDS) at IIT Ropar organized the inaugural address for the ongoing Cyber Security Course, with 41 participants from the Tri Services enrolled in this intensive three-month program. Brig RS Chatha, ADG DRZ (West), delivered an inspiring address, motivating participants to fully leverage the course. RAdm B Vashishtha, Professor of Practice, highlighted the program's importance and encouraged excellence. The course is being conducted under the expert guidance of Dr. Basant Subba and Dr. Geeta Yadav from the CSE Department.

Orientation for the 2024 Cohort of the Minor in AI at IIT Ropar



On 24th August 2024, IIT Ropar conducted the orientation for the 2024 cohort of its Minor in AI program, with over 2,000 students registered in the first batch. Prof. Rajeev Ahuja, Director, IIT Ropar, addressed the students, emphasizing that AI is not just the future—it is transforming the present. The program is designed to equip students with essential knowledge and skills to innovate and lead in this rapidly evolving field. Covering topics from deep learning to AI ethics, the curriculum prepares students to tackle real-world challenges and contribute meaningfully to technological advancements.

First Regional Workshop on Digital Public Goods Hosted at IIT Ropar



On 13th August 2024, IIT Ropar, in collaboration with PGI Chandigarh and the Department of Health & Family Welfare, Govt. of Punjab, hosted the first regional workshop on Digital Public Goods (DPGs). The event brought together program officers, public health experts, IT specialists, DPG platform providers, and civil society representatives to foster collaboration, knowledge exchange, and innovation. Participants explored key strategies, addressed challenges, and identified opportunities for the development and deployment of DPGs. The workshop aimed to generate actionable insights and build strong partnerships, empowering stakeholders to harness digital technologies for the greater public good.

CEVA Workshop on Earthquake-Safe Construction in Mandi

The Centre for Education on Vernacular Architecture (CEVA) at IIT Ropar, in collaboration with DDMA Mandi, organized a one-day workshop on 16th August 2024 at the DC office, Mandi, focusing on Earthquake-Safe Construction Practices and Retrofitting of Buildings. Chaired by Mr. Apoorv Devgan, DC Mandi, the session featured insights from Dr. Mitesh Surana and Dr. Aditya Singh Rajput on Himalayan construction methods like Kath-Kunni, with support from student contributors. About 60 participants from government agencies and



NGOs attended, marking a step toward safer and more resilient infrastructure, sponsored by the National Mission on Himalayan Studies.

Launch of Kshitij 2024 Magazine at IIT Ropar



On Independence Day 2024, IIT Ropar proudly launched Kshitij 2024, the official annual student magazine. Featuring content ranging from science and technology to lifestyle, institute culture, and literature, the magazine showcases the creativity and intellect of the IIT Ropar community. Prof. Rajeev Ahuja, Director, IIT Ropar, shared his insights and vision for the edition, inspiring students with his experience as a highly cited researcher in Sweden and India. The launch was graced by Dr. Dinesh Siddaiah (Officiating Registrar), Dr. Aparna Nandha (Assistant Professor, HSS), and Dr. Arun Kumar (Associate Dean, Student Affairs).

IIT Ropar Hosts Key Engagement on Punjab's Agricultural Landscape



Indian Institute of Technology Ropar, in collaboration with iHub-AWaDH, recently hosted an engagement session on "Punjab's Agricultural Landscape." The event brought together ten MLAs from Punjab along with other stakeholders to explore how IIT's advanced technologies can benefit farmers in partnership with the Punjab government. Discussions focused on crop diversification, groundwater depletion, and the role of AI in agriculture, highlighting the importance of collective efforts to address these pressing challenges.

IIT Ropar Celebrates the 10th International Day of Yoga

On 21st June 2024, the IIT Ropar community came together to celebrate the 10th International Day of Yoga at the Permanent Campus. The event, held from 7:00 am to 8:30 am, emphasized yoga's role in promoting holistic well-being under this year's theme: "Yoga for Self and Society."

Yoga Classes: Led by Dr. Rajiv Kumar, General Secretary of the Chandigarh Yoga Association, participants practiced various postures and breathing techniques. Prof. Rajeev Ahuja, Director, IIT Ropar, highlighted that yoga is a journey toward strength, flexibility, and mental clarity. Dr. Arun Kumar, Associate Dean (Student Affairs), along with Dr. TV Kalyan and Dr. Ajeetpal Singh, Sports Officer, organized the program seamlessly.

Pledge: The session concluded with all participants taking an oath to continue practicing yoga for a healthy, stress-free, and balanced life.





Orientation for New B.Tech Students at IIT Ropar

The orientation for the newly admitted B.Tech students was held on 27th July 2024 in the grand Auditorium at IIT Ropar. A total of 414 students, accompanied by their parents, gathered to begin their exciting academic journey.

Keynote Address: Prof. Rajeev Ahuja, Director, IIT Ropar, shared insights emphasizing curiosity, hard work, and community spirit, inspiring both students and parents alike. The orientation introduced students to campus life, academic excellence, and diverse opportunities, while reassuring parents about the nurturing environment that awaits their children.





SRIJAN Program Visit to IIT Ropar

The SRIJAN program, part of Vidyarthi Vigyan Manthan (VVM) organized by Vijnana Bharati (VIBHA) in association with NCSM and NCERT, is being held in Chandigarh from 14th to 20th July 2024. On 17th July, 55 national and zonal winner students—selected from over 1,25,000 applicants—visited IIT Ropar along with 15 program organizers. The visit was hosted by IIT Ropar's TBIF, Department of Mechanical Engineering, and Department of Chemistry, featuring a 2-hour interactive session. The program aimed to inspire and motivate these

exceptional students, providing exposure to science, technology, and entrepreneurship and nurturing them as future leaders.



IIT Ropar Celebrates its 13th Convocation

IIT Ropar proudly hosted its 13th Convocation, graced by Mr. Sanjiv Mehta, former Chairman & CEO of Hindustan Unilever Limited, as the esteemed guest. The event was presided over by Mr. Adil Zainulbhai, Chairman, along with Prof. Rajeev Ahuja, Director, IIT Ropar, whose leadership continues to shape the institution's vision. This year, 601 students graduated, including 342 B.Tech, 57 M.Sc, 150 M.Tech, 40 Ph.D., and 12 B.Tech–M.Tech Dual Degree students. The convocation celebrated the hard work, dedication, and achievements of our graduates, leaving them inspired for the journey ahead.





IIT Ropar and Rotary Club Ropar Central Collaborate for a Greener Future





On 12th July 2024, IIT Ropar, in collaboration with Rotary Club Ropar Central, organized a tree plantation drive at its campus, planting approximately 300 saplings. The initiative brought together students, faculty, and Rotary volunteers to promote environmental awareness, reduce carbon footprint, and foster a greener campus. The drive was inaugurated by Dr. Dinesh Siddaiah, Registrar, IIT Ropar, who expressed gratitude to the Rotary team led by Sh. Kultar

Singh. Esteemed guests included Sh. Ravinder Kumar (Joint Registrar), Sh. Nand Kishore, Retired Forest Officer Surinder Singh, and Forest Range Officer Baljinder Singh. Staff and students actively participated, making it a collective effort toward sustainability. IIT Ropar appreciates this initiative and looks forward to continuing its partnership with Rotary Club Ropar Central.

Implementation of New Criminal Laws from July 2024





India is set for a major overhaul of its criminal justice system with the enactment of the Bharatiya Nyaya Sanhita, Bharatiya Nagrik Suraksha Sanhita, and Bharatiya Sakshya Adhiniyam, effective 1st July 2024. These laws will replace the Indian Penal Code (IPC), Code of Criminal Procedure (CrPC), and Indian Evidence Act, modernizing provisions related to civil rights, penal measures, and evidentiary rules. Prof. Supinder Kaur from Panjab University, Chandigarh, provided expert insights on these reforms during a session organized by IIT Ropar. The institute extends special thanks to Dr. Arun Kumar (Dean, Student Affairs), Dr. Rajesh Nair (Dean, FA&A), and Dr. Dinesh Siddaiah (Registrar) for coordinating this informative event.

Shiksha Mahakumbh 2.0 at IIT Ropar




IIT Ropar hosted Shiksha Mahakumbh 2.0: International Conference on Indian Education System for Global Development, with Hon'ble President Draupadi Murmu as Chief Guest. Prof. Rajeev Ahuja inaugurated the dedicated office for the conference. The event brought together delegates from the Department of Higher Education, Vidya Bharti North Zone, and IIT Ropar to discuss strategies and innovations for enhancing education systems globally.

Maiden WATER & GIS Deeptech Summit

The maiden WATER & GIS Deeptech Summit, held at Bharat Mandapam, New Delhi, was collaboratively hosted by IIT Ropar and IIT Tirupati. The summit showcased a series of





groundbreaking initiatives to advance sustainable innovation and collaboration in water management and technology, including:

- Sustainability Accelerator Program: Led by Mayuresh Raut and Amit Gupta, aimed at accelerating environmentally conscious ventures.
- NIT Delhi – IIT Ropar iHub AWaDH CPS Skilling Initiative: Residential course on CPS and IoT technologies.
- VIKAS Initiative by IIT Tirupati: Promoting technology-driven solutions for water management.
- SWACH Accelerator Initiative: Collaboration between Innovation Mission Punjab and FICCI's Indian Sanitation Coalition Roadshow.

The summit successfully fostered knowledge exchange, collaboration, and the launch of innovative programs for sustainable water and GIS technologies.

International Women in Engineering Day 2024 Celebrated at IIT Ropar

On 24th June 2024, the Women's Forum of IIT Ropar, in association with INYAS, hosted an inspiring event to honor women pioneers in engineering. Highlights of the event included:

- Dr. Geeta Yadav (CSE): Shared her journey and insights in computer science and engineering.
- Dr. Kasturi Sala (ME/Materials): Discussed advancements in materials science and mechanical engineering.
- Dr. Vishakha Sood (Civil Engg): Explored contributions to civil engineering and infrastructure development.

The event celebrated achievements, inspired young engineers, and fostered dialogue on women's impactful role in engineering.





Farewell to IIT Ropar Graduating Batch of 2024

Indian Institute of Technology Ropar warmly bid farewell to the Class of 2024, celebrating their remarkable achievements and milestones. The institute expressed pride in their accomplishments and extended best wishes for their future endeavors, looking forward to witnessing their continued success in shaping the world.





World Intellectual Property Day Celebrated at IIT Ropar

On the occasion of World Intellectual Property (IP) Day, IIT Ropar, in association with iHub-AWaDH @ IIT Ropar, PI-RAHI: Northern Region S&T Cluster, and the Punjab State Council for Science and Technology, organized an enriching session on IP and innovation. The theme of the year, "IP and the SDGs: Building Our Common Future with Innovation and Creativity," guided the discussions. The event featured a captivating talk by Ms. Reema Sahni Mediratta, RTTP, Patent and Trademark Agent, Danida Fellow, and Head of the Innovation-Technology Transfer Office at FITT, followed by an exclusive IPClinic session addressing IP queries from the audience.





राजभाषा गतिविधियां



नगर राजभाषा कार्यान्वयन समिति रुपनगर की बैठक में संस्थान पदाधिकारियों की सहभागिता

नगर राजभाषा कार्यान्वयन समिति रुपनगर की वित्तीय वर्ष 2024-25 की प्रथम अर्धवार्षिक बैठक दिनांक 08 मई, 2024 को संपन्न हुई। इस बैठक में नराकास रुपनगर के अंतर्गत आनेवाले सभी बैंक, उपक्रमों एवं संस्थानों के पदाधिकारियों / कर्मचारियों ने अपनी सहभागिता सुनिश्चित की।

इस बैठक में भारतीय प्रौद्योगिकी संस्थान रोपड़ की ओर से डॉ. दिनेश के.एस. (कार्यवाहक कुलसचिव), श्री विपिन कुमार (हिंदी अधिकारी) तथा डॉ. गिरीश प्रमोदराव कठाणें (वरिष्ठ हिंदी अनुवाद अधिकारी) ने सहभागिता ली। इस अवसर पर उपस्थित सभी बैंक, उपक्रमों एवं संस्थानों के पदाधिकारियों / कर्मचारियों को अपने-अपने संस्थानों में राजभाषा हिंदी के समुचित विकास की दिशा में कार्य करने हेतु आवश्यक कदम उठाने पर अपने विचार व्यक्त किए। बैठक में मार्गदर्शक के रुप में उप निदेशक, राजभाषा विभाग, गृह मंत्रालय, भारत सरकार श्री कुमार पाल शर्मा जी ने सभी उपस्थितों को राजभाषा हिंदी के सफल कार्यान्वयन हेतु अमूल्य मार्गदर्शन प्रदान किया। इस अवसर पर श्री मनिष त्रिपाठी, अध्यक्ष, नराकास रुपनगर तथा श्री प्रदीप चतुर्वेदी, सदस्य सचिव नराकास ने भी सभी के साथ अपने विचार व्यक्त करते हुए नराकास रुपनगर के सदस्य कार्यालयों द्वारा राजभाषा हिंदी में किए जा रहे कार्यों की सराहना की।



श्री कुमार पाल शर्मा, उप निदेशक, राजभाषा विभाग, गृह मंत्रालय उपस्थितों को मार्गदर्शन करते हुए



श्री मनिष त्रिपाठी, अध्यक्ष, नराकास रुपनगर उपस्थितों के साथ अपने विचार साझा करते हुए



श्री प्रदीप चतुर्वेदी, सदस्य सचिव, नराकास रुपनगर नराकास रुपनगर की गतिविधियों का प्रतिवेदन साझा करते हुए



सदस्य कार्यालयों से पधारे अधिकारी, कर्मचारीगण

नराकास रुपनगर की राजभाषा शील्ड वितरण समारोह

नगर राजभाषा कार्यान्वयन समिति रुपनगर की वित्तीय वर्ष 2024-25 की प्रथम अर्धवार्षिक बैठक दिनांक 08 मई, 2024 को नाइलिट रुपनगर सम्मेलन कक्ष में संपन्न हुई। इस बैठक में नराकास रुपनगर के अंतर्गत आनेवाले सभी सदस्य कार्यालयों द्वारा

किए गए राजभाषा संबंधी कार्यों का मूल्यांकन किया गया।

इस अवसर पर राजभाषा विभाग, गृह मंत्रालय, भारत सरकार के उप निदेशक श्री कुमार पाल शर्मा जी ने अपने संबोधन में प्रसन्नता व्यक्त की कि नराकास रुपनगर निश्चित समयावधि में अपनी गतिविधियों एवं आयोजनों से अपने द्रुत विकास को चिन्हित कर रहा है। वित्तीय वर्ष 2022-23 की राजभाषा शील्ड विजेता कार्यालयों को प्रदान करने के इस अवसर पर उन्होंने सभी का अभिनंदन किया।

इस बैठक में वित्त वर्ष 2022-23 में राजभाषा में श्रेष्ठ कार्य करने हेतु भारतीय प्रौद्योगिकी संस्थान रोपड़ को राजभाषा शील्ड का द्वितीय पुरस्कार प्रदान किया गया।



राजभाषा शील्ड प्राप्त करते हुए भा.प्रौ.सं. रोपड़ के पदाधिकारी

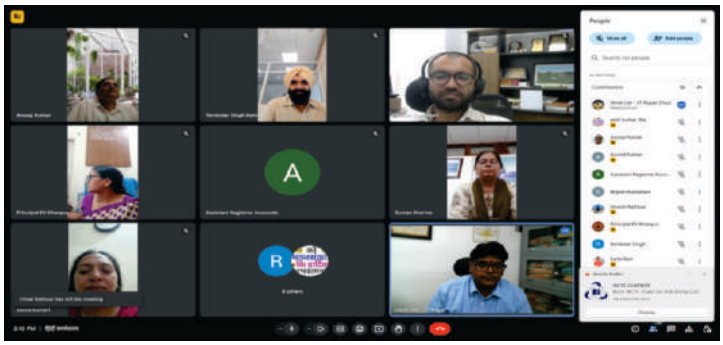
भा.प्रौ.सं. रोपड़ में हिंदी कार्यशाला का आयोजन (दिनांक 12 जून 2024)

भारतीय प्रौद्योगिकी संस्थान रोपड़ के हिंदी प्रकोष्ठ ने दिनांक 12 जून, 2024 को आभासीय रुप में हिंदी कार्यशाला का आयोजन संपन्न किया। राजभाषा विभाग, गृह मंत्रालय भारत सरकार के दिशा-निर्देशों के अनुपालन में इस कार्यशाला का आयोजन किया गया।

यह कार्यशाला कंप्यूटर पर राजभाषा हिंदी का प्रयोग विषय पर आयोजित की गई जिसमें विषय विशेषज्ञ के रुप में सहायक निदेशक, हिंदी शिक्षण योजना, कोलकाता केंद्र (पश्चिम बंगाल) श्री अनुप कुमार को आमंत्रित किया गया था। इस अवसर पर नराकास रुपनगर के सदस्य कार्यालयों के अधिकारी एवं कर्मचारीगण विशेष रुप से उपस्थित थे। इस कार्यशाला में भारतीय प्रौद्योगिकी संस्थान रोपड़ के कर्मचारियों , अधिकारियों तथा संकाय सदस्यों ने अपनी सहभागिता सुनिश्चित की।

आमंत्रित वक्ता महोदय ने अपने मार्गदर्शन परक वक्तव्य का आंरंभ राजभाषा हिंदी से जुड़े संवैधानिक प्रावधान, इस संबंध में निर्धारित नियमों, अधिनियमों के साथ-साथ विभिन्न प्रोत्साहन योजनाओं के संबंध में सभी को जानकारी प्रदान कर उन्हें इस संबंध में संक्षिप्त जानकारी प्रदान की।





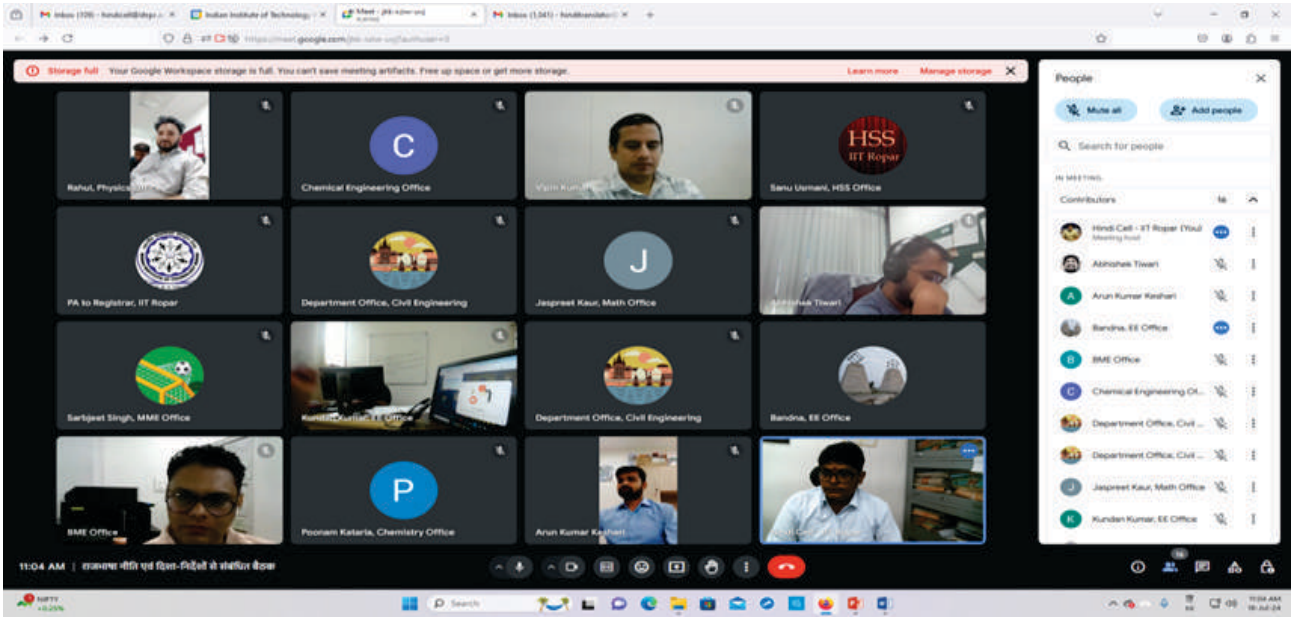
नराकास प्रतियोगिता: आनलाइन हिंदी चलचित्र आधारित प्रतियोगिता में संस्थान सदस्यों की सहभागिता

यूनियन बैंक आफ इंडिया द्वारा नराकास रुपनगर के संयुक्त तत्वावधान नराकास रुपनगर के सदस्य कार्यालयों के लिए आनलाइन माध्यम से हिंदी चलचित्र आधारित प्रतियोगिता का आयोजन किया गया। दिनांक 06 जून, 2024 को आयोजित की गई इस प्रतियोगिता में नराकास रुपनगर के अंतर्गत आने वाले विभिन्न संस्थान/कार्यालय/बैंक आदि के सदस्यों ने बढ़-चढ़ कर सहभागिता ली। इस प्रतियोगिता प्रतिभागियों को हिंदी चलचित्र (हिंदी फिल्मों) से आधारित प्रश्न दिए गए, उक्त प्रश्न के चार उत्तर भी दिए गए। प्रतिभागी को चार उत्तर में से एक सही उत्तर का चयन करना था।

इस प्रतियोगिता में भारतीय प्रौद्योगिकी संस्थान रोपड़ के कुल 13 अधिकारी/कर्मचारी सदस्यों ने अपनी सहभागिता सुनिश्चित की। भा.प्रौ.सं. रोपड़ से श्री देवेन्द्र कुमार (कनि. प्रयोगशाला सहायक, विद्यु. अभि.), सुश्री परवीन कौर (कनि. सहायक, स्थापना अनुभाग), सुश्री भावना भाटिया (कनि. सहायक, स्थापना अनुभाग), श्री अश्वनी दागर (कनि. प्रयोगशाला सहायक, जैव-चिकित्सा अभि. विभाग), श्री कुन्दन कुमार (कनिष्ठ सहायक, विद्युत अभि. विभाग), श्री अरुण सोनी (कनि. प्रयोगशाला सहायक, सिविल अभि. विभाग), सुश्री मनदीप कौर (कनिष्ठ सहायक, स्थापना अनुभाग), डॉ. रवी मोहन प्रसाद (सहायक आचार्य, धातुकी एवं पदार्थ अभि. विभाग), सुश्री स्वाति शर्मा (कनि. प्रयोगशाला सहायक, रासायनिक अभि. विभाग), लेफ्टिनेन्ट कमांडर अंकुर भारद्वाज (सुरक्षा अधिकारी), सुश्री रमनप्रीत कौर (कनि. प्रयोगशाला सहायक, कंप्यू. विज्ञा. एवं अभि. विभाग), सुश्री गार्गी (सहायक छात्र परामर्शदाता) तथा सुश्री पूनम रानी (कनिष्ठ अधीक्षक, स्थापना अनुभाग) ने सहभागिता सुनिश्चित की।

संस्थान के विभिन्न विभागों के साथ राजभाषा कार्यान्वयन से संबंधित बैठक का आयोजन

दिनांक 27 मई, 2024 को माननीय निदेशक महोदय की अध्यक्षता में संपन्न भा.प्रौ.सं. रोपड़ की राजभाषा कार्यान्वयन समिति की 47वीं त्रैमासिक बैठक संपन्न हुई। इस बैठक में माननीय निदेशक महोदय ने यह सुझाव दिया था कि संस्थान के विभिन्न शैक्षणिक विभागों के विभागीय कर्मचारियों को राजभाषा कार्यान्वयन के अनुपालन के संबंध में जानकारी देने हेतु एक मार्गदर्शन सत्र का आयोजन किया जाना चाहिए। हिंदी प्रकोष्ठ ने माननीय निदेशक महोदय द्वारा प्राप्त सुझाव के अनुपालन में दिनांक 16 जुलाई, 2024 को संस्थान के सभी शैक्षणिक विभागों के विभागीय कार्यालय के कर्मचारियों हेतु आनलाइन माध्यम से एक मार्गदर्शन सत्र का आयोजन किया।



इस अवसर पर हिंदी प्रकोष्ठ के संकाय प्रभारी डॉ. अभिषेक तिवारी और हिंदी अधिकारी श्री विपिन कुमार विशेष रुप से उपस्थित थे। सर्वप्रथम हिंदी अधिकारी श्री विपिन कुमार ने संस्थान के विभिन्न विभागों के विभागीय कर्मचारियों का इस मार्गदर्शन सत्र में स्वागत किया। इस अवसर पर हिंदी प्रकोष्ठ के संकाय प्रभारी डॉ. अभिषेक तिवारी ने सभी उपस्थितों को इस मार्गदर्शन सत्र के आयोजन की पृष्ठभूमि तथा इसकी संवैधानिक आवश्यकताओं पर प्रकाश ड़ाला।

मार्गदर्शन सत्र की आगे बढ़ाते हुए संस्थान के वरिष्ठ हिंदी अनुवाद अधिकारी डॉ. गिरीश प्रमोदराव कठाणे ने पॉवर पॉइंट प्रस्तुति के माध्यम से सभी को राजभाषा हिंदी के कार्यान्वयन के संबंध में जानकारी प्रदान की। डॉ. गिरीश ने सर्वप्रथम केंद्रीय कार्यालयों के कर्मचारियों हेतु राजभाषा हिंदी के संबंध में जो संवैधानिक दायित्व निर्धारित किए है वे साझा किए। इसके पश्चात, राजभाषा अधिनियम 1963 की धारा 3(3) के अनुपालन पर विस्तार से सभी को मार्गदर्शन प्रदान किया गया। डॉ. गिरीश ने सभी को जानकारी दी कि धारा 3(3) के अंतर्गत आने वाले कुल 14 दस्तावेज यथा सामान्य आदेश, संकल्प, नियम, अधिसूचनाएं, प्रशासनिक एवं अन्य प्रतिवेदन, प्रेस विज्ञप्तियां, संसद में रखे जाने वाली प्रशासनिक एवं अन्य रिपोर्ट, संसद में रखे जाने वाले सरकारी कागजात, अनुज्ञप्तियां, अनुज्ञा पत्र, निष्पादित संविदाएं, निष्पादित करार, निविदा सूचनाएं तथा निविदा प्रारुप अनिवार्य रुप से द्विभाषी (अंग्रेजी और हिंदी) दोनों में जारी किए जाने है।

नराकास प्रतियोगिता: हिंदी निबंध लेखन प्रतियोगिता में संस्थान सदस्यों की सहभागिता

यूको बैंक द्वारा नराकास रुपनगर के संयुक्त तत्वावधान नराकास रुपनगर के सदस्य कार्यालयों के लिए हिंदी निबंध लेखन प्रतियोगिता का आयोजन किया गया। निबंध प्रतियोगिता का विषय "विश्वपटल पर हिंदी भाषा के प्रचार में उन्नत तकनीकी टूल्स का योगदान" था। इस प्रतियोगिता की नियमावली के अनुसार नराकास रुपनगर के प्रत्येक सदस्य कार्यालयों से अधिकतम 02 सदस्य प्रतिभागिता ले सकते थे। इच्छुक सदस्यों को दिनांक 16 सितंबर, 2024 तक अपनी निबंध की प्रविष्टि यूको बैंक को भेजनी थी। अन्य नियमों में एक नियम 1000 शब्दों की थी तथा निबंध यूनिकोड में टंकित होने का नियम था।

यूको बैंक द्वारा आयोजित की गई इस प्रतियोगिता में नराकास रुपनगर के अंतर्गत आने वाले विभिन्न संस्थान/कार्यालय/बैंक आदि के सदस्यों ने बढ़-चढ़ कर सहभागिता ली। इस प्रतियोगिता सभी प्रतिभागियों ने अपने उत्तम लेखन कौशल का परिचय दिया।

इस प्रतियोगिता में भारतीय प्रौद्योगिकी संस्थान रोपड़ से 02 सदस्यों ने अपनी सहभागिता सुनिश्चित की। भा.प्रौ.सं. रोपड़ से श्री देवेन्द्र कुमार (कनि. प्रयोगशाला सहायक, विद्यु. अभि.) और डॉ. रवि कांत (सहायक आचार्य, यांत्रिक अभियांत्रिकी विभाग) ने सहभागिता सुनिश्चित की।

नराकास प्रतियोगिता: आनलाइन हिंदी व्याकरण ज्ञान एवं हिंदी ज्ञान प्रतियोगिता में संस्थान सदस्यों की सहभागिता

यूनियन बैंक आफ इंडिया द्वारा नराकास रुपनगर के संयुक्त तत्वावधान नराकास रुपनगर के सदस्य कार्यालयों के लिए आनलाइन माध्यम से हिंदी व्याकरण ज्ञान एवं हिंदी ज्ञान प्रतियोगिता का आयोजन किया गया। दिनांक 23 सितंबर, 2024 को आयोजित की गई इस प्रतियोगिता में नराकास रुपनगर के अंतर्गत आने वाले विभिन्न संस्थान/कार्यालय/बैंक आदि के सदस्यों ने बढ़-चढ़ कर सहभागिता ली। इस प्रतियोगिता प्रतिभागियों को हिंदी व्याकरण आधारित तथा हिंदी ज्ञान से संबधित प्रश्न दिए गए, उक्त प्रश्न के चार उत्तर भी दिए गए। प्रतिभागी को चार उत्तर में से एक सही उत्तर का चयन करना था।

इस प्रतियोगिता में भारतीय प्रौद्योगिकी संस्थान रोपड़ के कुल 05 अधिकारी/कर्मचारी सदस्यों ने अपनी सहभागिता सुनिश्चित की। भा.प्रौ.सं. रोपड़ से श्री देवेन्द्र कुमार (कनि. प्रयोगशाला सहायक, विद्यु. अभि.), श्री कुन्दन कुमार (कनिष्ठ सहायक,

विद्युत अभि. विभाग), सुश्री स्वाति शर्मा (कनि. प्रयोगशाला सहायक, रासायनिक अभि. विभाग), डॉ. रवि कांत (सहायक आचार्य, यांत्रिक अभियांत्रिकी विभाग), श्री मोहन सिंह जगरवाल (कनिष्ठ प्रयोगशाला सहायक, भौतिक विज्ञान विभाग) ने सहभागिता सुनिश्चित की।

नराकास प्रतियोगिता: हिंदी कहानी लेखन प्रतियोगिता में संस्थान सदस्यों की सहभागिता

नाइलिट, रुपनगर द्वारा नराकास रुपनगर के संयुक्त तत्वावधान नराकास रुपनगर के सदस्य कार्यालयों के लिए हिंदी कहानी लेखन प्रतियोगिता का आयोजन किया गया। कहानी लेखन प्रतियोगिता हेतु प्रतिभागियों को कहानी की आरंभिक रुपरेखा साझा की गई तथा प्रतिभागियों को इस रुपरेखा को केंद्र में रखते हुए आरंभ की गई कहानी को पूर्ण करना था। इस प्रतियोगिता की नियमावली के अनुसार नराकास रुपनगर के प्रत्येक सदस्य कार्यालयों से अधिकतम 02 सदस्य प्रतिभागिता ले सकते थे। इच्छुक सदस्यों को दिनांक 25 सितंबर, 2024 तक अपनी कहानी की प्रविष्टि नाइलिट, रुपनगर को भेजनी थी। अन्य नियमों में एक नियम कहानी की शब्दों की सीमा 500-800 शब्द थी।

यूको बैंक द्वारा आयोजित की गई इस प्रतियोगिता में नराकास रुपनगर के अंतर्गत आने वाले विभिन्न संस्थान/कार्यालय/बैंक आदि के सदस्यों ने बढ़-चढ़ कर सहभागिता ली। इस प्रतियोगिता सभी प्रतिभागियों ने अपने उत्तम रचनात्मक लेखन कौशल का परिचय दिया।

इस प्रतियोगिता में भारतीय प्रौद्योगिकी संस्थान रोपड़ से 03 सदस्यों का नामांकन कहानी की प्रविष्टि के साथ प्राप्त हुआ। निर्णायक मंडल द्वारा प्राप्त कुल 03 कहानी में से 02 कहानियों को नराकास रुपनगर को प्रेषित करने हेतु चयनित किया। हिंदी प्रकोष्ठ द्वारा भा.प्रौ.सं. रोपड़ से श्री देवेन्द्र कुमार (कनि. प्रयोगशाला सहायक, विद्यु. अभि.) और सुश्री स्वाति शर्मा (कनिष्ठ प्रयोगशाला सहायक, रासायनिक अभियांत्रिकी विभाग) की प्रविष्टि नाइलिट रुपनगर को प्रेषित कर उक्त प्रतियोगिता में संस्थान की सहभागिता सुनिश्चित की गई।

नराकास प्रतियोगिता: हिंदी शब्द ज्ञान प्रतियोगिता में संस्थान सदस्यों की सहभागिता

एन.एफ.एल. नंगल इकाई द्वारा नराकास रुपनगर के संयुक्त तत्वावधान नराकास रुपनगर के सदस्य कार्यालयों के लिए आनलाइन माध्यम से हिंदी शब्द ज्ञान प्रतियोगिता का आयोजन किया गया। दिनांक 18 सितंबर, 2024 को आयोजित की गई इस प्रतियोगिता में नराकास रुपनगर के अंतर्गत आने वाले विभिन्न संस्थान/कार्यालय/बैंक आदि के सदस्यों ने बढ़-चढ़ कर सहभागिता ली। इस प्रतियोगिता प्रतिभागियों को सरकारी कामकाज में प्रयुक्त होनेवाले अंग्रेजी शब्दों को प्रश्न के रुप में दिए गए थे जिसका उन्हें हिंदी शब्द लिखना था। कुल 25 अंग्रेजी शब्दों के हिंदी उत्तर 15 मिनट के भीतर प्रतिभागियों से देने की अपेक्षा की गई थी।

इस प्रतियोगिता में भारतीय प्रौद्योगिकी संस्थान रोपड़ के कुल 02 कर्मचारी सदस्यों ने अपनी सहभागिता सुनिश्चित की। भा.प्रौ.सं. रोपड़ से श्री देवेन्द्र कुमार (कनि. प्रयोगशाला सहायक, विद्यु. अभि.), सुश्री समिता सैनी (वरिष्ठ प्रयोगशाला सहायक, रसायन विज्ञान विभाग) ने सहभागिता सुनिश्चित की।

हिंदी शिक्षण योजना की संपर्क अधिकारियों की बैठक में संस्थान सदस्यों की सहभागिता

केंद्रीय हिंदी प्रशिक्षण संस्थान/ हिंदी शिक्षण योजना, राजभाषा विभाग, गृह मंत्रालय, भारत सरकार द्वारा संचालित हिंदी भाषा/टंकण/आशुलिपि प्रशिक्षण से संबंधित अद्यतन जानकारी प्रदान करने तथा प्रशिक्षण से संबंधित समस्याओं के निराकरण हेतु दिनांक 28 अगस्त, 2024 को पंजाब विश्वविद्यालय के संगोष्ठी कक्ष में चंडीगढ़/पंचकुला/मोहाली/रोपड़ क्षेत्र के

कार्यालयों, उपक्रमों, सरकारी उद्यमों, स्वायत्त संगठनों, सांविधिनिक निकायों, राष्ट्रीकृत बैंक, केंद्रीय सरकार के स्वामित्व या नियंत्रणाधीन निगमों एवं कंपनियों आदि के संपर्क अधिकारियों की बैठक आयोजित की गई।

उक्त बैठक हेतु भारतीय प्रौद्योगिकी संस्थान रोपड़ द्वारा बैठक में सम्मिलित होने होते श्री विपिन कुमार (हिंदी अधिकारी/सहायक कुलसचिव) और डॉ. गिरीश प्रमोदराव कठाणे (वरिष्ठ हिंदी अनुवाद अधिकारी) को नामित किया गया। इस बैठक में निर्धारित क्षेत्रों के संपर्क अधिकारियों ने अपनी अभूतपूर्व सहभागिता से इस बैठक को सफल बनाया।



उक्त बैठक में विशेष अतिथि के रुप में श्रीमती प्रीति सिंह (सेवानिवृत्त सहायक निदेशक), केंद्रीय हिंदी प्रशिक्षण संस्थान, नई दिल्ली का सानिध्य एवं मार्गदर्शन प्राप्त हुआ। वहीं इस अवसर पर सभी को मार्गदर्शित करने हेतु डॉ. रामेश्वर लाल मीना (सहायक निदेशक, हिंदी शिक्षण योजना, राजभाषा विभाग, गृह मंत्रालय, नई दिल्ली), डॉ. पी. वी. राधिका (कार्यालयाध्यक्ष, मध्योत्तर, हिंदी शिक्षण योजना, राजभाषा विभाग, गृह मंत्रालय, नई दिल्ली), डॉ. उर्मिला सैनी (सहायक निदेशक, भाषा, हिंदी शिक्षण योजना, राजभाषा विभाग, गृह मंत्रालय, चण्डीगढ़ केंद्र) तथा श्री अरविंद कुमार (सहायक निदेशक, हिंदी शिक्षण योजना, राजभा, विभाग, गृह मंत्रालय, चण्डीगढ़ केंद्र) उपस्थित थें।



बैठक में उपस्थित संपर्क अधिकारिगण

78वें स्वतंत्रता दिवस के उपलक्ष्य में देशभक्ति गीत गायन प्रतियोगिता का आयोजन



78वें स्वतंत्रता दिवस के उपलक्ष्य पर भा.प्रौ.सं. रोपड़ के हिंदी प्रकोष्ठ द्वारा संस्थान के विद्यार्थियों तथा संकाय सदस्य एवं कर्मचारिगणों के लिए देशभक्ति गीत गायन एवं कविता पाठ प्रतियोगिता का आयोजन किया गया।

दिनांक 12 अगस्त 2024 को संस्थान सदस्यों के लिए आयोजित की गई इस प्रतियोगिता में संस्थान के विभिन्न विभागों के विद्यार्थियों / शोधार्थियों, संकाय सदस्यों, अधिकारियों एवं कर्मचारिगणों ने सहभागिता ली और अपने देशभक्तिपरक गीतों से पूरा वातावरण देशभक्तिमय कर दिया।

इस दिन प्रतियोगिता का शुभारंभ हिंदी प्रकोष्ठ के संकाय प्रभारी डॉ. अभिषेक तिवारी द्वारा सभी को संबोधित करने के साथ हुआ।

इस प्रतियोगिता में संस्थान के सदस्यों ने अपने देशभक्ति गीतों से पूरा वातावरण देशभक्ति के रंग में रंग दिया। कुछ प्रतिभागियों ने स्वरचित तो कुछ ने अन्यों की कविताओं एवं गीतों की प्रस्तुति से देश के प्रति अपनी निस्वार्थ भावनाओं को सभी के समक्ष बड़े ही गर्व के साथ रखा।





विद्यार्थिगण प्रस्तुति देते हुए





कर्मचारिगण प्रस्तुति देते हुए

प्रतियोगिता के अंतिम चरण में, प्रतियोगिता के परीक्षक पैनल के सदस्यों ने सभी प्रतिभागियों के प्रस्तुति पर विशेष टिप्पणी के साथ सभी का उत्सावर्धन किया। साथ ही, गायन की गुणवत्ता, शब्दों का उच्चारण तथा प्रस्तुति की शैली आदि मानकों पर मूल्यांकन के साथ परीक्षक पैनल ने विजेताओं के नामों की घोषणा की।

इस प्रतियोगिता में कंप्यूटर विज्ञान एवं अभियांत्रिकी विभाग के छात्र श्री गुरअंश सिंह को प्रथम पुरस्कार, सिविल अभियांत्रिकी विभाग के छात्र श्री सुजल गावंडे और यांत्रिक अभियांत्रिकी विभाग के छात्र श्री अनुराग प्रसाद को संयुक्त रुप से द्वितीय पुरस्कार, धातुकी एवं पदार्थ अभियांत्रिकी विभाग की छात्र श्री अवनीश कुमार और भौतिक विज्ञान विभाग की छात्रा सुश्री सानिया अयूब को संयुक्त रुप से तृतीय पुरस्कार, धातुकी एवं पदार्थ अभियांत्रिकी विभाग के छात्र मो. अर्शद और श्री समिंदर प्रीत सिंह को संयुक्त रुप से प्रोत्साहन पुरस्कार तथा विद्युत अभियांत्रिकी विभाग के छात्र श्री आदित्य गुप्ता और भौतिक विज्ञान विभाग के छात्र श्री अभिषेक कुमार को संयुक्त रुप से प्रोत्साहन पुरस्कार हेतु चयनित किया गया।

कर्मचारी/अधिकारी श्रेणी में सुश्री स्वाति शर्मा (कनिष्ठ प्रयोगशाला सहायक, रासायनिक अभियांत्रिकी विभाग) को प्रथम पुरस्कार, श्री देवेन्द्र कुमार (कनिष्ठ प्रयोगशाला सहायक, विद्युत अभियांत्रिकी विभाग) को द्वितीय पुरस्कार, सुश्री प्राशी कौशिक (अनुसंधान एवं विकास अनुभाग) को तृतीय पुरस्कार तथा डॉ. हरप्रीत कौर (पुस्तकालय सूचना अधिकारी, केंद्रीय पुस्तकालय) को प्रोत्साहन पुरस्कार हेतु चयनित किया गया।

दिनांक 12 अगस्त 2024 को दोनों श्रेणियों हेतु आयोजित प्रतियोगिताओं के विजेताओं को संस्थान के निदेशक आचार्य (प्रोफे.) राजीव आहूजा ने दिनांक 15 अगस्त 2024 को संपन्न स्वतंत्रता दिवस समारोह में पुरस्कार प्रदान किए।

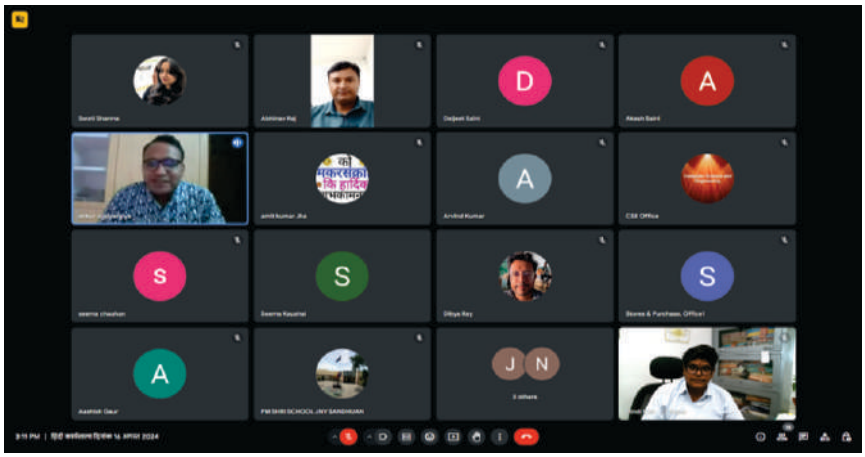
भा.प्रौ.सं. रोपड़ में हिंदी कार्यशाला का आयोजन (दिनांक 16 अगस्त 2024)

भारतीय प्रौद्योगिकी संस्थान रोपड़ के हिंदी प्रकोष्ठ ने दिनांक 16 अगस्त, 2024 को आभासीय रुप में हिंदी कार्यशाला का आयोजन संपन्न किया। राजभाषा विभाग, गृह मंत्रालय भारत सरकार के दिशा-निर्देशों के अनुपालन में इस कार्यशाला का आयोजन किया गया।

यह कार्यशाला राजभाषा कार्यान्वयन एवं हिंदी अनुवाद (अनुवादिनी सॉफ्टवेयर के विशेष संदर्भ में) विषय पर आयोजित की गई जिसमें विषय विशेषज्ञ के रुप में सहायक निदेशक (राजभाषा) एवं जनसंपर्क अधिकारी, भारतयी जन संचार संस्थान, नई दिल्ली श्री अंकुर विजयवर्गीय को आमंत्रित किया गया था। इस अवसर पर नराकास रुपनगर के सदस्य कार्यालयों के अधिकारी एवं कर्मचारीगण विशेष रुप से उपस्थित थे। इस कार्यशाला में भारतीय प्रौद्योगिकी संस्थान रोपड़ के कर्मचारियों , अधिकारियों तथा संकाय सदस्यों ने अपनी सहभागिता सुनिश्चित की।

आमंत्रित वक्ता महोदय ने अपने मार्गदर्शन परक वक्तव्य का आंरभ राजभाषा हिंदी से जुड़े संवैधानिक प्रावधान के साथ-साथ इस बिंदु पर भी प्रकाश ड़ाला कि आज कंप्यूटर पर हिंदी में कार्य करना अत्यंत सरल है। वक्ता महोदय ने राजभाषा विभाग द्वारा किए गए तकनीकी प्रयासों से एक-एक कर सभी के सामने संक्षिप्त रुप से रखा।





हिंदी टाइपिंग के 68वें सत्र (अगस्त 2024-जनवरी 2025) के पंजीकृत सदस्यों हेतु 4 दिवसीय आंतरिक प्रशिक्षण कार्यक्रम का आयोजन

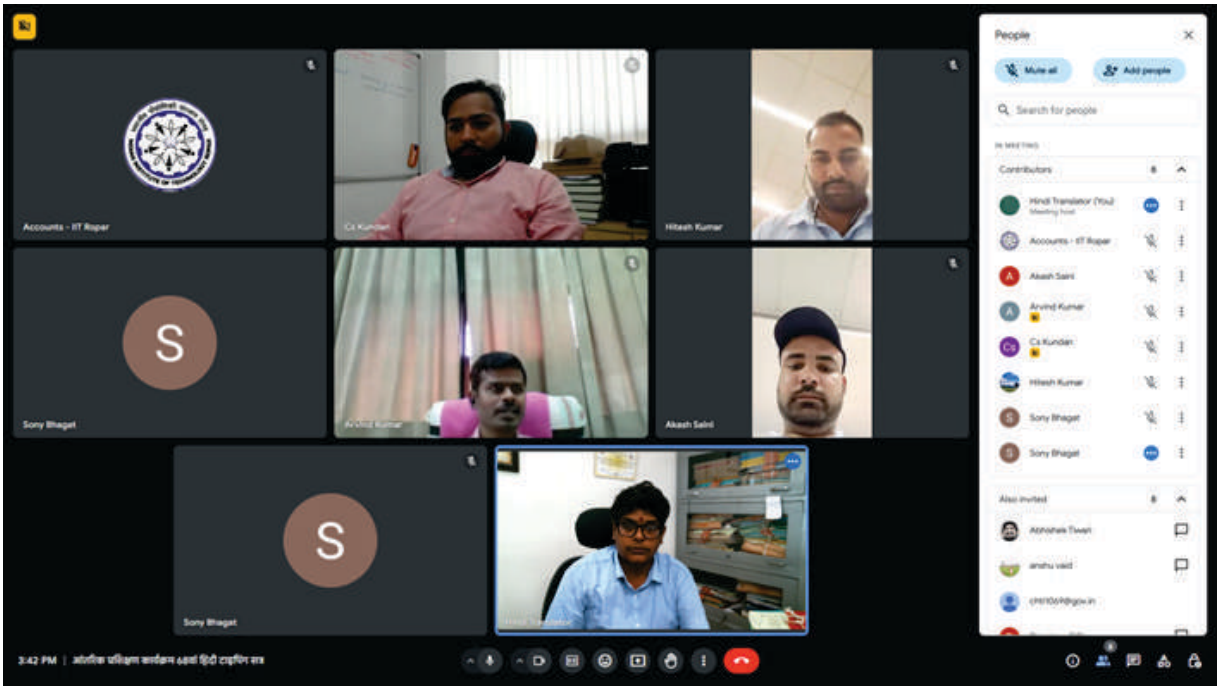
भारतीय प्रौद्योगिकी संस्थान रोपड़ के 06 सदस्य केंद्रीय हिंदी प्रशिक्षण संस्थान, नई दिल्ली द्वारा आयोजित किए जा रहे हिंदी शब्द संसाधन (हिंदी टाइपिंग) प्रशिक्षण कार्यक्रम में 68वें सत्र हेतु पंजीकृत किए गए। इस प्रशिक्षण कार्यक्रम की अवधि 01 अगस्त 2024 से जनवरी 2025 तक है तथा इसकी परीक्षा माह जनवरी 2025 में प्रस्तावित है।

इस सत्र की परीक्षा को केंद्र में रखकर संस्थान के पंजीकृत सदस्यों की तैयारी को बेहतर बनाने के उद्देश्य से हिंदी प्रकोष्ठ ने दिनांक 20, 21, 22 और 23 अगस्त, 2024 को 04 दिनों के आंतरिक प्रशिक्षण कार्यक्रम का आयोजन किया।

इस प्रशिक्षण कार्यक्रम में प्रशिक्षक के रुप में श्री अरविंद कुमार, सहायक निदेशक, हिंदी टंकण एवं आशुलिपि प्रशिक्षण केंद्र, हिंदी शिक्षण योजना, राजभाषा विभाग, गृह मंत्रालय, भारत सरकार, चण्डीगढ़ केंद्र को आमंत्रित किया गया था।

दिनांक 20 अगस्त 2024 को संपन्न आंतरिक प्रशिक्षण कार्यक्रम के प्रथम सत्र में प्रशिक्षक महोदय ने प्रशिक्षणार्थियों को हिंदी कुंजीपटल का परिचय एवं इसकी व्यावहारिकता , दिनांक 21 अगस्त 2024 के द्वितीय सत्र में मुख्य रुप से व्याकरणिक चिन्हों

का अभ्यास, गति अभ्यास आदि, दिनांक 22 अगस्त 2024 के सत्र में सारणी बनाना तथा सारणी बनाते हुए ध्यान रखे जाने वाले बिंदु, विभिन्न पत्रों का टंकण आदि तथा दिनांक 23 अगस्त 2024 को हस्तलेख पर मार्गदर्शन करते हुए विभिन्न प्रूफ शोधन चिन्हों की पहचान तथा चारों सत्रों का पुनरावलोकन किया।



इस आंतरिक प्रशिक्षण कार्यक्रम के चतुर्थ एवं अंतिम सत्र में संस्थान के हिंदी अधिकारी श्री विपिन कुमार (हिंदी अधिकारी/सहायक कुलसचिव) ने श्री अरविंद कुमार, सहायक निदेशक का धन्यवाद ज्ञापित किया और सभी प्रशिक्षणार्थियों को परीक्षा में उत्तम अंकों से उत्तीर्ण होने हेतु शुभकामनाएं दी।

हिंदी पखवाड़ा 2024 का आयोजन



भारतीय प्रौद्योगिकी संस्थान रोपड़ ने हिंदी दिवस के उपलक्ष्य पर 15 दिवसीय हिंदी पखवाड़ा 2024 का आयोजन सफलतापूर्वक संपन्न किया। यह पखवाड़ा 02 सितंबर 2024 से 16 सितंबर 2024 तक आयोजित किया गया था। इस पखवाड़ा के दौरान संस्थान के विद्यार्थियों के लिए कुल 04 प्रतियोगिताएं जिसमें हिंदी निबंध प्रतियोगिता, हिंदी आशु भाषण प्रतियोगिता, हिंदी वादविवाद प्रतियोगिता और हिंदी कविता पाठ/गायन प्रतियोगिता का समावेश था। संस्थान के संकाय सदस्य एवं कर्मचारिगणों के लिए कुल 07 प्रतियोगिताओं का आयोजन किया गया जिसमें हिंदी टिप्पण लेखन प्रतियोगिता, हिंदी निबंध प्रतियोगिता, हिंदी कविता पाठ/गायन प्रतियोगिता, कंप्यूटर पर हिंदी में कार्यालय आदेश टाइपिंग प्रतियोगिता, हिंदी वादविवाद प्रतियोगिता, हिंदी आशु भाषण प्रतियोगिता तथा हिंदी आशु लेखन प्रतियोगिता आदि का समावेश था। साथ ही, संस्थान के सुरक्षा/सफाई/हाउसकीपिंग/परिचारक स्टाफ के लिए हिंदी प्रस्तुति प्रतियोगिता तथा संस्थान के संकाय सदस्य एवं कर्मचारिगणों के बच्चों के लिए हिंदी प्रस्तुति प्रतियोगिता का आयोजन किया गया। संस्थान के संकाय सदस्यगण एवं कर्मचारिगणों के परिवारजनों के लिए हिंदी कविता अथवा गीत गायन प्रतियोगिता का आयोजन किया गया। सभी श्रेणीयों में

आयोजित इन विभिन्न प्रतियोगिताओं में संस्थान के सभी स्तरों से उत्साहजनक प्रतिक्रिया प्राप्त हुई।

हिंदी पखवाड़ा 2024 का आरंभ संस्थान के संकाय सदस्यगण एवं कर्मचारिगणों के बच्चों एवं परिवारजनों के लिए आयोजित की गई क्रमशः हिंदी प्रस्तुति प्रतियोगिता तथा हिंदी कविता पाठ एवं गीत गायन प्रतियोगिता से हुआ। बच्चों द्वारा हिंदी में की गई प्रस्तुतियों ने सभी को मंत्रमुग्ध कर दिया। वहीं परिवारजनों से भी उत्साहजनक प्रतिक्रिया प्राप्त हुई जिसमें संकाय सदस्यगण एवं कर्मचारिगणों के परिवार सदस्यों ने हिंदी में कविता और गीत गायन कर हिंदी के प्रति अपने प्रेम का परिचय दिया।





बच्चें अपनी प्रस्तुति देते हुए



परिवारजनों द्वारा प्रस्तुति देते हुए



समूह फोटो

दिनांक 02 सितंबर को बच्चों एवं परिवारजनों के लिए संपन्न प्रतियोगिता के पश्चात विभिन्न श्रेणियों के लिए निर्धारित प्रतियोगिताओं की क्रमबद्ध श्रृंखला आरंभ हुई। जिसमें अधिकारी/कर्मचारी/संकाय सदस्यगणों द्वारा विभिन्न प्रतियोगिताओं में सहभागिता ली गई।






अधिकारी/कर्मचारी एवं संकाय सदस्यगणों द्वारा हिंदी प्रतियोगिता में सहभागिता

कर्मचारी श्रेणी के समानांतर विद्यार्थी श्रेणी के लिए भी विभिन्न हिंदी प्रतियोगिता का आयोजन किया गया। जिसमें संस्थान विद्यार्थी/शोधार्थियों ने बढ़-चढ़ कर हिस्सा लिया। हिंदी में बोलने, हिंदी में लिखने तथा हिंदी में सृजनात्मक को केंद्र में रखकर आयोजित की गई इन प्रतियोगिताओं की विद्यार्थियों ने सराहना की।





संस्थान के विद्यार्थी हिंदी प्रतियोगिताओं में प्रस्तुति देते हुए

हिंदी पखवाड़ा 2024 का समापन समारोह दिनांक 24 सितंबर 2024 को संस्थान के सभागार में किया गया। हिंदी पखवाड़ा का समापन समारोह श्री. के संजय मूर्ति, माननीय सचिव, उच्चतर शिक्षा, शिक्षा मंत्रालय, भारत सरकार और भा.प्रौ.सं. रोपड़ के माननीय निदेशक आचार्य राजीव आहूजा की गरिमामयी उपस्थिति में संपन्न हुआ। इस अवसर पर संस्थान कुलसचिव डॉ. दिनेश के.एस., हिंदी प्रकोष्ठ के संकाय प्रभारी डॉ. अभिषेक तिवारी तथा हिंदी अधिकारी श्री विपिन कुमार विशेष रुप से उपस्थित थे।



आचार्य राजीव आहूजा श्री के संजय मूर्ति, सचिव, शिक्षा मंत्रालय का स्वागत करते हुए



आचार्य नवीन कुमार संस्थान के निदेशक आचार्य राजीव आहूजा का स्वागत करते हुए

इस अवसर पर संस्थान के निदेशक आचार्य राजीव आहूजा ने हिंदी पखवाड़ा 2024 के सफल आयोजन हेतु हिंदी प्रकोष्ठ को बधाई दी। साथ ही, हिंदी प्रकोष्ठ द्वारा समय-समय पर आयोजित की जाने वाली विभिन्न गतिविधियां का प्रमुखतः से उल्लेख किया। अपने विचार को व्यक्त करते हुए आचार्य आहूजा जी ने राष्ट्र की उन्नति के लिए हिंदी तथा सभी भारतीय भाषाओं की महत्ता पर अपने मूल्यवान विचार सभी उपस्थितों के साथ साझा किए।

कवि सम्मेलन 2024 का आयोजन

हिंदी प्रकोष्ठ, भा.प्रौ.सं. रोपड़ ने संस्थान के अल्फाज़ ग्रुप के साथ संयुक्त तत्वावधान में 24 सितंबर को संस्थान में सुप्रसिद्ध कविगणों की प्रस्तुति के सानिध्य में कवि सम्मेलन का आयोजन संपन्न किया। संस्थान के हिंदी प्रकोष्ठ ने वर्ष 2023 से भव्य स्तर पर कवि सम्मेलन का आयोजन करना आरंभ किया था।

दिनांक 24 सितंबर 2024 को कवि सम्मेलन में कविरत्नों के रुप में, श्रृंगार कवयित्री मणिका दुबे, श्री स्वयं श्रीवास्तव, हास्य कवि श्री विवेक बौखल तथा हिंदी एवं उर्दु के मशहूर कवि एवं शायर श्री अजहर इकबाल विशेष रुप से आमंत्रित थे।



कवि सम्मेलन की शुरुवात भा.प्रौ.सं. रोपड़ के निदेशक आचार्य राजीव आहूजा महोदय द्वारा सभी आमंत्रित कवियों का पुष्पगुच्छ एवं स्मृतिचिन्ह से स्वागत कर हुई। इस अवसर पर माननीय निदेशक महोदय आचार्य आहूजा जी ने इस प्रकार के साहित्यिक सम्मेलनों एवं कार्यक्रमों की आवश्यकता पर प्रकाश डालते हुए यह विचार साझा किया कि इस प्रकार के कार्यक्रम केवल मनोरंजन का ही नहीं अपितु भाषायी संवर्धन एवं प्रचार-प्रसार का भी सशक्त माध्यम के रुप में कार्य करते है। आचार्य आहूजा ने सभी को आश्वस्त भी किया कि संस्थान हिंदी प्रकोष्ठ के माध्यम से समय-समय पर इस प्रकार के आयोजन करता रहेगा।

प्रोफेसर राजीव आहूजा महोदय के औपचारिक संभाषण के उपरांत कवि श्री स्वयं श्रीवास्तव जी ने मंच की बागडोर संभाली। अपनी हिंदी की धाराप्रवाह शैली से श्री स्वयं श्रीवास्तव जी ने पूरे सभागार को मंत्रमुग्ध कर दिया। कवि सम्मेलन की विधिवत शुरुवात हास्य कवि श्री विकास बौखल जी के काव्य पाठ से हुई।

"इस मंहगाई में कन्हैया यदि आए कहीं
सच कहूं रोटी दाल मार डालेगी
रथ ना मिला तो नैनो कार में चलेंगे आप
ब्रेकरों की राह में उंछाल मार डालेगी"

(हास्य कवि श्री विकास बौखल)



इसके पश्चात श्रृंगार की कवयित्री सुश्री मणिका दुबे जी ने अपने काव्य पाठ से सभी को मंत्रमुग्ध कियाः-

"हाल दिल का छिपाना नहीं आएगा
कौन तुम सा तराना नहीं गाएगा
आज मुस्कान की तुमने तारिफ़ की
अब मेरा मुस्कुराना नहीं जाएगा"

(श्रृंगार कवयित्री सुश्री मणिका दुबे)



कवि सम्मेलन के तृतीय कवि के रुप में श्री स्वयं श्रीवास्तव ने अपनी काव्य पाठ से समा बांध दियाः-



"इक शख्स क्या गया कि पुरा काफिला गया
तुफ़ा था तेज पेड़ को जड़ से हिला गया
जब सल्तनत से दिल की ही रानी चली गई
फिर क्या मलाल तख्त गया या किला गया"

(कवि श्री स्वयं श्रीवास्तव)

कवि सम्मेलन के अंतिम कवि के रुप में हिंदी और उर्दु के मशहुर कवि एवं शायर श्री अजहर इकबाल जी को सुनने का अवसर प्राप्त हुआः-

"हर तरफ घात में बैठे है यहां दुशासन
वीर अर्जुन सा लड्डैया नहीं आने वाला
खुद तुम्हें दुर्गा के अवतार में ढ़लना होगा
घोर कलियुग है कन्हैया नहीं आने वाला"

(शायर श्री अजहर इकबाल)



यह कवि सम्मेलन डॉ. अभिषेक तिवारी (हिंदी प्रकोष्ठ के संकाय प्रभारी), श्री विपिन कुमार (हिंदी अधिकारी/सहायक कुलसचिव) के मार्गदर्शन एवं संरक्षण में तथा डॉ. गिरीश प्रमोदराव कठाणे (वरिष्ठ हिंदी अनुवाद अधिकारी) के समन्वयन में आयोजित किया गया था।

संस्थान सदस्यों के लिए केंद्रीय पुस्तकालय में "हंस" पत्रिका



हिंदी प्रकोष्ठ, भा.प्रौ.सं. रोपड़ ने केंद्रीय पुस्तकालय के सहयोग से संस्थान सदस्यों के साहित्यिक रसास्वादन हेतु हिंदी की प्रतिष्ठित हंस पत्रिका की सदस्यता ग्रहण करने की औपचारिक प्रक्रिया पूर्ण की। संस्थान के निदेशक आचार्य राजीव आहूजा ने राजभाषा कार्यान्वयन समिति की त्रैमासिक बैठक में हंस की सदस्यता ग्रहण करने के बाद प्राप्त अंक को पाठकों को समर्पित किया।

इस अवसर पर आचार्य राजीव आहूजा जी ने हिंदी प्रकोष्ठ के इस कार्य की सराहना करते हुए सभी से अपील की कि अधिक से अधिक संख्या में लोग इस पत्रिका का पठन-पाठन करें।

माह अगस्त, 2024 से संस्थान के केंद्रीय पुस्तकालय में हंस पत्रिका पाठकों के लिए रखना आरंभ कर दिया गया है।

विभिन्न हिंदी प्रशिक्षणों में संस्थान के कर्मचारी सदस्यों का पंजीकरण

केंद्रीय हिंदी प्रशिक्षण संस्थान, राजभाषा विभाग, गृह मंत्रालय, भारत सरकार द्वारा संचालित 68वां हिंदी टाइपिंग पत्राचार प्रशिक्षण (अवधि अगस्त 2024 से जनवरी 2025) में संस्थान के कुल 06 सदस्यों को सफलतापूर्वक पंजीकृत कराया गया। श्री हितेश कुमार (कनिष्ठ सहायक, छात्रावास प्रबंधन), श्री अंशु वैद (वरिष्ठ सहायक, सुविधाएं अनुभाग), सुश्री सोनी भगत (कनिष्ठ सहायक लेखा, लेखा अनुभाग), श्री कुंदन कुमार (कनिष्ठ सहायक, विद्युत अभियांत्रिकी विभाग) तथा श्री आकाश सैनी (कनिष्ठ सहायक लेखा, लेखा अनुभाग) को अनिवार्य रुप से इस प्रशिक्षण हेतु पंजीकृत कराया गया। वहीं श्री ललित कुमार, कनिष्ठ लेखा अधिकारी, छात्रावास प्रबंधन को स्वैच्छिक आधार पर पंजीकृत कराया गया। संस्थान के उपर्युक्त 06 कर्मचारी सदस्य इस प्रशिक्षण का लाभ प्राप्त कर रहे है। इस प्रशिक्षण सत्र की परीक्षा माह जनवरी, 2025 में होने की अपेक्षा है।

इसी क्रम में, हिंदी शिक्षण योजना राजभाषा विभाग, गृह मंत्रालय, भारत सरकार द्वारा हिंदी भाषा प्रशिक्षण के जुलाई से नवंबर 2024 सत्र में 01 कर्मचारी सदस्य श्री सुमित राणा (कनिष्ठ सहायक, छात्रावास प्रबंधन) को पारंगत प्रशिक्षण हेतु तथा कुल 04 कर्मचारी सदस्यों डॉ. हरप्रीत कौर (पुस्तकालय सूचना अधिकारी), सुश्री नबनीता चक्रबोर्ती (कनिष्ठ अधीक्षक, अनु. एवं विका.), श्री अनुज बब्बर (कनि. तकनीकी अधीक्षक) और श्री अक्शप्रीत सिंह तम्बर (कनिष्ठ सहायक) को प्राज्ञ प्रशिक्षण हेतु नामित एवं पंजीकृत कराया गया। पंजीकृत सदस्यों ने माह नवंबर, 2024 को चण्डीगढ़ केंद्र पर हुई परीक्षा में अपनी उपस्थिति दर्ज की।

वित्तीय वर्ष 2024-25 की नगर राजभाषा कार्यान्वयन समिति रुपनगर की द्वितीय बैठक में सहभागिता एवं पुरस्कार वितरण

नगर राजभाषा कार्यान्वयन समिति रुपनगर की वित्तीय वर्ष 2024-25 की द्वितीय अर्धवार्षिक बैठक दिनांक 22 अक्टूबर, 2024 को संपन्न हुई। यह बैठक केंद्रीय विद्यालय आई. आई. टी. रोपड़ के सभागार कक्ष में आयोजित की गई। इस बैठक में नराकास रुपनगर के अंतर्गत आनेवाले सभी बैंक, उपक्रमों एवं संस्थानों के पदाधिकारियों / कर्मचारियों ने अपनी सहभागिता सुनिश्चित की।

इस बैठक में भारतीय प्रौद्योगिकी संस्थान रोपड़ की ओर से श्री अमोद कान्हेरे (सहायक कुलसचिव) और डॉ. गिरीश प्रमोदराव कठाणें (वरिष्ठ हिंदी अनुवाद अधिकारी) ने सहभागिता ली। इस बैठक में नराकास रुपनगर के सभी बैंक/संस्थान आदि द्वारा प्राप्त अर्धवार्षिक रिपोर्ट का मूल्यांकन श्री कुमार पाल शर्मा, उप निदेशक, राजभाषा विभाग, गृह मंत्रालय, भारत सरकार द्वारा किया गया। श्री कुमार पाल शर्मा जी ने नराकास रुपनगर के अंतर्गत आने वाले सभी कार्यालयों द्वारा किए जा रहे राजभाषा हिंदी

के कार्यों की प्रशंसा एवं सराहना की। साथ ही, इन कार्यों को आगे ले जाते हुए किस प्रकार से राजभाषा हिंदी का पूर्ण अनुपालन अपने-अपने संस्थान में किया जा सकता है इस पर विचार साझा किए।



श्री कुमार पाल शर्मा, उप निदेशक, राजभाषा विभाग, गृह मंत्रालय उपस्थितों को मार्गदर्शन करते हुए



सदस्य कार्यालयों से पधारे अधिकारी, कर्मचारीगण

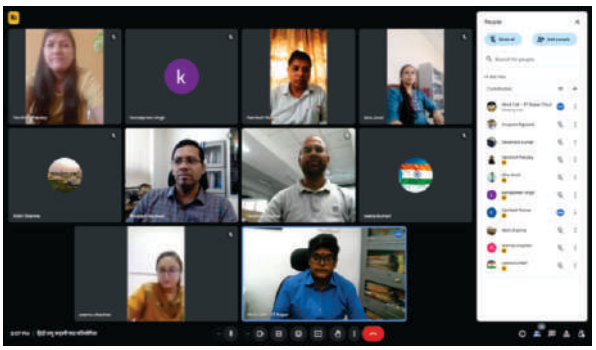
नराकास प्रतियोगिता: आई.आई.टी. रोपड़ द्वारा हिंदी कहानी पाठ प्रतियोगिता का आयोजन



नराकास रुपनगर की बैठकों में लिए गए निर्णयों के अनुसरण में भा.प्रौ.सं. रोपड़ ने दिनांक 16 अक्टूबर 2024 को नराकास रुपनगर के सभी सदस्य कार्यालयों के लिए हिंदी कहानी पाठ प्रतियोगिता आयोजन किया।

कहानी पाठ प्रतियोगिता हेतु प्रतिभागी संस्थानों के साथ प्रतियोगिता से संबंधित दिशा-निर्देश साझा किए गए जैसे कि इच्छुक प्रतिभागी 5 तथा अधिकतम 6 मिनट में लघु कहानी का पाठ कर सकता है, लघु कहानी स्वरचित अथवा किसी अन्य की भी हो सकती है। प्रतियोगिता के मूल्यांकन के मानक लघु कहानी का चयन, समय-सीमा के भीतर पाठ, कहानी की गुणवत्ता, शब्दों का उच्चारण, कहानी पाठ की शैली आदि होंगे। इस प्रतियोगिता हेतु प्रत्येक सदस्य कार्यालय से अधिकतम 02 सदस्यों का नामांकन अपेक्षित था। इच्छुक सदस्यों को दिनांक 15 अक्टूबर, 2024 तक अपनी अपना नामांकन भा.प्रौ.सं. रोपड़ को सूचित करना था।

इस प्रतियोगिता को नराकास रुपनगर के सदस्य कार्यालयों से उत्साहजनक प्रतिक्रिया प्राप्त हुई। कई कार्यालयों ने प्रतिभागी के रुप में तो कुछ कार्यालयों ने दर्शक/श्रोता के रुप में अपनी सहभागिता सुनिश्चित की। इस प्रतियोगिता में भा.प्रौ.सं. रोपड़ से श्री देवेन्द्र कुमार (कनि. प्रयोगशाला सहायक, विद्युत अभि.) तथा श्रीमती निशी शर्मा (सहायक कुलसचिव, अनु. एवं विका.) ने कहानी पाठ किया। साथ ही, नाइलिट, यूको बैंक, पीएम श्री जवाहर विद्यालय आदि कार्यालयों के कर्मचारियों ने प्रतियोगिता में अपनी सहभागिता सुनिश्चित की। कहानी पाठ प्रतियोगिता नराकास रुपनगर के अंतर्गत पहली बार आयोजित की गई जिसे सभी ने सराहा।



इस प्रतियोगिता हेतु परीक्षक पैनल के रुप में आचार्य अनुपम अग्रवाल और श्री विपिन कुमार, हिंदी अधिकारी का सानिध्य प्राप्त हुआ।

सतर्कता जागरुकता सप्ताह की प्रतियोगिता में सहभागिता

भारतीय प्रौद्योगिकी संस्थान में 28 अक्टूबर से 03 नवंबर 2024 के दौरान सतर्कता जागरुकता सप्ताह मनाया गया। इस सप्ताह के दौरान संस्थान सदस्यों के लिए विभिन्न प्रतियोगिता का आयोजन किया गया। निबंध प्रतियोगिता, पोस्टर मेकिंग तथा वादविवाद प्रतियोगिता का आयोजन किया गया। निबंध प्रतियोगिता और वादविवाद प्रतियोगिता दिनांक 30 अक्टूबर 2024 तथा पोस्टर मेकिंग प्रतियोगिता 01 नवंबर 2024 को आयोजित की गई थी।

हिंदी प्रकोष्ठ के संकाय प्रभारी डॉ. अभिषेक तिवारी ने वादविवाद प्रतियोगिता तथा वरिष्ठ हिंदी अनुवाद अधिकारी डॉ. गिरीश प्रमोदराव कठाणे ने दिनांक 30 अक्टूबर 2024 को आयोजित वादविवाद प्रतियोगिता और निबंध प्रतियोगिता में सहभागिता ली। हिंदी वादविवाद प्रतियोगिता में डॉ. अभिषेक तिवारी को प्रथम पुरस्कार तथा डॉ. गिरीश प्रमोदराव कठाणे को द्वितीय पुरस्कार हेतु चयनित किया गया।

भा.प्रौ.सं. रोपड़ में हिंदी कार्यशाला का आयोजन (दिनांक 13 दिसंबर, 2024)



भारतीय प्रौद्योगिकी संस्थान रोपड़ के हिंदी प्रकोष्ठ ने दिनांक 13 दिसंबर, 2024 को आभासीय रुप में हिंदी कार्यशाला का आयोजन संपन्न किया। राजभाषा विभाग, गृह मंत्रालय भारत सरकार के दिशा-निर्देशों के अनुपालन में इस कार्यशाला का आयोजन किया गया।

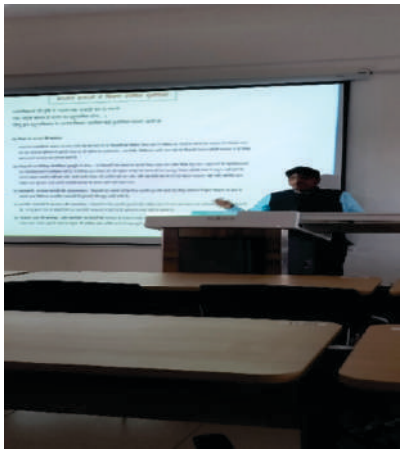
यह कार्यशाला "प्रौद्योगिकी संस्थानों में राजभाषा हिंदी का कार्यान्वयन" विषय पर आयोजित की गई जिसमें विषय विशेषज्ञ के रुप में उप निदेशक (कार्यान्वयन), पूर्व क्षेत्र, कोलकाता, राजभाषा विभाग, गृह मंत्रालय, भारत सरकार डॉ. विचित्रसेन गुप्त को आमंत्रित किया गया था। इस अवसर पर नराकास रुपनगर के सदस्य कार्यालयों के अधिकारी एवं कर्मचारीगण विशेष रुप से उपस्थित थे। इस कार्यशाला में भारतीय प्रौद्योगिकी संस्थान रोपड़ के कर्मचारियों, अधिकारियों तथा संकाय सदस्यों ने अपनी सहभागिता सुनिश्चित की।



सर्वप्रथम संस्थान के वरिष्ठ हिंदी अनुवाद अधिकारी डॉ. गिरीश प्रमोदराव कठाणे ने आमंत्रित वक्ता महोदय का स्वागत किया। साथ ही, नराकास रुपनगर के सदस्य कार्यालयों से जुड़े अधिकारी एवं कर्मचारिगण, भा.प्रौ.सं. रोपड़ के संकाय सदस्य, अधिकारी एवं कर्मचारिगणों का भी स्वागत किया। डॉ. गिरीश ने डॉ. विचित्रसेन गुप्त जी के जीवन-वृत्त के संबंध में सभी उपस्थिति को जानकारी देते हुए बताया कि डॉ. गुप्त काशी हिंदु विश्वविद्यालय में हिंदी अधिकारी के रुप में एक लंबी अवधि तक अपनी सेवाएं प्रदान कर चुके है।

आमंत्रित वक्ता महोदय ने अपने मार्गदर्शन परक वक्तव्य का आंरभ राजभाषा हिंदी से जुड़े संवैधानिक प्रावधान, इस संबंध में निर्धारित नियमों, अधिनियमों के साथ-साथ विभिन्न प्रोत्साहन योजनाओं के संबंध में सभी को जानकारी प्रदान कर उन्हें इस संबंध में संक्षिप्त जानकारी प्रदान की।

भा.प्रौ.सं. जोधपुर में शोध आलेख प्रस्तुति हेतु चयन



भारतीय प्रौद्योगिकी संस्थान जोधपुर ने भारतीय प्रौद्योगिकी संस्थान इंदौर के साथ संयुक्त तत्वावधान में दिनांक 02 दिसंबर को हिंदी तकनीकी संगोष्ठी का आयोजन संपन्न किया। इस संगोष्ठी में विकसित भारत की दिशा में विज्ञान और प्रौद्योगिकी का योगदान शीर्षक के अंतर्गत वैज्ञानिक, तकनीकी और राजभाषा से संबंधित आलेख आमंत्रित किए गए थे। राजभाषा सत्र के अंतर्गत राष्ट्रीय शिक्षा नीति के क्रियान्वयन के लिए भारतीय भाषाओं में शिक्षा संबंधित चुनौतियां एवं समाधान विषय पर भा.प्रौ.सं. रोपड़ के वरिष्ठ हिंदी अनुवाद अधिकारी डॉ. गिरीश प्रमोदराव कठाणे ने द्वारा भेजा गया आलेख दिनांक 02 दिसंबर 2024 को आयोजित की जा रही संगोष्ठी में प्रस्तुति हेतु चयनित किया गया। डॉ. गिरीश ने दिनांक 02 दिसंबर 2024 को इस तकनीकी संगोष्ठी में राजभाषा सत्र के अंतर्गत अपने आलेख की सफलतापूर्वक प्रस्तुति दी।

भा.प्रौ.सं. रोपड़ में मातृभाषा दिवस का आयोजन

हिंदी प्रकोष्ठ, भा.प्रौ.सं. रोपड़ द्वारा प्रति वर्ष की भांति वर्ष 2025 में मातृभाषा दिवस के उपलक्ष्य पर संस्थान सदस्यों के लिए दिनांक 21 फरवरी, 2025 को मातृभाषा दिवस का आयोजन किया गया। यह प्रतियोगिता का संस्थान के विद्यार्थिगणों, संकाय सदस्यों तथा कर्मचारिवृन्दों के लिए आयोजित की गई थी।

चुंकि भा.प्रौ.सं. रोपड़ भिन्न-भिन्न भाषा-भाषी सदस्यों का एक परिवार है। अतः अपनी-अपनी मातृभाषा में अपनी भावनाओं को व्यक्त करना प्रत्येक व्यक्ति के लिए एक सुखद अनुभव होता है। और इसी उद्देश्य की पूर्ति हेतु संस्थान का हिंदी प्रकोष्ठ प्रतिवर्ष मातृभाषा में प्रतियोगिता का आयोजन करता आ रहा है।

21 फरवरी 2025 को मातृभाषा में कविता पाठ एवं गीत गायन प्रतियोगिता में संस्थान के संकाय सदस्यों एवं कर्मचारिगणों तथा विद्यार्थियों ने बढ़-चढ़ कर प्रतिभागिता ली।

उक्त प्रतियोगिता में सभी प्रतिभागियों ने अपनी मातृभाषा में कविता पाठ एवं गीत गायन किया वहीं कुछ प्रतिभागियों अपने द्वारा स्वरचित एवं स्वरबद्ध कविता का पाठ कर मातृभाषा दिवस के अवसर पर अपनी प्रतिभा को सभी के सम्मुख रखा। सभी प्रतिभागियों ने अपनी-अपनी मातृभाषा में प्रस्तुति से मातृभाषा दिवस की सार्थकता को सिद्ध किया।

विजेता विद्यार्थी पुरस्कार प्राप्त करते हुए



समूह फोटो

इस अवसर पर संकाय/कर्मचारियों एवं विद्यार्थियों के लिए आयोजित प्रतियोगिता के मूल्यांकन हेतु आचार्य अनुपम अग्रवाल (यांत्रिक अभियांत्रिकी विभाग) और आचार्य नरिंदर सिंह (रसायन विज्ञान विभाग) विशेष रुप से आमंत्रित थे। इस अवसर पर हिंदी प्रकोष्ठ के संकाय प्रभारी डॉ. अभिषेक तिवारी भी उपस्थित थे।

इस अवसर पर संस्थान के संकाय सदस्यों एवं कर्मचारिगणों ने अपनी-अपनी मातृभाषा में कविता / गीत को प्रस्तुत किया।

भा.प्रौ.सं. रोपड़ में 76वें गणतंत्र दिवस के उपलक्ष्य में देशभक्ति गीत गायन प्रतियोगिता का आयोजन

हिंदी प्रकोष्ठ द्वारा भारत गणराज्य के 76वें गणतंत्र दिवस के उपलक्ष्य पर भा.प्रौ.सं. रोपड़ के विद्यार्थियों तथा संकाय सदस्य एवं कर्मचारिवृन्दों के लिए देशभक्ति कविता पाठ एवं गीत गायन प्रतियोगिता का आयोजन किया गया।

दिनांक 21 जनवरी 2025 को संस्थान के विद्यार्थियों एवं संकाय/कर्मचारिगणों के लिए आयोजित की गई इस प्रतियोगिता में संस्थान के विभिन्न विभागों के विद्यार्थियों / शोधार्थियों ने तथा विभिन्न विभागों/अनुभागों के अधिकारी/कर्मचारियों ने सहभागिता ली और प्रतियोगिता में अपने देशभक्तिपरक गीतों से पूरा वातावरण देशभक्तिमय कर दिया।

दिनांक 21 जनवरी 2025 को आयोजित प्रतियोगिता में संस्थान के विभिन्न विभागों के विद्यार्थियों एवं कर्मचारियों ने अपने देशभक्ति गीतों से पूरा वातावरण देशभक्ति के रंग में रंग दिया। कुछ प्रतिभागियों ने स्वरचित तो कुछ ने अन्यों की कविताओं एवं गीतों की प्रस्तुति से देश के प्रति अपनी निस्वार्थ भावनाओं को सभी के समक्ष बड़े ही गर्व के साथ रखा।

इस अवसर पर संस्थान के गणित विभाग के सहायक आचार्य डॉ. बालेश कुमार और यांत्रिक अभियांत्रिकी विभाग के सह आचार्य डॉ. रवि कांत परीक्षक के रुप में विशेष रुप से आमंत्रित थे।

प्रतियोगिता के अंतिम चरण में, प्रतियोगिता के परीक्षक पैनल के सदस्यों ने सभी प्रतिभागियों के प्रस्तुति पर विशेष टिप्पणी के साथ सभी का उत्सावर्धन किया। साथ ही, गायन की गुणवत्ता, शब्दों का उच्चारण तथा प्रस्तुति की शैली आदि मूल्यांकन के मानकों को विस्तार से समझाया।

दिनांक 21 जनवरी को आयोजित उक्त प्रतियोगिताओं के विजेताओं को संस्थान के निदेशक आचार्य (प्रोफे.) राजीव आहूजा ने दिनांक 26 जनवरी 2025 को संपन्न गणतंत्र दिवस समारोह में पुरस्कार प्रदान किए गए।

निदेशक, भा.प्रौ.सं. रोपड़ द्वारा पुरस्कार प्राप्त करते हुए अधिकारी/कर्मचारी



निदेशक, भा.प्रौ.सं. रोपड़ द्वारा पुरस्कार प्राप्त करते हुए विद्यार्थी



भा.प्रौ.सं. रोपड़ में हिंदी कार्यशाला का आयोजन (दिनांक 20 फरवरी 2025)

राजभाषा विभाग, गृह मंत्रालय, भारत सरकार के दिशा-निर्देशों के अनुपालन में हिंदी प्रकोष्ठ, भा.प्रौ.सं. रोपड़ ने जनवरी-मार्च 2025 तिमाही के दौरान हिंदी कार्यशाला का आयोजन संपन्न किया। संस्थान का हिंदी प्रकोष्ठ प्रति तिमाही एक कार्यशाला का आयोजन संपन्न करता आ रहा है। इसी क्रम में, दिनांक 20 फरवरी 2025 को आनलाइन माध्यम से हिंदी कार्यशाला का

आयोजन किया गया। इस कार्यशाला का उद्देश्य संस्थान सदस्यों को उन सभी तकनीकी टूल्स के संबंध में परिचित करना था जिसके सहयोग से वे अपना कार्यालयनी कामकाज हिंदी में द्रुत गति से संपन्न कर सकेंगे।



अंग्रेजी से हिंदी में कामकाज को पुष्ट करने के मार्ग में अनुवाद एक सेतु की भूमिका का निर्वहन करता है। इस बिंदु को ध्यान में रखते हुए भा.प्रौ.सं. रोपड़ के हिंदी प्रकोष्ठ "कंठस्थ" टूल के संबंध में संस्थान के कर्मचारी सदस्यों को मार्गदर्शन प्रदान करने हेतु हिंदी कार्यशाला का आयोजन किया। "कंठस्थ" पर मार्गदर्शन करने हेतु भारतीय प्रबंधन संस्थान, मुंबई के हिंदी अधिकारी मो. आफताब आलम जी को वक्ता के रुप में आमंत्रित किया गया था। इस कार्यशाला का भा.प्रौ.सं. रोपड़ के कर्मचारिगणों के साथ-साथ नगर राजभाषा कार्यान्वयन समिति के सदस्य कार्यालयों के अधिकारियों एवं कर्मचारी सदस्यों ने भी लाभ लिया।

आमंत्रित वक्ता महोदय ने अपने विचारों को आगे ले जाते हुए मशीनी अनुवाद सटिकता के संबंध में मार्गदर्शन किया। मशीनी अनुवाद के संबंध में कंठस्थ की उपयोगिता और सरलता तथा सुविधायुक्त पक्षों पर भी विस्तार से सभी का मार्गदर्शन किया। आमंत्रित वक्ता महोदय ने न केवल कंठस्थ के संबंध में सैद्धांतिक जानकारी साझा की अपितु कार्यशाला में जुड़े कर्मचारियों के साथ इसका प्रात्यक्षिक भी प्रस्तुत किया। कर्मचारी सदस्यों ने आमंत्रित वक्ता की उपस्थिति में अपने-अपने सिस्टम पर इसपर कार्य करने का भी प्रयास किया।

कार्यशाला के अंतिम चरण में, भा.प्रौ.सं. रोपड़ तथा नराकास रुपनगर के कर्मचारी सदस्यों ने आमंत्रित वक्ता महोदय से कंठस्थ के संबंध में अपनी जिज्ञासाओं रखा तथा वक्ता महोदय से अपनी जिज्ञासाओं पर समाधान प्राप्त किया। इसके पश्चात भा.प्रौ.सं. रोपड़ के वरिष्ठ हिंदी अनुवाद अधिकारी डॉ. गिरीश प्रमोदराव कठाणे ने आमंत्रित वक्ता महोदय, भा.प्रौ.सं. रोपड़ और नराकास रुपनगर के उपस्थित सदस्यों का भी धन्यवाद ज्ञापित किया।



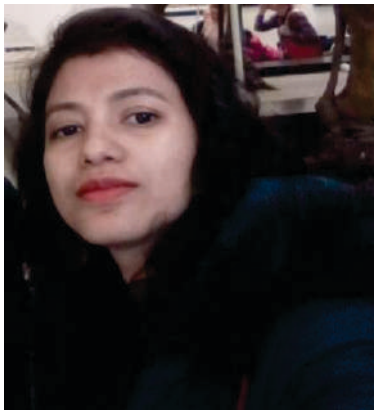


हिंदी भाषा प्रशिक्षण

भाषा प्रशिक्षण (जुलाई 2024 से नवंबर 2024)

हिंदी शिक्षण योजना, नई दिल्ली द्वारा आयोजित भाषा प्रशिक्षण के जुलाई-नवंबर 2024 सत्र में भा.प्रौ.सं. रोपड़ के 03 कर्मचारी सदस्यों ने प्राज्ञ परीक्षा तथा 01 कर्मचारी सदस्य ने पारंगत प्रशिक्षण उत्तीर्ण किया।

प्राज्ञ प्रशिक्षण उत्तीर्ण कर्मचारी सदस्य



सुश्री नबनीता चक्रबोर्ती,
कनि. अधीक्षक



श्री अनुज बब्बर,
कनि. तकनीकी अधीक्षक



डॉ. हरप्रीत कौर,
पुस्तकालय सूचना अधिकारी

पारंगत प्रशिक्षण उत्तीर्ण कर्मचारी



श्री सुमित राणा,
कनिष्ठ सहायक



DEPARTMENTS & CENTRE

SCHOOL OF ARTIFICIAL INTELLIGENCE AND DATA ENGINEERING

Programs offered	:	B. Tech, M.S. Data Science and PhD
No. of Students	:	B.Tech. : 41
	:	M.S. Data Science : 1
Head of the Department	:	Dr. Santosh Kumar Vipparthi
No. of faculty members	:	20
No. of staff members	:	1

FACULTY MEMBERS



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



DR. ABHINANDAN S PRASAD
Assistant Professor
University of Goettingen, Germany
Cloud-Edge Continuum, Systems AI/ML, 6G



DR. ABHINAV
Assistant Professor
IIT BHU
AI for Healthcare AI for Agriculture Medical Imaging Computer Vision Deep Learning Animal Biometrics



DR. ASHWINI B
Assistant Professor
Indraprastha Institute of Information Technology
AI for Healthcare, Behaviour Modelling for Diagnostics, Human-Computer Interaction



DR. BRAJESH RAWAT
Assistant Professor Indian Institute of Technology Guwahati
Nanoscale Devices Modeling and Simulation, 2-D Material based Devices, Simulation & Fabrication of Biosensors.



PROF. C. C. REDDY
Professor & Core Committee Member of SAIDE
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
Indian Institute of Technology Bombay
CMOS Analog Integrated Circuit Design, Sensor Interfacing Circuit Design, Neuromorphic VLSI Circuits, ASICs for bio-signal measurement



DR. MUDASIR AHMAD GANAIE
Assistant Professor
Indian Institute of Technology Indore
Research Interests: Deep learning, Machine Learning, Support Vector Machines, Data Science, Neuroimaging.



DR. PUNEET GOYAL
Assistant Professor
Purdue University, USA
Research Interests: Image Processing/Computer Vision, Applied Deep Learning, Image Forensics, Security Analytics and Assistive Technologies.



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



DR. SANTOSH KUMAR VIPPARTHI
Assistant professor & HoD
Indian Institute of Technology Varanasi (IIT Varanasi), BHU
Computer Vision, Deep Learning, Image Retrieval, Affective Computing, Expression Recognition, Arial Image Analysis, Face Recognition and Motion Detection.



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



DR. SHWETA JAIN
Associate Professor
Indian Institute of Science, Bangalore
Research Interests: Game Theory, Mechanism Design, Machine Learning, Reinforcement Learning



DR. SHASHI SHEKAR JHA
Assistant Professor
Indian Institute of Technology Guwahati
Reinforcement Learning, Autonomous Drones, Artificial Intelligence



DR. NITIN AULUCK
Professor & Core Committee member of SAIDE
University of Cincinnati, USA.
Research Interests: Distributed systems, edge computing, scheduling and resource allocation.



DR. SUJATA PAL
Associate Professor
IIT Kharagpur
Research Interests: IoT, Blockchain, Mobile ad-hoc networks, Delay tolerant networks, Vehicular networks, Content centric networks, Wireless sensor networks



DR. SUDEEPTA MISHRA
Associate Professor
Indian Institute of Technology Madras
Research Interests: Scheduling and Resource allocation, Wireless Networking, IoT, Drone Technology, Model Compression



DR. SUKRIT GUPTA
Assistant Professor
Nanyang Technological University, Singapore
Research Interests: Deep Learning, AI in Healthcare, Neuroimaging



DR. SWAPNIL VILAS DHAMAL
Associate Professor
Indian Institute of Science, Bangalore
Research Interests: Game Theory, Social Networks, Transportation Planning



DR. JAGPREET SINGH
Assistant Professor
Indian Institute of Technology Ropar
Research Interests: Parallel and Distributed Systems, Wireless Network, Energy Harvesting, High Performance Computing

LAURELS 2025 (FACULTY)

Sr. No.	Name of the Faculty	Award/ Achivement
1	Dr. Ashwani Sharma	Project awarded from Bharat 6G mission, DoT; Cost 2.75 Cr.
2	Dr. Devarshi Das	Project awarded from Bharat 6G mission, DoT; Cost 1.21 Cr.
3	Dr. Abhinav	Young Scientist Award by Science and Technology Applications Remodel (STAR) Society
4	Dr. Shweta Jain	Received "Google India Research Award, 2024" to work on "Fair Allocation of Resources via Multi-armed Bandit Algorithms.

5	Dr. Sukrit Gupta	Best Oral Presentation Award at Haematocon 2024
6	Dr. Sukrit Gupta	Runner's Up for Best Oral Presentation Award at Haematocon 2024
7	Dr. Mudasir Ahmad Ganaie	Runner's Up for Best Oral Presentation Award at Haematocon 2024

LAURELS 2025 (STUDENTS)

Sr. No.	Name of the Faculty	Award/ Achivement
1.	Meet Gupta	Won General Championship Clash of Coders Qualified IICPC Codefest Prelims Global Rank 134 Been in Institute's Merit List (all 3 semesters) Awarded 1st Prize by GFG CTO in Advitya Algo Unlock

INVITED LECTURES BY FACULTY

Sr. No.	Name of the Faculty	Lecture	Institute	Date
1.	Dr. Swapnil Vilas Dhamal	Cooperative Game Theory and Influence Maximization	IISc Bangalore	17/07/24
2.	Dr. Abhinav	Explainable CNNs: Class Attribution Maps, Challenges, and Applications in Healthcare	NIT Patna	27/02/2025
3.	Dr. Abhinav	AI for Cancer Prediction	Electronics & ICT Academy, IIT Guwahati	19/03/2025
4.	Dr. Shweta Jain	Algorithmic Game Theory	IMSc, Chennai	09/07/2024
5.	Dr. Jagpreet Singh	Sustainable sensor networks	NIT Hamirpur	26/02/2025
6.	Dr. Jagpreet Singh	Role of IoT for Automation in Modern Agriculture	Punjabi University Patiala	12/11/2024
7.	Dr. Jagpreet Singh	Data Collection using IoT	CGC Jhanjheri, Punjab	04/04/2024
8.	Dr. Jagpreet Singh	Internet-of-Things: Current Trends	CGC Landran, Punjab	01/07/2024
9.	Dr. Sujata Pal	Basics of Blockchain Security	National Institute of Technology Raipur	18/03/2025
10.	Dr. Mudasir Ganaie	Deep Learning and its Applications	Central University of Jammu	17-21/02/2025

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1	Dr. Nitin Auluck	Finland	June - July 2024. Visited Aalto Univ Finland, as part of a joint research project on sustainable 6G.
2	Dr. Shweta Jain	New Zealand	Conference travel, AAMAS 2025. 6-10 May
3	Dr. Swapnil Vilas Dhamal	New Zealand	Conference travel, AAMAS 2025. 6-10 May
4	Dr. Sujata Pal	South Korea	Conference travel IEEE MASS 2024, September 23 - 25, 2024
5	Dr. Sukrit Gupta	Germany	June, 2024 Visited HPI, Potsdam for research on epidemic modeling using multimodal data.



DEPARTMENT OF BIOMEDICAL ENGINEERING

Programs offered : M.Tech. and PhD.

No. of Students : M.Tech. : 24
: PhD : 46

Head of the Department : Dr. Rajesh Kumar

No. of faculty members : Core Faculty – 7
Associate Faculty- 4

No. of staff members : 2
Technical Staff : 1
Administrative Staff : 1

Thrust Area : Healthcare, Medical Devices,Biomaterials and Tissue Engineering, Biomedical-Photonics, Cancer Diagnostics and Diabetes, Immunology

No. of Publications : 45

FACULTY MEMBERS

CORE FACULTY



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



DR. ATHARVA POUNDARIK
Assistant Professor
Ph.D (Rensselaer Polytechnic Institute, USA)
(Joint with Dept. of Metallurgical and Materials Engg.)
3D- Bioprinting, Medical Devices- Design and Development, Orthobiologics, Wound Healing.



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



DR. SUKRIT GUPTA
Assistant Professor
Ph.D. (Nanyang Technological University,
Singapore) **Network Science, Artificial Intelligence, Machine Learning, Graph Learning, AI for Healthcare**



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



DR. BODHISATWA DAS
Assistant Professor
Ph.D (IIT Kharagpur)
Research Area: Biomaterials, Tissue Engineering, Nanomedicine, In-vitro Organ Models



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

ASSOCIATE FACULTIES



DR. NARINDER SINGH
Associate Professor
Chemistry
Ph.D. (Guru Nanak Dev University, Amritsar)
Nano-particles, calix [4] arenes, Characterization, chemo-sensor development



DR. PUNEET GOYAL
Assistant Professor
Computer Science
Ph.D (Purdue University USA)
Image Processing/Computer Vision,Deep Learning, Machine Learning, Security Analytics, Healthcare Apps and Assistive Technologies



DR. NAVIN KUMAR
Associate Professor
Mechanical Engineering
Ph.D. (Indian Institute of Technology Delhi)
Biomaterials, Biological and Biomaterial and tripodal Frameworks for Biomechanics, Mechanics of Nanomaterials, Finite Element Modeling (FEM), Biomedical Engineering, Biomedical Instrumentation, and Bioimplants



DR. YASHVEER SINGH
Associate Professor
Chemistry
Ph.D. (University of Allahabad)
Biomaterials, Drug Delivery and Antibacterial Gels Biomaterials ARCH
FACILITIES

FACILITIES

No. of Labs : PG : 7
Research : 7

TEACHING LABS

Name of the lab	Faculty In-charge of Teaching Lab	Name of the Equipment
Advanced Biology Teaching Lab	Dr. Srivatsava Naidu	Clariostar Plate Reader, Merck Water Purification System, Nitrogen Cylinder for cryopreservation, Chemidoc Imaging System, LIECA Florescent Microscope, Fully Automated Autoclave, Refrigerated Centrifuges and freezers, Ice-flaking machine, Tissue Culture Room and Microbiology room,
Physiology Teaching Lab	Dr. Durba Pal	UHK-TA Human Physiology Teaching Kit, Fab X 3-D Printer, Human Skeleton Model

		for teaching, Models of human organs, Emotive Epoc 14 Channel ECG, Spirometry, Stethoscope, Zeiss Axioscope Upright microscope, Trinocular Microscopes, Refrigerator, -20 freezer
Medical Devices and Instrumentation Teaching Lab		445 nm Blue Light Burning Power Beam Laser Pointer, , Keysight EDUX1002G Oscilloscope, Soldering Station, Bench Drill Machine, Dremel 3000-15 130 watt multi toolkit, Bosch GST 700 Plastic Jigsaw Blue, Ophthalmology unit, keratometer,
Biomechanics	Dr. Atharva Poundarik	Workstation, Software for analysis of biomechanical parameters, Weight and Height measurement system,
Medical Imaging and Biophotonics Teaching Lab	Dr. Rajesh Kumar	Ultrasonic machine, DopplerFlow, CT Scan experimental system, Terranova (MRI); NIRSspectrometer tool, Ruby crystal fluorescence lifetime experimental kit, Light source catheterization experimental kit, Fiber optics measurement probe, fluorescence measurement experimental kit
Biomaterials	Dr. Bodhisatwa Das	
	Dr. Sukrit Gupta	

RESEARCH LABS

Name of the lab	Principal Investigator/ Head of the Research Lab	Name of the Equipments
Immunology Lab	Dr. Javed Agrewala	Real Time PCR, Chemidoc Imaging System CO_2 incubator, -20 and -80 C freezers, Biosafety Cabinet, Cooling Centrifuges, Electroporater, Microscope
Non Coding RNA's Lab	Dr. Srivatsava Naidu	Homogenizer Tissue Lyser, Flow Cytometer, Thermal Cycler, Quant Studio, Ultrasonic Platform, Vortex Mixer, Mini gel Tank, Biosafety Cabinet, Vacusip Aspiration System, Low temperature refrigerators and freezers, CO_2 incubator with shaker, Mini gel Tank, Electrophoresis and Blotting System, Stable Temperature utility Water Baths, Microscope.
Tissue Engineering and Regenerative Medicine Laboratory	Dr. Durba Pal	CO 2 incubator, LEICA Cryotome, 5702 Refrigerated centrifuge, LEICA Fluorescent Microscope DMI8, Water bath, Biosafety cabinet, BD Accuri C6 Plus Flow Cytometer, PCR verittiThermo fisher Multiskan Go Spectrophotometer, - 20 and -80 C freezers and centrifuges.

Medical Devices Lab		Palmsens 4, NI USB 6001, Desktop Workstation, Raspberry Pi-Board Module, Oscilloscope, Arduino Development Board, LOBOT 6 DOF RC Robot Arm Gripper, DIY 5DOF Robot Arm Five Fingers Metal Mechanical Paw, Emotiv Kits, Thermal Camera IR, DSLR Camera Canon 80 D, Menikin for heart and upper body, NI Labview kit, Embrace Wrist watch for medical R & D, i-works kit.
Biomedical-Photonics Lab	Dr. Rajesh Kumar	Advanced Raman spectrometer, Plant spectrometer, Fluorescence spectrometer, NIR spectrometer, Microscopy based Imaging Tool, Laser powermeter, Optics & Photonics Components.
Advanced Biomaterials Manufacturing Lab	Dr. Atharva Poundarik	3D Bio-printer, Tangential Flow Filtration System, Lyophilizer, Elisa Plate Reader, Polymer synthesis setup
Biomaterials Lab	Dr. Bodhisatwa Das	Electrospinning (PICO Instruments Chennai), Phase Contrast Microscope (Lawrence Mayo)

LAURELS (Students) 2024-25

1. **Taruna Lamba** was awarded **Best Oral Presentation Award** at SPARC-IIT Ropar-EMORY Atlanta Conference cum Workshop 'From First Line to Final Strike: Innate and Adaptive Immunity', 2025 held at IIT Ropar, Ropar from Feb 16-17, 2025.
2. **Taruna Lamba** was awarded **ITS Travel grant** from DST-SERB for attending European Immunology Congress 2024, held at Dublin, Ireland from Sept 14, 2024.
3. Jonaid Ahmad Malik was awarded the best presentation PC Dhandia Award at the 52nd International Conference on Pharmacology conducted by the Indian Pharmacology Society (IPSCON-2022) at Mysore, Karnataka, India, held on Feb 22-26, 2023.
4. **Jonaid Ahmad Malik** was awarded with **Travel Award 2024** from DST-SERB Government of India for attending the EMDS 2024 conference in Vienna, Austria, held on Sep 22-26, 2024.
5. **Jonaid Ahmad Malik** was awarded **Best Paper Award** Saroj VN Sharma Award at the 54th International Conference on Pharmacology conducted by the Indian Pharmacology Society (IPSCON-2024) at AIIMs, Delhi, India, held on Nov 20-25, 2024.
6. **Jonaid Ahmad Malik** was awarded travel fellowship from EFIS of 500 Euros toattend EMDS-2024 on Oct 21, 2024.
7. **Jonaid Ahmad Malik** was awarded with **Best Oral Presentation** at the National Biomedical Research competition (NBRCOM5) by Young Biomedical Research Society India held at AIIMS, Delhi, India on Dec 1-3, 2024.
8. **Jonaid Ahmad Malik** was awarded **Best Poster Award** by Ed-Vantage Career Guidance Workshop 2025 at IIT Ropar, organized by the Young Metallurgical and Materials (MetSoc) Society held on Jan 24-25, 2025.

9 . **Jonaid Ahmad Malik** was awarded Best Poster Award **at SPARC-IIT** Ropar-EMORY Atlanta Conference cum Workshop 'From First Line to Final Strike: Innate and Adaptive Immunity', 2025 held at IIT Ropar, Ropar from Feb 16-17, 2025.

10. **Jonaid Ahmad Malik** was **awarded Best Poster award** at the Drug **Discovery2025**: Emerging Trendsand Future Prospects conference, held at the Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi, India held on Feb 24-26, 2025

11. A student of **Dr. Rajesh Kumar - Garima Singhal** has received the Best Paper Award for her research paper. This recognition was awarded in the category AI in Histopathology, with a citation for the exceptional quality of her work and its significant contribution to the field of AI/ML at the International Conference on Artificial Intelligence and Computing Technologies, held from 15-17 November 2024 at NIT Raipur.

12. **Deepa,** a PhD graduate from our group, has been selected as a postdoctoral fellow under Dr. Julieta I Paez, Department of Developmental Bioengineering, University of Twente, Enschede, Netherlands.

INVITED LECTURES BY FACULTY

Name of the Faculty	: Prof. Javed N Agrewala
Lecture	: Can Vaccines Serve as a Viable Treatment for Drug Addiction?
Department	: Institute Level
Institute	: Sir P. T. S. C. S. Surat, Gujarat
Date	: April 2024
Name of the Faculty	: Prof. Javed N Agrewala
Lecture	: Vaccination as a Public Health Strategy: Success Stories and Future Challenges
Department	: Institute Level
Institute	: Amity University Punjab, Mohali
Date	: 06.08.2024
Name of the Faculty	: Prof. Javed N Agrewala
Lecture	: From Eradication to Equity: Evolving Vaccination Strategies in Public Health
Department	: Department of Bioresource, School of Biological Sciences
Institute	: University of Kashmir, Srinagar
Date	: 31.8.2024.
Name of the Faculty	: Prof Javed N Agrewala
Lecture	: Signaling dendritic cells through TLR-2 by Acr1 nanovaccine expressing morphine and Pam3Cys elicits enduring anti-morphine immunity and alleviates addiction
Department	: Institute Level
Institute	: National Institute of Mental Health and Neurosciences, Bangalore
Date	: 15.10.2024

Name of the Faculty	: Prof Javed N Agrewala
Lecture	:. Autophagy Reimagined: Navigating Its Contradictory Roles in Health and Disease
Department	: Institute Level
Institute	: Institute of Nano Science and Technology (INST), Mohali
Date	: 24.10.2024

Name of the Faculty	: Prof Javed N Agrewala
Lecture	: Morphine Modulates Macrophage Fate: Unraveling M1/M2 Polarization and Its Implications in Disease Susceptibility
Department	: 90th Annual Meeting of the Indian Academy of Sciences
Institute	: NISER, Bhubaneswar
Date	: 11.11.2024

Name of the Faculty	: Prof Javed N Agrewala
Lecture	: Caerulomycin A: A Novel Immunosuppressive Molecule Targeting Autoimmune Disorders,
Department	: Annual meeting of the Association of Microbiologists of India
Institute	: Guru Jambheshwar University of Science & Technology, Hisar, Haryana
Date	: 14.11.2024.

Name of the Faculty	: Prof Javed N Agrewala
Lecture	: Targeting dendritic cells with TLR-2 ligand-coated nanoparticles loaded with Mycobacterium tuberculosis epitope induce antituberculosis immunity
Department	: Institute Level
Institute	: Jamal Mohammad College, Trichy
Date	: 3.12.2024

Name of the Faculty	: Prof Javed N Agrewala
Lecture	: Age-mediated gut microbiota dysbiosis promotes the loss of dendritic cells tolerance.
Department	: Institute Level
Institute	: IIT Madras, Chennai
Date	: 11.12.2024

Name of the Faculty	: Prof Javed N Agrewala
Lecture	: Vaccine Warriors: Continuously Shielding Against Novel Diseases like COVID-19
Department	: 90th Annual meeting of the Indian National Science Academy
Institute	: SRM Institute of Science and Technology, Chennai
Date	: 10.12.2024

Name of the Faculty	: Dr. Rajesh Kumar
Lecture	: Invited Lead Speaker in “Photonics in Plant Pathology”
Department	:
Institute	: CSKHPKV, Palampur, Himachal Pradesh.
Date	: 08.11.2024.

Name of the Faculty	: Dr. Rajesh Kumar
Lecture	: Invited Lead speaker in “Photonics and Device Workshop”
Department	: Department of Physics
Institute	: Indian Institutes of Science Education and Research (IISER) Mohali.
Date	: 09.07.2024

Name of the Faculty	: Prof. Narinder Singh
Lecture	: Advanced Analytical Instrumentation Methods for Environment Remediation,
Department	: Institute Level
Institute	: Punjab Engineering College, Chandigarh..
Date	: July 2024

Name of the Faculty	: Prof. Narinder Singh
Lecture	: International Conference (EMSD 2024),
Department	: Institute Level
Institute	: NABI, Mohali & Punjab Engineering College, Chandigarh
Date	: July 2024

Name of the Faculty	: Prof. Narinder Singh
Lecture	: National Seminar on Industry-Academia Collaboration for Water Security
Department	: Institute Level
Institute	: Chitkara University, Punjab.
Date	: August 2024

Name of the Faculty	: Prof. Narinder Singh
Lecture	: Second International Conference GOLD-CT-2024,
Department	: Institute Level
Institute	: KBC North Maharashtra University..
Date	: Sep 2024

Name of the Faculty	: Dr. Srivatsava Naidu
Lecture	: Diversity of NGS Technologies and Applications in Health Care,
Department	: Department of Computational Sciences
Institute	: Central University of Punjab,.
Date	: 5.3.25

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Self-assembled peptides and nanomaterials for biocatalytic and bone tissue regeneration applications, DST-PURSE National Symposium on Catalysis (CATSYMP-24) and Catalysis for Sustainable Chemicals, Materials, and Energy (CSCME-2025),
Department	: Department of Chemistry and Biochemistry,
Institute	: Thapar Institute of Engineering and Technology, Patiala,
Date	: 24-26 February 2025

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Hydrogels/gels and nanomaterials for tissue regeneration applications, International Conference on Translational Trends in Natural and Health Sciences (TTNHS-2024),
Department	: Institute Level
Institute	: Central University of Punjab, Bathinda
Date	: 4-6 December 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Nanomaterials and hydrogels for wound healing and tissue regeneration applications, International Conference on Smart Materials for Sustainable Technology (SMST-2024),
Department	: Institute Level
Institute	: Chemical Biology Unit, Institute of Nano Science and Technology (INST), Mohali
Date	: 26, October 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Biomaterials for wound healing and tissue regeneration, International Conference on Emerging Trends in Green Energy and Environment Sustainability,
Department	: Department of Biotechnology, Chandigarh Group of Colleges, Landran,
Institute	: Institute Level
Date	: 26 September 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Biomaterials for antibacterial and wound healing applications, International Symposium on Current Trends in Advanced Materials (CTAM-2024),
Department	: Department of Chemistry, School of Advanced Sciences, VIT-AP University,
Institute	: Institute Level
Date	: 27 August 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Biomaterials for wound healing and tissue regeneration, International Conference on Engineered Materials for Sustainable Development (EMSD),
Department	: Punjab Engineering College, Chandigarh and National Agri-Food Biotechnology Institute (NABI), Mohali,
Institute	: Institute Level
Date	: 25 July 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Biomaterials for bone tissue regeneration, International Conference on Fundamental and Advanced Research in Chemistry 2024 (FARC-2024),
Department	: School of Chemical Sciences,
Institute	: IIT Mandi, Himachal Pradesh
Date	: 6-8 June 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Bioactive biomaterials for biomedical applications, Short-term Course on Applications of Technology in Environmental Sustainability), (NITTTR, Chandigarh),
Department	: Institute Level
Institute	: Chandigarh College of Engineering and Technology (Diploma Wing), Chandigarh,
Date	: 26 November 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Nanomaterials for antibacterial and wound healing applications, FDP/STC on Nanomaterials, Sensors and Devices,
Department	: Department of Applied Science,
Institute	: National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh,
Date	: 16 September 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Biomaterials for bone tissue regeneration, International Conference on Fundamental and Advanced Research in Chemistry 2024 (FARC-2024),
Department	: Department of Applied Science,
Institute	: National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh,
Date	: 25 July 2024.

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Biomaterials for wound healing and bone regeneration applications, Faculty Development Program (FDP) on Bridging the Gap: Interdisciplinary Approaches to Materials Chemistry,
Department	: Department of Chemistry,
Institute	: Chandigarh University, Mohali,
Date	: 4 July 2024

Name of the Faculty	: Dr Yashveer Singh
Lecture	: Polymeric materials in controlled drug delivery and Implantable therapeutic systems, PE-620: Drug Delivery Part I - Controlled Drug Delivery course,
Department	: MS Pharma
Institute	: National Institute of Pharmaceutical Education and Research (NIPER), Mohali,
Date	: February-April 2024 (12 lectures)

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Prof. Rafi Ahmed, Emory University, USA	Immunology of HPV- mediated cancer	Feb 16, 2025
2	Dr. Mehul Suthar, Emory University, USA	Antigenic characterization and durable immunity to SARS-CoV-2	Feb 16, 2025

3	Prof. Nirmal Kumar Ganguly, former DG-ICMR	Machine learning for prediction of immunotherapeutic outcome in lung cancer patients based on multi-omic signatures	Feb 16, 2025
4	Dr. Dibyendu Sarkar, CSIR-IMTech, Chandigarh	Investigating mycobacterial transcription- enabled colonization in host (IMTECH): molecular basis of functioning of the phoP mutant as a vaccine strain	Feb 16, 2025
5	Dr. Manoj Kumar, NIPER, Mohali	Data-Driven Drug repurposing for SARS-CoV-2: AI/ML predictions and experimental validation	Feb 16, 2025
6	Dr. Arunika Mukhopadhaya, NIPER, Mohali	Vibrio cholerae engages cytolysin to induce inflammatory responses as well as cell death via novel TLR assembly in both in vivo and in vitro	Feb 16, 2025
7	Dr. Pradip Sen, CSIR- IMTech, Chandigarh	The role of TIM-3 receptor in the regulation of antileishmanial immune response	Feb 16, 2025
8	Dr. Asifkhan Shanavas, INST, Mohali	Nanotechnological interventions for breast tumor management	Feb 16, 2025
9	Dr. Vaishali Aggarwal, University of Pittsburgh, USA	Tumor-specific stem-like progenitor exhausted LAG3+ CD8+ T cell subsets diverge into terminally exhausted and long-lived memory T cells	Feb 16, 2025
10	Dr. Rajeev Tyagi, CSIR-IMTech, Chandigarh	Oleuropein activates autophagy to circumvent anti-plasmodial defense	Feb 16, 2025
11	Dr. Sharvan Sehrawat, IISER, Mohali	Achieving favorable outcome of viral infection	Feb 16, 2025
12	Dr. Naresh Sachdeva, PGIMER, Chandigarh	A novel exosome-based approach to suppress autoimmune responses in type-1 diabetes	Feb 16, 2025
13	Dr. Anamika Bose, NIPER, Mohali	Exhausted T cell-cancer stem cell crosstalk in favour of tumor growth and metastasis	Feb 16, 2025
14	Dr. Jogender Singh, IISER, Mohali	Translation initiation or elongation inhibition triggers contrasting effects on Caenorhabditis elegans survival during pathogen infection	Feb 16, 2025
15	Dr. K. Chattopadhyay, IISER, Mohali	The (W)Hole story of the bacterial 20pore forming toxins: First strike to kill	Feb 16, 2025
16	Dr. Sheetal Gandotra, IGIB, New Delhi	Macrophage lipid droplets shape the innate immune response during tuberculosis infection	Feb 16, 2025
17	Dr. Vivek Rao, IGIB, New Delhi	Novel axis of host directed adjunct therapy for accelerated TB control with antidepressants and antipsychotics	Feb 16, 2025
18	Dr. Nishima Wangoo, Panjab University, Chandigarh	Nanoconstructs based strategies for applications in targeted drug delivery	Feb 16, 2025
19	Dr. Archana Bhatnagar Panjab University, Chandigarh	Planting hope: Potential of Peurarin in breaking the cycle of autoimmunity in lupus	Feb 16, 2025
22	Dr. Neelam Taneja PGIMER, Chandigarh	Gut microbiome and gut immunity	Feb 16, 2025

23	Dr. Amit Awasthi THSTI, Faridabad	Role of IL-9-producing helper T cells in health and diseases	Feb 16, 2025
24	Prof. D.K. Mitra AIIMS, Delhi	Inhibiting PD-1 restores Mycobacterium tuberculosis specific poly-functional T cells: impact on therapy of drug resistant tuberculosis patients	Feb 16, 2025
25	Dr. K. Rajagopal CSIR-CFTRI, Mysore	Bug-buster: A replacement for conventional antibiotics: A success story towards technology commercialization	Feb 16, 2025
26	Dr. Anwar Alam Sharda University, Greater Noida	Development of a new recombinant BCG vaccine with enhanced memory response and protective efficacy against heterologous infections	Feb 16, 2025
27	Dr. Manzoor Ahmad Mir University of Kashmir, Srinagar	Targeting mutant p53 to bridge innate and adaptive immune responses in tumor surveillance	Feb 16, 2025
28	Dr. Pradeep Kumar Rai Sysmex Co., New Delhi	Best practices of multicolor flow cytometry for rare clone detection	Feb 17, 2025
29	Dr. Nargis Khan University of Calgary, Canada	Trained Immunity: New frontier in fighting infectious diseases	Feb 17, 2025
30	Dr. U Gowthaman UMass Chan Medical School, USA	DOCK8 and STAT3 cooperate to restrain IgE-inducing T follicular helper cells	Feb 17, 2025
31	Prof. Susmit Suvas Wayne University, USA	Homing of myeloid cell subsets and tissue-resident memory T cells in the epithelium versus stromal layers of virus-infected corneal tissue	Feb 17, 2025
32	Dr. Manni Luthra PGIMER, Chandigarh	Molecular and cellular mechanisms explaining the strikingly-high association between the MHC Class I allele, HLA-B27*05, and spondyloarthropathy	Feb 17, 2025
33	Prof. Chaaya Iyengar Raje NIPER, Mohali	Deception and hijack-Mycobacterium tuberculosis GAPDH diverts lactoferrin for iron acquisition	Feb 17, 2025
34	Dr. Vijayender Bhalla CSIR- IMTech, Chandigarh	Bifunctionalized nanobioprobe: applications in immunodetection	Feb 17, 2025
35	Prof. Prabha Garg NIPER, Mohali	Molecular Alchemist - Multidimensional AI strategies for therapeutic solutions, interactions, and targeted interventions	Feb 17, 2025
36	Dr. Sunil Arora PGIMER, Chandigarh	HIV-Mtb co-infection: a danger-double live-in relationship	Feb 17, 2025
37	Dr. Swagata Halder, Plaksha University, Mohali,	Genome stability in the context of replication fork metabolism	Sept 27, 2024
38	Prof Indu Pal Kaur University Institute of Pharmaceutical Sciences (UIPS), Panjab University, Chandigarh, India	Nanobiomaterials for tissue regeneration: experiments	Sept 27, 2024
39	Dr Prashant Jindal University Institute of Engineering & Technology(UIET), Panjab University(PU), Chandigarh	Transforming the world of medical devices and healthcare solutions using Digital Technologies	Sept 27, 2024

40	Dr. Saurabh Sharma Assistant Professor Department of Neurosurgery DMCH, Ludhiana	Role of nanotechnology in Neurosurgery	Sept 27, 2024
41	Dr. Kumar Keshav Associate Professor (Orthopaedics, Apex Trauma Centre,Sanjay Gandhi Post-Graduate Institute of Medical Sciences, Lucknow)	Medical devices and implants in the field of orthopaedics	April 26, 2024

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1	Dr. Srivatsava Naidu	Germany	DAAD-IITs Bilateral Exchange of Academics, 2024 fellowship program. From May 20, 2024, to July 19, 2024.
2	Dr. Durba Pal	USA	McGowan Institute of Regenerative Medicine, University of Pittsburgh, PA, USA under Work Outside Host Institute (WOHI) scheme of DBT Wellcome Trust India Alliance. 1st Feb 2025 to 31st March 2025

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Jonaid A Malik	Austria	Presented paper at the 37thEuropean Macrophage and Dendritic cell society (EMDS) research work from 27th Nov to 29th Nov 2024 at **Vienna, Austria**
2	Taruna Lamba	Ireland	Presented a paper at the European Congress of Immunology Congress 2024, held at **Dublin,Ireland** from Sept 1 – 4, 2024
3	Mohd Affan Khan	USA	Under SPARC-IIT Ropar-Emory collaborative project, from Jun 10, 2024 to Jun 10, 2026 to Prof. Rafi Ahmed, Emory University, Atlanta, USA
4	Shashanka Sarkar	USA	9th International Conference on Cancer Research & Drug Development November 18-20, 2024 | Boston, MA Poster title: Novel Small Molecule Inhibitor Targeting RNA Polymerase I Transcription: Potential Anti- Tumor Agent
5	Mohit Kamboj	South Korea	World Biomaterials Congress [May 26-31,2024]
6	Anwesha Mukherjee	USA	TERMIS World Congress [June 25-28, 2024]

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

Dr Durba Pal

S. o	Title	Sponsor	Funding	Duration	PI/Co-PI
1	"Antisense oligonucleotide- loaded, 3D printed, double-layered, & multifunctional wound healing matrix to target angiogenesis in chronic diabetic wounds"	DBT	39.00 lakh	01.06.2021 to 31.05.2024 (completed)	PI: Dr. Yashveer Singh Co-PI: Durba Pal
2	"Understanding the role of adipose-derived myeloid lineage in the pathophysiology of type 2 diabetes mellitus"	DBT Wellcome Trust India Alliance	3.52 cr	01-03-2024 to 29-02-2029 (ongoing)	PI: Durba Pal
3	Identification of novel obesityinduced dipokine(s) that promotes adipocyte senescence: a enotherapeutics approach for treating insulin resistance and type 2 diabetes	CSIR-ASPIRE	25 Lakh	20.06.2024 (completed)	PI: Durba Pal

Prof Javed N Agrewala

S. No	Title	Sponsor	Funding	Duration	PI/Co- PI
1	Bolstering BCG efficacy by expressing memory-enhancing cytokines IL-7 and IL-15 to elicit long-lasting memory T cells and protection against Mycobacterium tuberculosis [Project Leader] [Ref No. File No: 5/8/5/17 /ITRC/Vaccine Trail/2022/ECD-1] [Project Leader]	ICMR	79.00 Lakhs	2023- contd	Prof Javed Agrewala
2	Influence of gut microbiota on the generation of enduring memory T cell response [Project Leader]	DST-SPARC	84.00 Lakhs	2023-contd	Prof Javed Agrewala

Dr Rajesh Kumar

S. No	Title	Sponsor	Funding	Duration	PI/Co-PI
1	Analysis of osteoarthritic disorders in human using unconventional imaging tools.	DBT	42.5 Lakh		Dr Rajesh Kumar
2	Development of quantum enhanced multimodal nonlinear optical microscope for oral cancer screening and diagnosis	ICMR	130 Lakh		Dr Rajesh Kumar

Dr Bodhisatwa Das

S. No	Title	Sponsor	Funding	Duration	PI/Co-PI
1.	Antioxidative hydrogel-mesenchymal stem cells combinatorial therapy for targeting reactive astrogliosis (RA) induced neuropathic pain post spinal cord injury (SCI)"	DBT	7000000	2024-2027 Ongoing	PI- Dr Bodhisatwa Das
2.	Application of artificially polyploidy induced primary skin cells in wound healing.	SERB	7000000	2023-2026 Ongoing	PI- Dr Bodhisatwa Das
3.	Development of carbonaceous filler reinforced biopolymer nanocomposite for semi biologic hernial mesh fabrication	DBT	3440000	2024-2025 Ongoing	PI- Dr Bodhisatwa Das
4	Development of a novel soft-robotic joint for potential assistive applications using piezoelectric composite elastomer based synthetic muscle fibers.	DBT	3276000	2024-2025 Ongoing	Co- PI Dr Bodhisatwa Das

Dr Atharva Poundarik

S. No	Title	Sponsor	Funding	Duration	PI/Co-PI
1	An osteo-adhesive composition, material and method for preparation thereof	SERB-TETRA	30 Lakh	2023-2025	PI Dr Atharva Poundarik
2	Fabrication and preclinical trial of 3D printed lacenta based bioactive hybrid dressing for full thickness second degree burn management	ICMR	1 Cr 14 Lakh	2024-2027	PI Dr Atharva Poundarik

Dr Srivastava Naidu

S. No	Title	Sponsor	Funding	Duration	PI/Co-PI
1	Identification and functional characterization of circular RNAs originating from encoding RNA Polymerase I transcriptional machinery - a novel molecular basis of cancer	SRB-CRG	50 Lakh	2023-26	Dr Srivatsava Naidu
2	Role of long non-coding RNAs in RNA Polymerase I transcription	ICMR – Ad-Hoc Project Under Extramural Research Program.	38 Lakh	June 2023-ongoing	Dr Srivatsava Naidu
3	An integrative transcriptomics approach to investigate the global gene expression trends in response to hyperactive RNA polymerase I transcription.	Ramalingaswami fellowship – Department of Biotechnology, Govt. of India	32.5 Lakh,	(2018-2023). completed	Dr Srivatsava Naidu
4	Investigation of the functional roles of the RNA polymerase I transcription factor complex selectivity factor 1 by CRISPR/Cas9 assisted genome engineering.	SERB – DST	47.71 Lakh,	(2018-2021) completed	Dr Srivatsava Naidu
5	SYNTHESIS AND VALIDATION OF GERMICIDAL COATING FOR BOPP FILMS.	Max Specialty films limited (Industry funding).	9.9 Lakh,	Completed	Dr Srivatsava Naidu

Dr Navin Kumar

S. No	Title	Sponsor	Funding	Duration	PI/Co-PI
1	A hand-held medical device for in-vivo mechanical characterization of bone	Hub Foundation for Robotics (Technology Innovation Hub of IIT Delhi)	25 Lakh	2023-2024	Dr Navin Kumar

Dr Narinder Singh

S. No	Title	Sponsor	Funding	Duration	PI/Co-PI
1	Material characterization and development of cost-effective, enhanced performance balls:a comparative study with benchmark standards	Industrial Consultancy	5.9 Lakh		Dr Narinder Singh
2	Enhancing hydrophilicity of pyridinium salt: strategies through biomolecule conjugation / molecular recognition and chemical tailoring	Industrial Consultancy	15.26 Lakh	(Ongoing in 2025)	Dr Narinder Singh
3	A study on reduction of COD in MEE distillate	Industrial Consultancy	12.55 Lakh	(Ongoing in 2025)	Dr Narinder Singh
4	DPR for the development of a comprehensive design and feasibility plan for sustainable landfill site management	Industrial Consultancy	42.0 Lakh	(Ongoing in 2025)	Dr Narinder Singh



DEPARTMENT OF CHEMICAL ENGINEERING

Programs offered	: Ph.D., M.Tech, B.Tech
No. of Students	: B.Tech. :109 M.Tech. :6 PhD :65
Head of the Department	: Dr. Navin Gopinathan
No. of faculty members	: 14
No. of adjunct faculty members	: 1
No. of staff members	: 5 Technical Staff: 3 Administrative Staff: 2
Thrust Area:	Fluids, Granular Materials & Soft Matter Engineering Catalysis and Reaction Engineering Thermodynamics and Molecular Simulation Process Systems Engineering
No. of Publications	: 59

FACULTY MEMBERS

CORE FACULTY



Dr. ARGHYA BANERJEE
Assistant Professor
Ph.D. (National University of Singapore)
Molecular Modelling, Computational Catalysis, Reaction Engineering, Heterogeneous Catalysis, Biomass conversion to chemicals, CO2 valorisation to chemicals



Dr. ASAD H. SAHIR
Assistant Professor
Ph.D. (University of Utah, Salt Lake City)
Energy and Environmental Engineering; Energy Systems Analysis (Techno-economic, infrastructure integration and life cycle aspects); Particle technology and reaction engineering; Combustion; Modeling and Simulation; Process Engineering and Design ; Process Systems Engineering; Engineering Education



Dr. CHANDI SASMAL
Assistant Professor
Ph.D. (Monash University, Melbourne)
Soft Matter Engineering, Transport Phenomena and Thermodynamics, Multi-scale Modeling



Dr. NEELKANTH NIRMALKAR
Assistant Professor
Ph.D. (IIT Kanpur)
Transport Phenomena and Thermodynamics, Energy and Environment, Soft Matter Engineering

Learning, Soft-Sensor, Data Reconciliation, Fault Detection, Model Predictive Control, Real-time Optimization



Dr. KISHANT KUMAR
Assistant Professor
Ph.D. (IIT Guwahati)
Gas Storage and Separation; Waste Management; Molecular Dynamics & Monte Carlo Simulations; Phase Calculations and Ab Initio Calculation, Hydrogen Generation, Storage and Transportation, Porous Materials



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



Dr. NAVIN GOPINATHAN
Assistant Professor
Ph.D. (University of Bath, UK)
Indirect and direct porous media characterisation, controlled drug delivery, enhanced oil recovery, heavy oil upgrading and catalyst deactivation



Dr. JAYARAM VALLURU
Assistant Professor
Ph.D. (IIT Bombay)
Bayesian State & Parameter Estimation. Machine



Dr. RAJAGOPAL VELLINGIRI
Assistant Professor
Ph.D. (Imperial College London, UK)
Thin liquid films, Droplets dynamics, Multiphase flows, Low-dimensional modelling, Interfacial instabilities, Nonlinear waves, Asymptotic methods



Dr. SAIKAT ROY
Assistant Professor
Ph.D. (IIT Bombay)
Granular Mechanics,Complex Fluids, Soft Condensed Matter and related Solid Mechanics, Colloidal Gel Rheology, Jamming and Glass transition, Fluid Mechanics.



Dr. SANTOSH KUMAR MEENA
Assistant Professor
Ph.D. (Johannes Gutenburg University of Mainz, Germany)
Nanotechnology and Nanomaterials, Surfaces and interfaces, Catalysis, Metal-organic frameworks, Bio-minerals (Crystallization of inorganic materials), Molecular Dynamics simulations; Modeling and simulations, Process development



Dr. SARANG P. GUMFEKAR
Assistant Professor
Ph.D. (University of Alberta, Canada)
Functional polymers, aerogels, hydrogels, water purification, nanofiltration membranes, advanced oxidation processes (AOPs), hydrodynamic cavitation, conductive adhesives, electrocatalysts, fuel cells, technical textiles.

FACILITIES

No. of Labs : 16
UG : 4
Research : 12

Name of the lab : Computational Catalysis and Sustainable Chemicals

Name of the Head of the Research lab : Dr. Arghya Banerjee

Name of the Equipments : Fixed Bed Reactor Setup, Gas Chromatograph, Weighing Balance, Rotary Evaporator, Chiller, Muffle Furnace, Hot air oven

Research Labs

Name of the lab	Name of the Head of the Research lab	Name of the Equipments
Advanced Colloids and Interfacial Engineering Laboratory	Dr. Manigandan S.	Jacketed Reactor, chiller, microscope, vacuum oven, vacuum filtration unit, probe-type sonicator, inverted light microscope, fluorescent microscope, Langmuir Blodgett attached with microscope (LBXD), dip Coater, optical tensiometer, centrifuge, uv-vis spectrophotometer, and homogenizer
Catalysis & Sustainable Energy Laboratory	Dr. Tarak Mondal	Fixed Bed Reactor , Gas Chromatography , Rotary Evaporator Muffle Furnace , Centrifuge , Hot air Oven,
Catalysis and Separation Processes Laboratory	Dr. Navin Gopinathan	Fixed bed reactor
Computational Catalysis and Sustainable Chemicals Laboratory	Dr. Arghya Banerjee	Fixed Bed Reactor Setup, Gas Chromatograph, Weighing Balance, Rotary Evaporator, Chiller, Muffle Furnace, Hot air oven
Nanotechnology for Energy and Environment Laboratory	Dr. Neelkant Nirmalkar	Incubator , Hot air Oven , Rotary evaporator, GC, NTA, DLS
Energy and Environment Laboratory	Dr. Kishant Kumar	Ultraviolet Visible Spectroscopy, High Speed Centrifuge, and Electrochemical Workstation, High Performance Rack Server, Clean Working Bench, etc.,
Granular and Colloids Laboratory	Dr. Saikat Roy	High Performance Computing Servers, High speed cameras, DSLR cameras, Annular shear cell, 2D Biaxial apparatus, Granular impact experimental setup, Uniaxial compression chamber, Vacuum pump, Honeycomb Tabletop & Passive Support
Laboratory of Complex Fluids and Living Soft Matter- 1	Dr. Vishwajeet Mehandia & Dr. Navin Kumar (Mechanical Dept.)	Centrifuge, Fluorescent Microscope, Cell Culture Lab.
Laboratory of Complex Fluids and Living Soft Matter- 2	Dr. Vishwajeet Mehandia	High Speed Monochromatic Camera (Photron FastCam Mini AX100).

Nanotechnology for Energy and Environment Laboratory	Dr. Neelkant Nirmalkar	Ultraviolet Visible Spectroscopy, High Speed Centrifuge, and Electrochemical Workstation, High Performance Rack Server, Clean Working Bench, e
NanoTech Laboratory	Dr. Santosh Kumar Meena	Workstation
Non-Newtonian Fluid Dynamics Research Laboratory	Dr. Chandi Sasmal	Soft Lithography Station, Ball mill, Inverted Fluorescence Microscope
Polymers and Nanomaterials Engineering Laboratory	Dr. Sarang P. Gumfekar	Lyophilizer, Hot air oven, Electrospinner, Crossflow membrane testing module, Probe and bath sonicator, Electrochemical workstation, Sourcemeter, Gas adsorption analyzer, Padder-coater, rheometer, spray dryer, DSC, TGA
Process Control and Data Analytics Laboratory	Dr. Jayaram Valluru	Automated Hybrid Three Tank Experimental System. Automated Nonlinear Ph-Process Trainer. HPC Workstations.
DRF Facilities	Dr. Neelkanth Nirmalkar, Dr. Manigandan S., Dr. Kishant Kumar, Dr. Tarak Mondal, Dr. Navin Gopinathan, Dr. Sarang Gumfekar	Nanoparticle Tracking Analysis, Zeta Sizer, Force Tensiometer, Master Sizer, Viscometer, Gas Chromatography Mass Spectrometry, Thermogravimetric Analyzer, Fourier Transform Infrared Spectrometer.

LAURELS (FACULTY)

1. **Dr. Asad Sahir,** represented India at the recently concluded RD20 Summer School (July 7-13, 2024), hosted by the National Research and Innovation Agency Indonesia /Badan Riset dan Inovasi Nasional RI (BRIN RI) with the theme of "Diversity of Knowledge on Decarbonization in Just Energy Transition Mechanism." Dr. Sahir's contributions were also featured in the RD20 Summer School Report (pp.8-9): https://rd20.aist.go.jp/wp-content/uploads/2024/07/Summer-school-2024-report-BRIN_E.pdf
2. **Dr. Asad Sahir** served as a technical advisor for the Technical Report for Carbon-to-chemicals: A techno-commercial assessment by Center for Study of Science, Technology and Policy (CSTEP) and was released in November 2024. https://cstep.in/drupal/sites/default/files/2024-11/Carbon-to-chemicals_A%20techno-commercial%20assessment.pdf
3. **Dr. Santosh Kumar Meena** has been selected by the Embassy of France in India to receive funding for a research trip to France under the Scientific High Level Visiting Fellowships (SSHN) programme (https://www.ifindia.in/sshn-2024/).

LAURELS (STUDENTS)

1. **Ms. Sukriti Sharma** was awarded the Indo-German Science & Technology Centre (IGSTC) Ph.D Industrial Exposure Fellowship (PIEF) (2024). She is hosted at Fraunhofer UMSICHT, Advanced Carbon Conversion Technologies Department in Germany, under the guidance of Dr. Robert Daschner.
2. **Ms. Pragya Singh** has been awarded the 2024 Digital Green Talents Award. This is an initiative of the German Federal Ministry of Education and Research (BMBF) aiming to promote excellent researchers at the interface of sustainability and digitalisation and to establish an interdisciplinary network of German and international experts and institutions in this field. Prof. Markus Schubert from TU Dresden is hosting her. Website: https://digitalgreentalents.de/about/1/awardees-2024/pragya-singh
3. **Ms. Sukriti Sharma and Ms. Bhawna Chauhan** have been awarded the Society of Women Engineers India Scholarship for 2024-2025.
4. **Ms. Pragya Singh** was awarded a Scholarship and Travel Grant under the Sustainability Ambassadors Global Exchange Program (2024).
5. **Vishal Singh Pawak** (PhD scholar), working under the guidance of Dr Manigandan and Dr Vijay Anand, was awarded the best presentation award (1st Prize) for the technical talk delivered at the Advancing Sustainability through Chemical Engineering and Nanotechnologies (ASCENT 2025) Conference.
6. **Mr. Dikshant Parashar,** 3rd Year UG Student, has won 3rd prize in Poster Presentation in International Conference on Statistical Learning (ICSL-2025), held from March 6-8, 2025, Mathematics Dept., IIT Ropar.
7. **Ms. Spurthy Mula,** 3rd year UG student was recipient of the First Position in Tennis (Women) at the 57th Inter IIT Sport Meet held at IIT Kanpur between Dec 10 and Dec 17, 2024.
8. **Ms. Pratibha Gangwar** (PhD Scholar) presented her work at ICTAM 2024 in August 25 - 30, 2024, Daegu, Korea
9. **Mr. Sayyed Musharaf Ali,** 3rd year Chemical Engineering student won 5 medals in Athletics in Inter Year Sports Competition.
10. **Mr. Kanishq Sahu,** 3rd year Chemical Engineering student, got the 1st Position as Best Delegate at the Yuvamanthan Model United Nations organized under India's G20.
11. **Dr. Piyush Pratap Singh,** a research scholar of the chemical engineering department received Best Thesis Award from Catalysis Society of India (2024).
12. **Ms. Dipika Kanchan** was awarded the seal of excellence by the Horizon Europe Marie Skłodowska-Curie Actions call (for post doctoral fellowships 2024).

INVITED LECTURES BY FACULTY

Name of the Faculty	: Dr. Tarak Mondal
Lecture	: Transforming Biomass: Advanced Pathways to Value-Added Chemicals and Fuels
Conference	: Catalysis And Reaction Engineering Symposium' (CARES-2024)
Institute	: Indian Institute of Technology Madras (IITM)
Date	: 27 and 28 September 2024.
Name of the Faculty	: Dr. Tarak Mondal
Lecture	: Turning Waste into Wealth: Pyrolysis of Biomass and Plastics for Fuels and Chemicals
Conference	: 4th International Symposium on Analytical and Applied Pyrolysis 2024
Institute	: Indian Institute of Technology Guwahati
Date	: 28 and 29 November 2024.
Name of the Faculty	: Dr. Jayaram Valluru
Lecture	: Role of Hybrid Machine Learning for Ocean State Prediction
Institute	:Indian National Centre for Ocean Information Services (INCOIS), "Ocean Valley", Pragathi Nagar (BO), Nizampet (SO), Hyderabad, Telangana, India
Date	: 9 December 2024
Name of the Faculty	: Dr. Asad Hasan Sahir
Lecture	: Development of Academic Laboratories in Chemical Engineering Simulation and Process Control at IIT Ropar: Achievements and Learning
Conference	: International Conference to Review Research in Science, Technology and Mathematics Education
Institute	: Homi Bhabha Centre For Science Education
Date	: January 2025
Name of the Faculty	: Dr. Neelkanth Nirmalkar
Lecture	: Nanobubbles for sustainable agriculture
Conference	: Harvest
Institute	: IIT Ropar
Date	: April 2025
Name of the Faculty	: Dr. Neelkanth Nirmalkar
Lecture	: Nanobubbles and their application in agriculture
Conference	: Nanobubble 2024
Institute	: Kyoto university
Date	: October 2024

Name of the Faculty : Dr. Chandi Sasmal

1. Presented an invited talk in a workshop organized by Banff International Research Station (BIRS), Canada, July 2024.
2. Presented an invited talk at the Soft Matter Young Investigators Meet 2024 held in Kodaikanal, Tamil Nadu, in June 2024.
3. Presented an invited talk in a workshop on “Concepts of interfacial phenomena in microscale flows” organized by IIT (ISM) Dhanbad in December 2024.

Name of the Faculty : Dr. Manigandan

1. Delivered a guest speaker talk at the SERB-sponsored National conference Biotechnological advancements for the sustainable environment (BASE 2024), organized by Vel Tech High Tech College of Engineering College, Chennai, held on 05th April 2024.
2. Delivered a technical talk as part of the Two-Week Online Refresher Course on "Materials for Energy and Sustainability“ organized by UGC-Malaviya Mission Teacher Training Centre, IISER Bhopal, on 8th November 2024.
3. Presented an invited talk at the Advancing Sustainability through Chemical Engineering and Nano Technologies (ASCENT-2025) conference, organized by NIT Warangal, on 21st March 2025.

Name of the Faculty : Dr. Rajagopal Vellingiri

1. Delivered a talk at the 1st European Fluid Dynamics Conference (EFDC), Aachen Germany, 16-20 September, 2024

Name of the Faculty : Dr. Vishwajeet mehandia

1. Delivered an invited talk at Two Day Training Programme on Chemical and Petrochemicals Industrial Safety at Chandigarh University, 28 Feb to 1st March 2025
2. Delivered an invited talk at Industry Academia Expert Lecture Week 03-07 March, 2025 organized by Punjab Engineering College, Chandigarh.
3. Delivered an expert lecture as a pre-event for our departmental club, Team HERMETICA, on 24th March at NIT Hamirpur.

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Dr. Swatantra Pratap Singh Associate Professor, Environmental Science and Engineering IIT Bombay	Fabrication of Electroconductive Surfaces and Membranes for Environmental Applications	12 Dec 2024
2.	Dr. V. Naveen Senior Principal Scientist, Centre for Carbon Fibers & Prepregs (CCFP) Division CSIR-NAL	What’s Next?....Career Opportunities for Chemical Engineers	03 Dec 2024

3.	Dr. V. Naveen Senior Principal Scientist, Centre for Carbon Fibers & Prepregs (CCFP) Division CSIR-NAL	Role of carbon fiber composites in renewable energy generation: A national perspective	02 Dec 2024
4.	Dr. Avijit Baidya Scientist (Ramanujan Fellow) Polymer Science and Engineering Division CSIR-NCL, Pune	Engineering Biomaterials: Unlocking On-Demand Surgical Complexity	21 Nov 2024
5.	Dr. Amrita Chatterjee Ex-Associate Scientist, Umicore	Towards Metal-Free (Photo)Electrocatalysts for Green Energy	08 Nov 2024
6.	Mr. Arun Bharadwaj (VP Operational Excellence, HMEL Bhatinda) Dr. R. K. Sharma (Additional General Manager, Chemistry O&M, NTPC Jhajjar) Naveet Jindal (Director, Ridhman Ventures Pvt. Ltd.)	Panel discussion on "Technology ahead for Chemical Engineers" as a part of Charcha @ CHaI-24	19 Oct 2024
7.	Dr. Arkasish Bandyopadhyay (AGM-R&D, Cosmo Films Ltd.) Rajesh Hallur (CEO, Xytel)	Panel discussion on "R&D Initiatives in Chemical Engineering" as a part of Charcha @ CHaI-24	19 Oct 2024
8.	Sanjay Rai (VP-Corporate HR, Akum Drugs and Pharmaceuticals Ltd.) Sujit Jha (Senior Director, Applied Materials) Pradeep R (CHRO, Exide Energy)	Panel discussion on "Career and Business Aspects of Chemical Engineering" as a part of Charcha @ CHaI-24	19 Oct 2024
9.	Pratyush Roy and Rohit Bhattacharjee Engineer - Education Team Mathworks India	Integrating AI with Chemical Engineering	25 April 2024
10.	Mr. Rupam Mukherjee Senior Manager, Heat Transfer Department Engineers India Limited (EIL)	Fired Heaters - Basic Design considerations	18 April 2024
11.	Dr. Amit Jaiswal Associate Professor, School of Biosciences and Bioengineering IIT Mandi	Gold-Based Plasmonic Nanostructures for Sensing and Biomedical Applications	15 April 2024

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. Asad Sahir	Indonesia	RD20 Summer School (July 7-13, 2024), hosted by the National Research and Innovation Agency Indonesia /Badan Riset dan Inovasi Nasional RI (BRIN RI)
2.	Dr. Santosh Kumar Meena	France	Research trip to ENS Lyon, France under the Scientific High Level Visiting Fellowships (SSHN) programme (https://www.ifindia.in/sshn-2024/) from 4-18 December 2024

3.	Dr.Manigandan S	Quy Nhon, Vietnam	Attended international conference "Soft Matter, Fluids, Interfaces" held from 09-15th June 2024, for oral presentation.
4.	Dr. Rajagopal Vellingiri	Germany	Oral presentation at the 1st European Fluid Dynamics Conference (EFDC), Aachen, 16-20 September 2024.
5.	Dr. Neelkanth Nirmalkar	Japan	Session chair at Nanobubble 2024 in October 2024

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1.	Sukriti Sharma	Germany, Denmark and Italy	Indo-German Science & Technology Centre (IGSTC) PhD Industrial Exposure Fellowship (PIEF) - October 2024-March 2025
2.	Vikrant Sharma	Sydney, Australia	Membrane Society of Australasia (MSA) Annual Meeting and Conference 2024
3.	Richa Ranjan	Quy Nhon, Vietnam	Attended international conference "Soft Matter, Fluids, Interfaces" held from 09-15th June 2024, for oral presentation.
4.	Sangeeta Kumari	Quy Nhon, Vietnam	Attended international conference "Soft Matter, Fluids, Interfaces" held from 09-15th June 2024, for oral presentation.
5.	Mohammed Zubair	Daegu, South Korea	Oral presentation at the 26th International Congress of Theoretical and Applied Mechanics (ICTAM 2024), Daegu, 25-30 August, 2024.
6.	Pratibha Gangwar	Daegu, South Korea	Oral presentation at 26th International Congress of Theoretical and Applied Mechanics (ICTAM 2024), Daegu, 25-30 August 2024.
7.	Alok Das	Kyoto, Japan	Oral presentation at Nanobubble 2024, October, 2024
8.	Aakriti Sharma	Kyoto, Japan	Oral presentation at Nanobubble 2024, October, 2024
9.	Priya Koundle	Kyoto, Japan	Oral presentation at Nanobubble 2024, October, 2024
10.	Shivi Garg	Kyoto, Japan	Oral presentation at Nanobubble 2024, October, 2024
11.	Gaurav Yadav	Kyoto, Japan	Oral presentation at Nanobubble 2024, October, 2024

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

S. No.	Title of R&D Project - Role	Status	Duration	Funding Agency (Scheme)	Amount in Lakhs
1.	Spatial stress correlations in strong colloidal gel and its connection to yielding/plasticity. (PI-Saikat Roy)	Completed	2 years	Science and Engineering Research Board (SERB), Govt. of India (SRG)	30 Lakhs
2.	Memory formation and self-organization in cyclically driven granular media. (PI-Saikat Roy)	Ongoing	3 years	Anusandhan National Research Foundation (CRG)	55 Lakhs

3.	Design and Development of Gold Nanobipyramids and Dye Based Nano-hybrids for Enhanced Sensing Applications: Theoretical and Experimental Investigation (PI- Dr. Santosh Kumar Meena)	Ongoing	3 years	Anusandhan National Research Foundation (ANRF)	59.77 Lakhs
4.	Production of propylene and hydrogen via propane dehydrogenation: catalyst and process development at bench scale (Co-PI: Navin Gopinathan)	Ongoing	3 years	SERB (CRG)	23.55 Lakhs
5.	Investigating the viability of recycled wool fabric as sustainable geosynthetic material (Co-PI: Navin Gopinathan)	Ongoing	1 year	Ministry of Textiles, NTTM	49.98 Lakhs
6.	Selective hydrogenation of Furfural to Tetrahydrofurfuryl alcohol (THFA) over supported Pd-Co catalysts: Experimental and Theoretical Study- (PI: Arghya Banerjee)	Ongoing	3 years	Anusandhan National Research Foundation (CRG)	44.75 lakhs
7.	Development of Robust Multi-Rate and Multi-Sensor Fusion Tool-box for Soft Sensing and Advanced Control Applications. (PI: Jayaram Valluru)	Ongoing	2 years	TIH-IoT Technology Development Program	43 Lakhs
8.	Leveraging the capabilities of AI/ML for deep ocean exploration and climate change. (PI: Jayaram Valluru)	Ongoing	2 years	Ministry of Earth Sciences: Deep Ocean Mission	35.84 Lakhs
9.	Nanobubble dispersed elastic turbulence: a novel, energy-efficient, and eco-friendly smart enhanced oil recovery (sEOR) method (PI: Chandi Sasmal)	Ongoing	3 years	Anusandhan National Research Foundation (ANRF), Govt. of India	44.2 Lakhs
10.	A combined effect of complexation behaviour of biopolymers and self-assembly behaviour of oppositely charged particles (OCPs) to influence the stabilization of water-in-water (W/W) Pickering emulsion	Completed	2 Years	SERB (SRG)	31.78 Lakhs
11.	Building nano-capsules using water-in-water nano-emulsions (aqueous two-phase systems) stabilized by the self-assembly of oppositely charged biopolymer-based nanoparticles (PI: Dr. Manigandan, Co-PI: Dr. Vishwajeet Mehandia)	Ongoing	3 Years	SERB (CRG)	35.48 Lakhs

12.	A new process for the production of 2-methylfuran, a 2nd generation biofuel, from biomass-derived furfural via vapor phase catalytic transfer hydrogenation (PI: Dr. Tarak Mondal)	Ongoing	3 Years	Anusandhan National Research Foundation (ANRF) EEQ scheme	43.74 lakhs
13.	Laboratory and Pilot Scale Assessment for Recovery and Purification of Valuable Elements from Lithium/Cobalt/Nickel/Manganese/Iron Systems (PI: Dr. Kishant Kumar)	Ongoing	2 Years	TEXMIN (DST-Hub)	24.82 Lakhs
14.	A joint workshop on n fundamentals and applications of fine bubble technologies	Ongoing	2 Years	DST	19.4 Lakhs



DEPARTMENT OF CHEMISTRY

Programs offered	: Ph.D, M.Sc, B.Sc-B.Ed
No. of Students	: PhD : 121 (99+22) M.Sc : 47 (23+24) B.Sc-B.Ed: 5
Head of the Department	: Dr. Debaprasad Mandal
No. of faculty members	: 15
No. of staff members	: 4 Technical Staff: 4 Administrative Staff: 1
Thrust Area	: Sustainable Energy, Materials, and Drug Design
No. of Publications	: 108

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. Aslam C. Shaikh
Assistant Professor
CSIR- NCL, Pune
Synthetic Organic Chemistry



Dr. Avijit Goswami
Associate Professor
Ph.D. (Heidelberg University, Germany)
Organic Synthesis and Polymer Chemistry



Dr. C. N.Tharamani
Associate Professor & Head
Ph.D. (Bangalore University)
Electrochemistry, Fuel Cells, Nanostructured Materials, Electrocatalysis, Metal Finishing



Dr. Indranil Chatterjee
Assistant Professor
Ph.D. (Westfälische Wilhelms-University, Muenster, Germany)
Organic Synthesis and Methodology



Dr. Narinder Singh
Professor
Ph.D. (Guru Nanak Dev University, Amritsar)
Sensors, Supramolecular Chemistry and Material Sciences



Dr. Soumyajit Das
Assistant Professor
Ph.D. (Indian Institute of Science Education & Research Kolkata)
Organic Chemistry, Functional π-Electron Systems, Biradicals



Dr. T. J. Dhilip Kumar
Associate Professor
Ph.D. (Indian Institute of Technology Madras)
Theoretical and Computational Chemistry



Dr. C. M. Nagaraja
Associate Professor
Ph.D. (Indian Institute of Science, Bangalore)
Inorganic and Materials Chemistry



Dr. Debaprasad Mandal
Associate Professor
Ph.D. (Indian Institute of Technology Kanpur)
Organometallics and Polymer



Dr. Manoj Kumar Pandey
Assistant Professor
Ph.D. (Indian Institute of Technology Madras)
Magnetic Resonance: Methods and Applications



Dr. Prabal Banerjee
Associate Professor
Ph.D. (National Chemical Laboratory, Pune)
Synthetic Organic and Medicinal Chemistry



Dr. Rajendra Srivastava
Professor
Ph.D. (National Chemical Laboratory, Pune)
Catalysis and Materials Chemistry



Dr. Sudipta Kumar Sinha
Assistant Professor
Ph.D. (Indian Institute of Technology Kharagpur)
Theoretical and Computational Biophysical Chemistry



Dr. Yashveer Singh
Associate Professor
Ph.D. (University of Allahabad)
Biomaterials, Drug Delivery, and Tissue Regeneration

ONGOING ACTIVITIES

FACILITIES

No. of Labs	UG	: 2
	PG	: 3
	Research	: 22

INVITED LECTURES BY FACULTY

1. **Dr. Tharamani C.N.** invited as a Panel Speaker at INSA Delhi, 1-5 April 2024.
2. **Dr. Rajendra Srivastava,** invited for Keynote talk during the Annual conference RAMSACT-2024, at the Dept. of Biotechnology and Chemical Engineering, Manipal University, Jaipur, during 3-4 April 2024.
3. **Dr. Prabal Banerjee** delivered an invited talk at the A Crick Symposium on RABMC 2024 at Panjab University, Chandigarh, 20th April 2024
4. **Dr. Indranil Chatterjee** delivered an invited talk at the A Crick Symposium on RABMC 2024 at Panjab University, Chandigarh, 20th April 2024
5. **Dr. C.M. Nagaraja** delivered an invited talk at the Division of Chemistry, Kyoto University, Kyoto, Japan, on 7th May 2024.
6. **Dr. T. J. Dhilip Kumar** delivered an invited talk at the National Symposium on Theoretical Sciences at Thapar University, Patiala, on 13th May 2024.
7. **Dr. C.M. Nagaraja** delivered an invited talk at the Department of Chemistry, Hokkaido University, Sapporo, Japan, on 24th May 2024.
8. **Dr. Debaprasad Mandal** delivered an invited talk at FARC 2024 at IIT Mandi during 6-7 June 2024
9. **Dr. Indranil Chatterjee** delivered an invited talk at FARC 2024 at IIT Mandi during 6-7 June 2024.
10. **Dr. C. M. Nagaraja** Delivered an invited talk on v Development of framework based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" at the Division of Chemistry, Kyoto University, Japan on 7th June 2024.
11. **Dr. C. M. Nagaraja** Delivered an invited talk on Strategic development of framework based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" at Dept.of Chemistry, Hokaido University, Japan, 24thJune 2024.
12. **Dr. Yashveer Singh** gave the following guest lecture: Biomaterials for wound healing and bone regeneration applications, Faculty Development Program (FDP) on Bridging the Gap: Interdisciplinary Approaches to Materials Chemistry, Department of Chemistry, University Institute of Sciences (UIS), Chandigarh University, Mohali, 4 July 2024.
13. **Prof. Prabal Banerjee** “Electroorganic Synthesis: A Sustainable and Versatile Tool for Accessing Functionalized Diverse Cyclic and Acyclic Scaffolds” invited lecture in National

Symposium on the honor of Prof. Ganesh Pandey 70th Birthday., Kasauli, HP, during 4th July-5th July, 2024.

14. **Dr. Tharamani C.N.** delivered A.V. Rama Rao Award Lecture at 33rd CRSI-ACS Symposium, held at Reddy Laboratories, Hyderabad on 4-6th July 2024
15. **Dr. Soumyajit Das** delivered an invited talk at the 3rd International Conference on Excited State Aromaticity and Antiaromaticity (ICESAA3) in Dubrovnik, Croatia during 7-10 July 2024
16. **Dr. C. M. Nagaraja** Delivered an invited talk on Rational design of framework based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" at the Department of Chemistry, Osaka University, Japan on 10th July 2024.
17. **Dr. C. M. Nagaraja** Delivered an invited talk on Strategic development of framework based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" at the Department of Chemistry, Hiroshima University, Japan on 12th July 2024.
18. **Dr. Indranil Chatterjee** delivered an invited talk at 30th 'International Conference on Organometallic Chemistry' (ICOMC 2024) held from July 14, 2024 to July 18, 2024 at "Jaypee Palace Hotel & Convention Centre" located in Agra City, India.
19. **Prof. Prabal Banerjee** "Electroorganic Synthesis: A Sustainable and Versatile Tool for Accessing Functionalized Diverse Cyclic and Acyclic Scaffolds" invited lecture in 30th International Conference on Organometallic Chemistry., Jaypee Palace, Agra, during 14th July-18th July, 2024.
20. **Prof. Narinder Singh:** Invited talk in Workshop (July 2024) entitled Advanced Analytical Instrumentation Methods for Environment Remediation at Punjab Engineering College, Chandigarh.
21. **Prof. Narinder Singh:** Invited lecture (July 2024) in International Conference (EMSD 2024) jointly organised by NABI, Mohali & Punjab Engineering College, Chandigarh.
22. **Dr. Yashveer Singh** gave the following invited lecture: Biomaterials for wound healing and tissue regeneration, International Conference on Engineered Materials for Sustainable Development (EMSD), Punjab Engineering College, Chandigarh and National Agri-Food Biotechnology Institute (NABI), Mohali, 25 July 2024.
23. **Dr. Yashveer Singh** gave the following guest lecture: Nanomaterials for antibacterial and wound healing applications, Faculty Development Program (FDP)/STC on Nanomaterials and Devices, Department of Applied Science, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, 25 July 2024.
24. **Dr. Tharamani C.N.** delivered an expert talk on the theme "Nanomaterials, Characterizations and Applications" at SDC/Faculty Development Program organized by Applied Science Department of National Institute of Technical Teachers Training and Research Chandigarh on 31st July 2024.

25. **Prof. Narinder Singh:** Resource Person (August 2024) at National Seminar on Industry-Academia Collaboration for Water Security at Chitkara University, Punjab.
26. **Prof. Narinder Singh:** Invited lecture (August 2024) to first year students of the Chemistry Department, at Chandigarh University.
27. **Dr. Tharamani C.N.** Delivered an invited talk at Bengaluru India Nano 2024, at Bangalore on 03rd Aug. 2024.
28. **Dr. Debaprasad Mandal** delivered an invited talk in AICTE-VAANI sponsored seminar on RA2M-SD 2024 at Halidia Institute of Technology, West Bengal, 07-09 August, 2024
29. **Dr. Tharamani C.N.** delivered an invited talk at National Conference on "Chemistry for sustainability at the University of North Bengal, Siliguri" during 13-14 Aug 2024
30. **Dr Anupam Bandyopadhyay** delivered an invited talk in the Physics department at Shiv Nadar University on 21st August 24 on the topic of Firstborn peptide macrocycle frameworks adjoining Boronoheterocycle: Synthesis, structure, and delivery.
31. **Dr. Yashveer Singh** gave the following keynote lecture: Biomaterials for antibacterial and wound healing applications, International Symposium on Current Trends in Advanced Materials (CTAM-2024), Department of Chemistry, School of Advanced Sciences, VIT-AP University, 27 August 2024.
32. **Dr. Debaprasad Mandal** delivered an invited talk at CSMCRI, Bhavnagar, Gujarat 10-12 September 2024
33. **Dr. Yashveer Singh** gave the following guest lecture: Nanomaterials for antibacterial and wound healing applications, FDP/STC on Nanomaterials, Sensors and Devices, Department of Applied Science, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, 16 September 2024.
34. **Dr. Tharamani C.N.** delivered an expert talk on the theme “Nanomaterials, Sensors and Devices” at Faculty Development Program organized by the Applied Science Department of the National Institute of Technical Teachers Training and Research, Chandigarh on 18th September 2024.
35. **Dr. Rajendra Srivastava** delivered an invited talk entitled “Sustainable transition metal and metal-free catalysts for biomass and plastic waste valorization to chemicals and fuels” at Conference “Catalysis for Energy, Environment and sustainability” IICT Hyderabad during 18-20 Sep 2024
36. **Dr. Tharamani C.N.** delivered an invited talk at the Conference on Catalysis for Energy, Environment & Sustainability (CEES-2024), at IICT Hyderabad on 19th September 2024.
37. **Dr. Tharamani C.N.** delivered an invited talk at International Conference on Electrochemical Science and Technology (ICONEST-2024, at CSIR-NPL Delhi on 20th September 2024.

38. **Dr. Yashveer Singh** gave the following invited lecture: Biomaterials for wound healing and tissue regeneration, International Conference on Emerging Trends in Green Energy and Environment Sustainability, Department of Biotechnology, Chandigarh Group of Colleges, Landran, 26 September 2024.
39. **Prof. Narinder Singh:** 'Resource Person' for delivering Invited Talk (Sep 2024) Second International Conference GOLD-CT-2024 at KBC North Maharashtra University.
40. **Prof. Narinder Singh:** Resource Person' for delivering online Invited Talk (Sep 2024) at UGC- Malaviya Mission Teacher Training Centre. Punjabi University, Patiala.
41. **Dr. Tharamani C.N.** delivered an expert talk on the theme "Research Opportunities in Advanced Functional Materials " at SDC/Faculty Development Program organized by SRM Institute of Science and Technology, Ramapuram , Chennai, on 04th October 2024.
42. **Dr. Tharamani C.N.** delivered a Keynote talk at Vortex-2024, organized by in Association with ACS at Kerala on 14th October 2024.
43. **Dr. Tharamani C.N.** delivered an invited talk at "International Conference on Photophysics and Photochemistry (ICOPP-2024)" at IIT Bombay on 15th October 2024.
44. **Dr. Debaprasad Mandal** delivered a talk at conference in Asian Polymer Association 2024 Jaipur, 16-18 October, 2024
45. **Dr. Tharamani C.N.** delivered a Keynote talk at "International Conference on Smart Materials for Sustainable Technology (SMST-2024) organized by the Institute of Nano Science and Technology Mohali, Punjab Engineering College (PEC) Chandigarh, at INST Mohali on 24th Oct 2024
46. **Dr. Tharamani C.N.** delivered a Plenary talk at the "International Conference on "Global Trends in sustainable technology and its application in Applied Sciences" on 25th of October 2024 at Reva University, Bangalore.
47. **Dr. Yashveer Singh** served as the session chair of Session II (morning) at the International Conference on Smart Materials for Sustainable Technology (SMST-2024), Chemical Biology Unit, Institute of Nano Science and Technology (INST), Mohali, 26 October 2024.
48. **Dr. Yashveer Singh** gave the following invited lecture: Nanomaterials and hydrogels for wound healing and tissue regeneration applications, International Conference on Smart Materials for Sustainable Technology (SMST-2024), Chemical Biology Unit, Institute of Nano Science and Technology (INST), Mohali, 26 October 2024.
49. **Dr. Tharamani C.N.** delivered an invited talk at Modern Trends in Molecular Magnetism and Spins in Molecular Systems (MTMM / SiMS) at SSCU, IISC, Bangalore on 6th November 2024.
50. **Dr. Debaprasad Mandal** Delivered an invited talk at CACSRE-2024 - International

Conference on Current Advances in Chemical Science Research and Education, during 6-8 November 2024 at Mizoram University.

51. **Dr. Tharamani C.N.** Delivered an invited talk at the Department of Chemistry, Queen Mary University of London, London on 19th November 2024
52. **Dr. Tharamani C.N.** delivered an expert talk at a short-term course on Applications of Technology in Environmental Sustainability Faculty Development Program organized by Applied Science Department of National Institute of Technical Teachers Training and Research Chandigarh on 28th November 2024.
53. **Dr. Debaprasad Mandal** Delivered an invited talk at Utkal University, Bhubaneswar during 27-30 November 2024.
54. **Dr. Indranil Chatterjee** delivered an invited talk at FICS 2024, IIT Guwahati, Title: Light-Camera-Action: Shining Visible Light on Hantzsch Ester, Dec 2-4, 2024.
55. **Dr. Tharamani C.N.** delivered an invited talk at 10th DAE – BRNS sponsored Interdisciplinary Symposium on Materials Chemistry (ISMC-2024) at DAE Convention Centre, Mumbai on 4th December 2024.
56. **Dr. Yashveer Singh** delivered an invited lecture on Hydrogels/gels and nanomaterials for tissue regeneration applications, International Conference on Translational Trends in Natural and Health Sciences (TTNHS-2024), Central University of Punjab, Bathinda, 4-6 December 2024 (invited lecture).
57. **Dr. Indranil Chatterjee** delivered an invited talk at ISCHA2024, IIT Bombay, Title: Light-Camera-Action: Shining Visible Light on Hantzsch Ester, Dec 6-9, 2024.
58. **Prof. Prabal Banerjee** "Electrochemical C-H Functionalization: A Sustainable and Versatile Tool for Accessing Functionalized Diverse Cyclic and Acyclic Scaffolds" invited lecture in ISCHA 2024: 7th International Symposium on C-H Activation., IIT Bombay, during 6th December-9th December, 2024.
59. **Dr. Tharamani C.N.** Chaired the session at Women in Optics and Photonics in India (WOPI 2024) at IIT Bombay on 7th December 2024.
60. **Dr. Tharamani C.N.** delivered an invited talk at ChemCatCon 3 conference, at IIT Gandhinagar on 8th December 2024.
61. **Dr. C. M. Nagaraja** Delivered an invited talk on Strategic development of framework based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" at the International Conference on Carbon Capture and Utilization 2024 (ICCCU-24)," at Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore on 10th December, 2024.
62. **Dr. T. J. Dhilip Kumar** Delivered an invited talk on Rotational transitions of linear C5 with H2 collision at interstellar temperatures in PCAMC-2024, IISER Kolkata, Dec 11-14, 2024

63. **Dr. C. M. Nagaraja** Delivered an invited talk on Strategic design of framework based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" at the Modern Trends in Inorganic Chemistry (MTIC) organized at IIT Kharagpur on 15th December, 2024.
64. **Dr. Tharamani C.N.** delivered an invited talk at Conference on Advances in Chemistry for Energy and Environment (CACEE-2024) at TIFR, Mumbai, on 16th December 2024.
65. **Dr. Tharamani C.N.** delivered a colloquium talk at the Radiochemistry Division, BARC, Mumbai, on 17th December 2024.
66. **Dr. Tharamani C.N.** delivered an expert talk at Short Term Course (e-STC) on "Chemistry for Energy, Environment and Biomedical Applications" at NIT Hamirpur on 18th December 2024.
67. **Prof. Narinder Singh:** Delivered an invited talk at the e-STC “Chemistry for Energy, Environment and Biomedical Applications (CEEBA-2024)” held at the Department of Chemistry, NIT Hamirpur on December 19, 2024, via an online platform.
68. **Dr. Tharamani C.N.** delivered an invited talk at Emerging Smart Materials in Applied Chemistry and Chemical Research Society of India (ESMAC-KIIT-CRSI) at KIIT, Bhubaneswar-on 20-21nd December 2024.
69. **Prof. Prabal Banerjee** was invited to deliver a research talk at the department of Chemistry, “Frontiers in Catalysis-2024” (FIC-24)” during January 04-05, 2024. C.U.Rajasthan.
70. **Dr. Soumyajit Das** delivered a plenary lecture at the International Conference on Chemistry for Human Development (ICCHD-2025), University of Calcutta (Rajabazar), West Bengal, India, January 4-6, 2025.
71. **Prof. Narinder Singh:** Delivered an invited talk at the Faculty Development Program (DIMSF-2025) at Sant Longowal Institute of Engineering and Technology on January 8, 2025, via an online platform.
72. **Dr. Tharamani C.N.** delivered an invited talk at Thirteenth International Symposium on Advances in Electrochemical Science and Technology (iSAEST-13) at Thiruvananthapuram, Kerala, on 10th January 2025.
73. **Dr. Tharamani C.N.** delivered an expert talk at Short Term Course (e-STC) on "Analytical Techniques in Chemical and Material Sciences: Experimental and Theoretical Tools" at NIT Hamirpur on 14th January 2025.
74. **Dr. Tharamani C.N.** delivered an invited talk at the International Symposium on "Advanced Materials for Sustainable Energy Applications" on January 16th 2025 at IIT Delhi.
75. **Dr. C. M. Nagaraja** delivered an invited talk on Development of Framework-based Materials for Chemical Fixation ofCarbon Dioxide and Clean Fuel Generation at the

International Conference Hydrogen Conclave-2025, held at Suresh GyanVihar University, Jaipur on 14th February, 2025.

76. **Dr. Yashveer Singh** delivered an invited talk on Self-assembled peptides and nanomaterials for biocatalytic and bone tissue regeneration applications, DST-PURSE National Symposium on Catalysis (CATSYMP-24) and Catalysis for Sustainable Chemicals, Materials, and Energy (CSCME-2025), Department of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala, 24-26 February 2025 (invited lecture).
77. **Dr. Rajendra Srivastava** delivered an invited lecture entitled "Design and Synthesis of Heterogeneous Catalysts for Renewable Chemicals and Fuel Production from Natural and Synthetic Waste" in 24th National Symposium on Catalysis "Catalysis for Sustainable Chemicals, Materials & Energy (CSCME-2025)" held on 24-26th February 2025 at Thapar Institute of Engineering and Technology.
78. **Dr. Anupam Bandyopadhyay:** Delivered a lecture as a speaker in Catalysis for Sustainable Chemicals, Materials & Energy'' (CSCME-2025) held on 24-26th Feb at Thapar Institute of Engineering and Technology, Patiala on "Deploying regioselective disulfide connections in solid-supported peptides".
79. **Dr. Anupam Bandyopadhyay:** Delivered an invited lecture on receiving the Young Investigator Award 2025 from the Indian Peptide Society, held on 26- 28th Feb at IISER Pune. "Probing boron in peptide (Boronopeptide): A versatile module for chemical biology and medicinal chemistry.
80. **Prof. Prabal Banerjee** was invited to deliver a research talk at the department of Chemistry, C.U.Rajasthan, on 18th March, 2024.
81. **Dr. Debaprasad Mandal** delivered an invited talk on the ICEFN-2025 conference, held on 20-22 March 2025 at Kumaun University.
82. **Dr. Tharamani. C.N.** delivered a plenary lecture at the International Conference on ACS Spring at San Diego, California, USA, during 23-27 March 2025
83. **Dr. Anupam Bandyopadhyay:** Delivered an invited lecture on 28th March at the Chemistry Department, Guru Nanak Dev University. The Title of the talk: Peptide macrocycle frameworks adjoining Boronoheterocycle: Synthesis, structure, and drug delivery.
84. **Prof. Prabal Banerjee** "Journey from Synthetic Organic Chemistry to Medicinal Chemistry" invited lecture in RABMC-2024, Research Advances in Bio-organic and Medicinal Chemistry., Punjab University, Chandigarh, on 20th April, 2024.

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Dr. Partha Pratim Pal* (Deputy Editor, Physical Sciences, Wiley-VCH GmbH)	Editorial Tips for Successful Submissions	4th April 2024
2	Dr. Dinesh Talwar* (Editor, Chemistry Journals, Wiley-VCH GmbH).		4th April 2024
3	Prof. Gautam Basu, (Professor (retired), Dept. of Biophysics, Bose Institute, Kolkata).	The Madras Triple Helix, the Calcutta Electron Microscope, and the Birth of Biophysics Research in India	19th April 2024
4	Dr. Navdeep K. Dhami, Senior Lecturer, School of Molecular and Life Sciences & School of Civil Mechanical Engineering, Curtin University, Perth, Australia	Biocementation - From Nature to Engineering.	12th June 2024
5	Dr. Shammi Rana, Marie Curie Post-doctoral Fellow, KU Leuven, Belgium	Surface Chirality and Self-Assembly at Solution-Solid Interfaces Probed by Scanning Tunneling Microscopy.	27th June 2024
6	Dr. Uma Chatterjee, Principal Scientist, Central Salt Marine and Chemicals |Research Institute (CSIR-CSMCRI), Bhavnagar, Gujarat	Design of ion Exchange membrane for electrochemical separation applications.	17th July 2024
7	Professor Lluïsa Pérez-García, Universitat de Barcelona, Spain	Nanomaterials Enhancing Singlet Oxygen Generation for Photodynamic Therapy	22nd July 2024
8	Professor David Amabilino, Barcelona Materials Science Institute (ICMAB-CSIC), Spain	Photoresponsive Soft Supramolecular Materials	22nd July 2024
9	Dr. Gokulnath Sabapathi, Associate Professor, Indian Institute of Science Education and Research Thiruvananthapuram (IISER TVM))	Conformationally Locked and Protonation Induced Helical Chirality in Cyclo[2]dipyrrins Linked with Anthracene Subunits.	16th August 2024
10	Dr. C. V. RAMANA, (Principal Scientist, CSIR-National Chemical Laboratory, Pune)	Towards the Total Synthesis of Pseudoindoxyl Class of Natural Products.	19th August 2024
11	Prof. Santanu Mukherjee, Professor, Department of Organic Chemistry, Indian Institute of Science, Bangalore	Breaking Symmetry: Development & Application to Complex Targets.	23rd September 2024
12	Prof. Sudip Malik, Indian Association for the Cultivation of Science, Kolkata	Making of Conducting Polymer Nanotubes and Their Applications	27th September 2024
13	Dr. Chandrasekhar V Rode, Ex-Cheif Scientist and CSIR Emeritus Scientist, Chemical Engineering and Process Development Division, CSIR-National Chemical Laboratory, Pune	"Catalyst and Process Development for liquid phase hydrogenolysis of glycerol to diols."	4th October 2024
14	Dr. Arkasish Bandyopadhya, Technical Head, Speciality Films, Cosmo First Ltd	Molecular Materials.	19th October 2024
15	Dr. D. D. Sarma, Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bengaluru 560012, INDIA	"Chiral Ferroelectrics with Tunable Bandgaps."	23rd October 2024
16	Dr. Konosuke Oisaki, Team Leader, National Institute of Advanced Industrial Science and Technology (AIST), Japan	"Chemical Upgrading of Peptide and Proteins."	24th October 2024
17	Dr. Sunil Vishnu Gupta, Director & Head – Medicinal Chemistry, Shivanka Research LLC	"Role of Indian Pharmaceutical Companies in Discovery and SAR of Zidabactam, Nafithromycin, and Emrock."	6th December 2024
18	Professor Frank Wuerthner, University of Würzburg in Germany	Supramolecular Engineering of Functional Nanosystems	14th February 2025

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Details of visit with date
1	Dr. C.M. Nagaraja.	Kyoto University, Kyoto, Japan	Delivered an invited talk on 7th May 2024
2	Dr. C.M. Nagaraja	Department of Chemistry, Hokkaido University Sapporo, Japan	Delivered an invited talk on 24th May 2024.
3	Dr. Soumyajit Das	Dubrovnik, Croatia	Delivered an invited talk at the 3rd International Conference on Excited State Aromaticity and Antiaromaticity (ICESAA3) during 7-10 July 2024
4	Dr. C. M. Nagaraja	Department of Chemistry, Osaka University, Japan	Delivered an invited talk on Rational design of framework-based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" on 10th July 2024.
5	Dr. C. M. Nagaraja	Department of Chemistry, Hiroshima University, Japan	delivered an invited talk on Strategic development of framework-based materials for Chemical Fixation of Carbon Dioxide to high-value chemicals" on 12th July 2024.
6	Dr. Tharamani C.N	San Diego, California, USA	Delivered an invited talk on ACS Spring during 23-27 March 2025

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Saurav Chatterjee	Prague, Czech Republic	Attended European Peptide Synthesis Conference 2024, 29 April - 1 May, 2024
2	Yashika Thakur	NYCU, HsinChu, Taiwan	Attended Indo-Taiwan Collaborative Project, 17-27 June 2024
3	Pooja Chahal	Boston, USA	Attended Gordon Research Conference (GRC), 07-12 July, 2024
4	Akansha Chaturvedi	Osaka, Japan	Asian Conference on Electrochemical Power Sources (ACEPS-12), 19-22 May 2024
5	Arun Sharma	NUS, Singapore	GYSS, 6-10 January 2025
6	Preeti	San Diego, CA, USA	ACS Spring 2025, 23-27 March 2025
7	Himanshu	Dubrovnik, Croatia	Received “Best Poster Award” at the "International Conference on Excited State Aromaticity and Antiaromaticity (ICESAA3)," University of Dubrovnik, Croatia, July 7-10, 2024.

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

Sr. No.	Funding Agency	Name of Faculty Member	Title of Project	Total Sanctioned Amount (crore)	Project Status
1	DST	Department of Chemistry	DST (FIST Program)	1.65	Running
2	Industrial Consultancy	Prof. S.K. Das, Prof. Harpreet Singh, Dr. Narinder Singh, S.S. Padheee,Dr. Puneet Goyal, Dr. Asad H. Sahir	Infrastructure and cirriculum Development for Shri Guru Gobind Singh skill Institute, Shri Chamkaur Sahib	0.56	Running

3	SERB-CRG	Dr. Rajendra Srivastava	Unique mild processes based on catalytic transfer hydrogenolysis/hydrogenation and photocatalysis for lignin valorization: Eliminating the use of high temperatures and non-renewable H2	0.47	Running
4	SERB-CRG	Dr. T J Dhilip Kumar	Ultracold Molecules and Controlled Chemistry by Machine Learning	0.2	Running
5	CSIR	Dr. Indranil Chatterjee	Divergent Synthesis of Fused Polycycle and Spirocyclic Framework by Merging Photoredox and Organocatalysis: A Rapid Technique to Obtain Molecular Complexity	0.13	Running
6	CSIR	Dr. Debaprasad Mandal	Design of Rapid and Tough High Performance Self-Healing Polymers	0.09	Running
7	CSIR	Dr. T J Dhilip Kumar	AB INITIO STUDY 0F METAL ANCHORED GRAPHYNE AND GRAPHDIYNE FRAMEWORK MATERIALS FOR ENERGY STORAGE	0.03	Running
8	DBT	Dr. Yashveer Singh (PI) and Dr. Durba Pal (Co-PI)	Antisense oligonucleotide-loaded, 3D printed, double-layered, and multifunctional wound healing matrix to target angiogenesis in chronic diabetic wounds	0.38	Running
9	SERB	Dr. Vijay Kant, Lovely Professional University, Jalandhar, Mentor Prof. Narinder Singh	Teachers Associateship For Research Excellence (TARE)	0.10	Running
10	SERB-RJF Ramanujan Fellowship	Dr. Monika Gupta	Molecular Engineering of Azobenzene-derived Liquid Crystalline Systems for Robust and Tunable Solid-State Solar Thermal Fuels	1.19	Running
11	SERB-NPDF	Dr. Revathi A.	Development of multifunctional coating on Ti-based alloy to promote osseointegration and treat implant-related infections	0.20	Running
12	DRDO-CARS	Dr. Debaprasad Mandal (PI) and Dr. C N Tharamani (Co-PI)	Synthesis of Functional Epoxy and other Precursors/Monomers and their Self-healing Polymers	0.80	Running
13	BRNS	Dr. Anupam Bandyopadhyay	Development of peptide based infection imaging agents and deciphering interaction mechanisms of novel peptides with model cell membranes	0.45	Running
14	DST-SPG	Dr. C N Tharamani	Functional materials for the recovery of chlorine from industrial waste hydrochloric acid by electrocatalysis	0.60	Running

15	Industrial Consultancy	Dr. Anupam Bandyopadhyay	Consultany of Ganirelix Impurity Synthesis and Lanreotide Impurities Analysis Report	0.42	Running
16	SERB-NPDF	Dr. Nilima Priyadarsini Mishra, Mentor Dr. Prabal Banerjee	Electrochemical Generation of Ketyl Radicals Via Cathodic Reduction and Their Further Functionalization	0.19	Running
17	SERB	Dr. Sudipta Kumar Sinha	Understanding p53 Tumor Suppressor Signalling Pathway and Cancer Progression	0.21	Running
18	DST/GITA (Indian-Taiwan Programme of Cooperation in S&T	Dr. Yashveer Singh	Extracellular matrix-mimicking, nanofibrous peptide gel-based scaffolds for wound healing	0.34	Running
19	SERB-SCP	Dr. C N Tharamani	Self powered flexible and wearable devices driven by triboelectric nanogenerator integrated with solid-state supercapacitor for biomedical applications	0.27	GNR
20	SERB-CRG	Dr. Avijit Goswami	Synthesis and Applications of C-CF_3 and N-CF_3 Containing Compounds	0.19	Running
21	SERB-CRG	Dr. Indranil Chatterjee	Polarity Reversal Photoredox Catalysis: Asymmetric C-H Amination using Dual photo-Organocatalysis	0.41	Running
22	SERB-CRG	Dr. Prabal Banerjee	Lewis Acid Catalyzed Atroposelective synthesis of Biaryl Derivatives via Intramolecular Dearomative Cyclization/Rearomatization of 3-Ethoxy Cyclobutanone	0.40	Running
23	SERB-CRG	Dr. Anupam Bandyopadhyay	Engineering TRAIL mimicking peptide to cluster DR5 efficiently: cancer treatment perspective	0.62	Running
24	SERB-CRG	Dr. C. M. Nagaraja	Development of 2D Metal-Organic Nanosheet (MONs)-based Photocatalysts for Production of Clean Fuel and Value-added Chemicals	0.43	Running
25	BIRAC	Dr. Indranil Banerji and Dr. Prabal Banerjee (Project Coordinator)	Development of diphenyl urea derivatives as a new class of antivirals against Dengue virus infection	0.10	Running

26	Industrial Consultancy	Dr. Rajendra Srivastava	Synthesis of Core-shell AL_2O_3@Zeolite	0.31	Running
27	DST-TDT	Dr. Rajendra Srivastava and Dr. Suman Lata Jain, IIP, Mohkampur Haridwar, PI	Creation of Nodal Centers for development and Production of key starting materials, intermediates and other raw materials that are required by the Health Care sector	0.21	Running
28	CSIR	Dr. C. M. Nagaraja	Development of Porphyirn-based Hetrojunction Photocatalysts for visible-light-driven production of solar fuels	0.10	Running
29	Indo-German WISER-Science & Technology Centre (IGSTC)	Dr. Monika Gupta	Development of Solid-state Solar Thermal Fuels Derived from Liquid Crystalline Norbornadiene Derivatives	0.37	Running
30	Industrial Consultancy	Dr. Anupam Bandyopadhyay	Development of peptide-small molecules conjugates for skin care for Acne and Hyperpigmentation	0.02	Running
31	SERB-SRG	Dr. Aslam Chandbhai Shaikh	Electro-photocatalysis:Merging Light and Electricity to generate a sustainable way for Catalytic Organic Transformations	0.33	Running
32	Industrial Consultancy	Dr. Anupam Bandyopadhyay	Synthesis and Characterization of Novel Peptide derivatives for the Treatment of Obesity and Diabetes	0.14	Running
33	Industrial Consultancy	Prof. Rajendra Srivastava	Stnthesis of Adsorbents for Atmostpheric Gases According to and for the Requirment of BRY-AIR (ASIA) Pvt. Ltd.	0.16	Running
34	Industrial Consultancy	Dr. Anupam Bandyopadhyay	Peptide Sameness Study and Impurity Pofiling	0.03	Running
35	Industrial Consultancy	Dr. Narinder Singh	Evaluation of Adequacy of ETP of Morepen Laboratories Limited at Masulkhana (Parwanoo) to Make the Facility ZLD	0.13	Running
36	SERB-CRG	Dr. Debaparsad Mandal	Polyoxometalates based mixed-metal catalysts for CO2 reduction	0.37	Running
37	Industrial Consultancy	Dr. Anupam Bandyopadhyay	Design, Synthesis and Characterization of peptide-amall molecule conjugates for hair growth	0.02	Running

38	ICMR	Dr. Prabal Banerjee	Small molecules inhibitor of human IGRM as a broad anti-viral agent:a preclinical Study	0.36	Running
39	SERB-NPDF	Dr. Pooja Rani-N-PDF		0.27	Running
40	ICMR-CARE	Dr. Prabal Banerjee	Establishment of Centre for Advanced Research for Rapid Development of Host-directed broad Antivirals	1.20	Running
41	Industrial Consultancy	Prof. Narinder Singh	Enhancing Hydrophilicity of Pyridinium Salt: Strategies Through Biomolecule Conjugation / Molecular Recognition and Chemical Tailoring	0.15	Running
42	STARS-MoE	Dr. C N Tharamani	Utilization and conversion of carbon dioxide to value-added fuels and simultaneous power generation via aqueous Zn-CO2 batteries	0.50	Running
43	Industrial Consultancy	Dr. Narinder Singh	Assistance in Analyzing water Samples Study From Buddha Nullah, Ludhiana	0.15	Running
44	STARS-MoE	Dr. C N Tharamani	Utilization and conversion of carbon dioxide to value-added fuels and simultaneous power generation via aqueous Zn-CO2 batteries	0.50	Running
45	Industrial Consultancy	Dr. Narinder Singh	Material Characterization and Development of Coat-Effective Performance Balls: A Comparative Study with Benchmark Standards	0.06	Running
46	Industrial Consultancy	Dr. Vishwajeet Mehandia, Prof. Narinder Singh and Dr. Muthulingam Subramaniyan	Preparation of DPR for Comprehensive & Feasibility Plan for Sustainable Landfill Site Management for Expansion of TSDF in 10.41 Acre of Land, Village-Nimbua, district SAS Nagar Punjab-140507	0.42	Approx
47	Industrial Consultancy			0.30	Running
48	Industrial Consultancy	Dr. Narinder Singh	Enhancing Effluent Treatment:A Study on the Reduction of COD in MEE Distillate	0.13	running
49	ISRO	Dr. Debaprasad Mandal	RES-VSSC-2023-031: Epoxies adhesives with high Tg (>300 degree Celsius)	0.21	GNR
50	Industrial Consultancy	Prof. Narinder Singh	Operational management and process optimization during Loratadine production ***(Joint Project with PU Chandigarh)***	0.8	Completed

51	Industrial Consultancy	Prof. Narinder Singh	Design the strategy for the water purification using advanced oxidation process	0.12	Completed
52	Industrial Consultancy	Prof. Narinder Singh	Technical consultancy services for studying the impact of treated effluent of our unit on the quality of water flowing in the municipal sewer & subsequent processing in the STP of Ludhiana municipal corporation ***(Joint Project with PU Chandigarh)***	0.09	Completed
53	SERB-CRG	Dr. Soumyajit Das	Heteroatom doped *as*-indacene-based polycyclic antiaromatic hydrocarbons.	39.59 lacs	Ongoing



DEPARTMENT OF CIVIL ENGINEERING

Programs offered	: B.Tech, M.Tech, PhD
No. of Students	B.Tech. :127 M.Tech. : 50 PhD : 77
Head of the Department	: Dr. Sagar Rohidas Chavan
No. of faculty members	: 19
No. of staff members	: 7 Technical Staff : 5 Administrative Staff : 2
Thrust Area	: Structural Engineering, Geotechnical Engineering Water Resources Engineering, Geomatics Engineering Transportation Engineering, Environmental Engineering
No. of Publications	: 51

FACULTY MEMBERS



Dr. Aditya Singh Rajput
Assistant professor
PhD: IIT Roorkee
Study the effects of corrosion on the structural response of RC elements Study the structural performance under fire and elevated temperatures



Dr. GANESH R
Assistant Professor
PhD: PhD, IIT Roorkee
Computational Geomechanics, Energy Geotechnics, Offshore Geotechnics



Dr. Ickkshaanshu Sonker
Assistant Professor
PhD: IIT Roorkee
Subsurface modeling, Soil-Water-Plant interaction



Dr. Indramani Dhada
Assistant Professor
PhD: IIT Kanpur
Environmental Engineering Indoor and ambient air quality assessment; Source apportionment studies and modelling, Health Risk Assessment of pollutants, Fate processes of organic pollutants.Solid and Hazardous waste Management; Agricultural impact on climate change, Environmental Impact Assessment, Water Treatment, Pollution Control Technologies.



Dr. L.Vijay Anand
Assistant Professor
PhD: Auburn University, USA
Environmental Engineering, 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
PhD: IIT Roorkee
Structural Earthquake Engineering, Seismic Design



Dr. Muthulingam.S
Assistant Professor
PhD: IIT Madras
Structural Fire Engineering, Structural Robustness, Blast load analysis



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



DR.NEELAM GUNJYAL
Assistant Professor
IIT Roorkee
Antibiotic Resistance, Emerging Contaminants, Water and wastewater treatment, Nanoparticles, Algae-based wastewater treatment, and Groundwater vulnerability



Dr. Putul Haldar
Assistant Professor
PhD: IIT Roorkee
Structural Dynamics



Dr. Raheena M
Assistant Professor
PhD: IIT Madras
Soil characterization, Characterization of expansive clays, Ground Improvement, Unsaturated soil mechanics.



Dr. Rahul T.M
Assistant Professor
PhD: Indian Institute of Science (IISc) Bangalore
Sustainable Transportation system planning,Travel behavior analysis, Non Motorized Transport planning, Econometric Modelling



Dr. Ratan Sarmah
Assistant Professor
PhD: Indian Institute of Technology Guwahati
Subsurface Hydrology, Mathematical Modeling of Subsurface Flow



Dr. Reet Kamal Tiwari
Assistant Professor
PhD: IIT Roorkee
Remote Sensing applications in Natural resources mapping and Monitoring. Disaster Studies.



Dr. Resmi Sebastian
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Geotechnical Engineering, Rock Mechanics, Seismic wave propagation, crack propagation monitoring.



Dr. Sagar Rohidas Chavan
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Rainfall-runoff modeling, Regionalization of hydrological extremes, Regional frequency analysis of extreme rainfall and floods, Prediction in ungauged basins, Multi-fractal analysis of rainfall and flood, Climate change impacts on hydrological processes, Dam safety analysis and inundation studies



Dr. Sayantan Ganguly
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Water Resources Engineering, Groundwater flow and transport, Hydrogeology.



Dr. Shray Pathak
Assistant Professor
PhD: Indian Institute of Technology Roorkee
Geoinformatics, Water Resources, Urban Planning and Sustainability, Natural Hazard Assessment and Mitigation Measures



DR. SURYA KANT SAHDEO
Assistant Professor
Indian Institute of Technology Roorkee
Highway Design and Analysis of Pavement materials, Recycled aggregates & agricultural-industrial waste, Design & construction of pavements, Maintenance and Rehabilitation of pavements, Low-carbon cementitious materials, Roller compacted/ Pervious concrete pavements

ONGOING ACTIVITIES

FACILITIES

No. of Labs	UG	: 8
	Research	: 1

LAURELS (FACULTY)

1. Received “Outstanding Woman Structural Engineer Award 2023” by Indian Association of Structural Engineers (IAStructE).
2. Received Fellowship from the Coalition for Disaster Resilient Infrastructure (CDRI) for the year 2024-25 for research on “Seismic Vulnerability and Risk Assessment in Hilly Region (SeisVARA_Hill)”.
3. Expert for project monitoring & evaluation under Himachal Pradesh State Disaster Mitigation Fund (SDMF) from 2024
4. Technical Advisory Committee (TAC) member of the State Disaster Mitigation Fund (SDMF), Department of Revenue, Rehabilitation and Disaster Management, Government of Punjab.
5. External Expert of Board of Studies of Department of Civil Engineering, Chandigarh Engineering College Jhanjeri, Mohali
6. International Travel Support 2024 from the Science & Engineering Research Board (SERB) [now Anusandhan National Research Foundation (ANRF)] to attend the AOGS 24 conference in South Korea, June 2024.
7. Co-Chair of Technical Committee on Travel behavior and transport demand (TCT-D01) of Transportation Research Group, India, November 2024 - July 2026.
8. Member, International scientific committee of 1st World Symposium on Sustainable Transport & Livability 2025, Indian Institute of Science Bangalore

LAURELS (STUDENTS)

1. **Mr. Amit Kumar Singh** received the prestigious European Geosciences Union (EGU) Equality, Diversity & Inclusion (EDI) Participation Support Scheme for visiting EGU 2024, conference in Vienna, Austria in April 2025.
2. **Mr. Onkar Mishra** (Research Scholar, Civil Engineering Department) received financial assistance through International Travel Support (ITS) scheme by Science & Engineering Research Board (SERB) for participating in "Net-Zero Future 2024, Norway (19 June, 2024 to 21 June, 2024)"
3. **Dr. Putul Haldar** (Assistant Professor) and **Mr. Zimmy Singh Naorem** (Research Scholar), have been awarded the Coalition for Disaster Resilient Infrastructure (CDRI) Fellowship for the year 2024-25 for research on “Seismic Vulnerability and Risk Assessment in Hilly Region (SeisVARA_Hill)”.
4. Student **Hafsoah Ahmad** received MITACs scholarship, Visited Dalhousie University, Canada, Dec 2024 April 2025

INVITED LECTURES BY FACULTY

Name of the Faculty : Dr. Putul Haldar
Lecture : Invited to deliver online expert lecture on "Enhancing Energy Efficiency & Resilience of Masonry Walls with Low-Cost Sandwich Panel" (08th July 2024), in capacity -building workshop titled Sustainable Energy Transition: Engineering, Entrepreneurship, and Wellbeing for the SPARC-UKIERI project.
Department : organized by School of Energy Science & Engineering
Institute : IIT Kharagpur
Date : 08th July – 12th July 2024

Name of the Faculty : Dr. Aditya Singh Rajput
Lecture : India's Dilapidated Infrastructures (A Researcher's Point of View)
Department : Kalpatru Project India Limited
Institute : Kalpatru Project India Limited
Date : 22nd November 2024

Name of the Faculty : Dr. Aditya Singh Rajput
Lecture : India's Infrastructure Toward Resilience: Tackling Dilapidated Structures with Research-Driven Strategies
Department : Earthquake Engineering Research Center
Institute : IIIT Hyderabad
Date : 21st January 2025

Name of the Faculty : Dr. Aditya Singh Rajput
Lecture : Premature Aging in Structures: Assessing Risks and Research-Driven Mitigation Strategies
Department : Civil Engineering Department
Institute : University of Porto, Portugal
Date : 18th March 2025

- Guest lecture on 'Travel demand modelling in an urban area" Symbiosis Skills& Professional University Pune, March, 2025.
- Workshop on Identification and rectification of accident black spots, and its impact on road crashes in Punjab. Lead Agency, Road safety, Government of Punjab, January, 2025
- Delivered an expert talk at the Winter School Program on Geospatial Technologies, hosted by IIT Madras on November 19, 2024
- Invited speaker in the Conference "The Floods in Punjab: Impacts, Challenges and Pathways to Resilience" held at NITTTR, Chandigarh on July 27th, 2024.

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Prof. Radhakrishna G Pillai , Professor, Civil Engineering Department, BTCM Group , IIT Madras	Career Prospects and higher Studies in Civil Engineering	25th March 2025
2.	Prof. Ravindra Gettu, Professor, Civil Engineering Department, BTCM Group, IIT Madras	Evaluation of the Sustainability of Construction with Concrete: Implications for Decisions	07th February 2024
3.	Prof. Koshi Varghese, Professor, Civil Engineering Department, BTCM Group, IIT Madras	Construction Productivity & Lean Project Delivery	07th February 2024

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. Putul Haldar	Italy	*18th World Conference on Earthquake Engineering* (WCEE2024), in Milan, Italy, from 30th June to 5th July 2024
2.	Dr. Putul Haldar	Thailand	*18th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-18)*, 13–15 November 2024, Chiang Mai, Thailand
3.	Dr. Sayantan Ganguly	South Korea	22-29th June 2024
4.	Dr. Sayantan Ganguly	Taiwan, ROC	22-30th Nov 2024
5.	Dr. Rahul T.M	Chile	April 1-4, 2024, Conference
6.	Dr. Rahul T.M	Austria	July 14-18, 2024, Conference
7.	Dr. Aditya Singh Rajput	Portugal	March 2025, University of Porto, Portugal, under an ongoing R&D Project Sponsored by DST

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1.	Onkar Mishra	Norway	"A Concurrent Multi-scale Finite Element Framework for Precast Bolted Beam-Column Connection", 1st International Conference on Net-Zero Built Environment: Innovations in Materials, Structures, and Management Practices, June 19-21, 2024, Oslo, Norway

2.	Shweta Mishra	Thailand	18th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-18), 13–15 November 2024, Chiang Mai, Thailand.
3.	Hibretu Kaske Kasa	Thailand	18th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-18), 13–15 November 2024, Chiang Mai, Thailand.
4.	Hafsoah Ahmad	Austria	July 14-18, 2024, Conference
5.	Hafsoah Ahmad	Canada	Dec- 2024 – April 2025, MITACS scholarship
6.	Mr. Safdar Naveen Amini	Italy	To attend and participate in the World Conference on Earthquake Engineering, Date 30th June – 5th July 2024.

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

Sr. No.	Name of the Research Project	Funding Agency	Role	Status	Amount (Rs. Lakhs)
1.	DEVELOPMENT OF AN ALGORITHMIC PROCEDURE TO EXTRACT GEOMORPHOLOGICAL ATTRIBUTES GOVERNING FLOODS IN HEADWATER CATCHMENTS AND EVALUATING THEIR POTENTIAL IN PREDICTING DESIGN FLOODS AT UNGAUGED LOCATIONS	Science and Engineering Research Board, DST (Core Research Grant)	PI	Ongoing	**25.48**
2.	PI of "**Seismic Vulnerability and Risk Assessment in Hilly Region (SeisVARA_Hill)**"	**2024-2025 (Ongoing) The Coalition for Disaster Resilient Infrastructure (CDRI)**	PI	Ongoing	**15,000 USD**
3.	PI of "**Earthquake Risk and Engineering towards Seismic Safety of Building Stock in Punjab**"	**2024-2025 (Ongoing) State Disaster Mitigation Fund (SDMA) Punjab**	PI	Ongoing	**92.598**
4.	PI of "**Development of Indigenous Seismic Vulnerability And Risk Assess ment (SeisVARA) Tool Tailored for the State of Punjab**"	**2024-2025 (Ongoing) State Disaster Mitigation Fund (SDMA) Punjab**	PI	Ongoing	**80.608**
5.	PI of "**Assessment of Local Site Effects Specific to State of Punjab: A Pre-Requisite for Seismic Risk Reduction**" (PI: Putul Haldar, Co-PI: Dr. Naveen James, and Dr. Shrabony Adhikary from VNIT Nagpur)	**2024-2025 (Ongoing) State Disaster Mitigation Fund (SDMA) Punjab**	PI	Ongoing	**98.2432**
6.	Co-PI of "**An Interdisciplinary Approach to Sustainable Energy Transition to Equitable Systems: The Role of Solar Energy and Thermal Storage within the UK-India Contexts**"(IITKGP, IIT Jodhpur, MNIT Jaipur)	**2024-2026 (Ongoing) SPARC Ministry of Education, Govt. of India**	Co-PI	Ongoing	**5.00**
7.	Regionalization of groundwater level at ungauged stations in the north-western part of India using AI/ML models	Indo-Taiwan Joint Research Centre on Artificial Intelligence And Machine Learning, IIT Ropar	PI	Ongoing	

8.	Improving the penetration of electric vehicles in Indian market -Understanding effect of government policies and people's perceptions on electric vehicle adoption	Anusandhan National Research Foundation (ANRF)	PI	Ongoing	22.19
9.	A Decision Support Framework for Infrastructure and Operational Planning of Electric Freight considering Disaster Vulnerability and Topography in an Indo-Himalayan Region	Funded by National Mission on Himalayan Studies	Co-PI	Ongoing	74.43
10.	Redefining Physical Crop Modeling by Capturing Root Adaptations Under Extreme Climate Stress	ANRF, Govt. of India	PI	Ongoing	56.6
11.	Development of Lightweight Snow Supporting Structure	Central Command, Lucknow	PI	Ongoing	164
12.	Multi-weather resilient roof integrated precast habitat construction	Central Command, Lucknow	PI	Ongoing	189
13.	Seismic Design Provisions to Incorporate Amplification in Force Demands on Acceleration-sensitive Secondary Systems Due to Building Irregularities	Science and Engineering Research Board	PI	Ongoing	20.04
14.	Evaluation and Retrofitting of Existing Structures for Safe and Sustainable Built Environment	International Division, DST, India	PI	Ongoing	48.82
15.	Revival of Climate cum Disaster Resilient Vernacular Housing Techniques of the North-Western Indian Himalayan Region: Documentation, Investigation, and Knowledge Dissemination	MOEFCC, Govt. of India	PI	Ongoing	37.66
16.	Evaluation and Retrofitting of Existing Buildings for Safe and Sustainable Built Environment	Department of Science and Technology, International Division, India-Portugal Collaboration	PI	Ongoing	38.52
17.	Revival of Climate cum Disaster Resilient Vernacular Housing Techniques of the North-Western Indian Himalayan Region: Documentation, Investigation, and Knowledge Dissemination	National Mission on Himalayan Studies, Ministry of Environment, Forest & Climate Change	PI	Ongoing	37.65
18.	Analysis of urban flood risks for coastal and non-coastal regions under future climate scenarios: an attempt to promote sponge cities using nature-based solutions	ANRF-SRG	PI	Ongoing	15.24



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Programs offered : B.tech., M.tech., and PhD
No. of Students : B.Tech. : 349
M.Tech. : 67
PhD : 94

Head of the Department : Prof. Nitin Auluck
No. of faculty members : 21
No. of staff members : 04
Technical Staff : 03
Administrative Staff : 01

Thrust Area

- Parallel and distributed computing
- Approximation algorithms
- Image processing and pattern recognition
- Computational geometry
- Proof Complexity
- Computer Vision
- Cloud computing and software architecture
- Performance modeling
- Applied Deep Learning
- Machine learning and Artificial intelligence
- Cybersecurity
- Network science
- Sensor networks
- Computer Architecture & Hardware Security
- Social Computing
- Collective Intelligence
- Spatial Computing
- Game Theory and Mechanism Design
- Wireless Networking and the Internet of Things
- Human Centered Computing
- Edge computing
- Blockchain
- Ethical AI
- AI in Healthcare

No. of Publications : 41

FACULTY MEMBERS



Dr. Abhinandan SP
Assistant Professor
PhD:Georg-August-Universität Göttingen, Germany
Research Interests: Cloud Computing, 6G, Edge AI and Cloud Sustainability.



Dr. Anil Shukla
Assistant Professor
PhD : The Institute of Mathematical Sciences, Chennai
Research Interests : Theoretical Computer Science, Computational Complexity, Proof Complexity



Dr. Apurva Mudgal
Associate Professor
PhD : Georgia Tech, USA
Research Interests : Theoretical Computer Science, Approximation Algorithms, Theoretical Robotics, Computational Geometry



Dr. Balwinder Sodhi
Associate Professor
PhD : IIT Kanpur, India
Research Interests : Cloud computing, Software and its Engineering, Applied Computing



Dr. Mudasir Ahmad Ganaie
Assistant Professor
PhD: Indian Institute of Technology Indore, India
Research Interests: Deep learning, Machine Learning, Support Vector Machines, Data Science, Neuroimaging.



Dr. Basant Subba
Assistant Professor
PhD: Indian Institute of Technology Guwahati, India
Research Interests: Network Intrusion Detection Systems, Network Security, Game Theory, Machine Learning.



Dr. Deepti R. Bathula
Associate Professor
PhD : Yale University, USA
Research Interests : Medical Image Processing and Analysis, Pattern Recognition, Machine Learning and Computer Vision



Dr. Jagpreet Singh
Assistant Professor
PhD:Indian Institute of Technology Ropar, India
Research Interests: Parallel and Distributed Systems, Wireless Network, Energy Harvesting, High Performance Computing



Dr. Geeta
Assistant Professor
Phd:Indian Institute of Technology Delhi
Research Interests: Vulnerability management, Cybersecurity of critical infrastructure, ML in security



Dr. Shashi Shekhar Jha
Assistant Professor
PhD : IIT Guwahati, India
Research Interests: Artificial Intelligence, Machine Learning, Multiagent Systems, Robotics, Bioinspired Algorithms.



Dr. Mukesh Saini
Associate Professor
PhD : National University of Singapore
Research Interests : Multimedia Systems, Visual Analytics, Surveillance, Privacy



Dr. Neeraj Goel
Assistant Professor
PhD : IIT Delhi, India
Research Interests : Processor architecture, SoC design and modeling, Low power design, behavior synthesis, Reconfigurable computing and FPGAs, Retargatable code generation and compiler optimizations



Prof. Nitin Auluck
Professor
Phd: University of Cincinnati, USA.
Research Interests: Distributed systems, edge computing, scheduling and resource allocation.



Dr. Puneet Goyal
Associate Professor
PhD : Purdue University, USA
Research Interests : Image Processing/ Computer Vision, Applied Deep Learning, Image Forensics, Security Analytics and Assistive Technologies.



Dr. Sujata Pal
Associate Professor
PhD : IIT Kharagpur, India
Research Interests: Mobile ad-hoc networks, Delay tolerant networks, Vehicular networks, Content centric networks, Wireless sensor networks.



Dr. Shweta Jain
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Research Interests: Game Theory, Mechanism Design, Machine Learning, Reinforcement Learning



Dr. Sudarshan Iyengar
Head of the Department
PhD : Indian Institute of Science, Bangalore
Research Interests :Data Sciences, AI for Social Good, Collective Intelligence, Social Computing



Dr. Sudeepta Mishra
Assistant Professor
PhD: Indian Institute of Technology Madras
RI: Scheduling & Resource allocation, Wireless Networking, IoT, Drone Technology, Model Compression



Dr. T V Kalyan
Assistant Professor
PhD : Indian Institute of Technology, Madras
Research Interests: Computer Architecture - Memory subsystem, Hardware Security, High-Performance Computing



Dr. Sukrit Gupta
Assistant Professor
PhD: Nanyang Technological University, Singapore
Research Interests: Deep Learning, AI in Healthcare, Neuroimaging



Dr. Swapnil Dhamal
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Research Interests: Game Theory, Social Networks, Transportation Planning.

FACILITIES

4 UG labs, 10 Research Labs, Department server, HPC facility (central facility)

No. of Labs :

UG	:	04
PG	:	01
Research	:	10

LAURELS (FACULTY)

S.No.	Name	Details
1.	Prof. Nitin Auluck	Awarded the Taith mobility grant, to visit the School of Computer Science and Informatics, Cardiff University, Cardiff, UK, in 2025
2.	Dr. Shweta Jain	Received "Google India Research Award, 2024" to work on "Fair Allocation of Resources via Multi-armed Bandit Algorithms.
3.	Dr. Sukrit Gupta	Best Oral Presentation Award at Haematocon 2024
4	Dr. Sukrit Gupta	Runner's Up for Best Oral Presentation Award at Haematocon 2024
5.	Dr. Mudasir Ahmad Ganaie	Won the Brain Responses to Emotional Avatars Challenge [FG-2024]Link:https://fg2024.ieee-biometrics.org/competitions/

LAURELS (STUDENTS)

S.No.	Name	Details
1.	Prabuddha Sinha	Best Lightning Talk SRS, HiPC, Dec 2024.
2.	UG 3rd year students: Ankush Naskar, Ashish Gupta, Hemlata Gautam, Satvik Srivastava, and Utkarsh Patel	Won the first prize in an international competition: IEEE Video and Image Processing Cup, held in Abu Dhabi during IEEE ICIP 2024 (under the supervision of Dr. Puneet Goyal).
3.	Ranjana Roy Chowdhury	Appointed as Research Ambassador by Springer Nature for academic year 2025-26.
4.	Subham Pokhriyal	Received SERB-OVDF fellowship and is visiting Purdue university for the year 2024-2025
5.	Subham Pokhriyal	Received Google travel grant worth 2000 USD to travel to AAMAS 2024 held in Auckland, New Zealand
6.	Waqar Hassan Mir	Best Poster Award, MEMSYS2024
7.	Usma Niyaz	Awarded 2024 IEEE International Symposium on Biomedical Imaging (ISBI) Travel Grant, Athens, Greece

8.	Usma Niyaz	Awarded Science and Engineering Research Board (SERB) Travel Grant to attend ISBI 2024, Athens, Greece
9.	Ranjana Roy Chowdhury	Awarded Society of Women Engineers (SWE) Scholarship 2024 - 2025
10.	Abhishek Singh Sambyal	Awarded Medical Image Computing and Computer Assisted Intervention (MICCAI) 2024 RISE Registration Grant
11.	Abhishek Singh Sambyal	Awarded Science and Engineering Research Board (SERB) International Travel Grant to attend MICCAI 2024, Morocco.
12.	Maninder Kaur	4th Position in the EWSC Challenge Worldwide Organized by the Crunch Lab, the Eric and Wendy Schmidt Center, and the Klarman Cell Observatory of the Broad Institute organized the Autoimmune Disease ML Challenge.
13.	Amit Kumar	4th Position in the EWSC Challenge Worldwide Organized by the Crunch Lab, the Eric and Wendy Schmidt Center, and the Klarman Cell Observatory of the Broad Institute organized the Autoimmune Disease ML Challenge.
14.	Anshika	Awarded IndiaAI fellowship 2024

INVITED LECTURES BY FACULTY

S.No.	Name	Title	Department	Institute	Date (DD/MM/YYYY)
1	Dr. T V Kalyan	"Designing Computing Systems for Large Language Models"		IIT Bhubaneswar	Dec 2024
2.	Dr. Swapnil Vilas Dhamal	Cooperative Game Theory and Influence Maximization		IISc Bangalore	17/07/2024
3	Dr. Anil Shukla	Extending Merge Resolution to a Family of QBF-Proof Systems		IIT Gandhinagar	15/12/2024
4	Dr. Anil Shukla	Proof Complexity of Propositional Model Counting		IMSc, Chennai	23/01/2025

5.	Dr. Geeta	Vulnerability management of CPS	Computer Science & Engineering	Short Term Training Program, Thakur college of engineering, Mumbai.	June 26, 2024.
6.	Dr. Geeta	Security of digital systems	Computer Science Department	Seth Vishambhar Nath Institute of Engineering & Technology, Barabanki, India	July 19, 2024.
7.	Dr. Geeta	Securing the Digital Future	Computer Science & Engineering	Rayat Bahra University Mohali	Mar 06, 2025
8.	Dr. Shweta	Algorithmic Game Theory	ACM Summer School	IMSc, Chennai	09/07/2024
9	Dr. Jagpreet Singh	Sustainable sensor networks	Faculty Updation Programme, CSE Department	NIT Hamirpur	Feb 26, 2025
10	Dr. Jagpreet Singh	Role of IoT for Automation in Modern Agriculture	Department of CSE	Punjabi University Patiala	Nov 12, 2024
11	Dr. Jagpreet Singh	Data Collection using IoT	CSIR Sponsored National Seminar	CGC Jhanjheri, Punjab	April 4, 2024
12	Dr. Jagpreet Singh	Internet-of-Things: Current Trends	Faculty Development Programme	CGC Landran, Punjab	July 1 , 2024
13.	Dr. Neeraj Goel	Machine Learning Applications in Computer Architecture	Workshop on Industrial Opportunities for VLSI, Artificial Intelligence and Communication Systems on	NIT Jalandhar	June 11, 2024
14	Dr. Deepti R. Bathula	AI-Based Neuroimaging: Opportunities and Challenges	International Conference on Precision Bio-Medicine and Sustainable Smart City Development (*supported by National Science and Technology Council, Taiwan*)	SRM Institute of Science & Technology	September 6, 2024

15	Dr. Sujata Pal	Basics of Blockchain Security	Faculty Development Program (FDP) on "Advanced Topics in Fintech Security"	National Institute of Technology Raipur	18th March 2025
16	Dr. Mudasir Ganaie	Deep Learning and its Applications	Workshop on Integration of Artificial Intelligence and Machine Learning in Plant Systematics and Biodiversity conservation	Central University of Jammu	17-21 Feb, 2025

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Prof. Kishore Kothapalli, IIIT Hyderabad.	Parallel Dynamic Graph Algorithms: Recent Successes and Challenges	17.12.2024, CSE Dept
2	Dr. Debaprata Nayak, PWC	5G , AI, Cloud Security will revolutionise next generation digital landscape	8th March 2025
3	Prof. Yogesh Simmhan (IISc)	From Agentic AI to Federated Learning Optimising edge accelerators for ML	8th March 2025
4	Dr. Sushmita Ruj	GIAN program on “Chain of Things: A Course on Blockchain & IoT”	31.03.25 to 04.04.25

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Details of visit with date
1	Prof. Nitin Auluck	Finland	June - July 2024. Visited Aalto Univ Finland, as part of a joint research project on sustainable 6G.
2	Dr. Shweta Jain	New Zealand	Conference travel, AAMAS 2025. 6-10 May
3	Dr. Swapnil Vilas Dhamal	New Zealand	Conference travel, AAMAS 2025. 6-10 May
4	Dr. Deepti R. Bathula	Athens, Greece	Conference travel, ISBI 2024, 27-30 May 2024

5	Dr. Sujata Pal	South Korea	Conference travel IEEE MASS 2024, September 23 - 25, 2024
6.	Dr. Sukrit Gupta	Germany	June, 2024 Visited HPI, Potsdam 4for research on epidemic modeling using multimodal data.
7.	Dr. Puneet Goyal	UAE	Conference Travel, ICIP 2024, 24-30 Oct 2025.

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Subham Pokhriyal	Auckland, New Zealand	6-10 May, Conference AAMAS
2	Abhishek Singh Sambyal	Marrakesh, Morocco	Conference Travel, MICCAI 2024, 6 - 10 October 2024
3	Joy Dhar	Tucson, Arizona, USA	Conference Travel, WACV 2025 (Core A), 27 Feb - March 4, 205
4	Hadia Kawoosa	Buffalo, New York, USA	Visiting Researcher at SUNY Buffalo during 15 Feb -15 July 2025

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

S.No.	Funding Agency	Name of the Faculty Member	Title of the Project	Funds (in crores)
1	ANRF ECRG	Dr. Geeta	Cybersecurity Framework for Cyber-Physical Systems using Digital Twin Testbeds to Analyze Attack Impact and Countermeasure Efficacy	0.43
2	SERB CRG	Dr. Shweta Jain	Learning in the Presence of Strategic Agents	0.73
3	SERB CRG	Dr. Shweta Jain	Achieving Fairness in Federated Learning Models	0.50
4	SERB CRG	Dr. Shweta Jain	Beyond AI models: Integrating Human Expertise with AI for Improving their Combined Performance	0.46
5	SERB MATRICS	Dr. Shweta Jain	Characterizing and Designing Combinatorial Multi-armed Bandit Mechanisms	0.06
6	DBT	Dr. Sujata Pal	Real time Detection of Plant Diseases using Federated Learning and Improved YOLO	0.34



DEPARTMENT OF ELECTRICAL ENGINEERING

Programs offered : B. Tech, M. Tech, and PhD

No. of Students : 551

B.Tech. : 336

M.Tech. : 97

PhD : 118

Head of the Department : Prof. C. Chakradhar Reddy

No. of faculty members : 21

Inspire Faculty : 01

No. of staff members : 10

Technical Staff : 07

Administrative Staff : 01

Outsource Staff : 02

Thrust Area : Power Engineering, Microelectronics and VLSI ,SPCOM

No. of Publications : 109

FACULTY MEMBERS

CORE FACULTY



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



Dr. Ashwani Sharma
Assistant Professor
University of Deusto, Bilbao, Spain
Antenna Engineering and Communication Systems.



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



Dr. Brajesh Rawat
Assistant Professor
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



Prof. C. C. Reddy
Head of Department
Professor & HoD 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
Indian Institute of Technology Bombay
CMOS Analog Integrated Circuit Design, Sensor Interfacing Circuit Design, Neuromorphic VLSI Circuits, ASICs for biosignal measurement



Prof. J. S. Sahambi
Professor
Indian Institute of Technology Delhi
Signal processing, Image processing, AI & ML, wavelets, Graph signal processing, DSP, Embedded systems and Biomedical signal/image processing



Dr. Kalaiselvi J.
Assistant professor
Indian Institute of Technology Madras
Research Interests: Attenuation of Conduction mode EMI in converters and drives, Solid State Transformer, Fault tolerant converters.



Dr. Mahendra Sakare
Assistant Professor
Indian Institute of Technology Bombay
Analog integrated circuit design, Broadband circuit and system design.



Dr. Pardeep Duhan
Assistant Professor
Indian Institute of Technology Bombay
Semiconductor Devices, Electrical characterization, gate oxide reliability, and simulation of Nanodevices, Ferroelectric Memory Devices



Dr. Raghav Sharma
INSPIRE Faculty
Indian Institute of Technology Delhi
Spintronic Devices for high-frequency neuromorphic and energy harvesting applications, Topological materials for high-frequency sensing and spin-charge conversion, sub-THz generation and detection, Nano-device fabrication and nanomaterials growth



Dr. Ramachandra Sekhar
Assistant professor
IIT Hyderabad
Design of high energy density Power converters for renewable and drive applications. Non linear control algorithms for distributed energy sources, EMC/EMI analysis of power converters



Dr. Ranjana Sodhi
Associate Professor
Indian Institute of Technology Kanpur
Wide area monitoring and control systems, Smart Grids, Microgrid studies, application of optimization techniques to power systems



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



Dr. Saifullah Payami
Assistant professor
IIT Patna
Multiphase (more than three phase) machines and its control, design and fault diagnosis of electric machines, Electric drives control



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



Dr. Sam Darshi
Assistant professor
Indian Institute of Technology Guwahati
Communication, Ad-hoc networks, Cooperative communication, Next generation wireless networks, Intelligent Transportation systems, Underwater communication



Dr. Santosh Kumar Vipparthi
Assistant Professor
Indian Institute of Technology Varanasi (IIT Varanasi), BHU
Computer Vision, Deep Learning, Image Retrieval, Affective Computing, Expression Recognition, Arial Image Analysis, Face Recognition and Motion Detection.



Dr. Satyam Agarwal
Assistant Professor
Indian Institute of Technology Delhi
Wireless communication and networks, MAC protocols, Wireless network modelling and performance analysis.



Dr. Subrahmanyam Murala
Associate Professor
Indian Institute of Technology Roorkee
Computer Vision, Image Retrieval, Object Detection and Medical Image Analysis.



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

FACILITIES

No. of Labs : 36
UG : 11
PG : 09
Research : 16

S.No.	Name of the Lab	Head of the lab	Name of the Equipment (Research Labs)
1	5G Use Case Lab	Dr. Ashwani Sharma	5G equipments given to 100 5G labs by DoT
2	Electric Machines (UG)	Dr. Saifullah Payami & Dr. A. V Ravi Teja	
3	HV (UG+PG)	Prof. C.C. Reddy	1. High Voltage AC Source 100 kV & 150 kV 2. High Voltage DC Source 140 kV 3. High Voltage Impulse Source 420 kV 4. Partial Discharge Measurement System 100 kV 5. Cascaded Transformers 100 kV 6. Capacitance and Tan Delta Measuring System (12 kV) 7. Oil purifier 8. Cable testing system 9. Leakage current measurement system

4	Power Electronics (UG+ PG)	Dr. R Sekhar	DSOs, Transformers, Function generators, DSP boards, FPGA boards
5	Electric Drives Lab	Dr. A. V. Raviteja & Dr. Saifullah Payami	JMag Software, DSO
6	Analog + Digital (UG)	Dr. Devarshi Das & Dr. Pardeep Duhan	1. Function Generators 2. DSO 3. DC Power supply
7	Control Engineering Lab (UG)	Dr. Sanjay Roy	
8	Power Systems (UG + PG)	Dr. Ranjana Sodhi, Dr. Bibhu	PSCAD, PowerWorld Software
9	Synchrophasor Measurement & Research Lab	Dr. Ranjana Sodhi	1. Real-Time Digital Simulator, 2. SEL Relays, 3. Phasor Measurement Units, 4. GPS Clock, 5. Eurostag Software, 6. dSpace1104 Kits, 7. Smart Home appliances
10	Embedded System Lab	Prof. J.S. Sahambi	Embedded systems kits Zigbee kits Digital storage scopes Function generators
11	InfraRed Imaging Lab	Dr. K. Ramachandra Sekhar	InfraRed Imaging System
12	Communication Engg. Lab (UG + PG)	Dr. Suman Kumar	DSO: Digital Storage Oscilloscope FG: Function Generator PS: Power supply
13	VLSI Design Lab	Dr. Devarshi Das and Dr. Mahendra Sakare	Dell Power edge Rack Server: Intel Xeon Platinum 8160(2.10GHz/24-core/33MB/150W)
14	Electromagnetics Lab (UG)	Dr. Ashwani Sharma	PCB milling machine
15	Antenna/ MW Lab	Dr. Ashwani Sharma	Vector network analyzer, Anechoic chamber, chip binding machine, field measurement scara robotic setup

16	VLSI Wet Lab	Dr. Brajesh Rawat	Muffle Furnace Spin Coater Ultrasonic cleaning bath Gas sensor testing system D-C probe station
17	Nanoelectronic Devices Lab	Dr. Pardeep Duhan	1. DC Probe Station, 2. Keithley 4200 A
18	Nanoelectronic Lab	Dr. Rohit Y. Sharma, Dr. Devarshi Das and Dr. Mahendra Sakare	
19	Product Eng. Lab (For Loan)	Dr. Khusboo Rakha	
20	Computer Vision and Pattern Recognition Lab	Dr. S. Murala, Dr. Santosh Kumar Vipparthi	1. DGX Station 2. Thermal Camera 3. Quadcopter with thermal and visual camera
21	Dielectric Measurement Lab	Prof. C.C. Reddy	1. Dielectric Spectroscopy 2. Electrometer 3. Pulsed Electro-acoustic System 4. Solid Nano Dielectric Hydraulic Press 5. Solid Nano dielectric Roll Mixer 6. Solid Nano Dielectric High Speed Mixer 7. Cable Extruder 8. Thermal Imaging Camera 9. Microscopes 10.Needle plane treeing test system 11.Water treeing test system
22	Communication Research Lab	Dr. Suman Kumar, Dr. Sam Darshi, Dr. Brijesh Kumbhani, Dr. Satyam Agarwal	1. EXata Network Emulator Software 2. NI USRP software defined radio
23	BEL Lab (UG)	Dr. Mahendra Sakare	DSO: Digital Storage Oscilloscope FG: Function Generator PS: Power supply
24	Basic Electrical Engineering Lab	Dr. Saifullah Payami, Dr. J kalaiselvi	
25	Control Eng. Lab	Dr. S. Roy	
26	Circuits and Devices Simulation Lab	Dr. Devarshi Das , Dr. Brajesh Rawat	

27	Power Engineering Labs	Dr. Saifullah Payami	Electric Machines (UG) Ground Floor, Room no:101
		Prof. C.C. Reddy	High Voltage (PG) Ground Floor, Room no:102
		Dr. R Sekhar & Dr.J.Kalaiselvi	Power Electronics (UG+ PG) Ground Floor, Room no:104
		Dr. A.V. Raviteja & Dr. Saifullah Payami	Electric Drives Lab Room no:109 & 308
		Dr. Ranjana Sodhi, Dr. Bibhu	Power Systems (UG + PG) First Floor, Room No:203
		Dr. Ranjana Sodhi	Synchrophasor Measurement& Research Lab (Power Quality Research Lab) First Floor, Room no: (205)
		Prof. C.C. Reddy	Dielectric Measurement Lab Third Floor, Room no:406
		Dr. Saifullah Payami	Basic Electrical Engineering Lab Third Floor, Room no:409 & 408
28	Signal Processing and Communication Labs	Prof. J.S. Sahambi	Embedded System Lab First Floor, Room no:206
		Dr. K. Ramachandra Sekhar	Infra Red Imaging Lab First Floor, Room no:207
		Dr. Suman Kumar	Communication Engg. Lab (UG + PG) Second Floor, Room no:301
		Dr. Ashwani Sharma	Electromagnetics Lab (UG) Second Floor, Room no:303
		Dr. Ashwani Sharma	Antenna/ MW Lab Second Floor, Room no:304

		Dr. S. Murala Dr. Santosh Kumar Vipparthi	Computer Vision and Pattern Recognition Lab Third Floor, Room no:404
		Dr. Suman Kumar, Dr. Sam Darshi, Dr. Brijesh Kumbhani, Dr. Satyam Agarwal	Communication Research Lab Third Floor, Room no:407
29	Microelectronics and VLSI Design Labs	Dr. Devarshi Das, Dr. Pardeep Duhan	Analog + Digital (UG) First Floor, Room no:201
		Dr. Rohit Sharma, Dr. Devarshi Das, Dr. Mahendra Sakare	Nanoelectronics Lab, 402
		Dr. Devarshi Das, Dr. Mahendra Sakare	VLSI Design Lab Second Floor, Room no:302
		Dr. Brajesh Rawat	Nanoelectronic Device and Sensor lab Third Floor, Room no:401
		Dr. Pardeep Duhan,	Nanoelectronic Devices Lab Third Floor, Room no:403
		Dr. Mahendra Sakare	BEL Lab Third Floor, Room no: 313
		Dr. Devarshi Das, Dr. Brajesh Rawat	Circuits and Devices Simulation Lab Third Floor, Room no: 315
30	Institute general course UG lab	Dr. Khusboo Rakha, Mechanical Department	Product Eng. Lab Third Floor, Room no:403

Laurels 2024-25 (Faculty)

S.no.	Name of the faculty	Award/ Achievement
1	Dr. Sam Darshi	Project awarded from Bharat 6G mission, DoT; Cost 1.0 Cr.
2	Dr. Brijesh K.	Project awarded from Bharat 6G mission, DoT; Cost 0.75 Cr.

3	Dr. Satyam Agarwal	Project awarded from Bharat 6G mission, DoT; Cost 3.0 Cr.
4	Dr. Ashwani Sharma	Project awarded from Bharat 6G mission, DoT; Cost 2.75 Cr.
5	Dr. Devarshi Das	Project awarded from Bharat 6G mission, DoT; Cost 1.21 Cr.
6	Dr. Ranjana Sodhi	Best Paper Award for "Cluster-Wise Response Aggregation-Based Differentially Private Pool Energy Market Model" IEEE SeFet 2024, Hyderabad
7	Dr. Santosh Vipparthi	Project awarded from Meity in Quantum Computer Vision, Cost 1.20 Cr
8	Dr. Devarshi Das	National Quantum Mission (NQM) Project, DST; Cost 1.21 Cr.
9	Dr. Ashwani Sharma	FRIA Award, 2025

LAURELS (STUDENTS)

S.no.	Name of the Student	Award/ Achievement
1	Pranav Johri	Grid-India Power System Award (GIPSA) 2024-25 in the Doctoral Category
2	Aritra Das	Grid-India Power System Award (GIPSA) 2024-25 n the Doctoral Category
3	Nidhi sharma	IEEE WinTechCon Best Woman Research Scholar Award 2024 from the IEEE Circuit and System (CAS) Bangalore Chapter India. 3rd Prize in the prestigious 2024 National Innovation and Entrepreneurship Competition held in Taiwan
4	Shiv Kumar	IEEE student trant grant of USD 400 from IEEE ComSoc to attend IEEE Middle East Conference on Communications and Networking (MECOM)-2024 at Khalifa University, Abu Dhabi (UAE)

5	Subal Beura	Won First Prize at Cybersecurity Hackathon at IIT Roorkee Got Visiting Researcher Offer from Khalifa University, Abu Dhabi for two months.
6	Ridhima	IEEE WIE Women in Engineering, Diversity and Inclusion Award at the IEEE COINS Conference 2024, King's College London, UK
7.	Rahul Gond	Awarded INUP Hackathon prize at the User's Meet, organized by the Indian Nanoelectronics Users' Programme- Idea to Innovation (INUP-i2i) in association with MeitY (GoI) on 10th, Aug 2024.
8.	Subal Beura, Amit Kumar	Won (**First Place**) the hackathon on the **Power System Cybersecurity Hackathon 2024**, hosted by the **Department of Water Resources Development and Management** (**WRD**&**M**) at Indian Institute of Technology, Roorkee, held on 14-15th October 2024.
9	Annima Gupta	received Professor Ned Mohan's memorial Student Travel Award- for attending PEDES -2024
10	Pratik Kalkal	Received International Travel Support from ANRF to attend the 50th Annual IEEE Industrial Electronics Society Conference (IECON 2024) in the USA.
11	Dhawal Salwan	Awarded IEEE ComSoc Travel grant of US $ 1,800 for attending IEEE ICC 2024 at Denver, USA from 9 June– 13 June, 2024

INVITED LECTURES BY FACULTY

S. No.	Name of the Faculty	Lecture	Institute	Date
1	Dr. Suman Kumar	Invited for talk, Tula's Institute, Dehradun	Tula's Institute,	5th April, 2024
2	Dr. Suman Kumar	Session Chair at IIT Delhi	IIT Delhi	21st to 24th May,2024
3	Dr. Mahendra Sakare	Expert Talk , Delhi Technology University,Delhi	Delhi Technology University	29th May 2024
4	Dr. Ashwani Sharma	Expert lecture, NIT Sikkim	NIT Sikkim	June 3-7,2024

5	Prof. C.C Reddy	Invited for Chief guest by Megger India (Delhi)	Megger,Delhi	05th July, 2024
6	Prof. C.C. Reddy	Presenting a paper & Invite a lecture at CBIP, Delhi	Delhi	18-19 July 2024
7	Prof. C.C. Reddy	Delivered keynote talk in 5th IEEE (INDISCON 2024) at Chandigarh	Chandigarh	23 August 2024
8	Prof. C.C. Reddy	Session chair in 5th IEEE (INDISCON 2024) at Chandigarh	Chandigarh	23 August 2024
9	Prof. C. C. Reddy	Delivered a talk at PTU Jalandhar on GATE Examination	PTU Jalandhar	23 September 2024
10	Prof. C. C. Reddy	Delivered a talk at NIT Jalandhar on GATE Examination	NIT Jalandhar	23 September 2024
11	Dr. A. V. Ravi Teja	Delivered an online invited lecture at NIT Rourkela in a workshop on “Sustainable Development: Intersection of Green Energy and eMobility”	NIT Rourkela	18th October 2024
12	Dr J Kalaiselvi	Delivered online invited talk at School of Engineering & Technology, IIMT university, Meerut, “Implementing AI-driven Solutions in Engineering and Technology”.	IIMT university, Meerut	26th September 2024
13	Dr. Brajesh Rawat	Delivered invited talk in the 6th edition of the international conference on Smart Materials for Sustainable Technology (SMST-2024), and chaired the session.		24th October 2024
14	Dr. Brijesh Kumbhani	Participated in CEFIPRA sponsored Indo - French workshop as an expert and delivered talk on ‘IRS Training in Multi-User Scenario’		9-11 October 2024

15	Dr. Ashwani Sharma	Delivered Expert Lecture in One-week STC on “Microstrip Patch Antenna Design Techniques and Tools” during September 16 – 20, 2024 with talk Title “Rectenna systems for RF energy harvesting IoT nodes”	NITTTR Chanidgarh	18 September 2024
16	Prof. Rohit Sharma	Delivered a Professional Development Course in 40th IEEE Electronics Manufacturing Technology	Malaysia	15-18, October 2024
17	Prof. Rohit Sharma	Chaired a session in 40th IEEE Electronics Manufacturing Technology Conference, Penang, Malaysia	Malaysia	18 October 2024
18	Prof. Rohit Sharma	Delivered a Distinguished Lecture at University Science Malaysia as part of the IEEE EPS Malaysia Chapter, Penang, Malaysia	Malaysia	19 October 2024
19	Prof. Rohit Sharma	Delivered an Invited Talk at 2024 IEEE International Symposium on Integrated Circuits and Systems, New Delhi, India	Delhi	20 October 2024
20	Prof. Rohit Sharma	Participated in the Panel on Start Ups organised by MEITY and SCL Mohali, New Delhi, India	New Delhi	22 October 2024
21	Prof. Rohit Sharma	Delivered an Invited Talk during SEMICON India, Greater Noida, India	Greater Noida, India	12 September 2024
22	Dr. Ranjana Sodhi	Delivered an Invited talk in 5th IEEE (INDISCON 2024) at Chandigarh	Chandigarh	22 August 2024
23	Dr. Ashwani Sharma	Expert Talk Delivered on the topic "Beamforming for Energy Efficient Communication " for AICTE ATAL FDP on “Hands-on Training, Research Aspects and Demonstration in 5G Use Case Lab” Punjab Engineering College (Deemed to be University), Chandigarh	PEC, Chandigarh	20 December 2024

24	Dr. Ashwani Sharma	Session Chair for "Fr.2.1.:Metasurface (Part 2)" that took place on Fri, Dec 13 08:30 to 10:30 in IEEE Microwaves, Antennas, and Propagation Conference (MAPCON) 2024.	Hyderabad	13 December 2024
25	Dr.Satyam Agarwal	Presentation on IIT Ropar Projects	Delhi	03 March 2025
26	Prof.C.C.Reddy	Presentation at Gridcon	New Delhi	28 March 2025
27	Prof.Rohit Sharma	IEEE lecture series at IIT Kanpur	IIT Kanpur	06 February 2025
28	Dr.Brajesh Rawat	A lecture on IoT use cases in Agricultural	Mohali	05 February 2025
29	Dr.Kalaiselvi	Deliver an expert lecture at IIT Palakkad	IIT Palakkad	24 February 2025
30	Dr.Satyam Agarwal	Expert Talk for ATAL FDP at NIE	Mysuru	23&24 January 2025
31	Dr. Sam Darshi	Expert talk in 5G and Beyond VehicularCommunications for Autonomous Vehicles and Intelligent Transportation Systems of the Future with Hands-On Tool Proficiency	Gujrat	25 November 2024
32	Dr. Santosh Vipparthi	Delivered Expert Talks on Deep Learning	SAMSUNG, Sri-Noida,	24 May 2024, 07 June 2024, 14 June 24, 28 June 2024, 5 July 2024, 12 July 2024, 5 September 2024, 13 September 2024, 3 October 2024, 6 November 2024, 12 December 2024, 13 December 2024, 18 December 2024
33.	Dr. Ashwani Sharma	Invited talk in the "Advance Electromagnetics Towards the IoT and 6G Wireless Communication Era" at Indian Institute of Information Technology,	VNIT Nagpur	30th January 2025

34.	Dr. Ashwani Sharma	Expert session and talk on "Smart Charging Platform for Electric Vehicles - Development at IIT Ropar" in Symposium on Electric and Autonomous Vehicles	Chitkara University	6th March 2025
35.	Dr. Ashwani Sharma	Invited talk on "Self-sustainable RIS Hardware: Needs and Challenges" in RISfor6G workshop	VNIT, Nagpur	25th March 2025.
36.	Dr. Ashwani Sharma	Invited as Distinguished speaker to talk on "Wireless Power Transfer System for Powering Implanted Biomedical Devices" for the 2nd One-Week Faculty Development Program (FDP) on Recent Trends in Bioelectromagnetic Research and Applications	VIT-AP University	9th April 2025

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Mr. Avnish Goel (Group Director, Mavenir)	Workshop on ITS & IoT	25.10.2024
2	Prof. Bhavesh Kumar R. Bhalja,IIT Roorkee	Department Review	10.08.2024
3	Prof. Tapan K. Gandhi, IIT Delhi	Department Review	10.08.2024
4	Prof. Satinder Sharma, SCEE, IIT Mandi	Department Review	10.08.2024
5	Prof. P K Bansal,Ex-Vice Chancellor GZSCET Bathinda, MIMIT Malout	Talk organised by EE-RSF, IEEE Student Branch	16.04.2024
6	Dr. Rohit Singh, Assistant Professor,NIT Jalandhar	Talk organised by EE-RSF, IEEE Student Branch	05.08.2024
7	Mr. Manoj Mittal, Head of Technology, NKT India Operations, Chennai.	Industrial Visit and Talk organised by HV Lab, IEEE Student Branch	09.09.2024
8	Prof. Aryan Kaushik, University of Sussex, UK	Talk organised by EE-RSF, IEEE Student Branch	12.12.2024
9	Explore Machine Learning Workshop	Organised by EE-RSF, IEEE Student Branch	12.10.2024
10	Dr. Arijit Baral, ISM Dhanbad	Talk and Doctoral External Examiner	11.09.2024

VISITS ABROAD BY THE FACULTY

1	Dr. Satyam Agarwal	USA	Research Visit June 1-30
2	Prof. Rohit Sharma	Malaysia	Keynote address-12-16/10,2024
3	Prof. J.S.Sahambi	Netherland	
4	Dr. Brajesh Rawat	UK	
5	Dr. Raghav Sharma	Japan	
6	Dr. Raghav Sharma	Italy	
7	Dr. Santosh Vipparthi	Abu Dhabi, UAE	
8	Dr. Santosh Vipparthi	Vietnam	
9	Dr. A. V. Ravi Teja	USA	IECON 2024 Nov 3-6
10	Dr. Saifullah Payami	USA	IECON 2024 Nov 3-6

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Radhika Raina	South Korea	International Symposium on Antennas & Propagation 5/11/24 - 8/11/24
2.	Ridhima	London, UK	Event: IEEE COINS 2024, Venue: King's College London Date:July 29 2024 to July 31 2024
3.	Shiv kumar	Abu Dhabi, UAE	IEEE MECOM, Venue: Khalifa University, Abu Dhabi, UAE, Date 17-20, Novemeber 2024.
4.	Ankit Tiwari	Taiwan	TEEP internship at Cheng Chung University, Taiwan // Date : May 25 2024 to July 22 2024
5.	Priyanka Mishra	Hanoi, Vietnam	ACCV 2024
6.	Primal sharma	Auburn, Alabama,USA	CEIDP
7.	Kishor Kumar Verma	Chicago, USA	IECON2024
8.	Lalit Kumar Baghel	Anvaya Beach Resort Bali, Indonesia	IEEE APMC 2024
9.	Sagnik Bhattacharyya	Khalifa University, Abu Dhabi, UAE	IEEE MECOM 2024
10.	Harshith Kumar Azmeera	Gangwon-do, Korea	CMD 2024
11.	Sahil Sharma,Nidhi Sharma	Gdansk, Poland	MIXDES 2024
12.	PRIYANKA MISHRA	Vietnam	ACCV Conference
13.	Pratik Kalkal	Chicago, USA	IECON 2024

MAJOR RESEARCH PROJECTS

Sr. No.	Funding Agency	Name of Faculty Member	Title of Project	Amount Sanctioned (In Crores)	Project Status
1	DeitY (Media Lab Asia)			2.46	Running
2	DST	Department of Electrical Engineering	FIST Program	2.42	Running
3	Digital India Corporation (Formaly Media Lab Asia)	Dr. Rohit Y. Sharma	Award of Young Faculty Research Fellowship	0.37	Running
4	DST-Inspire Faculty Award	Dr. Satyam Agarwal	Wireless Networking for Sustainable Rural Connectivity	0.35	Completed
5.	Indo-Taiwan Joint Research Centre	Dr. Rohit Y. Sharma	Indo-Taiwan Joint Research Centre on Artificial Intelligence and Machine Learning	2.16	Running
6.	Industrial Consultancy	Dr. Suman Kumar and Dr. Narinder Singh	Development of Sensor based system for online monitoring of river water quality of Punjab	0.42	Running
7.	Industrial Consultancy	Dr. C C Reddy, Dr. R. Sekhar, Dr. Kalaiselvi, Dr. Ravi Teja and Dr. S. Payami	Motorization of Main Gates, Sluice Gates and Regulator Gates of Sirhind Canal System at Ropar Headworks	0.25	Running
8	Industrial Consultancy	Dr. C C Reddy	Investigations on HV Power Cable Technology	0.23	Running
9	SERB-CRG	Dr. Satyam Agarwal (PI) and Dr. Sam Darshi	Enabling Distributed Beamforming via Machine Learning for Energy Efficient Communications	0.46	Completed

10	SERB-CRG	Dr. K. Ramachandra Sekhar (PI) and Dr. Bibhu Prasad Padhy	Implementation of Adaptive Reactive Power Compensation Mechanism for Enhance Power Quality in Weak Grid Connected Solar Inverter under Varying Solar Irradiance	0.32	Running
11	SERB	Dr. Mahendra Sakare	Low power programmable multiple uncorrelated output PRBS generator integrated circuit	0.26	Running
12	SERB	Dr. Sam Darshi	Reliability Enhancement for Vehicle-2-Pedestrian (V2P) Communication Scenario using Peer Conscious Opportunistic Network Coded Cooperation	0.39	Running
13	MeitY	Dr. K. Ramachandra Sekhar	The AI Enabled Solar baed Multi-port High Gain Electric Vehicle AC Charging Station for Domestic and Commercial Use	0.66	Running
14	Industrial Consultancy	Dr. Indramani Dhada PI, Dr Narinder Singh and Dr. Suman Kumar (Co-PI)	Preparation of DPR and RFP for Upgradation, Operation and Maintenance of Garbage Processing Plant at Chandigarh	0.38	Running
15	SERB-CRG	Dr. Devarshi Mrinal Das	A Noise-Power-Area Optimised Instrumentation Amplifier for Sensing Applications	0.34	Running
16	SERB-TARE	Dr. Manjunath K under Dr. K. Ramachandra Sekhar	SERB National Post-Doctoral fellowship	0.10	Running

17	SERB-SP	Dr. Brajesh Rawat	Development of Electrochemical Sensor System based on Two-dimensional MoS2 for Real-time Soil Quality Monitoring using IoT	0.31	Running
18	SERB-CRG	Dr. Subrahmanyam Murala	Intelligent Transportation System: AI based Deep Learning Technology for Multi-Weather Video Restoration	0.43	Running
19	SERB-CRG	Dr. C C Reddy	Effect of Long Term Electrical Aging on Space Charge Accumulation under Step Stress and Polarity Reversals in HVDC Cable Insulation	0.44	Running
20	SERB-CRG	Dr. Ashwani Sharma	Switched multibeam antenna design and Quality-aware synthesis process for wireless coverage enhancement in drone assisted smart mobility application	0.33	Running
21	IITG-TIH	Dr. Santosh Kumar Vipparthi	Autonomous Underwater Vehicle Assistance with video quality Enhancement and Restoration	0.10	Running
22	SERB-EEQ	Dr. Santosh Kumar Vipparthi	iSelecT: Multifaceted comprehensive framework for Referred instance selection and segmentation in a visual data	0.41	Running
23	SERB-SCP	Dr. Brijesh Kumbhani (PI) and Dr.Satyam Agarwal, Dr.Sam Darshi and Prof. Jyotindra Singh Sahambi	Non-contact small form-factor neonatal apnea monitoring device	0.32	Running

24	MoES/PAMC/DOM	Dr. Santosh Kumar Vipparthi	Al based Technology for Underwater Varicoloured Video Restoration and Object Detection	0.45	Running
25	DST/IC/Austria (Travel grant)	Dr. Brijesh Kumbhani (PI) Prof. Ghanshyam Singh (Co-PI) MNIT Jaipur	Terrestrial network offloading for enhancemnet of vehicular communication through integration of microwave with optical wireless communication	0.05	Running
26	CSIR	Dr. C C Reddy	Research and Development of New Equipment for Condition Assessment of Power Cable	1.84	Running
27	SERB-RJF Ramanujan Fellowship	Dr. Satnesh Singh		1.19	Running
28	DST-INSpire Faculty	Dr. Raghav Sharma		1.10	Running
29	Department of Space-ISRO	Dr. Subrahmanyam Murala	Data Driven Approaches for Dehazing of High-Resolution Multispectral Remote Sensing Images	0.18	Running
30	Ministry of Electronics & Information Technology (MeitY)	Dr. Rohit Y. Sharma (PI) and Dr. Mahendra Sakare, Devarshi Mrinal Das (Co-PI)	ASIC and Pachage Design of Ultra Small Atomic Clock under Chips to Startup (C2S) Programme	0.95	Running
31	CPRI	Dr. C C Reddy	Research and Development of New Equipment for Condition Assessment of Power Cable	1.84	Running

32	SERB-MTR	Dr. Brajesh Rawat	Computationally Efficient Quantum Transport Model for Two-dimensional Material-based Devices: An Open Source Multiscale Modeling Tool	0.07	Running
33	Industrial Consultancy	Dr. Indramani Dhada (CI), Dr. Bibhu Prasad Padhy & Dr. Ranjan Das (Co-CI)	Partial Completion Certificate/report in respect of Aero Business Park Manakpur Kallar	0.06	Running
34	Industrial Consultancy	Dr. C C Reddy	Root Cause Investigation for Failure of Cables in CCV Line at KEC	0.07	Running
35	MoES/PAMC/DOM	Dr. Sam Darshi (PI) Dr. Brijesh Khumbani and Dr. Satyam Agrawal (Co-PI)	Design of RSMA based Cooperative Vehicular Network for Deep Ocean Critical Missions	0.54	Running
36	SERB-CRG	Dr. Saifullah Payami	Design and Development of Low Cost and High Power Density Multi-Phase Interior Permanent Magnet Motor drive with Integrated Charger for Electric Vehicle Applications	0.38	Running
37	ARDB-DRDO	Dr. Ashwani Sharma (PI) and Prof. C. C. Reddy (Co-PI)	Development of Switched Multi-beam Antennas for Drone and Drone pad for High Communication range with 3D Coverage Enhancement and Interference Avoidance	0.27	Running

			Enhancement and Interference Avoidance		
38	SERB-SRG	Dr. Abhishek Sharma	Engineering High Performance Resonant Magnetic Tunnel Junctions: "Weaving NEGF+DFT based quantum transport with magnetization dynamics"	0.32	Running
39	Industrial Consultancy	Dr. Atharva Poundrik (CI) and Dr. Anupam Agrawal, Dr. Mahendra Sakare and Dr. Satyam Agrawal (Co-CI)	Techno-Commercial Audit of CIIIT Centre at IKGPTU Kapurthala and Sultanpur Lodhi Campus	0.12	Completed
40	Industrial Consultancy	Dr. C C Reddy	Reliability of four modules of relays with output voltage and input signal capturing for 10927 cycles continuous application at room temperature	0.02	Running
41	Industrial Consultancy	Dr. Ashwani Sharma	Development of Switched Beam Antenna	0.14	Running
42	Telecom Centre of Excellence India under TTDF Scheme	Dr. Devarshi Das	Electromagnetic Interference Mitigation Techniques for Analog and Mixed-Signal CMOS Integrated Circuits in 6G Environment for Robust Front	1.21	Running
43	Telecom Centre of Excellence India under TTDF Scheme (6G)	Dr Ashwani Sharma (PI) and Dr. Santosh Kumar Vipparthi (Co-PI)	ARISE ML ML driven SixG AR optimization for Advanced Self sustainable IoT devices	2.71	running

44	Telecom Centre of Excellence India under TTDF Scheme	Dr. Sam Darshi	Secure Ubiquitous Connectivity for 6G V2X using Rate Splitting Multiple Access Enabled Joint Sensing and Communication	1.00	Running
45	Telecom Centre of Excellence India under TTDF Scheme	Dr. Brijesh Kumbhani	Quality of Service (QoS) improvement through efficient integration of FR-1 and FR-2 in 6G Open RAN	0.73	Running
46	Telecom Centre of Excellence India under TTDF Scheme	Dr. Satyam Agarwal	Electromagnetic Interference Mitigation Techniques for Analog and Mixed-Signal CMOS Integrated Circuits in 6G Environment for Robust Front	3.00	Running
47	Industrial Consultancy	Dr. C. C. Reddy	Investigation on Aging and Life of Different AC Cable Insulations	0.28	Running
48	Industrial Consultancy	Dr. K. Ramachandra Sekhar	Troble Shooting and Feasibilty Study of Godrej IPMSM based Compressor for Refrigiration System	0.04	Running
49	Industrial Consultancy	Dr. C. C. Reddy	Derating Calculation for Distribution Cable of AEML in Mumbai	0.12	Running
50	Industrial Consultancy	Dr. Ashwani Sharma	DROBE: Areal Swarm Drone Antenna with Smart Beam Teachnology	0.07	Running
51	NMICPS TiHAN Foundation	Dr. Ashwani Sharma	A Triple-purpose Drone-pad System with Integrated Wireless charging and Localization along with High-Range Communication System for Completely	0.016	

			Autonomous Drone Operations		
52	MeitY	Dr. Santosh Kumar Vipparthi (PI) Prof. C C Reddy (Co-PI) Dr. Subrahmanyam Murala (Co-PI)	Development of Quantum machine learning usecases and Application	1.12	Running
53	SERB-NPDF	Dr. Kalyan Chakravarthi Meka under the mentorship of Dr. Prof. C.C. Reddy		0.27	Running
54	Industrial Consultancy	Dr. C C Reddy	Evaluation of different bonding systems and selections for chandivali project, Mumbai	0.32	Running
55	DST-National Quantum Mission (NQM)	Dr. Devarshi Das (PI) and Dr. Neeraj Goel (Co-PI)	Design and Demonstration of a Highly Scalable Quantum Computer using Semiconducting Qubits	1.33	Running
56	CPRI	Dr. J. Kalaiselvi (PI) and Dr. Saifullah Payami)Co-PI)	Fault Investigation and Early Detection of High-Frequency Transformer inter turn faults in Dual Isolated Output (Three port) PV Integrated Dual Active Bridge Converter for DC microgrids	0.38	running
57	Industrial Consultancy	Dr. Indramani Dhada (PI) and Dr. Bibhu Prasad (Co-PI)	Vetting of Estimates for GIDA, Sector-27 and 28 Gorakhpur Industrial Development Authority (GIDA) Gorakhpur	0.33	Running

58	DST	Dr. Ranjana Sodhi	Enhancement of Power system monitoring and stability assessment using synchrophasor technology	0.17	Complete
59	DST	Dr. J.S. Sahambi	Smart phone based real time remote monitoring of cardiac patients from hospital CCU's	0.32	Complete
60	DST	Dr. Rohit Sharma	Design and optimization of an ultra low-loss interconnect link on silicon interposer	0.22	Complete
61	DST	Dr. C C Reddy	Experimental Investigations on Breakdown Phenomenon In power Cable	0.55	Complete
62	DST	Dr. Ravibabu Mulaveesala	Matched Filter Approach for Chirp Excited Infrared Imaging for Non-destructive Characterization"	0.45	Complete
63	DRDO-ARDB	Dr. Ravi Babu	Non-Destructive Testing of Carbon Fiber Reinforced Polymers (CFRP) Using Non-Stationary Thermal Technique	0.22	Complete
64	DRDO-CARS	Dr. Rohit Y Sharma	Design verification and analysis of electronic impact cum time delay sensing module	0.10	Complete
65	DRDO	Dr. C C Reddy	Design and Development of Compact Firing Circuit	0.09	Complete
66	Industrial Consultancy	Dr. Nitin Kumar Goel	System Validation, Testing and Results Analysis of DWDM Network Design Tool-	0.08	Complete

			CND 5.0		
67	Industrial Consultancy	Dr. Nitin Kumar Goel	System Engineering System Validation Testing and Results Analysis of DWDM Network Design Tool Ciena Network Designer CND-5.1	0.08	Complete
68	Industrial Consultancy	Dr. Subrahmanyam Murala	Development of Image Recognition Technology, Android Application to collect image and data and online reports/dashborad for Retail Store Tracking	0.12	Complete
69	CPRI	Dr. C C Reddy	Investigations on new nano-composite materials for electrical insulation	0.65	Complete
70	DeitY	Dr. Rohit Y Sharma	Packaging of wireless endoscopy capsule	0.60	Complete
71	Industrial Consultancy	Prof. Ramesh Garg	Expert for Mobi Antenna Technologies (Shenzhen) Co. Ltd. in C.S. (OS) 1989 of 2010 before Delhi High Court	0.05	Complete
72	Industrial Consultancy	Dr. C C Reddy	Evaluation of 11Kv Earthed HT Xlpe Cable Conductor Resistance and High Voltage Performance as per IS7098 part-II	0.00	Complete
73	India-UK Collaborative Industrial R&D Programme-GITA	Dr. Rohit Y Sharma & Dr. Ekta Singla	A PATH: Affordable Preventative And Assistive Technology For Healthcare	0.15	Complete

74	Industrial Consultancy	Dr. Rohit Y. Sharma	Bridging the Innovation Gap	0.03	Complete
75	Industrial Consultancy	Dr. C C Reddy	Transition Joint : Material, Interfacial and Design Investigations	0.05	Complete
76	Industrial Consultancy	Dr. Rohit Y. Sharma	Technical Reviews of MCM layout & SI-PI analysis and guidance for Package performance optimization	0.01	Complete
77	SERB-DST	Dr. Suman Kumar	FFR based Non-orthogonal Spectrum Sharing among Licensed Operators	0.37	Complete
78	Industrial Consultancy	Dr. C C Reddy	HT Cable Test	0.02	Complete
79	SERB	Dr. J. Kalaiselvi	Mitigation of common mode issues in SiC converter fed induction motor drive	0.33	Complete
80	DRDO-TBRL-CARS	Dr. C C Reddy	Design and Development of Flux Compression Generator (FCG) Simulator	0.10	Complete
81	India-UK Collaborative Industrial R&D Programme-GITA	Dr. Ravibabu Mulaveesala	The Development of a Portable THERMOgraphy-Based Health DeTECTion System (THERMOTECT) in Breast Cancer Screening	0.25	Complete
82	SERB	Dr. Subrahmanyam Murala	Automatic Driver Assistance Technology: Fog Removal in Videos	0.28	Complete
83	SERB	Dr. Ashwani Sharma	Design and development of miniaturized cost-effective antennas for	0.47	Complete

			Internet of Things and 5G technology		
84	SERB	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	0.48	Complete
85	SERB-DST	Dr. Ranjana Sodhi (PI) Dr. Balwinder Singh Sodhi (Co-PI)	Efficient Energy Management System for Smart Residential Networks via Intelligent Mobile Web Services	0.31	Complete
86	Industrial Consultancy	Dr. Suman Kumar	Design and development of low-cost rfid system	0.04	Complete
87	Industrial Consultancy	Dr. Subrahmanyam Murala	Piston quality detection	0.02	Complete
88	Industrial Consultancy	Dr. Ashwani Sharma	Simulated Design of a Metal Mount Rfid Tag	0.00	Complete
89	Industrial Consultancy	Dr. Devarshi Mrinal Das CI & Dr. Rohit Y. Sharma Co-CI	To improve the DC rating and switching characteristies of a 3-speed blower switch	0.00	Complete
90	Industrial Consultancy	Dr. Ravibabu Mulaveesala	Design and Development of Active Thermographic data Analysis Software & Optics Relevant to IR & CT Imaging	0.25	Complete
91	Industrial Consultancy	Dr. C C Reddy	Surface Voltage Measurement and Simulation on Covered Conductor	0.02	Complete

92	SERB-SRG	Dr. A. V. Ravi Teja	Sensorless Control of Switched Reluctance Motor Drives for Electric Vehicle Applications	0.26	Complete
93	Industrial Consultancy	Dr. C C Reddy	Investigations on Transition joint dielectrics of three different Manufactures	0.17	Complete
94	Industrial Consultancy	Dr. K. Ramachandra Sekhar	Design and development of voltage regulators of fixed and variable type	0.01	Complete
95	Industrial Consultancy	Dr. C C Reddy	Investigating the effect of Simulated 25KV AC Power line transients on BEL Product	0.01	Complete
96	Industrial Consultancy	Dr. C C Reddy (CI) Dr. Bibhu P Padhy and Dr. R. Sekhar (Co-CI)	HV Test and Assessment of Coupling Capacitor of Stator Winding at 39.1kv DC and Tan Delta Assessment	0.01	Complete
97	Industrial Consultancy	Dr. K. Ramachandra Sekhar	Proposal on Design And Development of Smart Voltage Regulators of Fixed and Variable Type	0.01	Complete
98	Industrial Consultancy	Dr. C C Reddy	Greater Mohali Area Development Authority Document Vetting (Described in Scope of Project)	0.05	Complete
99	Industrial Consultancy	Dr. Saifullah Payami (PI) and Dr. C C Reddy, Dr. A.V. Ravi Teja, Dr. J. Kalaiselvi and Dr. K. R. Sekhar (Co-CI)	Development and Integration of LED Driver for Airfield Lighting System	0.05	Complete

100	SERB-SRG	Dr. Brajesh Rawat	Design and Development of Single Chip Gas Sensor Arrays based on Two-Dimensional MoS_2, and Metal Oxide Hybrid Nanomaterials for Air Pollutants Monitoring at Near Room Temperature	0.24	Complete
101	Industrial Consultancy	Dr.Subrahmanyam Murala	Deep Image Matting	0.45	Complete
102	Industrial Consultancy	Dr. Rohit Y. Sharma (CI) Dr. Satyam Agarwal (Co-CI)	Artificial Intelligence and Data Science Upskilling	1.24	Complete
103	Industrial Consultancy	Dr. Subrahmanyam Murala	Under Screen Camera Project	0.62	Complete
104	Industrial Consultancy	Dr. Brajesh Rawat	Impact on emission reduction through replacement of coal by Renewable Energy Source, Paddy Straw, for industrial application	0.28	Complete
105	Industrial Consultancy	Dr. C C Reddy	Testing of HT Cables for High Voltage Performance	0.01	Complete
106	CENTRAL POWER RESEARCH INSTITUTE (CPRI)	Dr. Bibhu prasad	Study on Detection of False Data Injection (FDI) Attacks in Smart Grid Cyber-Physical Systems: A Machine Learning Approach	0.14	Complete
107	Industrial Consultancy	Dr. Suman Kumar	Development of Lora end-node system for parking application	0.04	Complete
108	SERB-CVD	Dr. Devarshi Mrinal Das	Design and development of an IoT	0.09	Complete

			enabled Pulse-Oximeter system for integrating with oxygen concentrators		
109	Industrial Consultancy	Dr. C C Reddy	Understanding and Assessment of Stress Control Materials	0.07	Complete
110	Industrial Consultancy	Dr. C C Reddy	Failure analysis of 220V cable joints	0.06	Complete
111	Industrial Consultancy	Dr. Subrahmanyam Murala & Abhinav Dhall	Lidar data based tree Species classification	0.13	Complete
112	Industrial Consultancy	Dr. Saifullah Payami	Development of Switched Reluctance Motor (SRM) Drives for Actuators	0.27	Complete
113	Industrial Consultancy	Dr. Subrahmanyam Murala (CI) Dr. Santosh Kumar V	Deep Learning based Solution for Electric Pole Restoration (Deblurring and Denoising)	0.25	Complete
114	Industrial Consultancy	Dr. Subrahmanyam Murala (CI), Dr. Santosh Kumar V (CI) and Dr. Abhinav Dhall (CI)	Tool Development for Improvement in quality of images captured offshore	0.17	Complete
115	Industrial Consultancy	Dr. C C Reddy	Design Specifications for Motors for Bhaddi Lift Scheme at Kandi Canal Stage II	0.07	Complete
116	Industrial Consultancy	Dr. Rohit Y. Sharma	Performance Optimization of MCM-K and MCM-V layout and Signal/Power Integrity Analysis	0.01	Complete



DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

Programs offered : PHD
No. of Students : 42

Head of the Department : Dr. Amritesh
No. of faculty members : 12
No. of staff members : 01
Technical Staff : 0
Administrative Staff : 01

No. of Publications : 10

Thrust Area

Banking and Finance, 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., Operations Management, Supply Chain Management, Business Analytics, Depression, Aggression, Social Cognition, Cognitive Biases, Emotion Regulation. Sociology of Science and technology, Innovation studies., Urban studies, Film studies, Continental Aesthetics

FACULTY MEMBERS



Dr. Amritesh
Assistant Professor
IIT Kanpur
Transformative Services, Consumer Research, Indian Knowledge System



Dr. Aparna Nanda
Assistant Professor
IIT Madras
Literary Historiography Studies, Political Fiction, Postmodern Literature, War Literature, Memory Studies



Dr. Bhavesh Garg
Assistant Professor
IIT Hyderabad
Open economy macroeconomics, Time series econometrics



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



Dr. Kamal Kumar Choudhary
Associate Professor and Head
University of Leipzig, Germany
Psycho/Neurolinguistics, Language and Cognition, Neurocognition/ Neuroscience of Language comprehension



Dr. Rano Ringo
Associate Professor
IIT Roorkee
Gender studies, Postcolonial studies, Science Fiction and Fantasy, Canadian Literature



Dr. Parwinder Singh
Assistant Professor
Punjab University, Patiala
Applied Psychology (Counseling and Social Psychology: Emotion Regulation for maladaptive behaviors)



Dr. Ravi Kumar
Assistant Professor
IIT Delhi.
Operations Management, Supply Chain Management,Management Science, Operations & Maintenance Practice, Business Analytics and Artificial Intelligence using Python, Advanced Decision Analysis, Forecasting tools & techniques



Dr. Samaresh Bardhan
Associate Professor
Jadavpur University, Kolkata
Financial Markets, Credit Related Issues, Industrial Finance, Development Economics, Applied Econometrics, Climate Economics, Pension Economics and Finance



Dr. Smruti Ranjan Behera
Associate Professor
Delhi School of Economics, University of Delhi
Applied Econometrics, Industrial Economics, Urban and Agglomeration Economics, and International Economics.



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



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

FACILITIES

Teaching and research activities in the areas of Economics, English Literature, Linguistics, Philosophy, Management, Psychology, and Sociology.

No. of Labs	: Research : 4
Name of the lab	: Cognitive Lab
Name of the Head of the Research lab	: Dr. Kamal Kumar Choudhary
Name of the lab	: Psychology Lab
Name of the Head of the Research lab	: Dr. Parwinder Singh
Name of the lab	: Teaching Lab
Name of the Head of the Research lab	: Dr. Dibya Kusum Ray
Name of the lab	: Speech Lab
Name of the Head of the Research lab	: Dr. Somdev Kar

AWARDS AND HONOURS 2023-24 (Student)

Sr. No.	Student Name	Award/ Achievement
1.	Reshma Joy	Selected as a Fellow at the Diverse Intelligences Summer Institute (DISI) 2025, to be held at the University of St Andrews, Scotland, from 6 July to 26 July 2025
2.	Tanushree Pan	Awarded 1st Runner-Up in the Poster Presentation at the Ed-Vantage Career Guidance Workshop 2025 at IIT Ropar, organized by the Y**oung Metallurgical and Materials (MetSoc) S,** held **on 24-25 January 2025.**
3.	Madhvendra	Abstract entitled "Astronomical Works of Sawai Jai Singh in the Context of Greek, Hindu, Arab, and European Astronomy" selected for stand alone paper presentation at 27th International Congress of History of Science and Technology, 29th June -5th July, Dunedin, New Zealand.

INVITED LECTURES BY FACULTY

Sr. No.	Name of the Faculty	Date	Lecture/Workshop	Department/Institute
1	Dr. Somdev Kar	16.11.2024	Endangered languages in Asia: Concern for Indian Languages in Conference on Reclaiming Adivasi roots: The Adivasi question and the role of media, movements, policy, and politics in development	Ravenshaw University, Cuttack, Odisha

2	Dr. Somdev Kar	19.09.2024	Studying Linguistics: Are we adaptive enough in a changing world?	Amity Institute of English Studies and Research, Amity University, Noida
3	Dr. Smruti Ranjan Behera	25-03-2025	Sustainable Development in India: Charting the Pathways for Viksit Bharat@2047	Central University of Jammu, Jammu, India
4	Dr. Smruti Ranjan Behera	November 24-25, 2024	10-day Research Methodology Course in Social Sciences from November 18-29, 2024	Department of Economics, Central University of Jammu, Jammu, India
5	Dr. Smruti Ranjan Behera	July 22-27, 2024	Workshop on Advanced Econometrics and its applications in Social Sciences	Mittal School of Business, Lovely Professional University, Phagwara, Jalandhar, Punjab, India
6	Dr. Smruti Ranjan Behera	May 3-4, 2024	Management Conclave & International Conference on Sustainable Future: Technology, Business Transformation, and Circular Economy	· Mittal School of Business, Lovely Professional University, Phagwara, Jalandhar, Punjab, India.
7	Dr. Smruti Ranjan Behera	5- 17 Feb. 2024	12-day capacity-building program	· Department of Economic Studies, Central University of Punjab, India.
8	Dr. Sreekumar Jayadevan	February 21, 2025	Symposium on The Spectacle of AI Technology: Reflections on Ethics and Human Agency	Department of Humanities and Social Sciences, IIT Jammu
9	Dr. Sreekumar Jayadevan	March 28	"Does Alexa Really Wake Me Up? A debate on algorithmic assistance, responsibility, and bad faith" (given online)	Global Forum for Young Philosophers, Organized by International School for Sree Sankaracharya Studies (ISSS)
10	Dr. Amritesh	September 11, 2024	Exploring Agribusiness Insights with Case Studies in India's Agricultural Sector	Center of Excellence in Teaching and Learning (CETL) Bihar Agricultural University, Sabour
11	Dr. Samaresh Bardhan	9-11, January 2025.	"Targeting Green Transition towards Broader Objectives of SDGS: Role of Green Finance" in National Seminar 'Sustainable Transitions: Advancing Green Economy Strategies in Changing Climate Scenarios'	Amity School of Earth and Environmental Sciences, Amity University Punjab

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date	Co-ordinator
1	Prof. Dibyendu Maiti (Delhi School of Economics, University of Delhi)	'Institutions, Technology and Prosperity - Nobel TDepartment/Institute Thoughts'	February 12, 2025 (Wednesday), EE Seminar Hall	Dr. Samaresh Bardhan

2	Dr. Sanjit Chakraborty, Vellore Institute of Technology, AP	“Mental States of Computational Minds: Stepping out Functionalism,”	10th March 2025, Monday, EE Seminar Hall	Dr. Sreekumar
3	Prof Jayanti Dutta Programme-Director MMTTC, Panjab University	'Sharpening Thinking Skills'	18th March, 2025, Deptt. Conference Room C-301	Dr. Parwinder
4	Dr. Suresh Prabhu, Brain Yoga Instructor, Rishikesh, Uttrakhand	‘Brain Yoga Workshop’	22nd of March 2025,Deptt. Conference Room C-301	Dr. Ravi Kumar
5	Prof. Jayan Jose Thomas (Department of Humanities and Social Sciences, IIT Delhi)	Women in the Labour Market in India and the US: Appreciating the contributions by Professor Claudia Goldin”	February 12, 2024 (Monday), Senate Hall	Dr. Samaresh Bardhan
6	Prof. Kamlesh Singh, Professor at IIT Delhi.	Integrating Traditional Healing Practices into Happiness-Enhancing Strategies: An Inclusive Approach	21st February 2024, Online	Dr. Parwinder Singh
7	Prof. (Dr.)Sandeep Kaur Associate Professor Department of Economic Studies Dean, School of Social Sciences	'Understanding Externalities of Environmental Degradation in Agriculture	May 16, 2024 , Room S001	Dr. Smruti Ranjan Behera
8	Dr. Sasikumar V, an anthropologist working with Woxsen University (Hyderabad).	Modern Slavery through Indebtedness in Contemporary Neoliberal Capitalism: Darker Side of Debt from God’s own country in India	15 April, Monday: 2:30 PM to 4:00 PM, S102 16 April, Tuesday: 11:00 am to 12:30 PM, S101	
9	Prof. Bijoy Boruah, Senior Professor, Department of Humanities and Social Sciences, IIT Jammu.	'Narrative Identity and Narrative Ethics'	May 10, 2024, Friday, S102, SAB	Dr. Sreekumar
10	Professor Thomas Waugh, Professor Emeritus at the School of Cinema, Faculty of Fine Arts, Concordia University, Montreal	The Perils of Pedagogy: Teaching, Learning, Stories of Bodies and Minds'	March 11, 2024 (Monday), S102, Civil Block, Ist Floor, SAB Building	

11	Professor Debi Prasad Mishra, currently the Director of National Institute of Technical Teachers Training and Research (NITTTR), Kolkata	Importance of Ancient Indian Technology in Modern Times	February 23, 2024 (Friday), CS Conference Room : CS-01	
12	Prof. Anup Kumar Basu, Professor of Finance, School of Economics and Finance, Queensland University of Technology, Australia.	Loosening the Grip: Delegation of Financial Decision-Making to Spouse in Old Age	November 11, 2024, Monday, M1, Lecture Hall Complex	
13	Prof. Koustuv Dalal (http://www.koustuvdalal.com/), Mid Sweden University, Sweden	1-Day Workshop on Literature Review and Scientific Publications in High-Quality Journal	December 11, 2024, M4, Lecture Hall Complex	Dr. Samaresh Bardhan
14	Prof. Anup Kumar Basu ((http://staff.qut.edu.au/staff/basua/), Professor of Finance, School of Economics and Finance, Queensland University of Technology, Australia	3-Day Workshop on Behavioural Finance and Decision Making	November 25-27, 2024. S101.	Dr. Samaresh Bardhan

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1	Dr. Somdev Kar	Taiwan	Visit to National Taiwan University (NTU), Taipei, from July 1-12, 2025, for Research collaboration, funded by Indo-Taiwan Research Center, IIT Ropar, as part of a project awarded to Dr. Somdev Kar (IIT Ropar) and Prof. Shu-Kai Hsieh (NTU, Taiwan)
2	Dr. Samaresh Bardhan	Mid Sweden University, Sweden	15 th – 21 st September 2024 in connection with the collaborative research project titled, “Insights and Realism of Stubble Burning in India: Health Economics Analyses” (Grants number: 2020-03787)

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Tanushree Pan	Montpellier, France	Attended GLOGIFT 24, Twenty Fourth Global Conference on Flexible Systems Management on July 15-16, 2024. Annual Conference of Global Institute of Flexible Systems Management Theme: Cost Effectiveness, Resilience, Flexibility and Data Driven

2	Meera Ancy Vincent	United Kingdom	Visited Brunel University London, UK, from May 20 - 22, 2024, to participate in the 2024 RCEA International Conference in Economics, Econometrics, and Finance (ICEEF2024). The visit also included attendance at the 8th RCEA Time Series Econometrics Workshop and the 14th RCEA Bayesian Workshop
3	BISMA RAINA	UK	Participated in the 2024 RCEA International Conference in Economics, Econometrics, and Finance (ICEEF 2024) held at Brunel University, London, UK from May 20-22, 2024. Moreover, the conference also included the 8th RCEA Time-Series Econometrics and the 14th RCEA Bayesian Workshop.
4	Sayar Ahmad Shah	Bangladesh	Presented paper at 8th SANEM Annual Economists' Conference (SAEC) 2025
5	Apoorva Shekher	USA	June 9 - July 18, 2024, SCT, Cornell University
6	Reshma Joy Poovathingal	United Kingdom	Sept - Nov , 2024 , Leverhulme Centre for the Future Intelligence, University of Cambridge
7	Shalu S	Singapore	Attended AMLaP-Asia 2024 (Architectures and Mechanisms for Language Processing Asia), organised by the Faculty of Arts and Social Sciences, National University of Singapore, on December 5th to 7th.

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

S.No.	Funding Agency	Name of Faculty Member	Title of Project	Total Sanctioned Amount	Project Status	Detail of Project
1	SPARC	Dr. Samaresh Bardhan	'Strategic Asset Allocation Choices for India's National Pension System',	Grant value 71,15,365 INR	(ongoing since 28.7.2023)	funded by Ministry of Education, Govt. of India, under the Scheme of Promotion of Academic and Research Collaboration (SPARC), in collaboration with Prof. Anup Basu (Foreign PI), Prof. Adam Clement (foreign Co-PI),School of Economics and Finance, Queensland University of Technology, Australia and Prof. Paramita Mukherjee (India Co-PI), Narsee Monjee Institute of Management, Hyderabad.
2	ICSSR, New Delhi	Dr. Somdev Kar	Evolutionary Traces in Indian Language and Linguistic Tradition	INR10,50,000	Ongoing since 19.03.2025	Indian Council of Social Science Research (ICSSR) Minor project awarded in March 2025. Project Director (PD) - Dr. Somdev Kar

3	ICSSR, New Delhi	Dr. Somdev Kar	Language, Culture, and Survival: A Sociolinguistic and Ethnographic Exploration of the Birhor PVTG Across Indian States	INR16,00,000	Ongoing since 26.03.2025	Indian Council of Social Science Research (ICSSR) sponsored project on Multi-Disciplinary Research Studies on Particularly Vulnerable Tribal Groups (PVTGs) of India (2024-25) , awarded in March 2025. Project Director (PD) - Dr. Shashikanta Tarai (NIT Raipur), Co-PDs: Dr. Somdev Kar (IIT Ropar), Dr. Sona Murmu (Dharanidhar University, Odisha), and Dr. Johny Ruphina Tirkey (Vinoba Bhave University, Jharkhand)
4	ICSSR New Delhi	Dr. Smruti Ranjan Behera	Evaluating the Barriers to Solar Energy Adoption, Cost Efficiency, and Energy Usage in the Indian Hotel Industry	INR 13,00,000	Since January 2025	(ICSSR Collaborative Research Project on Solar Energy & Sustainability (2024-25)Project Director: Prof. Sandeep Kulshreshtra (CU Himachal Pradesh) Dr. Smruti Ranjan Behera (IIT Ropar, Co-PD), Dr. Narendra Nath Dalei (CU Himachal Pradesh, CO-PD), Prof. Suman Sharma (CU Himachal Pradesh, CO-PD)
5	ICSSR New Delhi	Dr. Smruti Ranjan Behera	Does location spur innovation? Evidence across Indian manufacturing industries	INR 10,00,000	Report submitted on October 2024	Major research project received in 2022 from ICSSR, New Delhi, PD: Dr. Smruti Ranjan Behera
6	ICSSR New Delhi	Dr. Sreekumar Jayadevan	Impact of Human-Wildlife Conflicts (HWC) on the Tribal Communities of South India: Towards a Sustainable and Indigenous Solution	INR 2200000	Ongoing since November 2024	Special call by ICSSR on Mission Viksit Bharat 2047
7	ICSSR New Delhi	Dr. Amritesh	Minimalism in India: Exploring the Indian roots and its impact on wellbeing and sustainable lifestyle consumption behaviour		Since April' 2023	Major Research Project - 2023-25



DEPARTMENT OF MATHEMATICS

Programs offered : B.Tech., B.Sc.- B.Ed., M.Sc. and Ph.D.

No. of Students :

B.Tech. : 138

M. Sc. : 40

Ph.D. : 70

B.Sc. - B.Ed. : 07

Head of the Department : Prof. Jitendra Kumar

No. of faculty members : 20 +1 (DST Inspire Faculty)

No. of staff members : 03

Technical Staff : 02

Administrative Staff : 01

Thrust Area : Analysis and Algebra Probability and Statistics Modeling and Simulation Theoretical Computer Science

No. of Publications : 69

FACULTY MEMBERS



Dr. Arti Pandey
Assistant Professor
PhD: Indian Institute of Technology Delhi
Research Interest: Graph Theory, Algorithms, Optimization



Dr. Arun Kumar
Associate Professor
PhD: Indian Institute of Technology Bombay
Research Interest: Subordinated Stochastic Processes, Financial Mathematics, Statistics, and Financial Time-Series Modeling



Dr. Arvind Kumar Gupta
Associate Professor
PhD: Indian Institute of Technology, Roorkee
Research Interest: Mathematical modelling of traffic flow, Cellular Automata



Dr. Balesh Kumar
Assistant Professor
PhD: Harish-Chandra Research Institute, Allahabad
Research Interest: Number Theory, Analytic and Arithmetic aspects of Automorphic forms.



Dr. Bidhan Chandra Sardar
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Research Interest: Homogenization and Optimal control of PDE



Dr. Deepak Singh
Assistant Professor
PhD: Indian Institute of Technology Kharagpur
Research Interest: Probability Theory, Limit Theorems, Statistical Inference, Statistics



Dr. G Sankara Raju Kosuru
Associate Professor
PhD: Indian Institute of Technology, Madras
Research Interest: Functional analysis, Operator theory, Matrix Analysis



Dr. Gurleen Kaur
DST Inspire Faculty
PhD: Punjab University, Chandigarh
Research Interest: Group algebra, Computational algebra, Representation theory of finite groups & its applications



Dr. Hari Vansh Rai Mittal
Assistant Professor
PhD:Indian Institute of Technology Mandi
Research Interest: Computational fluid dynamics, multiphase flows, fluid structure interactions, accidental oil spills in oceans



Prof. Jitendra Kumar
Professor
PhD: Otto-von-Guericke University Magdeburg, Germany
Research Interest: Modelling and simulation of population balances in particle technology, Mathematical analysis of solutions of population balances, Inverse problems in population balances, Discrete element method simulations



Dr. Kaushik Mondal
Assistant Professor
PhD: Indian Institute of Technology Guwahati
Research Interest: Networks Algorithms, Distributed Algorithms for Swarm Robots, Graph Algorithms



Dr. Manju Khan
Associate Professor
PhD: Indian Institute of Technology Delhi
Research Interest: Algebra



Dr. Manmohan Vashisth
Assistant Professor
PhD: TIFR Centre for Applicable Mathematics Bangalore
Research Interest: Inverse Problems and Partial Differential Equations



Prof. Manoranjan Mishra
Professor
PhD: Indian Institute of Science, Bangalore
Research Interest: Fluid dynamics, Scientific computing



Dr. M. Prabhakar
Associate Professor
PhD: Indian Institute of Technology Delhi
Research Interest: Low-dimensional Topology



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



Dr. Puneet Pasricha
Assistant Professor
PhD: Indian Institute of Technology Delhi
Research Interest: Mathematical Finance, Machine Learning in Finance, Applied Probability



Dr. A. Sairam Kaliraj
Assistant Professor
PhD: Indian Institute of Technology Madras
Research Interest: Harmonic mappings in the plane, Function spaces on the unit ball in C



Dr. Santanu Sarkar
Assistant Professor
PhD: Indian Institute of Science, Bangalore
Research Interest: Operator Theory, Functional Analysis



Dr. S. C. Martha
Associate Professor
PhD: Indian Institute of Technology Guwahati
Research Interest: Mathematical modelling on water waves phenomenon, integral equations



Dr. Tapas Chatterjee
Associate Professor
PhD: The Institute of Mathematical Sciences, Chennai
Research Interest: Number Theory, Transcendence Theory, Special values of L-functions

ONGOING ACTIVITIES

- Department seminars by Experts
- Department Research Day: Cynosure (Annual)
- Conferences and workshops
- Student's seminar series
- Alumni Talks
- Student Internship
- Faculty Internship

FACILITIES

No. of Labs : 5

UG & PG : 4

Research : 1

New Labs : 4

Name of the lab	Advanced Computing Lab (Location: C-104, 1st floor, Block-C, SAB)
Name of the Head of the Research lab :	HoD Maths
Name of the lab	FIST Lab (Location: C-116, 1st floor, Block-C, SAB)
Name of the Head of the Research lab :	HoD Maths
Name of the Equipments :	Desktop computers
Name of the lab	Data Science Lab (Location: C-117, 1st floor, Block-C, SAB)
Name of the Head of the Research lab :	HoD Maths
Name of the lab	Complex Systems Lab (Location: C-120, 1st floor, Block-C, SAB)
Name of the Head of the Research lab :	HoD Maths
Name of the lab	Fluid Dynamics Research Lab (Location: B-021, ground floor, Block-B, SAB)
Name of the Head of the Research lab :	Prof. Manoranjan Mishra
Name of the Equipments : (Research Labs)	Computer Workstations Cole Parmer push/ Pull Syringe pump "Dual Independent Touch Screen Syringe Pump Cole Parmer Dual Independent Touch Screen Syringe Pump with Glass Syringe Part No - 74906-05 "Single Channel Peristalitic Pump with Tubing Master flex L/S Digital Drive, 600 RPM, "Independent Channel Control Pump with Tubing Ismatec REGLO REGLO ICC Digital Peristaltic Pump: 4- Channel, 8 Rollers "He-le Laser tube & Power supply, LGK 7665 P18 He-Ne Laser Optical Table

DEPARTMENT LIBRARY

The Department of Mathematics has a library sponsored by the FIST program of the Department of Science and Technology, Government of India, under Reference No. SR/FST/MS-I/2018/22(C). The department library has a total of 197 reference and textbooks, along with 127 books received as gratis from the National Board for Higher Mathematics. In addition, the department library also has both soft and hard copies of Ph.D. theses from 55 graduated PhD scholars. Books are issued on an issue-and-return basis to the research scholars as well as to the faculty members.

LAURELS (FACULTY)

S. No.	Name of the faculty member	Details of awards and honors
1.	Prof. Manoranjan Mishra	JBS Medal of Indian Society of Mathematical Modeling and Computer Simulation (ISMMACS) (2024)
2.	Prof. Manoranjan Mishra	Elected Fellow of Indian Society ofMathematical Modeling and Computer Simulation (ISMMACS) (2024)

LAURELS (STUDENTS)

S. No.	Name of the scholar	Details of awards and honours
1.	Mohd Ashraf Bhat	Baba Iqbal Singh Ji A ward for Best Paper Presentation, ICEPAM - 2024, Akal University Talwandi Sabo from November 20 -22, 2024
2.	Tanvir Kaur	Received the Best Paper Award for our joint work (with Dr. Kaushik Mondal and Mr. Kaustav Paul) at ICDCIT 2025, held in Bhubaneswar, Odisha from January 08 -11, 2025

INVITED LECTURES BY FACULTY

1. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Expert talk on "Integral Transforms and their Applications"
   Department : Department of Mathematics
   Institute : Rao Pahlad Singh Degree College, Mahendragarh, Haryana
   Date : March 11, 2025

2. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Seminar talk on “Inverse obstacle scattering problems for acoustic and electromagnetic waves”
   Department : Centre for Applicable Mathematics
   Institute : Tata Institute of Fundamental Research
   Date : December 18, 2024

3. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Invited talk (online) on “Inverse acoustic scattering problems”
   Department : Russia-Japan-India workshop on Mathematical analysis of fracture phenomena for elastic structures and its applications
   Date : December 11, 2024

4. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Invited talk on “Inverse acoustic scattering problems”
   Department : 4th International Conference on Nonlinear Applied Analysis and Optimization
   Institute : NIT Hamirpur, India
   Date : October 18, 2024

5. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Invited talk (online) on “Calderon type inverse problems for nonlinear PDEs”
   Department : The 10th international conference on "Quasilinear Equations, Inverse Problems and their Applications
   Institute : Educational Center, Hotel Omega Sirius, Moscow, Russia
   Date : October 17, 2024

6. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Extension Lecture (online) “Integral Transforms and their Applications”
   Department : Mathematics Department
   Institute : Govt. College Narnaul, Haryana
   Date : September 16, 2024

7. Name of the Faculty : Dr. Manmohan Vashisth
   Lecture : Series of Lectures on “Sobolev spaces and variational formulation for PDEs”
   Department : Instructional School for Teachers (IST) on Partial Differential Equations and their Applications to Image Processing
   Institute : IIT Mandi, India
   Date : June 08-12, 2024

8. Name of the Faculty : Dr. Arun Kumar
   Lecture : Essential Parameter Estimation Techniques in Data Science
   Department : ABV-IIITMGwalior
   Institute : ABV-IIITMGwalior
   Date : May 17, 2024,

9. Name of the Faculty : Prof. Jitendra Kumar
   Lecture : Modelling of Particulate Systems: Challenges and Innovations
   Department : Centre for Quantitative Economics and Data Science,
   Institute : BIT, Mesra, Ranchi,
   Date : February 13, 2025

10. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : Modelling Particulate Systems: Challenges and Innovations in Continuum Approaches
    Department : Mathematics
    Institute : IIT Bhilai
    Date : January 09, 2025

11. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : The Mathematical Foundations of AI and ML
    Department : Centre for Distance & Online Education
    Institute : Chandigarh University, Punjab
    Date : December 27, 2024

12. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : Fundamentals of Error Analysis in Scientific Computing
    Department : Department of Mathematics
    Institute : Gayatri Vidya Parishad College of Engineering, Madhurawada, Visakhapatnam
    Date : December 08, 2024

13. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : Modelling Particulate Systems: Continuum Approach
    Department : Mathematics
    Institute : AKAL University, Punjab
    Date : November 22, 2024

14. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : Continuum and Discrete Models in Particulate Systems: Current Challenges and Future Directions
    Department : Mathematics
    Institute : IISER Thiruvananthapuram
    Date : November 14, 2024

15. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : Understanding Errors and Sensitivity in Scientific Computing
    Department : Mathematics
    Institute : SVNIT SURAT
    Date : November 08, 2024

16. Name of the Faculty : Prof. Jitendra Kumar
    Lecture : Modelling and Computational Challenges in Particulate Systems
    Department : Mathematics
    Institute : IIT (ISM) Dhanbad
    Date : June 30, 2024

17. Name of the Faculty : Prof. Jitendra Kumar
Lecture : Computational and Modelling Challenges in Continuum and Discrete Models of Particulate Systems
Department : Mathematics
Institute : Institute of Process Engineering, Otto-von-Guericke-Universität Magdeburg, Germany
Date : June 12, 2024

18. Name of the Faculty : Prof. Jitendra Kumar
Lecture : Multivariate Calculus
Department : Mathematics
Institute : VIT, Tamil Nadu
Date : April 29, 2024

19. Name of the Faculty : Prof. Jitendra Kumar
Lecture : Integral Transform and Applications
Department : Mathematics
Institute : VIT, Tamil Nadu
Date : April 26, 2024

20. Name of the Faculty : Dr. Puneet Pasricha
Lecture : Invited Talk (online) on Pair Trading: Review and Outlook
Department : Five Day International Faculty Development Program (FDP) on Financial Mathematics, SPDE Theory, Mathematical Modeling and Current Numerical Trends (FINSMMCNT-2024)
Institute : Department of Mathematics, VIT-AP
Date : June 25, 2024

21. Name of the Faculty : Dr. Puneet Pasricha
Lecture : Resource Person for Short Course on Financial Mathematics
Department : Mathematics
Institute : Sikkim Manipal Institute of Technology, Sikkim.
Date : December 19-24, 2024

22. Name of the Faculty : Dr. Puneet Pasricha
Lecture : Invited Talk in the conference “Applied Machine Learning Days”
Department : EPFL
Institute : EPFL, Switzerland
Date : February 12, 2025

23. Name of the Faculty : Dr. G. S. Raju
Lecture : Majorization and matrix inequalities
Institute : NIT Andhra Pradesh
Date : January 17, 2024

24. Name of the Faculty : Prof. Manoranjan Mishra
Lecture : Interfacial instability in liquid chromatography separation columns
Department : ISTAM 2024 (Conference)
Institute : Christ University, Bangalore,
Date : December 19-21, 2024.

25. Name of the Faculty : Prof. Manoranjan Mishra
Lecture : Thermodynamically controlled viscous fingering patterns in Hele-Shaw flow
Department : Compflu 2024 (Conference)
Institute : IIT Hyderabad
Date : December 16-18, 2024

26. Name of the Faculty : Prof. Manoranjan Mishra
Lecture : Hydrodynamic Instability in Chromatography Separation Column
Department : Advances in Fluid Mechanics and Its Applications (Workshop)
Institute : NIT Uttarakhand,
Date : October 21-25, 2024

27. Name of the Faculty : Manoranjan Mishra
Lecture : Thermodynamic Control of Interfacial Instability in a Binary Liquid-Liquid System
Department : 2nd International Conference on Recent Advances in Fluid Mechanics and Nanoelectronics, (ICRAFMN-2024)
Institute : Manipal University, Jaipur,
Date : July 10-12, 2024

28. Name of the Faculty : Prof. Manoranjan Mishra
Lecture : Computational methods for Hydrodynamic Instability and its applications
Department : Numerical and Machine Learning Techniques for Fluid Dynamics
(NM-Fluids) (Workshops)
Institute : NIT Jamshedpur
Date : May 19-23, 2024

29. Name of the Faculty : Dr. Santanu Sarkar
Lecture : On the Functional Model of Entire Operators with Infinite Deficiency Indices
Department : The conference on Operator Algebra and Related Topics @IIT Bombay-2025, Department of Mathematics
Institute : IIT Bombay
Date : February 24- 28, 2025

30. Name of the Faculty : Dr. HVR Mittal
Lecture : Flow around cylinders
Department : Mathematics
Institute : VIT Bhopal University, MP, India
Date : December 19 - 20, 2024

31. Name of the Faculty : Dr. Partha Sharathi Dutta
Lecture : Rate-induced tipping in savanna-forest ecosystems
Department : PAMU
Institute : ISI Kolkata
Date : March 25, 2025

32. Name of the Faculty : Dr. Partha Sharathi Dutta
Lecture : Mitigating Ecological Tipping Points via Game-environment Feedback
Department : Decisions, Games, and Evolution-DGE 2025 (Conference)
Institute : ICTS-TIFR, Banguluru
Date : March 19, 2025

33. Name of the Faculty : Dr. Deepak Singh
Lecture : Applications of R Programming (Faculty Development Program)
Department : Mathematics
Institute : Chandigarh University
Date : December 09-13, 2024

34. Name of the Faculty : Dr. Balesh Kumar
Lecture : Introduction to Hilbert and Siegel modular forms (Workshop on "Iwasawa theory for Hilbert modular forms)
Department : Mathematics
Institute : Harish-Chandra Research Institute, Prayagraj, India
Date : May 13-17, 2024

35. Name of the Faculty : Dr. Balesh Kumar
Lecture : Traces of Poincare series and their arithmetic (IISER Bhopal Math Symposium)
Department : Mathematics
Institute : IISER Bhopal, India
Date : November 15-16, 2024

36. Name of the Faculty : Dr. Balesh Kumar
Lecture : Traces of (sesqui)-harmonic Maass forms and it's arithmetic (39th annual conference on Ramanujan Mathematical Society)
Department : Department of Science and Humanities
Institute : Christ (Deemed to be University), Kengari Campus, Bangalore
Date : December 27-29, 2024

37. Name of the Faculty : Dr. Arti Pandey
Lecture : Roman Domination in Graphs and Its Variants (Faculty Development Program on Graph Theory and Algorithms)
Department : Mathematics
Institute : IIITDM Kancheepuram
Date : March 31, 2025

38. Name of the Faculty : Dr. Arti Pandey
Lecture : Graph Optimization Problems (International Day of Women and Girls in Science)
Institute : IIT Ropar
Date : February 11, 2025

39. Name of the Faculty : Dr. Arvind Kumar Gupta
Lecture : Dynamics of Stochastic Bidirectional Transport in Complex Systems
Department : Physics
Institute : IIT Jammu
Date : February 04, 2025

40. Name of the Faculty : Dr. Arvind Kumar Gupta
Lecture : Cellular Automata Modeling of Physical Systems
Department : Mathematics
Institute : J.C. Bose University of Science & Technology, YMCA, Faridabad
Date : January 30, 2025

41. Name of the Faculty : Dr. Arvind Kumar Gupta
Lecture : Cellular Automata Modeling of Traffic flow
Department : Mathematics
Institute : Guru Nanak College, Sri Muktsar Sahib, Punjab
Date : September 27-28, 2024

42. Name of the Faculty : Dr. Arvind Kumar Gupta
Lecture : Understanding Cooperative Dynamics in a Bidirectional Stochastic Transport System
Department : Mathematics
Institute : IIT BHU
Date : July 03, 2024

43. Name of the Faculty : Dr. S. C. Martha
Lecture : Integral Equation and Allied Methods for Wave Interaction with Barrier or Bottom Undulations
Program : National Conference on the Recent Developments in Mathematical Sciences (NCRDMS-2025)
Institute : Hyderabad University
Date : February 05-07, 2025

44. Name of the Faculty : Dr. S. C. Martha
Lecture : Application of Integral Equation Method to some Linear and Nonlinear Problems of Fluid Dynamics
Program : 3rd International Conference on Recent Advances in Applied Mathematics (RAAM 2025)
Institute : University of Colombo, Sri Lanka
Date : March 04-06, 2025

45. Name of the Faculty : Dr. S. C. Martha
Lecture : Partial Differential Equations, Boundary Value Problems and Applications in Engineering
Program : The Value Added Course on Mathematical Models in Ocean Engineering
Institute : VIT Vellore
Date : March 17 -21, 2025

46. Name of the Faculty : Dr. S. C. Martha
Lecture : Perturbation and Allied Methods for Solving Some Problems of Water Wave Mechanics
Program : The International Workshop on Mathematical Techniques for Time dependent Water Wave problems
Institute : VIT Vellore
Date : March 24-25, 2025

47. Name of the Faculty : Dr. S. C. Martha
Lecture : Mathematical Techniques for Solving Some Problems of Water Wave Interaction with Barrier and Undulating Bed Topography
Program : An International Workshop on Water Wave Phenomena: Mathematical Approaches to Offshore Structure
Institute : VIT Vellore
Date : March 24-28, 2025

48. Name of the Faculty : Dr. S. C. Martha
Lecture : Mathematical Techniques for Solving Some Problems of Water Wave Mechanics
Program : International Conference on Advances in Mathematics and Applied Sciences (ICAMAS-2025)
Institute : NSCBM Government College, Hamirpur, Himachal Pradesh
Date : March 27-28, 2025

49. Name of the Faculty : Dr. Sairam Kaliraj
Lecture : Minimal Surfaces & Harmonic Mappings
Program : International Conference on Special functions, Analytic functions, Metrics and quasi-conformality.
Institute : IIT Indore
Date : December 17-20, 2024

50. Name of the Faculty : Dr. Sairam Kaliraj
Lecture : Series of Lectures on Complex Analysis (Online Mode)
Program : A five-day national workshop on “Algebra and Analysis”
Institute : NIT Tiruchirappalli
Date : December 16 - 20, 2024

51. Name of the Faculty : Dr. Sairam Kaliraj
Lecture : Series of Lectures on Univalent Harmonic Mappings and Discrete Harmonic functions on Networks
Program : A Three - Day Workshop on Harmonic Mappings, Partial Differential Equations, and Applications
Institute : IIT Bhilai
Date : January 07-09, 2025

52. Name of the Faculty : Dr. Sairam Kaliraj
Lecture : Applications of Complex Analysis in real world problems
Program : National Conference on Mathematical Sciences and Applications - 2025
Institute : Shri Pandit Prem Nath Dogra Govt. Degree College, Samba, Jammu & Kashmir
Date : January 17- 18, 2025

53. Name of the Faculty : Dr. Bidhan Chandra Sardar
Lecture : Optimal control and homogenization of semi-linear parabolic problems with highly oscillatory coefficients in a pillar-type domain
Department : Mathematics
Institute : IISc Bangalore
Date : May 24, 2024

54. Name of the Faculty : Dr. Bidhan Chandra Sardar
Lecture : Asymptotic analysis of an optimal control problem for the Stokes system in a perforated domain
Department : Mathematics
Institute : IISc Bangalore
Date : May 24, 2024

55. Name of the Faculty : Dr. Bidhan Chandra Sardar
Lecture : Introduction to Multi-scale Analysis, Asymptotic expansion method with applications
Program : Fundamentals of Differential Equations with Applications to Real World Problems (Workshop)
Institute : Jaypee University of Information Technology, Solan
Date : July 8-13, 2024

56. Name of the Faculty : Dr. Bidhan Chandra Sardar
Lecture : Homogenization and Optimal Control Problems Governed by Partial Differential Equations
Department : Mathematics
Institute : IIT Madras
Date : June 26, 2024

57. **Name of the Faculty** (Inspire) : Dr. Gurleen Kaur
Lecture : Invited talk on Structure of group rings and the group of central units of an integral group ring
Department : Mathematics
Institute : IIT Roorkee
Date : September 18, 2024

58. **Name of the Faculty** (Inspire): Dr. Gurleen Kaur
Lecture : Talk on Representation dimension of p-groups
Program : 39th Annual conference of the Ramanujan Mathematical Society
Institute : Christ University, Bangalore
Date : December 27-29, 2024

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Prof. Ayaka Shimizu, from Osaka Central Advanced Mathematical Institute (OCAMI), Japan	Region Select on origami and link	May 02, 2024
2.	Prof. Gautam Kumar Das, Department of Mathematics, IIT Guwahati	Approximation Algorithms for the Dispersion Problem	May 28, 2024
3.	Dr. Rohit Kumar Mishra, Assistant Professor in Department of Mathematics at IIT Gandhinagar	2D V-line Tensor Tomography with Some Numerical Simulation	August 08, 2024
4.	Dr. Amitabha Tripathi, from the Department of Mathematics, IIT Delhi	A Medley of Recreational Mathematics	September 13, 2024
5.	Dr. Bibhuti Das, a Postdoctoral Fellow at the Computer Science and Engineering Department, IIT Bhilai	Selected Pattern Formation Problems for Mobile Robots	September 20, 2024
6.	Dr. Anuj Jakhar, Department of Mathematics, IIT Madras	On monogenic algebraic number fields	October 15, 2024
7.	Prof. K Srinivas, Department of Mathematics, The Institute of Mathematical Sciences	Euclidean Number Fields	October 16, 2024
8.	Prof. Gurmeet Kaur Bakshi, Panjab University, Chandigarh	The Mathematical Foundation of Digital Communication	December 05, 2024
9.	Prof. Takao Komatsu, Faculty of Education, Nagasaki University, Nagasaki	q-(r,s)-Stirling numbers and applications to q-multiple zeta values at roots of unity	January 01, 2025

10.	Dr. Anurag Tripathi, Department of Chemical Engineering, IIT Kanpur	Modelling and Simulation of Bulk Solids as a Complex Fluid	March 03, 2025
11.	Prof. Debika Banerjee, IIIT Delhi	Asymptotic of the plane overpartition with explicit error terms	March 19, 2025
12.	Prof. Sneha Chaubey, IIIT Delhi	On the distribution of Farey sequences and the Riemann Hypothesis	March 28, 2025

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail/purpose of visit with date
1	Prof. Manmohan Vashisth	Japan	Research collaboration visit during July 12-23, 2024, to Hokkaido University, Sapporo, Japan
2	Prof. Jitendra Kumar	Germany	Collaborative research From June 01-30, 2024
3	Dr. Puneet Pasricha	Finland	Collaborative Research (From August 5, 2024 to September 2, 2024)
4	Dr. Puneet Pasricha	Switzerland	Collaborative Research (February 08-16, 2025)
5	Prof. Manoranjan Mishra	Korea	ICTAM 2024, August 25-30, 2024, Daegu, Korea
6	Dr. Tapas Chatterjee	Spain	Invited speaker at the 9th European Congress of Mathematics (July 15-19, 2024)
7	Dr. Tapas Chatterjee	Uzbekistan	CIMPA school by UNESCO (June 24- July 6, 2024)
8.	Dr. S. C. Martha	Srilanka	International Conference (March 04-06, 2025)

VISITS ABROAD BY THE STUDENTS

S. No.	Name of the Student	Country	Detail of visit with date
1.	Mohd Ashraf Bhat	Germany	Attended and Presented at FSDONA 2024, held on September 22-28, 2024
2.	Bharti Garg	UK	Presented at 35th International Workshop on Operator Theory and its Applications (IWOTA-2024), August 12-16, 2024

3.	Ashish Saxena	Japan	Presented at The 26th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2024) October 20-22, 2024
4.	Jasbir Parashar	Japan	Presented at 30th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications (ICFIDCAA 2024) August 19-23, 2024
5.	Priya Jain	Vietnam	Attended a CIMPA School on Applied Number Theory (June 03-14, 2024)
6.	Kaustav Paul	China	Presented our work at COCOA 2024, Beijing China (December 06-08, 2024)
7.	Vaibhav Kalia	Germany France	Research visit at University of Cologne, 31 March to 04-April 202 5 Attended and Presented (a joint work with PhD supervisor) at BB6 EU/US Summer School & Workshop on Automorphic Forms and Related Topics from September 02-13, 2024
8.	Nidhi Sharma	Taiwan	Attended TEEP internship program at NTOU, Taiwan (May 01-July 31, 2024)
9.	Akshita Aggarwal	UK	Presented at the 39th International Workshop on Water Waves and Floating Bodies (IWWWFB), held at Fairmont resort, St Andrews, Scotland, United Kingdom, from April 14-17, 2024
10.	Deepali Goyal	South Korea	Presented at International congress of Theoretical and Applied Mechanics (ICTAM) 2024, held at Daegu South korea from August 25-30, 2024

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

Ongoing Research Projects:

S. No.	Name of the faculty member	Title of the Project	Funding Agency	Sanctioned amount	Duration Period (for eg. 2024-2027)
1.	Prof. Jitendra Kumar	Coarsegrained CFD-DEM-PBM simulations of industrial granulating beds	ANRF	2,58,183	2023-2026
2.	Dr. G. S. Raju	Dynamics of shift operators on directed trees	SERB (MATRICS	6,60,000	2024-2027

3	Prof. Manoranjan Mishra	Pattern Formation: A Thermodynamic Study PI: Lopamudra Palodhi	DST(WOSA)	31,77,658	2022-2025
4	Dr. Santanu Sarkar	Analysis of some reproducing kernel spaces and J-symmetric operators	SERB, MATRICS	6,60,000	2024-2027
5.	Dr. HVR Mittal	Fluid flow and heat transfer past an oscillating ellipse shaped cylinder	SERB, MATRICS	6,60,000	2024-2027
6.	Dr. Partha Sharathi Dutta	Analysing Nonlinear Dynamics of Coupled Human-Environment Systems	SERB, DST	25,16,096	2023-2026
7.	Dr. Arti Pandey	Algorithmic Study of Secure and Roman Domination in Graphs and their Variants	CRG, SERB	20,09,288	2023-2026
8	Dr. Bidhan Chandra Sardar	Multi-scale Analysis and Computation of Optimal Control Problems	SERB	20,64,832	2023-2026

Completed Research Projects:

Name of Faculty Member	Title of Project	Funding Agency	Sanctioned Amount	Starting Year	Closing Year
Prof. Manoranjan Mishra	Computational study of miscible chemo-hydrodynamic instability in a channel and porous medium	SERB	Rs 16,16,032	2021	2024
Prof. Manoranjan Mishra	Linear and non-linear bulk rheology of cell monolayer. (PI: Dr. V. Mehendia)	SERB	Rs 31,53,620	2021	2024
Dr. Partha Sharathi Dutta	Collective Dynamics in Adaptive Ecological Networks	SERB, DST	6,60,000/-	2022	2025
Dr. Balesh Kumar	On the behaviour of Fourier coefficients of automorphic forms and diophantine approximation	SERB DST	1268872	2022	2024



DEPARTMENT OF MECHANICAL ENGINEERING

Programs offered : 1. B.Tech. in Mechanical Engineering

2. M.Tech. in Mechanical Engineering in following specialisations:
   - Computational Mechanics
   - Mechanics & Design
   - Manufacturing Engineering
   - Thermal & Fluids Engineering

3. PhD in Mechanical Engineering in following broad specialisations:
   - Mechanics & Design
   - Manufacturing Engineering

   7 Thermal & Fluids Engineering

No. of Students : B.Tech.: 290

M.Tech.:112

PhD: 66

Head of the Department : Prof. Navin Kumar

No. of faculty members : 23

No. of staff members : 13

Technical Staff : 11(2 on contract)

Administrative Staff : 1

Multi-Task Staff : 1 (on contract)

Thrust Area:

1. Intelligent Mechanical Systems
2. Additive Manufacturing
3. BioMechanical Engineering
4. Energy Efficiency and Sustainability
5. Micro/Nano Engineered Systems

No. of Publications : 63

FACULTY MEMBERS



Dr. Anupam Agrawal
Associate Professor
PhD (Indian Institute of Technology Kanpur)
Research Interests: Analysis of Metal Forming Processes, Dieless forming, Micro-Nano Machining, Additive Manufacturing.



Dr. Chandrakant Kumar Nirala
Assistant Professor
Ph.D (IIT Patna)
Research Interests: Conventional and non-conventional micro-machining, sensor based tool condition monitoring, data acquisition and virtual instrumentation, ultrasonic vibration-assisted machining, fusion and solid-state joining.



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



Dr. Chander Shekhar Sharma
Assistant Professor
Ph.D (ETH Zurich)
Research Interests: 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. Dhiraj K. Mahajan
Associate Professor
PhD (Indian Institute of Technology Kanpur)
Research Interests: Hydrogen storage and Hydrogen based zero-emission solutions, Experiment and simulation-assisted development of hydrogen-embrittlement resistant metals, Experiment and simulation-assisted development of polymers for energy and biomedical applications, Micromanufacturing of biomedical devices



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



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



Dr. Himanshu Tyagi
Associate Professor
PhD (Arizona State University, USA)
Research Interests: Thermo-fluids, Bio-heat Transfer, Nanofluids, Nanoscale heat transfer, Clean and Sustainable Energy, Solar Energy, Water Desalination & Purification, Energy Storage, Ignition Properties of Fuels Containing Nano-Particles, Thermal Management and Packaging of Microelectronic Devices.



Dr. Manish Agrawal
Assistant Professor
PhD (Indian Institute of Science Bangalore, India)
Research Interests: Finite Element Analysis, Continuum Mechanics, Topology Optimization, Contact mechanics, Multiphysics Simulations



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



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



Dr. Navin Kumar
Professor
PhD (Indian Institute of Technology Delhi)
Research Interests: 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 Navaneeth K Marath
Assistant Professor
PhD in Engineering Mechanics, JNCASR Bangalore, 2010-2017
Postdoctoral Research Associate, NORDITA Stockholm, 2017-2020
Research Areas: Microhydrodynamics, Geophysical Fluid Dynamics, Particles in Turbulent Flows.



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



Dr. Prabhat K. Agnihotri
(Head of the Department)
Ph.D. Indian Institute of Technology Kanpur
Research Interests: Processing, characterization and modelling of nanomaterials, multiscale hybrid composites, fracture mechanics, discrete dislocation plasticity, molecular dynamics simulations.



Dr. Ranjan Das
Associate Professor
Ph.D. (Indian Institute of Technology Guwahati)
Research Interests: Heat and Mass Transfer, Optimization of Thermal Systems, Renewable Energy



Dr. Rajendra Kumar Munian
Assistant Professor
Ph.D., Aerospace Engineering, Indian Institute of Science, Bangalore, India, 2018
Research Areas: Vibration Control, Guided wave based Structural Health Monitoring (SHM), Material failure due to impact load, Metamaterials.



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



Dr. Ravi Kant
Assistant Professor
PhD (Indian Institute of Technology Guwahati)
Research Interests: 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
Associate Professor
PhD(Indian Institute of Technology Roorkee)
Research Interests:Finite Element Method, Extended Finite Element Method, Meshfree Methods, Fracture & Damage Mechanics



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



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



Dr. Srikant Sekhar Padhee
Assistant Professor
PhD (Department of Aerospace Engineering, IISc, Bangalore)
Research Interests: Variational Asymptotic Method, Multifunctional and Functionally Graded Composites

FACILITIES

No. of Labs : 26
UG : 5
PG : 21
Research : 21

New Labs: Tinkering Lab, Manufacturing lab-2.

Details of the Labs:

Name of the Lab	Name of the Head of the Research/Core lab	Name of the Equipment Available
Design Lab-1	Dr. Manish Agrawal	1. Universal Testing Machine 2. Impact Testing machine for metals 3. Impact Testing machine for plastic, polymers etc 4.Thin Cylinder Apparatus 5. Loading and buckling of Struts Apparatus 6. Balancing of Reciprocating masses Apparatus 7. Cam and Follower Apparatus 8. Gyroscope Apparatus 9.Governor Apparatus 10. Polariscope Apparatus

Design lab-2	Dr. Srikant Shekar Padhee	1. Vibration fundamental trainer 2. Free/forced spring mass system 3. Whirling of shaft setup 4. DC motor control module 5. Rectilinear plant for multi degree freedom system 6. Active vibration control setup 7. Beam forced excitation setup 8. Beam transmissibility setup 9. Digital storage oscilloscopes 10. Function generator
Drawing Labs	Dr. Ekta Singla, Dr. Lipika Kabiraj,	Drawing Tables 55 nos
Manufacturing Lab I & II	Dr. Samir Chandra Roy	1. Digital Ultrasonic Flaw Detector 2. Metallographic Sample Cutting Machine (Precision Low Speed Cutting) 3. Metallographic Sample Cutting Machine (Precision High Speed Cutting) 4. MITUTOYO Portable Surface Roughness Tester Standard drive unit type Standard detectors 17.5 millimetre 360µm 5. ToolMakers Microscope with 16 MP CMOS Camera 6. Bench Grinder(Double- Wheeled) GBG BOSCH 7. Bench Top Cut off Saw 8. Labman Scientific Instruments Sonicator System 9. AION MK2 Polymer 3D Printer 10. Belt Grinder (General Purpose) 11. Metallographic Sample Grinder/Polisher double disc DC-II 12. Single Disc Auto Grinding and Polishing Machine 13. Metallurgical Sample Mounting Machine 14. Anvil 50 kg with Iron Angle Stand ST 15. Magnetic Yoke Y-7 with ASTM test bar for Non destructive testing 16. OLYMPUS Metallurgical Microscope with Camera, Image Analyzer & Metallurgical Software 17. NABERTHERM Chamber Furnace
Thermo Fluids Labs	Dr. Devranjan samanta	1. Emissivity measurement apparatus 2. Forced convection 3.Natural convection 4. Parallel/counter Heat exchanger 5. Heat pipe demonstrator 6. Stefan boltzmann apparatus 7.Critical Heat Flux Apparatus. 8.Heat transfer from a pin fin 9.Demonstration of Francis Turbine 10. Wind Tunnel with boundary layer apparatus 11.Digital Viscometer 12. Osborne Reynolds Demonstrator 13. Bernoulli's principle Experiments 14.Manual and computer-controller Reciprocating pump test rig 15.Bomb calorimeter 16.Operating principle of a PeltonTurbine

		17.Stability of floating bodies 18. Air Compressor 19.Thermal conductivity 20.Series and parallel centrifugal pimp setup 21.Vortex flow 22. Stability of floating bodies (Buoyancy)
Modelling and Simulation Lab	Dr. Anupam Agrawal & Dr. Srikant S. Pahdee	1. Ansys Software and licence server system 2. Abaqus Software and License server system 3. Solidworks Software and License server system 4. Catia V5/V6 Software and License server system
Biomechanical Engineering Lab	Prof. Navin Kumar	1. Bone cutting, drilling machine. 2. Low tempture freezer
Condition Monitoring and Acoustics Lab	Prof. Navin Kumar	
Design Studio Lab	Prof. Prabir Sarkar	
Engine and Propulsion Lab	Dr. Rakesh Kumar Maurya	1. 4 Cylinder Spark Ignition Engine Test-setup 2. Single Cylinder Automotive Diesel Engine Test setup 3. 4 Cylinder Diesel Engine Test setup 4. Engine Particle Sizer
Micromanufacturing Lab	Prof. Anupam Agrawal	1. Multipurpose Micromachining Setup (Mikrotools) 2. Advanced Additive Manufacturing Machine
Refrigeration and Air Conditioning Lab	Dr. Navaneeth K Marath	1. VCRS, 2. VARS 3. HEAT EXCHANGER
Robotics Lab	Dr. Ekta singla	KUKA ROBOT, KR6, TAL ROBOT,
Tribology and Composite Lab		
Surface Engineering Laboratory	Prof. Harpreet Singh	1. high pressure cold spray facility
Material Behavior Research Laboratory (MBRL)	Dr. S. C. Roy	1. 100 kN Servo-electric fatigue testing system 2. Ultrasonic processor 3. Muffle furnace 4. Manual polishing machine 5. Precision weighing balance 6. Ultrasonic cleaner
Material Processing Research Laboratory	Dr. Ravi Kant	1. Laser cutting machine 2. Microwave heater 3. Vacuum furnace 4. Thermal imaging camera 5. DAQ 6. Fibre laser source 7. Laser displacement sensor 8. Ultrasonic transducer 9. Magnetic stirrer 10. Micro-weighing machine
Thermal and Energy Conversion Laboratory	Dr. Ranjan Das	. Turbine model

Ropar Mechanics of Materials Lab (RMML)	Prof. Dhiraj K. Mahajan	
Mechanics of Advanced Materials Laboratory (MAdMatLab)	Prof. Prabhat K. Agnihotri	1. Chemical Vapour deposition 2. Split Hopkinson Pressure Bar 3. UTM 4. Hot press 5. Dynamic Mechanical Thermal Analyzer 6. Accelerated weathering chamber 7. Battery tester
Micro Machining and Monitoring Laboratory(MMML)	Dr. Chandrakant K Nirala	1. Micro weighing Machine (RADWAG MY21.4Y) 2. Micro Machine Nanosystem Hyper 15 3. NI Data Acquisition system (PXI based DAQ) 4. WEDM and Wire-EDGE setup (Mikrotools)
Modular and Intelligent Robotics Lab	Dr. Ekta Singla	Humanoid Robot, 3D printer, Autonomous mobile Robot,
MUSE Lab	Dr. Srikant S. Padhee	
Computational Mechanics Research Lab (CMRL)	Dr. Sachin Kumar	
BioMechanical Creativity & Innovation Lab (BMCIL)	Dr. Jitendra Prasad	1.Computing facilities, 2. Upright Trinocular EP1- Fluorescence Microscope, 3. Rotary Microtome
Research scholar seating space		
Department Research Facilities (DRFs)	Dr. Chander Shekhar Sharma	1 Low and High load UTM 2. Dynamic mechanical analyzer 3. SHPB 4.Hybrid-µEDM DT110i
Fluid Mechanics Lab	Dr. Devranjan Samanta	.1.Bernoulli's principle Experiments 2..Manual and computer-controller 3.Reciprocating pump test rig .4.Bomb calorimeter .5.Operating principle of a PeltonTurbine .6.Stability of floating bodies
Advanced Manufacturing Technology Laboratory (AMTL)	Prof Anupam Agrawal	Polymer 3 D printer
Hard and soft tissue Lab	Prof Navin Kumar	1.Low-Load UTM 2.High load UTM (15kN)
Nanoscale Thermophysics and Solar Energy (NTSE) Research Laboratory	Dr. Himanshu Tyagi	1. Humidification Dehumidification Desalination (HDH) System
Sustainable Manufacturing Innovations Lab	Dr. Anshu Dhar Jayal	

Design Research Laboratory	Prof. Prabir Sarkar	Micro VMC
Thermofluidics Research Lab	Dr. Chander Shekhar Sharma	Bernoulli principle apparatus Heat exchanger , stefan boltzmann apparatus
Minimally Invasive Therapies (MInT) Laboratory	Dr. Ramjee Repaka	
Numerical Methods and Simulation Lab	Dr. Manish Agrawal	Server Dell power edge R750 rack sever
Dynamics Lab	Dr. Satwinder Jit Singh	

INVITED LECTURES BY FACULTY

S. No	Name of the Faculty	Lecture :	Department	Institute	Date
1.	Prof. Navin Kumar	Distinguished speaker for Indo-German Symposium on Advance in Additive Manufacturing	Mechanical Engineering	IIT Tirupati	03.03.2025
2.	Dr. Sachin Kumar	Invited Talk/ Expert Lecture on International Conference on Automation for Sustainable Future	Mechanical Engineering	Gurukul kangri in Haridwa	07.03.2025
3.	Dr. Devranjan Samanta	To discuss for prospective research collaboration in the field of interfacial flows and multiphase flows	Mechanical Engineering	IIT Mandi	28/03/2025
4.	Dr. Dhiraj Kumar Mahajan	Deliver a Talk on recent R&D On Material	Mechanical Engineering	Central Uni Punjab. Bathinda	30/04/2024
5.	Dr. Dhiraj Kumar Mahajan	Invited for an expert talk	Mechanical Engineering	Chandigarh University	04/02/2025
6.	Dr. Ekta Singla	Invited as Expert talk on FDP	Mechanical Engineering	MIET Pune	27/09/2024
7.	Dr. Ekta Singla	Invitation for talk Tejpur University (Robotics Workshop)	Mechanical Engineering	Tejpur University	16/12/2024
8.	Prof. Harpreet Singh	Invitation letter to become invited speaker for AFTMME 2025	Mechanical Engineering	SRM University	13/02/2025

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1.	Prof Christopher Berndt Swinburne University of Technology	Cold Spray Technology	July 15-19, 2024
2.	Prof. Suresh Palanisamy Swinburne University of Technology	Cold Spray Technology	july-15-19, 2024
3.	Dr. Anita Gupta, Current Designation: Scientist 'G'/Advisor & Head – Climate, Energy and Sustainable Technology (CEST), Organization Name: Department of Science and Technology (DST), Government of India	Green Economy (Hydrogen)	19th and 20th September, 2024,
4	Dr. Praveen Kumar Somasundaram, Head, International Cooperation Division & National Supercomputing Mission & ANRF Cell OSD to Secretary Department of Science &Technology	Green Economy (Hydrogen)	19th and 20th September, 2024,

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. Chander Shekhar Sharma	Salt Lake City, UT, USA	77th Annual Division of Fluid Dynamics Meeting 2024, 24-26 November 2024

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Rahul Kumar	Germany	16-20 September 2024
2.	Sudhendu Nath Tiwari	Italy	10-12 September 2024

3.	Neha Vishnoi	USA	24-26 November 2024
4	Pulak Gupta	USA	24-26 November
5	Rajat Dhiman	Singapore	14-17 October 2024
6	Shailendra rathi	Korea	25-30 August 2024
7	Shreyus Mahesh Patel	USA	23-26 June 2024
8	Anshul Pandey	Korea	25-30 August 2024
9	Shashi Kant verma	korea	25-30 August 2024
10	vinay kumar	korea	25-30 August 2024
11	Neha Vishnoi	UK	24-28 June 2024
12	Manglesh Singh	South Korea	25-230 August

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

Sr. No.	Funding Agency	Name of the PI	Title of Project	Amount (In Crore Rs.)
1	SERB-CRG	Dr. Navaneeth K.M	Investigations on the effect of geochemical and microbial reaction on underground Hydrogen storage in porous media	0.30
2	SBRB-CRG	Dr. Himanshu Tyagi and Dr. Devranjan Samanta	Solar Energy -Driven Photothermal Membrane Distillation System	0.32
3	DRDO-ARBD	Dr. Prabhat K Agnihotri IIT PI Dr. Rajendra Munian	Interface Engineering to Improve the quasi-static and Dynamic transverse mechanical properties of carbon fibre	0.89



DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Programs offered	: M.Tech & PhD
No. of Students	: M.Tech. : 05
	PhD : 36
Head of the Department	: Dr. Pratik Kumar Ray
No. of faculty members	: 12
No. of staff members	: Technical Staff : 01
	Administrative Staff : 02
Thrust Area	: Advanced Steels
	Biomaterials
	Energy Materials
	High Temperature Materials
	Nanomaterials
No. of Publications	: 12

FACULTY MEMBERS



Abhishek Tiwari
Assistant Professor
Homi Bhabha National Institute
Mechanics of materials, damage and fracture mechanics



Dr Atharva Poundarik
Assistant Professor
Rensselaer Polytechnic Institute, USA
Designing and developing biomaterial systems, processing technologies and implantable medical devices with clinical applications orthopedics, sports medicine and diabetic wound healing.



Dr Khushboo Rakha
AssistantProfessor
Deakin University, Australia
Advanced High Strength Steels (Nano-structured Bainitic Steels, Ultra Low Alloyed Steels, TWIP Steels and Dual Phase Steels), Advanced Characterisation Techniques (Transmission Electron Microscopy, Electron Back Scattered Diffraction, Neutron Diffraction and 3D Atom Probe Tomography)



Dr. Rajiv Kumar
Assistant Professor
Indian Institute of Technology Bombay, India and Monash University, Australia
Corrosion, Hightemperature oxidation, Coating, Tribology, Erosion



Dr Pratik Kumar Ray
Assistant Professor
Iowa State University, USA
Materials Informatics, Interfaces in materials, physical metallurgy and phase transformations with focus on: Disordered Solids (high-entropy alloys, metallic glasses), High-Temperature Materials (Ni-based alloys, ultra-high temperature ceramics, oxidation), Nanomaterials (Magnetic nanocomposites, emergent phenomena), Materials Processing (Selfassembly, Solidification, Powder Metallurgy).



Dr. Neha Sardana
Assistant Professor
International Max Planck Research Schools for Science and Technology of Nanostructures, Martin Luther University of HalleWittenberg (MLU), Halle, Germany
Plasmonics, Metamaterials, sensing, high temperature materials and DFT



Dr. Ravi Mohan Prasad
Assistant Professor
Indian Institute Technische Universit ät Darmstadt, Germany
Polymer-derived Porous Ceramics, Metal Matrix composite, Corrosion and High Temperature Oxidation Resistance, Membranes for Hydrogen Purification, Chemiresistor Gas sensors, Hydrogen Storage Materials



Dr. Prince Kumar Singh
Assistant Professor
Indian Institute of Technology
Kanpur, INDIA
Physical and Mathematical Modelling of steel making processes, recycling of solid as well as gaseous wastes from steel plant



Dr. AvalaLava kumar
Assistant Professor
Kyoto University, Japan
In-situ deformation studies, Transmission Electron Microscopy (TEM), Digital Image Correlation (DIC), Synchrotron X-ray diffraction, Transformation/ Twinning induced plasticity materials, Martensite, Steels, Titanium and Aluminium alloys, High/Medium entropy alloys, Heterogeneous structured materials.



Dr. Hariprasad Gopalan
Assistant Professor
IISc Bangalore, India
High Temperature Deformation, Grain Growth, Ceramic and Composite Processing, Nanoindentation, Plasticity and Fracture Mechanisms of Materials in Extreme Environment.



Dr. Nitish Bibhanshu
Assistant Professor
Indian Institute of Science,
Bangalore, India
Electron Microscopy, Structural Materials, Additive Manufacturing, Mechanical Behaviour of Materials, Thermomechanic al Processing of Metallic Materials, Crystallographic Texture and Grain Boundary Engineering, InSitu Deformation and Crystal Plasticity, Recycling of Metallic Materials.

FACILITIES

No. of Labs	: 12 (6 stand-alone and 6 in shared space) Research Labs
Name of the lab	: NanoScale Engineering and Devices (NSED) lab
Name of the Head of the Research lab	: Neha Sardana
Name of the Equipments	: Spectrophotometers, Lamps, Lasers, Optical table

LAURELS (FACULTY)

Dr. Neha Sardana received, Outstanding Researcher, Metallurgical and Materials Engineering category, 10th VENUS INTERNATIONAL RESEARCH AWARDS – VIRA 2024, Chennai, 12-12-2024

INVITED LECTURES BY FACULTY

1. Name of the Faculty : Dr. Neha Sardana
   Lecture : Metamaterials for optical applications
   Department & Institute : National Symposium on Advanced Materials for Device Applications (AMDA-2025), PU
   Date :18th March 2025

2. Name of the Faculty : Dr. Neha Sardana
   Lecture : Ignite Your Research Potential: A Deep Dive into Professional Development and Leadership
   Department & Institute : Faculty Induction Program (Guru Dakshata), Malaviya Mission Teacher Training Centre (MMTTC) at Indira Gandhi National Tribal University (IGNTU), Amarkantak, MP
   Date : 18th Dec. 2024

3. Name of the Faculty : Dr. Neha Sardana
   Lecture : The Digital Revolution: How Communication, AI, and Robotics are Shaping the Future
   Department & Institute : Engineers Day, Punjab Engineering College
   Date : September 16 2024

4. Name of the Faculty : Dr. Neha Sardana
   Lecture : Nanoantennas an its applications,
   Department & Institute : ECE, CGC Jhanjeri,
   Date : 20th August, 2024

5. Name of the Faculty : Dr. Neha Sardana
   Lecture : Metamaterials for optical applications
   Department & Institute : 23rd International conference on Advanced Nanomaterials, University of Aveiro, Portugal
   Date : 25th July, 2024

6. Name of the Faculty : Dr. Neha Sardana
   Lecture : Inventors and Engineers : Success stories
   Department & Institute : International Day for women and girls in science, IIT Indore,
   Date : 12th Feb. 2024.

7. Name of the Faculty : Dr. Neha Sardana
   Lecture : Inspirations from Nature
   Department : Seminar on National Science Day, ASBASJSM College Bela
   Date : Feb 28, 2024

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1.	Dr. Neha Sardana	Portugal	July 2024 Attending the 23rd International conference on Advanced Nanomaterials, University of Aveiro
2.	Dr. Neha Sardana	Taiwan	June 2024 Visit to CCU and MUST, Taiwan for AI and Semiconductor collaboration missions

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1.	Ayush Pratap	Taiwan	Jan 2024 to ongoing, for research, as joint PhD student with CCU Taiwan

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

Sr. No.	Name of faculty	Title of the project	Cost	Funding agency	Ongoing / completed
1.	All MME Faculty lead by HoD Dr. Pratik Ray	Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (FIST)	160 lakhs	DST-FIST	ongoing
2	Dr. Neha Sardana (PI)	Portable Bacterial sensing device	51 lakh	DST SYST	Ongoing



DEPARTMENT OF PHYSICS

Programs offered : Engineering in Physics, B.Sc-B.Ed., MSc. & Ph.D.

No. of Students : Engineering Physics: 64
B.Sc-B.Ed: 06
MSc: 48
PhD: 79

Head of the Department : Dr. Kailash Chandra Jena

No. of faculty members : 22

No. of staff members : 5
Technical Staff: 4
Administrative Staff: 1

Thrust Area : Condensed Matter Physics, Gravity and String (Theory) Light-Matter Interaction and Quantum Information, Nuclear Physics

No. of Publications : 56

FACULTY MEMBERS



Prof. Rajeev Ahuja
Professor & Director
IIT Ropar
Ph.D (Indian Institute of Technology Roorkee)
Computational materials science, Energy storage, Sensors & High pressure physics



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



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



Dr. Danveer Singh
Assistant Professor
Ph.D(Indian Institute of Science Education and Research Pune)
Light-matter interaction, Meta-optics, Nanophotonics, Optical Instrumentation



Dr. Deepika Choudhury
Assistant Professor
Ph.D (Indian Institute of Technology Roorkee)
Experimental Nuclear Physics: nuclear structure and isomerism, fission dynamics, alpha-induced reactions on light nuclei



Dr. Girish Kulkarni
Assistant Professor
Ph.D. (Indian Institute of Technology, Kanpur)
Experimental and theoretical quantum optics, orbital angular momentum states of light, quantum entanglement, optical coherence theory, foundations of quantum theory



Dr. Lakhan Bainsla
Assistant Professor
Ph.D (Indian Institute of Technology Bombay)
Quantum materials and devices, Heusler alloys, Magnetic tunnel junctions, Spin Hall nano-oscillators, Spin-orbit torque in quantum materials



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



Dr. Kailash Chandra Jena
Associate 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 Kumar
Associate Professor
Ph.D (Indian Institute of Technology Delhi)
Functional and Renewable energy materials, Thin Film photovoltaics, sensors and photodetectors



Dr. Rajesh Kumar Gupta
Assistant Professor
Ph.D(Harish Chandra Research Institute, Allahabad)
Quantum field theory, Black holes and Modular forms



Dr. Rajesh V. Nair
Associate Professor
Ph.D (Indian Institute of Technology Bombay)
Quantum Photonics and Plasmonics, nanophootnics, bio-inspired photonics



Dr. Ritu Gupta
Assistant Professor
Ph.D. (Indian Institute of Technology, Kanpur)
Crystal Growth and Design of Quantum Materials, Superconductivity, Magnetism, Topological Materials, Van der Waals Systems.



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



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



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



Dr. Srinivasa Rao Konda
Assistant Professor
Ph. D (University of Hyderabad)
Optics and Photonics: Ultrafast Lasers, Terahertz generation and detection, time domain spectroscopy, Higher order harmonics generation, transient absorption spectroscopy



Dr. Subhendu Sarkar
Associate Professor
Ph.D (Saha Institute of Nuclear Physics, Kolkata)
Low energy ion beam physics Fabrication of nanostructures on surfaces using ion beams Pattern formation and interactions in evaporating colloidal droplets Light-matter interaction in nanostructured metallic films



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



Dr. Vijay K. Singh
Associate Professor
Ph.D. (Banaras Hindu University, Varanasi)
Condensed Matter Physics: Quantum materials; Nanotechnology; Nanoelectronics, Optoelectronics; Biosensing; Green energy generation/storage.



Dr. Vivekanand Shukla
Assistant Professor
Ph.D (Uppsala University Sweden)
Computational Materials Physics, Density functional theory development, materials modelling, Energy materials



Dr. Vishwa Pal
Assistant Professor
Ph.D (Jawaharlal Nehru University, New Delhi)
High-power lasers, Structured light, Quantum-inspired computing with lasers, Topological Photonics



Dr. Rajesh Kumar
Assistant Professor, Associate Faculty of Physics Department
Ph.D (NTNU: Norwegian University of Science and Technology, Norway)
Biomedical-Photonics, BioImaging, Spectroscopy, Physics in Medicine, AI in Healthcare Agriculture

FACILITIES

No. of Labs :

UG	: 03
PG	: 04
Research	: 15

LAURELS (FACULTY)

1. First prize by Ministry of Defence, Gov. of India in Dare 2 Dream 4.0 to develop Target Seeking and Proximity Sensing Technologies for missile tracking

INVITED LECTURES BY FACULTY

Dr. Kailash C. Jena

- Invited Lecture, SPARC-sponsored Indo-Canadian National Workshop on "Atoms to Molecules at Interfaces: Mastering the Surface Characterization Techniques" jointly organized by the Department of Physics IIT Ropar and McMaster University, Canada.
- Chaired a session at the International Conference on Emerging Trends in Optical Technologies, SRM University, Amaravati, AP. 4th January, 2025.
- Invited Talk, “Interfacial Molecular Structure at Air/Aqueous Interface: An Insight into Specific Ion Effects Using Nonlinear Vibrational Spectroscopy”, International conference

on Emerging Trends in Optical Technologies, SRM University, Amaravati, AP. 3rd January, 2025.

- Invited Talk, “Interfacial Molecular Structure at Air/Aqueous Interface: An Insight into Specific Ion Effects Using Nonlinear Vibrational Spectroscopy”, Saha Institute of Nuclear Physics (SINP), West Bengal, 8th November 2024.
- Invited Talk, “Impact of Specific Ion Effect on Interfacial Molecular Structure at Air/Aqueous Interface”, Indian Association for the Cultivation of Science (IACS), Kolkata, West Bengal, 7th November 2024.
- Invited Talk, “Structure of Molecules at Air/Aqueous Interface: An Insight into the Impact of Hofmeister Ions Using Nonlinear Vibrational Spectroscopy”, McMaster University, Hamilton, Canada, 11th July 2024.
- Invited Seminar, “Structure of Molecules at Air/Aqueous Interface: An Insight into the Hofmeister Effect Using Nonlinear Laser Vibrational Spectroscopy”, NISER, Bhubaneswar, 13th May, 2024.

Dr. Girish Kulkarni

- Invited talk - “Characterizing the spatiotemporal correlations of multiphoton entangled states of light” Annual International "Student Conference on Optics and Photonics (SCOP-2024)," Physical Research Laboratory, Ahmedabad, Gujrat, India, 25-27 September 2024.
- Invited talk - “Efficient tools for characterizing entangled states of light” Physics Week, Students Club, IISER Mohali, Feb 2025.

Dr. Deepika Choudhury

- Invited Talk: “Investigation of interesting spectroscopic features around Z=82 shell closure”, Conference on Frontiers in Gamma Ray Spectroscopy (FIG2025), Tata Institute of Fundamental research (TIFR), Mumbai, 09-12 March 2025.

Dr. Rajesh Kumar

- Invited talk - Lead Speaker in “Photonics in Plant Pathology”. IPS North Zone Meet and National Symposium of Himalayan Phytopathological Society on New Vistas in Plant Pathology Research, November 7-8, 2024, CSKHPKV, Palampur, Himachal Pradesh.
- Invited talk - Lead Speaker in “Photonics and Device Workshop”. Department of Physics, Indian Institutes of Science Education and Research (IISER) Mohali, 09/07/2024, India.
-

Dr. Rajesh V Nair

- 7th Workshop on Optics & Photonics: Theory & Computational Techniques (OPTCT) & Workshop on Sensors & Nanophotonics (SeNCity), 23-25, February 2024, IIT Roorkee
- 9th Annual International Student Conference on Optics and Photonics (SCOP-2024), September 2024, Physical Research Laboratory (PRL), Ahmedabad, India

- Frontiers in Physics Conference 2024 (FIP-2024), September 2024, School of Physics, University of Hyderabad.
- XLVII OSI Symposium on Advances in Optics and Photonics Instrumentation (OPTOIn-2024), October 2024, CSIR-CSIO, Chandigarh.
- 16th International Conference on Fiber Optics and Photonics (PHOTONICS-2024), December 2024, IIT Kharagpur India.
- International Topical Meeting on Classical and Quantum Optics, IIST, ISRO Trivandrum, December 2024, India.
- Frontiers Symposium in Physics (FS-PHY 2025), January 2025, IISER Thiruvananthapuram.
- National Conference cum Workshop on Computational and Experimental Techniques for Advanced Functional Materials (NCCET-AFM 2025), February 27-28, 2025, Department of Physics, Panjab University, Chandigarh.

Dr. Shankhadeep Chakrabortty

- "Holography, Strings, and Other Fun Things" workshop at BITS-Pilani (K K Birla Goa campus) from February 12-19, 2025.
- String Theory, A Road to Quantum Gravity, Astronomy Club of IISER Mohali, 26th August 2024

Dr. Vivekanand Shukla

- Expert lecture: Materials Modeling and Simulation
- Refresher Course in Nanoscience and Nanotechnology (TAC No. ICT-25) conducted from 23-07-2024 to 05-08-2024 at NITTTR Chandigarh

Dr. Vijay K. Singh

- Invited Lecture: Atomic Force Microscopy: Unveiling the Nanoscale Frontier
- SPARC-sponsored Indo-Canadian National Workshop on "Atoms to Molecules at Interfaces: Mastering the Surface Characterization Techniques" jointly organized by the Department of Physics IIT Ropar and McMaster University, Canada.

VISITS ABROAD BY THE FACULTY

Sr. No.	Name of the faculty member	Country	Detail of visit with date
1	Dr. Deepika Choudhury	Romania	May-September 2024
2	Dr. Deepika Choudhury	Japan	November 2024

LECTURES BY VISITING EXPERTS

Sr. No.	Name of the experts with affiliation	Topic	Date
1	Giacomo de Angelis, INFN-LNL	Exciting Nuclei: hidden symmetries, stellar archeology, climate change and other paraphernalia (The AGATA experimental campaign)	2nd March 2025
2	**Prof. Fabien Bretenaker**, Université Paris-Saclay, ENS, CNRS, CentraleSupélec, LuMIn, France	Modulation transfer protocol for Rydberg RF receivers	17 December 2024
3	**Dr. Nadia Belabas**, Centre de Nanosciences et de Nanotechnologies (C2N) of the Centre National de la Recherche Scientifique (CNRS), France	Some optical quantum tasks harnessing semiconductor sources, frequency encoding or photonic circuits	19 December 2024

VISITS ABROAD BY THE STUDENTS

Sr. No.	Name of the Student	Country	Detail of visit with date
1	Rajat Roy	Romania	27 Aug. - 8 Oct. 2024
2.	Arpit Maurya	Italy	Spring School on Superstring Theory and Related Topics, 31/03/25-4/4/25
		South Korea	APCTP winter school on fundamental physics 2025, 10/02/25-14/02/25
		Abu Dhabi	Strings 2025, 6/01/25-10/01/25
3.	Meenu	Japan	Non-perturbative methods in QFT, 10th-15th March, 2025

MAJOR RESEARCH PROJECTS (Ongoing/Completed)

S.No	Detail of the project	Funding agency	Years	Status
01	Integrated Clean Energy Material Acceleration Platform	DST	2022-2026	Running

02	Meity-NSF: Energy-efficient quantum materials-based magnetic tunnel junctions for unconventional computing applications (Dr. Lakhan Bainsla, Dr. Vivekanand Shukla, Dr. Rakesh Kumar and one co-PI from IITD)	MeitY	2024-2027	Ongoing
03	Design and development of quantum entanglement-enhanced imaging systems (Dr. Vishwa Pal and Dr. Girish Kulkarni + 6 external consortium members)	National Quantum Mission, DST	2024-2030	Ongoing
04	Evolution of nuclear shell structure in the region around Z=82	SERB, DST	2023-2026	Ongoing
05	Studies on the spectral and temporal modification of spontaneous emission of solid state defects using resonant photonic structures	DST-SERB	2020-2025	Ongoing
06	Development of diamond nanowires to generate bright room temperature array of single photon sources.	DST-iHUB IISER Pune	2024-2026	Ongoing
07	Singular Limits of String Theory	ANRF	2023-2026	Ongoing
08	Quantum field theory in the presence of boundary	MATRICS	2022-2025	Ongoing
09	Some aspects of non-relativistic conformal field theory	ANRF, CRG	2024-2027	Ongoing
10	MAGICAL 2D" – novel MAGnetic and topologICAL 2D materials (Dr. Ritu Gupta)	DST, INSPIRE	2023-2028	Ongoing
11	Growth and characterization of novel van der Waals magnetic materials	ANRF, PMECRG	2025-2028	Ongoing



CENTRE OF EXCELLENCE FOR STUDIES AND APPLIED RESEARCH IN DEFENCE AND SECURITY (COE-SARDS)

IIT Ropar's strategic location makes it ideal for defence and security engagements. The Centre of Excellence for Studies and Applied Research in Defence and Security (CoE-SARDS) at IIT Ropar has been established through close cooperation with the Indian Army, to cater to operational requirements of the Armed Forces. It is uniquely set-up to foster seamless integration of Academia with the Armed Forces, startups and the defence industry and serves as a hub for cutting-edge research, technology development and advanced training. Actively engaged with all three services (Army, Navy and Air Force) and other security establishments, CoE-SARDS has coordinated and executed vital defence projects and training programs, earning its place as a trusted partner in India's defence ecosystem.

Education & Training: Custom-tailored courses for the Forces, IIT Ropar is amongst a handful of IITs working with Directorate General Resettlement (DGR) to train officers and JCOs/ ORs. The Institute offers M.Tech programs in AI/ML, Structural Engineering and Communications/Signal processing to officers on study leave. Management Development Programs (MDPs) with the Army Training Command are also being executed.



Technology Development: Research based solutions for operational requirements. Select domains include Drones, Infrastructure and Building Materials, Wireless Communication, 3D printing, Advanced Materials for Ammunition and Armour, Avalanche/Landslide Protection, Technical Textiles, AI/ML, Directed Energy & Humanities (Cognitive Sciences, Linguistics, Supply Chain Logistics, Entrepreneurship, Psychology)



Drone Initiatives: Autonomous swarm drone based Area Surveillance. Multi-drone based moving target tracking. Smart precision landing pad for VTOL drones. Augmented Reality based immersive crowd surveillance with gesture controlled drone camera control. Drone Swarm based beam forming communication over a long range. Monocular depth estimation and target acquisition using a drone camera.



Startup & Manufacturing: Incubation of start-ups and industry partners. A very healthy ecosystem is in place to nurture defence start-ups at the Technology Business Incubator Foundation (TBIF), IIT Ropar. Several start-ups are incubated and working with IIT Ropar faculty on projects. Strong association with MSMEs and industry in the Northern Region and beyond through CII, FICCI and other industries associations.



Courses: The following Director General of Resettlement courses have been conducted by CoE-SARDS, IIT Ropar for the Training year 2023-24 & 2024-25:-

Ser No	Course Ser No	Course Name	Start Date	End Date	Vac	Total Wks
Training Yr 2023-24						
(a)	134-07-2023	Cyber Security (Certificate)	24/07/23		30	12
(b)	204-09-2023	Cyber Security (Certificate)	25/10/23	15/12/23	30	12
Training Yr 2024-25						
(c)	152-09-2024	Cyber Security (Certificate)	09/09/24	29/11/24	30	12
(d)	216-11-2024	Certificate Course on Drone Technology	25/11/24	28/02/24	35	14

(e)	266-02-2025	Material Science & Mission Reliability (Certificate)	10/02/25	02/05/25	30	12
(f)	300-03-2025	Certificate Course on Drone Technology	24/03/25	27/06/25	41	14
(g)	41-04-25	Industrial Management & Entrepreneurship	07/04/25	27/06/25	40	12
Training Yr 2025-26						
(h)	131-06-2025	Certificate Course on Cyber Security	09/06/25	29/09/25	40	12
(j)	223-08-2025	Certificate Course on Drone Technology	11/08/25	31/10/25	40	12
(k)	313-10-2025	Material Science & Mission Reliability (Certification)	13/10/25	02/01/26	40	12
(l)	359-11-2025	Industrial Management & Entrepreneurship	10/11/25	30/01/26	40	12
(m)	448-01-2026	Certificate Course on Cyber Security	12/01/26	03/04/26	40	12
(n)	536-03-2026	Certificate Course on Drone Technology	09/03/26	29/05/26	40	12
ARTRAC Training Yr 2025-26						
(o)	ARTRAC-01&02	Management Development Programme-Drone Technology and Fly Training		Officers & JCOs/OR	25	03

Dignitaries of IIT Ropar Visits in Various Institutes and Departments: The Dignitaries of IIT Ropar visited in various Govt and Private Departments.





TBIF and CoE-SARDS, IIT Ropar at EAST TECH Symposium 2024 – "Advancing Atmanirbharta in Defense. Witnessed footfall of different formations as well as units from across the NE region along with one to one engagements with GOC-in-C, Eastern Command and Formation Commanders wherein Start Ups briefed about these products and offerings as well as got to understand the ground requirements of the forces as well as their problem statements from

not only across the Eastern Sector. Overall East Tech 2024 provided an apt platform for product cascading and understanding the dynamics at play in the Defence Industry along with creating a platform for experiencing the latest Innovations coming out of different locations.





HIMTECH 2024: Pioneering Defense Innovation in High Altitude Areas: CoE-SARDS was honored to participate in HIMTECH 2024, jointly organized by the Indian Army and FICCI in Leh, Ladakh, from September 21st to 22nd. The event, aligned with the Indian Army's vision for 2024 as the 'Year of Technology Absorption,' highlighted our dedication to fostering innovation and supporting defense-focused startups.

CoL Prabir Sengupta, VSM represented the CoE: Our stall attracted significant attention from distinguished military officials, including Lt Gen. Ravi Kapoor, Maj Gen. RN Naqvi (HQ Central Command), and Brig R Singh (HQ 14 Corps), further validating the impact and potential of our startups in addressing the needs of the defense sector. Additionally, the event generated numerous inquiries from industry leaders and startups exploring opportunities for collaboration, incubation, and joint ventures with IIT Ropar. HIMTECH 2024 served as more than just an exhibition; it was a platform that demonstrated IIT Ropar's strategic role in nurturing high-potential startups in the defense vertical. We look forward to collaborating with the Indian Army and other defense stakeholders to bring impactful and mission-critical solutions to the forefront.





IIT Ropar-TBIF Showcases Cutting-Edge Defence Innovations at MECH TECH 2025: IIT Ropar CoE-SARDS actively participated in MECH TECH 2025, the premier Mechanized Equipment Technology Seminar & Exhibition, hosted by Western Command in collaboration with the Society of Indian Defence Manufacturers (SIDM) and Confederation of Indian Industry (CII) at Chandi Mandir on 3 & 4, March 2025.This high-impact event brought together over 300 industry leaders, Startups, armed forces personnel, and academic experts, fostering meaningful discussions on the future of mechanized warfare and emerging defence technologies. As a key enabler of indigenous defence innovation, showcased groundbreaking technologies developed by its incubated startups.

IIT Ropar stall garnered attention from Lt Gen. Manoj Kumar Katiyar, PVSM, AVSM, GOC-in-C, WC, Lt Gen. Devendra Sharma, GOC-in-C, ARTRAC, Lt Gen. Rajesh Pushkar, AVSM, VSM, GOC-in-C, 2 Corps, Lt Gen. Rajan Sharawat, AVSM, VSM, GOC 9 Corps, Lt Gen. Ajay Chandpuria, AVSM, VSM, GOC 11 Corps, Maj Gen. BS Bisht, GOC, 1 Armed Div, Maj Gen. Birender Singh Bisht, GOC, 1 Armed Div, Brig MS Soni, Comdt 505 ABW, Brig Sachin Kalia and Comdt 512 ABW. These esteemed dignitaries commended IIT Ropar contributions in strengthening India's defence innovation ecosystem and expressed keen interest in future collaborations.



VISIT to School of Artillery: A delegation of IIT Ropar visited the School of Artillery, Deolali. The visit was to collaborate on the various issues of technology for the Indian Army especially Artillery so as to enhance their operational edge and preparedness. The delegation led by Professor Rajeev Ahuja Director IIT Ropar met Lt Gen N S Sarna, AVSM, SM, VSM the Commandant School of Artillery, staff and instructors. Visit to various labs and training areas were carried out by the delegation to understand the problem areas and nuances of various technologies in use. The culmination of the visit was witnessing the Ex “TOPCHI” 2025 at the Deolali ranges. We are looking forward to exciting times with the Centre of Expertise being established at the School of Artillery with the technological assistance of IIT, Ropar. It was a wonderful start for 2025. This step will help our Startups, innovators, MSMEs and collaborators in innovating and manufacturing for the Indian defence forces.



Interaction with Aviation Research & Development Board: Representatives of The Aviation Research and Development Board interacted with IIT Ropar, and reviewed the projects of various departments of IIT, ROPAR. Dr Sanjay Kumar Pandey, secretary Aviation Research and Development Board; Dr Reena Sharma, Chairperson Systems/ Systems Engineering Panel; Dr Rajender Singh IIT Delhi and Dr Rajiv Ahuja Director IIT Ropar.



MOU with Walchandnagar Industries: IIT Ropar has signed a seminal MoU with Walchandnagar Industries Limited (WIL), an industry with rich history in the defence, nuclear and aerospace manufacturing ecosystem, for research, development and indigenization of defence technology. This industry-academia cooperation aims to leverage the technical expertise at IIT Ropar along with the manufacturing & integration capabilities of WIL, for indigenizing and delivering futuristic technologies and advanced systems for the armed forces. The MoU also aims to engage WIL as a mentor for defence start-ups and includes mutual sharing of professional and technical know-how as part of its objectives. Walchandnagar Industries Limited (WIL) is a publicly-listed 115 years old heavy engineering industry founded by a great visionary and patriotic industrialist, Seth Walchand Hirachand. Seth Walchand was also founder of Hindustan Aircrafts Ltd (now Hindustan Aeronautics Ltd) and Hindustan Shipbuilding (now Hindustan Shipyard Ltd.) (both organizations are with the Ministry Of Defence, Government of India). Walchandnagar Industries has been contributing to various projects of National Importance in the sector of Defence, Nuclear & Aerospace. Over past five decades, WIL's footprints are distinctly visible in the projects of Indian Space Research Program (ISRO), Defense Research & Development Organization (DRDO), Nuclear Power Corporation of India (NPCIL), Department of Atomic Energy (DAE), Indian Navy & its shipyards.



Army Design Bureau conference on framework for Mitigating Component Level Security Vulnerabilities in Drones: IIT Ropar was represented by Shri Virbhadra Singh Rawat & Dr Atharva Paudrik at the Conference on Draft framework for Mitigating Component Level Security Vulnerabilities in Drones, which has emerged as a major cause of concern for the defence ecosystem. Drone Security has emerged as a major area of concern, highlighting the importance of developing a truly indigenous drone ecosystem in India, obviating dependency on foreign suppliers and arriving at a practical and implementable regulatory framework of testing/certification. Post the event, a focused outreach was undertaken with concerned government and R&D established towards arriving at a common

framework bearing in mind their capacities and capabilities. After considering their prowess, a draft framework for Mitigating Component level Security Vulnerabilities in Drones has been formulated by the Army Design Bureau. Subsequently a conference was held under the chairmanship of the Defence Secretary to finalise the Framework wherein IIT, Ropar was the only key academia player.

FICCI Homeland Security & Smart Policing Awards 2025: Shri Virbhadra Singh Rawat & Dr Atharva Paudrik represented IIT Ropar at the FICCI Homeland security conference & Smart Policing Awards 2025 at New Delhi. Talks were carried out for user academia connect with the Heads of various CAPF and Police organisations under the aegis of CoE(SARDS), IIT Ropar.





Visit to South Korea: Shri Virbhadra Singh Rawat represented IIT Ropar at the event organised by Changwon Industry Promotion Agency in collaboration with Society of Indian Defence Manufacturers at Changwon, South Korea from 30 Mar to 02 Apr 2025. The meet focused on various technologies and products available in South Korea which could be enablers for the Indian Defence & Security forces. The sectors under discussion were from defence, aerospace, security and space products. Talks on joint ventures, product development, joint R&D and exchange programs between stakeholders were also discussed.

AERO INDIA 2025: CoE (SARDS), IIT Ropar was represented by Shri Virbhadra Singh Rawat at the AERO INDIA 2025 held in Bangalore. Important interactions with officials from iDEX-DIO, Department of Defence Production, Ministry of Defence, Large industries, DRDO, startups and innovators were held. Subsequently visits by many industry leaders, DRDO representatives and incubation of startups was carried out at IIT, Ropar.



IIT Ropar Collaborations and signed MoU in various Government Bodies and Industries.

Sr. No.	Subject Agreement	Firm
(a)	Re-settlement Training Courses for JCOs/OR	DGR, GoI, MoD (Army, West Block-IV, RK Puram New Delhi
(b)	M.Tech & PhD Programmes	HQ Army Training Command, Shimla
(c)	Research, Development & Indigenization of Defence Technology	Walchandnagar Industries Limited
(d)	Research, Development & Indigenization of Armament Technology	ALMERIO
(e)	Research, Development & Execution of Civil Projects	PSP Projects Limited
(f)	Management Development Programme (Drone Technology & Flying Training)	HQ Army Training Command, Shimla
(g)	Research, Development & Indigenization of Drones, Anti Drones & its related Platforms	Zen Kinematics 8 System Pvt Ltd
(h)	Cyber Security Courses	NIELIT
(i)	Research, Development and Validation of Drone Technology	AVPL Drone Projects
(j)	Academic and Research cooperation	HQ Western Command, Chandimandir
(k)	Cyber Security Certificate Program	Tata Consultancy Service Ltd
(l)	Integrated GIS and RS with AI/ML for Soil capacity estimation under sch 9.2 of IR & D Head	Chief Enginner, Central Command
(m)	Lightweight Snow Supporting Structures	Chief Enginner, Central Command
(n)	3d pod Modular Precast Habitat Construction	Chief Enginner, Central Command
(p)	Multi-Weather Resilient Roof Integrated Precast Habitat Construction	Chief Enginner, Central Command
(r)	To explore avenues for collaboration in innovation, technology transfer, and support for MSMEs.	Laghu Udyog Bharati (LUB)

IIT Ropar undergoing various Government and Industries projects.

Ser No	Name of Project	Agency
(a)	Single Storey Officers Accomodation	HQ Northern Command
(b)	Snow Avalanche Prediction	HQ Northern Command
(c)	Design & Prototype of Mutichip Modules	HQ Western Command/11 Corps
(d)	3D Printing of spare parts	HQ Northern Command
(e)	Precision landing and Auto Charging System/Platform for Drones	HQ Western Command/2 Corps
(f)	Sansuchak v2	HQ Western Command
(g)	Technical Textiles	Army Training Command, Shimla
(h)	Drone Battery Sys	Army Training Command, Shimla
(j)	Housing Project	HQ Central Command
(k)	Smart warehousing	HQ Central Command
(l)	Bunker construction	HQ Central Command
(m)	Distributed Beam Forming Drone Swarm System	Integrated HQ/ Director General of Air Defence
(o)	UV Sansuchak for Ultra-Violet Comn Sys	Integrated HQ/ Director General of Air Defence / Director General of Signals
(p)	AR/UR Integrated Drone System	Integrated HQ & HQ Western Command and Director General of Signals
(q)	C-UAS system Development for Defence by ZK8 & IIT Ropar	Integrated HQ/ Director General of Air Defence
(r)	Fibre Optic Gyroscope (FOG) as an Alternate for Mechanical Gyros on T-72 & T-90 Tanks	Armoured Corps Centre and School, Ahmednagar
(s)	GRAD BM21 Upgrade	School of Arty, Deolali
(t)	Composite material for cones	Solar Industries, Nagpur
(u)	Mobile metallic ramps	2 Corps/ I Armd Engr Regt
(v)	Mine Detection	2 Corps/ I Armd Engr Regt
(w)	ERA Panel for T-72 Tks	505 Army Base Wksp
(x)	Shroud for Tech Textiles	506 Army Base Wksp



CENTER FOR ENGINEERING EDUCATION

The Center for Engineering Education (CEE) was established in 2023 to advance teaching, research, training, consultancy, and outreach in Engineering Pedagogy, Curriculum Development, Education Technology, and Education Management. The center is currently headed by Dr. Jitendra Prasad (Associate Professor, Mechanical Engineering) as the Coordinator of the center and has another associate faculty member Dr. Neeraj Goel (Assistant Professor, Computer Science & Engineering).

COURSES TAUGHT BY CEE

- **Academic Year 2023-24 Sem II:**
- ED501 Administration & Management of Engineering Education (by Dr. Jitendra Prasad)
- Academic Year 2024-25 Sem I:
- ED502 Learning Theory, Pedagogy, and Assessment in Engineering Education (by Dr. Jitendra Prasad and Dr. Neeraj Goel)

Academic Year 2024-25 Sem II:

- ED501 Administration & Management of Engineering Education (by Dr. Jitendra Prasad)

PEER-REVIEWED PUBLICATIONS

1. Tiwari AK, Sinha P, Prasad J, Badhyal S, Joseph S. Teaching introductory iomechanics course in low resource environment. International Journal of Mechanical Engineering Education. First published online August 11, 2024. doi:10.1177/03064190241272568

2. Neeraj Goel, Bhumika Shah, Mrityunjay Kumar, Ritwik Murali, and Ruchika Gupta. Challenges and outcomes of organizing an open discussion forum for building the csed research community. In 17th Annual ACM India Compute Conference, COMPUTE 2024, Gandhinagar, India, December 5-7, 2024, Proceedings, volume 2400 of Communications in Computer and Information Science, pages 30–43. Springer, 2024

OUTREACH ACTIVITIES

- Both Dr. Jitendra Prasad and Dr. Neeraj Goel participated as instructors in the workshop organized for Jawahar Navodaya Vidyalaya's science & maths teachers. They taught a total of 15 hours covering the National Education Policy 2020, Educational Research, and Application of Technology in Education.

OTHER ACTIVITIES DURING THE PERIOD

- **Approval of Minor in Engineering Education for PhD Students of IIT Ropar**

The Senate and the Board of Governors (BoG) of the Indian Institute of Technology (IIT) Ropar have approved a Minor in Engineering Education, available to existing PhD students of IIT Ropar. The program consists of four courses—two core and two electives.

This Minor program will be offered by CEE. The center is already offering courses such as "ED501 Administration & Management of Engineering Education" and "ED502 Learning Theory, Pedagogy, and Assessment in Engineering Education", which will serve as the core courses for the Minor program. The center will offer more courses as electives for the Minor program.

The Minor program is the first of its kind in India, designed to train PhD students for diverse roles in academia, particularly in teaching, research, and administration. This initiative aligns with the ethos of the National Education Policy (NEP) 2020, which emphasizes pedagogy based on educational theories and governance grounded in modern management principles.

The Minor program has been approved by the Senate and BoG to commence from Semester I of the Academic Year 2025-26, aligning with the 5th anniversary of NEP 2020 on July 29, 2025. It will be offered at no additional cost, and students will receive a separate Minor certificate and corresponding marksheet, enhancing their prospects for academic careers.



INDO-TAIWAN JOINT RESEARCH CENTRE ON ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

The Indo-Taiwan Joint Research Centre on Artificial Intelligence and Machine Learning is bilateral, non- profit, industry and academic research centre at IIT Ropar, which is established in cooperation with the overseas Science and Technology Innovation Center, Ministry of Science andTechnology, Taiwan and operates as a platform for cooperation and innovation in Artificial Intelligence between India and Taiwan. The common ambition is to provide an academic platform to strengthen the foundation of research in important applications, conduct research in AI and ML, promote student and faculty exchange and provide a platform for incubation. The purpose of the centre is to encourage international education in Artificial Intelligence, Academia-Industry Innovations in manufacturing, Fintech and smart city and Skill training & technology innovations in image analysis, Text mining and Big data etc. The centre not only conducts academic activities but also participates in business opportunities, Industrial technology consulting service, technical exchange and talent cultivation.

FACULTY MEMBERS

Dr. Shweta Jain
Assistant Professor
CSE Department, IIT Ropar

Dr. Deepti Bathula
Associate Professor
CSE Department, IIT Ropar

Dr. Deepti Bathula
Associate Professor
CSE Department, IIT Ropar

Dr. S.C. Martha
Associate Professor
Mathematics Department, IIT Ropar

Dr. Shashi Shekhar Jha
Assistant Professor
CSE Department, IIT Ropar

Dr. Sayantan Ganguly
Assistant Professor
Civil Department, IIT Ropar

Prof. Nitin Auluck
Professor
CSE Department, IIT Ropar

Dr. Aditya Singh Rajput
Assistant Professor
Civil Department, IIT Ropar

Dr. Mukesh Saini
Associate Professor
CSE Department, IIT Ropar

Dr. Neha Sardana
Assistant Professor
Department of Metallurgy, IIT Ropar

Prof. Manoranjan Mishra
Professor
Mathematics Department,
IIT Ropar

Dr. Chandrakant Nirala
Assistant Professor
Mechanical Engineering
Department, IIT Ropar

Dr. Sam Darshi
Assistant Professor
CSE Department, IIT Ropar

Dr. Somdev Kar
Associate Professor
Department of Humanities
and Social Sciences, IIT Ropar

VISITS TO TAIWAN BY FACULTY

1. **Dr. Somdev Kar** visited the Graduate School of Linguistics at National Taiwan University (NTU), Taipei, Taiwan, from July 1-12, 2024. This visit to NTU, Taiwan, was partially funded by the Indo-Taiwan Joint Research Centre, IIT Ropar. During the visit, they discussed the project, future activities, and further collaboration between IIT Ropar and NTU, Taiwan, in the area of NLP and Linguistics.
2. **Dr. Sayantan Ganguly** visited Prof. Wen-Ping Tsai's Lab, Department of Hydraulic and Ocean Engineering, National Cheng Kung University, Tainan, Taiwan, ROC during 22nd – 30th Nov 2024.
3. **Dr Neha Sardana** visited the National Chung Cheng University for the project Discussion. And for the joint PhD Discussion, further collaboration with other university in Taiwan. June 2024.

VISITS TO TAIWAN BY STUDENTS

1. Ms. Nidhi Sharma visited NTOU for TEEP Internship from May 01, 2024 to July 30, 2024.

List of Interns from IIT Ropar in 2024

Sr. No.	Name	Expected Months of arrival	Departments	Internship Advisor & Topic	Internship Duration
1	Avijit Biswas	2024/05/01 - 2024/06/30	Computer Science and Engineering	Advisor: Prof. Shi-Ming (Jack) Huang Topic: Image analysis and mining for the bamboo forest	2
2	Harjas Kaur	2024/05/19 - 2024/07/17	Electrical Engineering	Advisor: Prof. Pao-Ann Hsiung Topic: Human AI interaction + Explanability	2
3	Rohit Agrawal	2024/05/19 - 2024/07/17	Mathematics and Computing	Advisor: Prof. Pao-Ann Hsiung Topic: Human AI interaction + Explanability	2
4	Nishad Hemant Dhuri	2024/05/21 - 2024/07/20	Computer Science and Engineering	Advisor: Prof. Pao-Ann Hsiung Topic: Multimodal Federated Learning for Sustainable Smart Cities (using FedMultimodal framework)	2
5	Harshvardhan Singh	2024/05/21 - 2024/07/20	Mechanical Engineering	Advisor: Prof. Pao-Ann Hsiung Topic: Cross-Silo Federated Learning for Sustainable Smart Cities	2
6	Aaniranjan Saraf	2024/05/21 - 2024/07/20	Metallurgy and Material Science Engineering	Advisor: Prof. Pao-Ann Hsiung Topic: Multimodal learning for Sustainable smart cities.	2

7	Pratham Raj	2024/05/21 - 2024/07/20	Electrical Engineering	Advisor: Prof. Pao-Ann Hsiung Topic: Image-based Multiple Person Tracking Across Multiple Cameras (Tracking of Distant Water Fishermen)	2
8	Ankit Tiwari	2024/05/25 - 2024/07/24	Electrical Engineering	Advisor: Jen-Yi Pan Topic: Artificial Intelligence-enhanced wireless research	2

Visit of Taiwan Faculty/ Student to IIT Ropar

On 3rd September 2024, IIT Ropar had a visit by several dignitaries from Taiwan. The list is attached as follows:

Sr. No	Name	Title
1	Dr. Shaw-Jenq Tsai 蔡少正校長	President, National Chung Cheng University, Taiwan
2	Dr. Pao-Ann Hsiung 熊博安教授	Director of Taiwan-India Joint Research Centre on AI, Professor, Dept. of CS, National Chung Cheng University, Taiwan
3	Dr. Chih-Yi Chiu 邱志義教授	Professor, Dept. of Computer Science and Information Engineering, National Chung Cheng University, Taiwan
4	Dr. Wei-Min Liu 劉偉名教授	Associate Professor, Dept. of Computer Science and Information Engineering, National Chung Cheng University, Taiwan

5	Dr. Chen-Kuo Chiang 江振國教授	Associate Professor, Dept. of Computer Science and Information Engineering, National Chung Cheng University, Taiwan
7	Ms. Hsiu Chun Hsu 許琇君小姐	Manager, Research Center on Artificial Intelligence and Sustainability, National Chung Cheng University, Taiwan
8	Mr. Ayush Pratap	Joint PhD scholar, National Chung Cheng University, Taiwan & IIT Ropar
6	Mr. Cheng-Chung Lee 李承宗專案管理員	Project Clerk, New Southbound Policy Project Office

OTHER ACHIEVEMENTS

1. Banerjee D, Ganguly S and Tsai W-P. Precipitation Nowcasting using Convolutional Long Short-Term Memory (ConvLSTM): A case study in Punjab, India. American Geophysical Union (AGU) Fall Meeting 2024 abstract. Washington DC, USA, 9-13th Dec 2024.
2. A. Pratap, T.-K. Vi, Y.-W. Lee, N. Sardana, P.-A. Hsiung, and Y.-C. Kao, "A DT Framework Integrating Human and Artificial Intelligence for Power Consumption Prediction in CNC Machining," International Journal of Advanced Manufacturing Technology, Vol. 135, pp. 915-938, October 2024.



CENTER OF RESEARCH FOR ENERGY EFFICIENCY & DECARBONIZATION

Programs offered	: PhD
No. of Students	: PhD: 01
Head of the Department	: Dr Manigandan Sabapathy
No. of faculty members	: 15
No. of staff members	: 10
Technical Staff	: 08
Administrative Staff	: 02
Thrust Area	: Energy efficiency and decarbonization, Sustainable energy
No. of Publications	: 2

FACULTY MEMBERS

Name of Faculty Members	Designation	PhD From Which Insititute (Name of the Institute)	Research Areas
Dr. Asad Sahir	Assistant Professor	University of Utah, Salt Lake City, UT	Energy and Environmental Engineering; Energy Systems Analysis (Techno-economic, infrastructure integration and life cycle aspects); Particle technology and reaction engineering; Combustion; Modeling and Simulation; Process Engineering and Design ; Process Systems Engineering; Engineering Education
Dr. Brijesh Kumbhani	Assistant Professor	IIT GUWAHATI	RIS assisted communication systems, CRAN for vehicular communication
Dr Chander Shekar Sharma	Assistant Professor	ETH Zurich	Phase Change, Surface Micro and Nano Engineering,, Electronic Thermal Management, Single and Multiphase Convective Cooling, Scalable and robust interfaces.
Dr Devaranjan Samanta	Assistant Professor	Max Planck Institute for dynamics and self Organisation, Goettingen, Germany	Transition to turbulence, Non-Newtonian flows, Biological flows, heat transfer
Dr Dhiraj K Mahajan	Associate Professor	IIT Kanpur	Hydrogen storage and Hydrogen based zero-emission solutions, Experiment and simulation-assisted development of hydrogen-embrittlement-resistant metals, Experiment and simulation-assisted development of polymers for energy and biomedical applications, Micromanufacturing processes

Dr Himanshu Tyagi	Associate Professor	Arizona State University, USA	Thermo-fluids, Bio-heat Transfer, Nanofluids, Nanoscale heat transfer Clean and Sustainable Energy, Solar Energy, Water Desalination and Purification, Energy Storage, Hydrogen Ignition Properties of Fuels Containing Nano-Particles, Thermal Management and Packaging of Micro-Electronic Devices
Dr Kalaiselvi Jayaraman	Assistant Professor	IIT Madras	Power electronics and drives, EMI issues in convertera and moto drives, Fault diagnosis and tolerant of power semiconductor switches and machines
Dr Manigandan Sabapathy	Assistant Professor	IIT Madras	Colloid and interfacial engineering using biopolymers, inorganic and polymeric nanoparticles; aqueous two-phase systems (ATPS) for food, cosmetic, and industrial applications; self-assembly of anisotropic and active particles; Janus micromotors and nanocapsules for targeted delivery, environmental remediation
			and energy applications; wastewater treatment such as removal of nano/microplastics and target pollutants using rough colloids; energy efficiency and decarbonization.
Prof Manoranjan Mishra	Professor	IISC Bangalore	Fluid Dynamics, Hydrodynamic Instability, Scientific Computing
Dr. Muthulingam Subramaniyan	Assistant Professor	Indian Institute of Technology Madras	Advanced design of steel and concrete structures Reliability and risk assessment of new and existing infrastructure systems Stochastic finite element analysis Stochastic deterioration modelling of RC structures Spatio-temporal structural reliability Progressive collapse analysis of

Dr Navaneeth K Marath	Assistant Professor	JNCASR Bangalore	Fluid dynamics of suspension, porous media
Dr T V Kalyan	Assistant Professor	IIT Madras	Computer Architecture, Low Power Design, High Performance Computing
Dr Sarang P Gumfekar	Assistant Professor	University of Alberta, Canada	Phase Change Materials (PCM)-based Thermoregulating Textiles, Electrocatalyst Nanomaterials for PEM Fuel Cells, Electrically Conductive Adhesives (ECA) and Inks, Advanced Oxidation Processes (AOPs) for Water Treatment, Metal-Organic
			Frameworks (MOFs) for Separation and Catalytic Applications, Multifunctional Nanocomposite Membranes for Water Treatment,
Dr. Tarak Mondal	Assistant Professor	IIT Delhi	Heterogeneous Catalysis, Hydrogen production from sustainable sources, Biomass Conversion processes, Biofuels, CO2 capture and Utilization etc.
Dr Viswajeet Mehandia	Associate Professor	Ph.D. (Indian Institue of Science, Bangalore)	CO2 capture using biological systems, active matter, complex fluids

ONGOING ACTIVITY

- KISEM (KOTAK IIT MADRAS SAVE ENERGY MISSION)

CERTIFICATE PROGRAMS

Sr. No.	Name of Program / Event	Date	Number of participants	Number of faculty members who gave lectures in workshop
1	Workshop on Solar Energy Integration & Efficient drive System	5th & 6th Oct 2024	32	4
2	Green Computing: Challenges, Opportunities and Recent Innovations	9th &10th Nov 2024	37	7

OUTREACH PROGRAMME

Sr. No	Programs	Date	Participants
1	Vigyanotsav ("Pehchan Ek-Safar") at Kendriya Vidyalaya IIT Ropa	3rd December, 2024	School Students
2	Evaluation during the "Vigyanotsav" at Kendriya Vidyalaya	3rd December, 2024	School Students
3	State-Level Energy Conservation Day Event, Organized by PEDA	20th December, 2024	Industry Professional
4	Equipment Demonstration	3rd to 7th February, 2025	UG Students of IIT Ropar
5	Training Session Conducted on "Energy Conservation" at Govt. ITI College	19th March, 2025	Students and Instructor of Government ITI college Mustafabad.

INTERNSHIP PROGRAMME

Sr. No.	Name of the Supervisor	Name Of the students	Name & Address of the University/ Institute from where he/she belongs to:	Period
1	Dr. Vishwajeet Mehandia	Ms. Anjali Prakash	Chhatrapati Shahu Ji Maharaj University, Kanpur University	20 May, 2024 to 15 July, 2024
2	Dr. Vishwajeet Mehandia	Ms. Muskan Yadav	IIT ROPAR	20 May, 2024 to 15 July, 2024

MAJOR PROJECTS (Ongoing/Completed)

Sr. No.	Funding Agency	Name of the Faculty (Project Incharge)	Title	Amount (Lakh)	Status	Started on (FY)
1	Kotak Mahindra Bank	Dr Manigandan Sabapathy	KISEM (KOTAK IIT MADRAS SAVE ENERGY MISSION) PHASE-II	162.45	Completed	2023-2024
2	Kotak Mahindra Bank	Dr Manigandan Sabapathy	KISEM (KOTAK IIT MADRAS SAVE ENERGY MISSION) PHASE-III		On Going	2024-2025
3	NTF	Dr Dhiraj K Mahajan	Support for design and development of 1.5kw and 15kw graphite bipolar plates-based fuel cells and their integration in fuel cell electric vehicles	36	On Going	2023-2024
4	Him Teknoforge	Dr Manigandan Sabapathy	Detail Energy Assessment of Him Teknoforge	2.95	Completed	2024-2025
5	Leo Packaging	Dr Manigandan Sabapathy	Detail Energy Assessment of Leo Packaging	1.180	Completed	2024-2025
6	Verka, Ludhiana	Dr Manigandan Sabapathy	Detail Energy Assessment of Verka Ludhiana	4.956	Completed	2024-2025
7	Veer Plastic	Dr Manigandan Sabapathy	Detail Energy Assessment of Veer Plastic	3.894	Completed	2024-2025
8	Bodal Chemical, Rajpura	Dr Manigandan Sabapathy	Detail Energy Assessment of Bodal Chemical	5.015	Completed	2024-2025
9	Globe Precision Industries Private Ltd	Dr Manigandan Sabapathy	Detail Energy Assessment of Globe Precision Industries Private Ltd	0.885	Completed	2024-2025



PUBLICATIONS AND RESEARCH PAPERS

SCHOOL OF ARTIFICIAL INTELLIGENCE AND DATA ENGINEERING

BOOK CHAPTER

1. J. Vibulan, S. Dhamal, S. Jain, O. Kumar, A. Kumar, and H. Singh, "Fair assignment on multi-stage graphs," in Proceedings of International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2025.
2. S. Pokhriyal, S. Jain, G. Ghalme, S. Dhamal, and S. Gujar, "Simultaneously achieving group exposure fairness and within-group meritocracy in stochastic bandits," in Proceedings of International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2024, pp. 1576–1584.

DEPARTMENT OF BIOMEDICAL ENGINEERING

JOURNAL ARTICLES

1. J. A. Malik and J. N. Agrewala, "Morphine's role in macrophage polarization: Exploring M1 and M2 dynamics and disease susceptibility," Journal of Neuroimmunology, 2025.
2. S. Prajapati et al., "Exploring the potential of homologous epitopes from gut microbes for SARS-CoV-2 vaccine design, using molecular modelling to gain critical insights," Biologia (Bratisl.), vol. 80, no. 3, pp. 663–684, 2025
3. S. Nanda et al., "A novel strategy to elicit enduring anti-morphine immunity and relief from addiction by targeting Acr1 protein nano vaccine through TLR-2 to dendritic cells," Int. J. Biol. Macromol., vol. 274, no. Pt 1, p. 133188, 2024.
4. J. A. Malik et al., "From defense to dysfunction: Autophagy's dual role in disease pathophysiology," Eur. J. Pharmacol., vol. 981, no. 176856, p. 176856, 2024.
5. J. A. Malik et al., "Immunosuppressive effects of morphine on macrophage polarization and function," Eur. J. Pharmacol., vol. 975, no. 176637, p. 176637, 2024
6. Mimansa, M. A. Zafar, D. K. Verma, R. Das, J. N. Agrewala, and A. Shanavas, "Shielding against breast tumor relapse with an autologous chemo-photo-immune active Nano-Micro-Sera based fibrin implant," Nanoscale, vol. 16, no. 29, pp. 14006–14019, 2024.
7. T. Lamba, "Unique abilities of Acr1 protein of Mycobacterium tuberculosis to elicit Tregs and MDSCs and impart protection against experimental autoimmune encephalomyelitis," European Journal of Immunology, vol. 54, pp. 1538–1538, 2024.
8. J. A. Malik and J. N. Agrewala, "Morphine acts via TLR4 resulting in neuroinflammation and immunosuppression," Medical Hypotheses, vol. 186, 2024.
9. S. Nanda et al., "Chronic administration of morphine provokes the generation of anti-morphine antibodies and immunosuppression in individuals with opioid use disorder2025 Journal of Biosciences(in press)," Journal of Biosciences.

10. S. Bharadwaj, A. Midha, S. Sharma, G. S. Sidhu, and R. Kumar, “Optical screening of citrus leaf diseases using label-free spectroscopic tools: A review,” J. Agric. Food Res., vol. 18, no. 101303, p. 101303, 2024.
11. G. Uppal, T. Goyal, A. Kumar, and R. Kumar, “Unravelling changes in single-cell osteoarthritic chondrocytes through coupling of Raman spectroscopy and multivariate curve resolution-alternating least square (MCR-ALS) algorithm,” Microchem. J., vol. 212, no. 113264, p. 113264, 2025.
12. “First-order Analysis of Stromal Collagen in Chronic Pancreatitis Using Cross-modality Image Translation with Convolutional Neural Networks. Nisha, Garima Singhal, Gavish Uppal and Rajesh Kumar,” Procedia Computer Science Journal, 2025.
13. G. Uppal, T. Nisha, A. Goyal, and R. Kumar, “Machine learning model to study single cell osteoarthritic chondrocytes via Raman spectroscopy.”
14. G. Makkithaya et al., “Nirmal Mazumder,” Comprehensive Biomedical Physics.
15. S. S. Sarkar, M. Sharma, S. Saproo, and S. Naidu, “LINC01116-dependent upregulation of RNA polymerase I transcription drives oncogenic phenotypes in lung adenocarcinoma,” J. Transl. Med., vol. 22, no. 1, p. 904, 2024.
16. A. M. Pratama et al., “Peroxisomes and PPARs: Emerging role as master regulators of cancer metabolism,” Mol. Metab., vol. 90, no. 102044, p. 102044, 2024.
17. P. Kamble et al., “Cancer pharmacoinformatics: Databases and analytical tools,” Funct. Integr. Genomics, vol. 24, no. 5, p. 166, 2024.
18. I. Kundu, S. Varshney, S. Karnati, and S. Naidu, “The multifaceted roles of circular RNAs in cancer hallmarks: From mechanisms to clinical implications,” Mol. Ther. Nucleic Acids, vol. 35, no. 3, p. 102286, 2024
19. Srivatsava Naidu, S. Karnati, H. Radhakrishnan, and A. Gupta, “EDITORIAL: Role of non-coding RNAs (Emphasis on the Emerging Role of Circular RNAs) In Cancer. Application Potential for Molecular Diagnostics and Therapeutics of Cancer. 2024, (Invited Editorial). Frontiers in Genetics - RNA,” vol. 15.
20. J. H. Rajput et al., “A novel polyurethane-based silver foam dressing with superior antimicrobial action for management of infected chronic wounds,” Biomed. Mater., vol. 20, no. 1, 2024
21. A. Mukherjee, “The role of cartilage tissue engineering in osteoarthritis treatment: the bench to bedside translation,” Journal of Polymer Science, vol. 63, pp. 324–341, 2025.
22. M. Bhat and B. Sharma, “The Role of Inflammatory Cascade and Reactive Astrogliosis in glial scar formation post spinal cord injury,” Cellular and Molecular Neurobiology, vol. 44, pp. 1–18, 2024.
23. P. Yadav, A. Mukherjee, J. Hind

Rajput, A. P. Choudhari, A. Poundarik, and B. Das, “Gelatin multiwalled carbon nanotube composite 3D printed semi biological mesh for abdominal hernia treatment,” Chem. Asian J., vol. 20, no. 5, p. e202401136, 2025.

24. S. Verma, M. Bhatt, and B. Das, “Effect of carbon nanodots on the cellular redox reaction and immune system,” Nanoscale Adv., vol. 7, no. 7, pp. 1784–1802, 2025.
25. A. Mukherjee, J. Rajput, A. Poundarik, and B. Das, “Development of a bovine gelatin-kappa carrageenan-based dual network biomimetic hydrogel for chondrogenic differentiation of mesenchymal stem cells,” Int. J. Biol. Macromol., vol. 309, no. Pt 3, p. 142553, 2025.
26. V. Chawla, S. Roy, J. Raju, P. Bundel, D. Pal, and Y. Singh, “Proangiogenic cyclic peptide nanotubes for diabetic wound healing,” ACS Appl. Bio Mater., vol. 8, no. 4, pp. 2787–2799, 2025.
27. D. Banerjee et al., “Macrophage foam cell-derived mediator promotes spontaneous fat lipolysis in atherosclerosis models,” J. Leukoc. Biol., vol. 117, no. 3, 2025.
28. K. Bhavya et al., “Oxygen nanobubbles halt tumor aggression and metastasis by inhibiting hypoxia-induced epithelial-to-mesenchymal transition in lung and mammary adenocarcinoma,” ACS Appl. Nano Mater., vol. 7, no. 21, pp. 25198–25211, 2024.
29. D. Negi, K. Bhavya, D. Pal, and Y. Singh, “Acemannan coated, cobalt-doped biphasic calcium phosphate nanoparticles for immunomodulation regulated bone regeneration,” Biomater. Sci., vol. 12, no. 14, pp. 3672–3685, 2024.
30. A. N. Mallick, B. Basumatary, M. Kumar, K. Arora, and D. Pal, “Sahani, "Performance Evaluation of Neonatal Anti-pressure Ulcer Bed Using a Novel Force Sensing Array” Transactions of the American Society of Mechanical Engineers (ASME),” Journal of Medical Devices.
31. D. Patra et al., “Adipose tissue macrophage-derived microRNA-210-3p disrupts systemic insulin sensitivity by silencing GLUT4 in obesity,” J. Biol. Chem., vol. 300, no. 6, p. 107328, 2024.
32. G. Singh, M. Mittal, J. Singh, A. Singh Gill, D. Pal, and K. Bhavya, “Enhancing the performance of reinforced hydroxyapatite coatings through post coating treatment,” Results in Surfaces and Interfaces, vol. 14, no. 100207, p. 100207, 2024.
33. V. Chawla, S. Roy, and J. Raju, “Pruthviraj Bundel, Durba Pal, and Yashveer Singh*, Proangiogenic Cyclic Peptide Nanotubes for Diabetic Wound Healing,” ACS Applied Bio Materials, 2025.
34. N. Rasool, Y. Thakur, and Y. Singh, “Antibacterial lecithin/chitosan nanoparticles for the sustained release of ciprofloxacin to treat ocular bacterial infections, Chemistry,” Chemistry - An Asian Journal, vol. 20, 2025.
35. K. Bhavya et al., “Neelkanth Nirmalkar, and Durba Pal, Oxygen nanobubbles halt tumor aggression and metastasis by inhibiting hypoxia-induced epithelial-to- mesenchymal transition in lung and mammary adenocarcinoma,” ACS Applied Nano Materials, vol. 7, pp. 22334–22348, 2024.
36. D. Negi and K. Bhavya, “Durba Pal, and Yashveer Singh*, Acemannan coated, cobalt- doped biphasic calcium phosphate nanoparticles for immunomodulation regulated bone regeneration,” Biomaterials Science, vol. 12, pp. 3672–3685, 2024.

37. “Dual Regulatory Role of Acr1 Protein from Mycobacterium tuberculosis in Promoting Tregs and MDSCs to Suppress Autoimmune Neuroinflammation,” European Congress of Immunology Congress, 2024.

38. J. A. Malik, “Role of CD8+ Cytotoxic T cells in Recurrent pregnancy loss" Reproductive Immunogenetics: A Molecular and Clinical Overview,” Reproductive Immunogenetics: A Molecular and Clinical Overview, 2025.

39. P. Paul et al., “The lasting impact of IL-2: Approaching 50 years of advancing immune tolerance, cancer immunotherapies, and autoimmune diseases,” Immunol. Invest., vol. 54, no. 5, pp. 589–603, 2025.

40. Z. Binte Hanafi et al., “Calpain 2 regulates IL-1α secretion and inhibits tumor development via modulating calpain 1 expression in the tumor microenvironment,” Oncoimmunology, vol. 14, no. 1, p. 2451444, 2025.

41. J. H. Rajput et al., “A novel polyurethane-based silver foam dressing with superior antimicrobial action for management of infected chronic wounds,” Biomed. Mater., vol. 20, no. 1, 2024.

42. A. Mukherjee, “The role of cartilage tissue engineering in osteoarthritis treatment: the bench to bedside translation,” Journal of Polymer Science, vol. 63, pp. 324–341, 2025.

43. M. Bhat and B. Sharma, “The Role of Inflammatory Cascade and Reactive Astrogliosis in glial scar formation post spinal cord injury,” Cellular and Molecular Neurobiology, vol. 44, pp. 1–18, 2024

44. P. Yadav, A. Mukherjee, J. Hind Rajput, A. P. Choudhari, A. Poundarik, and B. Das, “Gelatin multiwalled carbon nanotube composite 3D printed semi biological mesh for abdominal hernia treatment,” Chem. Asian J., vol. 20, no. 5, p. e202401136, 2025.

45. A. Mukherjee, J. Rajput, A. Poundarik, and B. Das, “Development of a bovine gelatin-kappa carrageenan-based dual network biomimetic hydrogel for chondrogenic differentiation of mesenchymal stem cells,” Int. J. Biol. Macromol., vol. 309, no. Pt 3, p. 142553, 2025.

CONFERENCE PAPER

1. Mycobacterium tuberculosis Acr1 Protein Induces Myeloid- Derived Suppressor Cells and Impairs Immune Function’ at International Union of Immunology Congress. Vienna, Austria, 2025.
2. Presentation at the SPARC-IIT Ropar-EMORY Atlanta Conference cum Workshop ‘From First Line to Final Strike: Innate and Adaptive Immunity. 2025.
3. “Unique abilities of Acr1 protein of Mycobacterium tuberculosis to elicit Tregs and MDSCs and impart protection against experimental autoimmune encephalomyelitis,” in the 51th Annual Conference of Indian Immunology Society (IMMUNOCON 2024), held at IISc, Bengaluru on, 2024

BOOKS

1. J. A. Malik, M. A. Wani, P. Garg, and J. N. Agrewala, Computational screening and MM/GBSA-based MD simulation studies reveal the high binding potential of FDA-approved drugs against morphine addiction.

BOOK CHAPTER

1. G. Nisha, M. Uppal, R. Kaur, and R. Sinha, “Assessment of Collagen Morphology in Pancreatic Tumor using Computational Translation of Histological Images,” in Lecture Notes in Networks and Systems-2025, Springer.
2. S. Yadav, S. Naidu, and B. Das, “In vitro systems to demonstrate the nano effect (scope: In vitro systems to demonstrate the efficacy and safety of biomaterials for nanomedicine applications),” in Nanomedicine in Translational Research, Elsevier, 2025, pp. 41–61.
3. A. Shakya et al., “Two-Stage, Global-Local Approach for Cell Nuclei Segmentation in Histopathology Images,” in 2024 IEEE 8th International Conference on Information and Communication Technology (CICT), 2024, pp. 6–08.
4. J. A. Malik and J. N. Agrewala, “Role of B cells, macrophages, and dendritic cells in recurrent pregnancy loss,” in Reproductive Immunogenetics: A Molecular and Clinical Overview, Elsevier, 2025, pp. 69–84.
5. P. Kumar and J. A. Malik, Revolutionizing Autoimmune Diseases Treatment by CAR-T Cell Therapy’ Autoimmune Disorders, immunotherapy in autoimmune disorders: mechanisms, advances, and Applications Taylor and Francis. 2025
6. M. J. Muskan, Unlocking the Nexus of Gut Microbiomes and Autoimmune Disorders’ Autoimmune Disorders, immunotherapy in autoimmune disorders: mechanisms, advances, and Applications Taylor and Francis. 2025
7. M. Dadival and J. A. Malik, Exploring the Therapeutic Potential of Nutraceuticals’ Autoimmune Disorders, immunotherapy in autoimmune disorders: mechanisms. Francis, 2025.
8. S. Nanda and J. A. Malik, immunotherapy in autoimmune disorders: mechanisms, advances and Applications Taylor and Francis. 2025
9. M. A. Zafar, Breakdown of tolerance, immunotherapy in autoimmune disorders: mechanisms, advances and Applications Taylor and Francis 2025.
10. M. A. Zafar, Current Strategies to Treat Autoimmune Diseases and Their Drawbacks, immunotherapy in autoimmune disorders: mechanisms. Francis, 2025
11. M. A. Khan, Immunotherapeutic Approaches, immunotherapy in autoimmune disorders: mechanisms, advances and Applications Taylor and Francis. 2025
12. S. Singh, Treg Generation and Their Role in Immunosuppression,immunotherapy in autoimmune disorders: mechanisms, advances and Applications Taylor and Francis. 2025
13. H. Bashir, Vaccines for Autoimmune Diseases, immunotherapy in autoimmune disorders: mechanisms, advances and Applications Taylor and Francis. 2025
14. T. Lamba, Comprehensive Exploration of T Follicular Regulatory (Tfr) Cells in Autoimmunity, immunotherapy in autoimmune disorders: mechanisms. 2025.
15. S. Verma and B. Bhatt, Effect of the Carbon Nanodots on the cellular redox reactions and immune system. 2025

PATENTS

1. Biomimetic Injectable Composite for Cell Delivery in Cartilage Regeneration and A Method Thereof. Anwesha Mukherjee, Bodhisatwa Das (Patent Application No: 202411104869)

DEPARTMENT OF CHEMICAL ENGINEERING

JOURNAL ARTICLES

1. K. Bhavya et al., “Oxygen nanobubbles halt tumor aggression and metastasis by inhibiting hypoxia-induced epithelial-to-mesenchymal transition in lung and mammary adenocarcinoma,” ACS Appl. Nano Mater., vol. 7, no. 21, pp. 25198–25211, 2024.
2. N. Dutta, S. Mitra, and N. Nirmalkar, “Understanding the role of surface charge on nanobubble capillary bridging during particle-particle interaction,” Langmuir, vol. 40, no. 8, pp. 4475–4488, 2024.
3. N. Dutta, S. Mitra, and N. Nirmalkar, “Influences of nanobubbles on particle–particle and bubble–particle interactions: A review,” Chem. Eng. Res. Des., vol. 210, pp. 247–270, 2024.
4. S. Garg, A. Sharma, J. Mahajan, and N. Nirmalkar, “Direct numerical simulation of a single contaminated droplet microextraction in a yield-stress fluid,” International Journal of Heat and Mass Transfer, vol. 226, 2024.
5. P. Koundle, G. N. Goud, N. Gopinathan, and N. Nirmalkar, “Advanced oxidation of Arsenic (III) to Arsenic (V) using ozone nanobubbles under high salinity,” Journal of Environmental Chemical Engineering, vol. 12, no. 5, 2024.
6. P. Koundle, N. Nirmalkar, and G. Boczkaj, "High performance ozone nanobubbles based advanced oxidation processes (AOPs) for degradation of organic pollutants under high pollutant loading," Journal of Environmental Management, vol. 374, p. 124107, 2025.
7. P. Koundle, N. Nirmalkar, M. Momotko, and G. Boczkaj, "Ozone nanobubble technology as a novel AOPs for pollutants degradation under high salinity conditions," Water Research, vol. 263, p. 122148, 2024.
8. P. Koundle, N. Nirmalkar, M. Momotko, S. Makowiec, and G. Boczkaj, "Tetracycline degradation for wastewater treatment based on ozone nanobubbles advanced oxidation processes (AOPs)–Focus on nanobubbles formation, degradation kinetics, mechanism and effects of water composition," Chemical Engineering Journal, vol. 501, p. 156236, 2024.
9. A. Sharma and N. Nirmalkar, "Bulk Nanobubbles through Gas Supersaturation Originated by Hot and Cold Solvent Mixing," Langmuir, vol. 40, no. 24, pp. 12729-12743, 2024.
10. A. Sharma, K. P. Sai, and N. Nirmalkar, "Bulk nanobubbles as active nucleation sites during antisovent crystallization," Chemical Engineering Science, vol. 309, p. 121464, 2025.
11. H. Sharma, N. Nirmalkar, and W. Zhang, "Nanobubbles produced by nanopores to probe gas-liquid mass

transfer characteristics," Journal of Colloid and Interface Science, vol. 665, pp. 274-285, 2024.

12. H. Sharma, M. Trivedi, and N. Nirmalkar, "Do nanobubbles exist in pure alcohol?," Langmuir, vol. 40, no. 2, pp. 1534-1543, 2024.
13. S. Sirame, P. Singh, S. Mishra, N. Goel, G. Deshmukh, and N. Nirmalkar, "Effect of different Gas Nanobubbles on fermentation pattern of yoghurt starter culture," 25 October 2024 by MDPI .
14. G. Yadav, N. Nirmalkar, and C.D. Ohl, "Electrochemically reactive colloidal nanobubbles by water splitting," Journal of Colloid and Interface Science, vol. 663, pp. 518-531, 2024.
15. Sharma, S., & Sahir, A. H. (2025). Natural Gas and hydrogen blending: a perspective on numerical modeling and CFD analysis for transient and steady-state scenarios. Chemical Product and Process Modeling, 20(1), 129-158.
16. Sharma, S., Chauhan, B., Sahir, A. (2024). Analysis of Hydrogen Delivery Costs: PEM Electrolysis as a Case Study for India. In Proceedings of Energise 2023- Lifestyle, Energy Efficiency, and Climate Action, pp 245–252, Alliance for an Energy Efficient Economy. https://doi.org/10.62576/YXYU9665
17. Gupta, M., Singh, P., Sahir, A. (2024). New Education Policy and Energy Efficiency: Understanding through the Lens of a Solar Decathlon India Team. In Proceedings of Energise 2023- Lifestyle, Energy Efficiency, and Climate Action, pp 330–338, Alliance for an Energy Efficient Economy. https://doi.org/10.62576/NKFQ2023
18. Sahir, A. (2025) Development of Academic Laboratories in Chemical Engineering Simulation and Process Control at IIT Ropar: Achievements and Learnings, International Conference to Review Research in Science, Technology and Mathematics Education January, 3 - 6 2025.
19. A. Chauhan, D. Rajendra Kanchan, A. Banerjee, R. Srivastava, “Oxidative Cleavage of α-O-4, β-O-4, and 4-O-5 Linkages in Lignin Model Compounds Over P, N Co-Doped Carbon Catalyst: A Metal-Free Approach” ChemSusChem, Vol 17, No. 21, 2024
20. K. Rajendran, A. Samikannu, D. R. Kanchan, A. Miró i Rovira, Z. Li, P. Tingelstad, J. Mikkola, A. Banerjee, K. R. Rout, De Chen, “Carbon-carbon coupling and hydrodeoxygenation during beechwood hydropyrolysis gas upgrading on TiO2: Oxygen vacancies, lewis acidity and basicity,” Chemical Engineering Journal, Vol. 501, pp. 157568, 2024.
21. A. K. Manal, D. Rajendra Kanchan, A. Banerjee, J. Zhao, R. Srivastava, Recycling Valuable Phenol from Polycarbonate Plastic Waste Via Direct Depolymerization and Csp2−Csp3 Bond Cleavage Under Mild Conditions ChemSusChem, Vol 17, No. 24, 2024
22. A. Goyal, P. P. Singh, A. Banerjee, T. Mondal, “DFT insights into bio-oil model oxygenates interaction on Co and Fe doped LaNiO3 perovskite catalyst”, Journal of the Indian Chemical Society, Vol. 102, No. 2, pp. 101570, 2025.
23. H. G. E. Hentschel, A. Kumar, I. Procaccia, and S. Roy, “Eshelby problem in amorphous solids,” Phys. Rev. E, vol. 110, no. 3, p. L033001, 2024.
24. Man Singh, Sukhjot Kaur, Shivangi Mehta, Mukesh Kumar, Kush Kumar, Santosh Kumar Meena, Tharamani C

Nagaiah, “Boosted Capacity and Stability of Aqueous Iron-Sulfur Battery using DMSO as an Electrolyte Additive”, Energy Storage Materials. 2024, 103965 DOI: https://doi.org/10.1016/j.ensm.2024.103965

25. Shivangi Mehta, Sukhjot Kaur, Man Singh, Mukesh Kumar, Kush Kumar, Santosh Kumar Meena, Tharamani C Nagaiah, “Unleashing Ultrahigh Capacity and Lasting Stability: Aqueous Zinc□Sulfur Batteries”, Adv. Energy Mater. 2024, 2401515 DOI: https://doi.org/10.1002/aenm.202401515
26. A. Verma, H. Paliwal, and N. Gopinathan., “A classical thermodynamic model for dispersed nanophase stability and its application for investigating the stability of air nanobubble in water,” Industrial & Engineering Chemistry Research, vol. 63, pp. 18120-18133, 2024 Available: https://doi.org/10.1021/acs.iecr.4c02341
27. P. Koundle, G. N. Goud, N. Gopinathan and N. Nirmalkar., “Advanced oxidation of Arsenic(III) to Arsenic(V) using ozone nanobubbles under high salinity,” Journal of Environmental Chemical Engineering, vol. 12, 5, 113402. Available: https://doi.org/10.1016/j.jece.2024.113402
28. B. Joshi, O. Singh, A. Agrawal, N. Dhiman, B. P. Vempatapu, N. Gopinathan, A. Ray, and B. Sarkar. 2024. “Renewable aromatic hydrocarbons from waste cooking oil over hierarchical imidazole supported zeolites,” Journal of Materials Chemistry A, vol. 12, pp. 12733-12743. Available: https://doi.org/10.1039/D4TA00416G
29. S. Gupta, C. Sasmal, Understanding flow field transitions and vortex dynamics in polymer melts flowing through a microchannel with sidewall cavities, Rheologica Acta, vol. 63, pp. 731-748, 2024.
30. A. Chauhan, C. Sasmal, Hemodynamics past a dysfunctional bileaflet mechanical heart valve, International Journal of Engineering Science, vol. 205, pp. 104154, 2024.
31. A. Chauhan, C. Sasmal, The influence of non-Newtonian behaviors of blood on the hemodynamics past a bileaflet mechanical heart valve, Physics of Fluids, vol. 36, pp. 101918, 2024.
32. S. Rafi, A. Chauhan, F. Hamid, C. Sasmal, Elastoviscoplastic flows past a cylinder: Fluid-mechanical aspects and dynamic mode decomposition analysis, Physics of Fluids, vol. 36, pp. 083118, 2024.
33. S. Gupta, C. Sasmal, On designing a wavy sinusoidal micromixer for efficient mixing of viscoelastic fluids harnessing elastic instability and elastic turbulence phenomena, Chemical Engineering Science, vol. 295, pp. 120126, 2024.
34. A. Chauhan, C. Sasmal, Thermal convection of viscoelastic fluids in concentric rotating cylinders: Elastic turbulence and kinetic energy budget analysis, Physical Review Fluids, vol. 9, pp. 063303, 2024.
35. A. Chauhan, C. Sasmal, R. P. Chhabra, Effect of fluid elasticity and shear thinning on heat transfer from a heated sphere at moderate Reynolds numbers, Numerical Heat Transfer, Part A:Applications, pp. 1-22, 2024.
36. A. Chauhan, C. Sasmal, Elastoviscoplasticity intensifies the unstable flows through a micro-contraction geometry, Journal of Non-Newtonian Fluid Mechanics, vol. 325, pp. 105186, 2024.

37. S. S. Das, C. Sasmal, Exploring improved hemodynamics in a stenosed artery using a two-phase Eulerian-granular blood model, Physics of Fluids, vol. 37, pp. 031919, 2025.

38. A, Kumar, D. K. Rana, P. M. Pandey, C. Sasmal, S. B. Banerjee, Additive Manufacturing of Styrene-Isoprene-Styrene Block Copolymer Based Soft Thermoplastic Elastomeric Nanocomposites: Influence of Reduced Graphene Oxide on Microstructural, Mechanical and Functional Properties, Macromolecular Chemistry and Physics, pp. 2400409, 2025.

39. C. Sasmal, Potential applications of elastic instability and elastic turbulence: A comprehensive review, limitations, and future directions, Journal of Non-Newtonian Fluid Mechanics, vol. 337, pp. 105393, 2025.

40. C. Sasmal, Electro-elastic instability and turbulence in electro-osmotic flows of viscoelastic fluids: Current Status and future directions, Micromachines, vol. 16, pp. 187, 2025.

41. S. Raffi, A. Chauhan, C. Sasmal, Combined effects of fluid elasticity and plasticity on flow past a rotating circular cylinder, Physics of Fluids, vol. 37, pp. 023133, 2025.

42. A. Chauhan, S. Raffi, C. Sasmal, Suppression and augmentation in vortex shedding frequency due to fluid elasticity, Journal of Non-Newtonian Fluid Mechanics, vol. 335, pp. 105348, 2025.

43. A. B. Huluka, S. Muthulingam, S. Manigandan, and C. Shekhar, "Synthesizing MePCM from industrial waste-derived nanoparticles via surfactant-free Pickering emulsion for building applications under hot climate," Next Res., p. 100195, 2025.

44. P. Kumar, D. Rani, S. Bera, M. Sabapathy, and S. Sarkar, "Buckling instability mediated wetting behavior of low-energy ion irradiated polydimethylsiloxane (PDMS) films," Appl. Surf. Sci., vol. 692, p. 162677, 2025

45. F. Khan, V. S. Pawak, V. R. Dugyala, T. Mondal, and M. Sabapathy, "Enhanced catalytic degradation of methylene blue using self-propelled Janus micromotors: An insight into decomposing characteristics of passive and active hematite particles studded with Pt nanoparticles," J. Chem. Phys., vol. 161, no. 22, 2024

46. V. S. Pawak, V. K. Bhatt, M. Sabapathy, and V. A. Loganathan, "Multifaceted analysis of microplastic pollution dynamics in the Yamuna River: Assessing anthropogenic impacts and ecological consequences," J. Hazard. Mater., vol. 480, p. 135976, 2024.

47. K. Thota, R. Araga, M. Sabapathy, and M. Kakunuri, "Polystyrene nanofibrous membrane infused with TiO_2 nanoparticles by a one-step electrospinning process for effective oil–water separation," Ind. Eng. Chem. Res., vol. 63, no. 32, pp. 14249–14258, 2024.

48. P. P. Singh, A. Jaswal, A. Singh, and T. Mondal "From Waste to Clean Energy – An Integrated Pyrolysis and Catalytic Steam Reforming Process for Green Hydrogen Production from Agricultural Crop Residues", ACS Sustainable Chemistry & Engineering, 12 (2024) 2058-2069. (IF: 7.1) DOI: https://doi.org/10.1021/acssuschemeng.3c07519

49. P. P. Singh, A. Jaswal, R. Singh, T. Mondal, and K. K. Pant, "Green hydrogen production from biomass –

An assessment of the potential of conventional and advanced bio-oil steam reforming processes", International Journal of Hydrogen Energy, 50 (2024) 627-639. (IF: 8.1) DOI:https://doi.org/10.1016/j.ijhydene.2023.10.099

50. Subhashini, T. Mondal, "The effect of heterogeneity of composition of littered real-world plastic waste on slow pyrolysis: kinetic models and reaction mechanism", Journal of Energy Institute 117, (2024) 101853. (IF: 5.7) DOI: 10.1016/j.joei.2024.101853.
51. A. Jaswal, R. Goswami, P. P. Singh, T. Mondal, "Optimizing pine needle pyrolysis: the role of pre-treatment in boosting bio-oil quality for sustainable energy production", Biomass Conversion and Biorefinery, (2025) 1-15. (IF: 3.5) DOI: 10.1007/s13399-025-06588-4.
52. A. Kumar, D. S. Pandey, T. Mondal, "Experimental investigation of process parameters for hydrogen-rich syngas production from rice husk gasification", Sustainable Chemistry for Climate Action, 6 (2025) 100061. DOI: 10.1016/j.scca.2025.100061
53. A. Goyal, P. P. Singh, A. Banerjee, T. Mondal, "DFT insights into bio-oil model oxygenates interaction on Co and Fe doped LaNiO3 perovskite catalyst", Journal of the Indian Chemical Society, 102 (2025) 101570. (IF=3.2) DOI: 10.1016/j.jics.2025.101570
54. Y. Vora, M. Prajapati, V. Khokhar, S. P. Zodape, K. Kumar, S. Pandey, and K. Kuperkar, "Novel PEGylated deep eutectic solvents: A thermophysical and photophysical investigation," J. Mol. Liq., vol. 127052, 2025.
55. A. Sharma, Y. N. Banothu, P. Majee, S. Kumar, M. Prajapati, K. Kumar, and M. Pradhan, "Redox-mediated synthesis of $Cu_2O/CuO/Mn_3O_4/C$ quaternary nanocomposites as an efficient electrode material for oxygen reduction reaction and supercapacitor application," J. Phys. Chem. Solids, vol. 196, p. 112402, 2025.
56. D. Bejjanki, M. M. Seepana, K. Kumar, and S. K. Puttapati, "WO_3 nanoparticle/biomass derived N□doped activated carbon decorated with polyaniline nanofibers ternary nanocomposite for high□performance symmetric and asymmetric supercapacitor," ChemistrySelect, vol. 9, no. 36, p. e202402504, 2024.
57. G. Kumar, K. Kumar, and A. Bharti, "Quantum chemistry-based approach for density prediction of non-ionic hydrophobic eutectic solvents," J. Solution Chem., vol. 53, no. 9, pp. 1195–1210, 2024.
58. S. Keshri, S. Sudha, S. Roychowdhury, and K. Kumar, "Superhydrophobic coatings: Insights and real□world applications," in Functional Coatings: Innovations and Challenges, 2024, pp. 299–337.
59. G. Kumar, K. Kumar, and A. Bharti, "Energy and environmental metrics-based comparison of ionic liquids/deep eutectic solvents-assisted chemical recycling of waste poly(ethylene terephthalate)," Ind. Eng. Chem. Res., vol. 63, no. 14, pp. 6024–6046, 2024.

DEPARTMENT OF CHEMISTRY

JOURNAL ARTICLES

1. N. Lal, S. B. Shirsath, P. Singh, Deepshikha, and A. C. Shaikh, "Allylsilane as a versatile handle in photoredox catalysis," Chem. Commun. (Camb.), vol. 60, no. 35, pp. 4633–4647, 2024
2. A. Sharma, N. Kaur, and N. Singh, "An encyclopedic compendium on chemosensing supramolecular metal-organic gels," Chem. Asian J., vol. 19, no. 12, p. e202400258, 2024.
3. P. R. Singh, M. Lamba, and A. Goswami, "Copper-catalyzed chemoselective O-arylation of oxindoles: Access to cyclic aryl carboxyimidates," J. Org. Chem., vol. 89, no. 5, pp. 2926–2938, 2024
4. R. Kumar, S. Dutt, and P. Banerjee, "Electrochemical oxidative C-C bond cleavage of methylenecyclopropanes with alcohols," Chem. Commun. (Camb.), vol. 60, no. 31, pp. 4246–4249, 2024.
5. R. T. Parayil et al., "Improved catalytic activity on transitioning from inverse to normal spinel in Zn2− xGa2xSn1− xO4: a robust bifunctional OER and HER electrocatalyst," Sustainable Energy & Fuels, vol. 8, no. 10, pp. 2144–2152, 2024.
6. P. Beniwal, P. Gautam, N. Duhan, and T. J. Kumar, "Reversible hydrogen storage in a superalkali NLi4-decorated biphenylene monolayer: Insights from a first-principles study," ACS Applied Energy Materials, vol. 7, no. 8, pp. 3263–3273, 2024.
7. M. Lamba, P. R. Singh, A. Bandyopadhyay, and A. Goswami, "Synthetic 18F labeled biomolecules that are selective and promising for PET imaging: major advances and applications," RSC Med. Chem., vol. 15, no. 6, pp. 1899–1920, 2024.
8. B. P. Singh, G. S. More, R. Bal, and R. Srivastava, "The cooperative effect of Co and CoO in Co/CoO enabled efficient catalytic hydrogenation and demethoxylation of guaiacol to cyclohexanol," Sustain. Energy Fuels, vol. 8, no. 10, pp. 2153–2166, 2024.
9. R. Kaur, G. Bhardwaj, G. Singh, N. Kaur, and N. Singh, "Calix decorated ZnO nanohybrid material based smart portable electrochemical device for on-site analysis of diethylchlorophosphate," ACS Appl. Nano Mater., vol. 7, no. 11, pp. 12605–12619, 2024.
10. N. Kumar, P. Khatua, and S. K. Sinha, "Can local heating and molecular crowders disintegrate amyloid aggregates?," Chem. Sci., vol. 15, no. 16, pp. 6095–6105, 2024.
11. P. R. Singh, M. Lamba, and A. Goswami, "Copper-catalyzed chemoselective O-arylation of oxindoles: Access to cyclic aryl carboxyimidates," J. Org. Chem., vol. 89, no. 5, pp. 2926–2938, 2024.
12. A. Chaturvedi, S. Gaber, S. Kaur, K. C. Ranjeesh, T. C. Nagaiah, and D. Shetty, "Covalent organic framework bifunctional catalyst for glucose oxidation reaction coupled nitrate to ammonia electrolysis," ACS Energy Lett., vol. 9, no. 5, pp. 2484–2491, 2024.
13. A. Kumar, R. Bal, and R. Srivastava, "Cover feature: Ni nanoparticles supported montmorillonite clay for selective catalytic transfer hydrodeoxygenation of vanillin into

2□methoxy□4□methylphenol (ChemCatChem 9/2024)," ChemCatChem, vol. 16, no. 9, 2024

14. R. Das, P. Kumar Verma, and C. M. Nagaraja, "Design of porphyrin-based frameworks for artificial photosynthesis and environmental remediation: Recent progress and future prospects," Coord. Chem. Rev., vol. 514, no. 215944, p. 215944, 2024
15. N. Banerjee, A. Kushwaha, S. Dutt, D. Saha, T. J. D. Kumar, and P. Banerjee, "Diradical polar reactivity induced by electricity□mediated ground state triplet nitrenium species," Adv. Synth. Catal., vol. 366, no. 13, pp. 3001–3009, 2024.
16. G. S. More, S. Kharb, P. Gill, and R. Srivastava, "Enhancing nitroaromatics reduction through synergistic participation of Ni NPs and nickel ferrite/C nanocomposite: A path towards greener industrial viability," Appl. Catal. A Gen., vol. 681, no. 119785, p. 119785, 2024.
17. R. Kaur, G. Bhardwaj, N. Singh, and N. Kaur, "Geometric transformation of modified multiwalled carbon nanotubes-based heterometallic nanostructured material: A model for the electrochemical discrimination of insecticides," Langmuir, vol. 40, no. 25, pp. 12911–12924, 2024.
18. M. K. Pandey and Y. Nishiyama, "High-resolution heteronuclear correlations between spin-1/2 and half-integer quadrupolar nuclei under fast MAS solid-state NMR," Biophys. Chem., vol. 310, no. 107254, p. 107254, 2024.
19. Divya, S. Saini, S. Kalra, N. Kaur, and N. Singh, "Self-assembled dipeptide grafted nanohybrid material strips for reliable spectroscopic and electrochemical recognition of tryptamine," Sens. Actuators B Chem., vol. 415, no. 135992, p. 135992, 2024.
20. R. Devi, G. Singh, A. Singh, J. Singh, N. Kaur, and N. Singh, "Silver and copper nanoparticle-loaded self-assembled pseudo-peptide thiourea-based organic-inorganic hybrid gel with antibacterial and superhydrophobic properties for antifouling surfaces," ACS Appl. Bio Mater., vol. 7, no. 6, pp. 4162–4174, 2024.
21. G. Saini, A. K. Manal, and R. Srivastava, "Sulfonic acid functionalized SBA– 15 catalyst and mercaptopropionic acid promotor for the selective synthesis of p, p□– bisphenol A: Replacement to mineral acid– based process," Catalysis Today, 2024.
22. P. Gautam and S. K. Sinha, "The blueprint of logical decisions in a NF-κB signaling system," ACS Omega, vol. 9, no. 21, pp. 22625–22634, 2024.
23. S. Mehta et al., "Unleashing ultrahigh capacity and lasting stability: Aqueous zinc□sulfur batteries," Adv. Energy Mater., vol. 14, no. 27, 2024.
24. D. Negi, K. Bhavya, D. Pal, and Y. Singh, "Acemannan coated, cobalt-doped biphasic calcium phosphate nanoparticles for immunomodulation regulated bone regeneration," Biomater. Sci., vol. 12, no. 14, pp. 3672–3685, 2024.
25. R. Ghalta and R. Srivastava, "Advancing sustainable lignin valorisation: utilizing Z-scheme photocatalysts for efficient hydrogenolysis of lignin's β-O-4, α-O-4, and 4-O-5 linkages under ambient conditions," Green Chem., vol. 26, no. 12, pp. 7384–7405, 2024.
26. A. Hazra, T. Kanji, and P. Banerjee, "Brønsted acid-catalyzed cascade ring-opening/cyclization of 3-ethoxy cyclobutanones to access 2,8-

dioxabicyclo[3.3.1]nonane derivatives," J. Org. Chem., vol. 89, no. 12, pp. 8458–8467, 2024.

27. R. T. Parayil et al., "Enhanced electrocatalytic performance of bismuth-doped zinc stannate towards OER and HER through oxygen vacancies: p-block metal ion doping empowering d-block," Sustain. Energy Fuels, vol. 8, no. 14, pp. 3136–3144, 2024.
28. D. Mehta, N. Thakur, and T. C. Nagaiah, "Label-free assessment of neuron-specific enolase via polydopamine over a carbon-nanotube-based flexible immunosensor," ACS Appl. Bio Mater., vol. 7, no. 7, pp. 4702–4709, 2024.
29. M. Kaur, N. Duhan, and T. J. Dhilip Kumar, "N-doped biphenylene monolayer as high-performance 2D electrode material for Li-ion batteries," J. Energy Storage, vol. 94, no. 112353, p. 112353, 2024.
30. A. Janaagal, A. Kushwaha, P. Jhaldiyal, T. J. Dhilip Kumar, and I. Gupta, "Photoredox catalysis by 21-thiaporphyrins: A green and efficient approach for C-N borylation and C-H arylation," Chemistry, vol. 30, no. 46, p. e202401623, 2024.
31. P. Banerjee, N. Yadav, K. Verma, A. Das, and N. Kaur, "Ring-opening of donor-acceptor cyclopropane diester for the synthesis of oxime esters and 2,3-dihydroazete ester," Synthesis (Mass.), vol. 57, no. 01, pp. 91–98, 2025.
32. R. Devi, G. Singh, A. Singh, J. Singh, N. Kaur, and N. Singh, "Silver and copper nanoparticle-loaded self-assembled pseudo-peptide thiourea-based organic-inorganic hybrid gel with antibacterial and superhydrophobic properties for antifouling surfaces," ACS Appl. Bio Mater., vol. 7, no. 6, pp. 4162–4174, 2024.
33. G. More, R. Sunil, and R. Bal, "The Synergy of Alloyed Pd and Ni Over H-NbO x: Enhancing Hydrogenation of Lignin Derivatives and Lignin Bio-Oil into Cyclic Hydrocarbons and Alcohols," ACS Sustainable Chemistry & Engineering, vol. 12, no. 28, pp. 10577–10592, 2024.
34. P. R. Singh, M. Lamba, and A. Goswami, "Copper-catalyzed chemoselective O-arylation of oxindoles: Access to cyclic aryl carboxyimidates," J. Org. Chem., vol. 89, no. 5, pp. 2926–2938, 2024.
35. R. Ghalta, A. Chauhan, and R. Srivastava, "Heterogeneous photocatalytic valorization of lignocellulose biomass for chemical and fuel production via reductive pathways," Sustainable Energy & Fuels, vol. 8, no. 15, pp. 3205–3246, 2024.
36. T. S. Thomas, A. P. Sinha, and D. Mandal, "Modulating electrolyte solvation for high-performance aqueous zinc–sulfur batteries," J. Mater. Chem. A Mater. Energy Sustain., vol. 12, no. 32, pp. 21350–21356, 2024.
37. A. Chowdhury, N. M. Tripathi, R. Jadav, V. Gour, P. Purohit, and A. Bandyopadhyay, "On-resin synthesis of Lanreotide epimers and studies of their structure-activity relationships," RSC Med. Chem., vol. 15, no. 8, pp. 2766–2772, 2024.
38. A. Chauhan, D. Rajendra Kanchan, A. Banerjee, and R. Srivastava, "Oxidative cleavage of α-O-4, β-O-4, and 4-O-5 linkages in lignin model compounds over P, N co-doped carbon catalyst: A metal-free approach," ChemSusChem, vol. 17, no. 21, p. e202401049, 2024.

39. V. Kumar, N. Kumar, U. Ghosh, and S. K. Sinha, “Predicting the electrophoretic mobility of charged particles in an aqueous medium,” Langmuir, vol. 40, no. 31, pp. 16521–16529, 2024.

40. G. S. More, R. Bal, and R. Srivastava, “The Synergy of Alloyed Pd and Ni Over H-NbO x: Enhancing Hydrogenation of Lignin Derivatives and Lignin Bio-Oil into Cyclic Hydrocarbons and Alcohols,” ACS Sustainable Chemistry & Engineering, vol. 12, no. 28, pp. 10577–10592, 2024.

41. M. Gupta, A. Krishna KM, S. Sony, and S. Dhingra, “Visible□light responsive ionic columnar self□assemblies exhibiting fast photothermal energy conversion at room□temperature,” Adv. Funct. Mater., vol. 34, no. 49, 2024.

42. R. Das, R. Kishan, D. Muthukumar, R. S. Pillai, and C. M. Nagaraja, “Engineering the functionality of porous organic polymers (POPs) for metal/cocatalyst-free CO2 fixation at atmospheric conditions,” J. Environ. Chem. Eng., vol. 12, no. 5, p. 113777, 2024.

43. G. Bhardwaj, R. Kaur, S. Saini, N. Singh, and N. Kaur, “AuNP@Self-assembled 4H-Chromene-Enhanced colorimetric detection of ganciclovir using smartphone Technology: Portable solutions for healthcare,” Microchem. J., vol. 207, no. 111734, p. 111734, 2024.

44. K. Gaur, K. Kaur, G. Bhardwaj, N. Kaur, and N. Singh, “Benzimidazolium salt modified microporous silica-coupled iron oxide nanoparticles: Material engineered for nitrate removal,” ACS Appl. Mater. Interfaces, vol. 16, no. 37, pp. 49790–49800, 2024.

45. A. Singh, N. Singh, and N. Kaur, “Design, synthesis, and antimicrobial activity of biodegradable sodium alginate/COF polymeric films for smart monitoring of food spoilage and active food packaging,” ACS Food Sci. Technol., 2024.

46. B. Paul, S. Ghosh, S. Das, and I. Chatterjee, “Fe(III)-catalyzed p-selective C-H bond chalcogenation of phenols,” Org. Biomol. Chem., vol. 22, no. 40, pp. 8133–8137, 2024

47. R. Kishan, P. Rani, G. Singh, and C. M. Nagaraja, “Functionalized Covalent Triazine Framework (CTF) for catalytic CO2 fixation and synthesis of value-added chemicals,” Crystal Growth & Design, vol. 24, no. 19, pp. 7878–7887, 2024.

48. P. Chahal, A. Kushwaha, and T. J. Dhilip Kumar, “Inelastic scattering of PO+ by H2 at interstellar temperatures,” Mon. Not. R. Astron. Soc., vol. 534, no. 3, pp. 2030–2036, 2024

49. S. Dutta, A. Chowdhury, and A. Bandyopadhyay, “Introducing chemoselective peptide conjugation via N-alkylation of pyridyl-alanine: Solution and solid phase applications,” Org. Lett., vol. 26, no. 38, pp. 8206–8210, 2024.

50. P. Bundel, V. Chawla, A. J. Saikia, and Y. Singh, “Nanohydroxyapatite-loaded, self-assembled peptide gels for antibacterial and osteogenic activities,” ACS Appl. Nano Mater., vol. 7, no. 18, pp. 22334–22348, 2024.

51. B. Gopal, M. Lamba, A. Kushwaha, P. R. Singh, T. J. Dhilip Kumar, and A. Goswami, “Nucleophilic ring opening of donor-acceptor cyclopropanes through umpolung reactivity of organochlorophosphines: Phosphine oxide-functionalized boron-pendanted compounds,” Org. Lett., vol. 26, no. 40, pp. 8441–8446, 2024.

52. A. Chauhan, D. Rajendra Kanchan, A. Banerjee, and R. Srivastava, “Oxidative cleavage of α-O-4, β-O-4, and 4-O-5 linkages in lignin model compounds over P, N co-doped carbon catalyst: A metal-free approach,” ChemSusChem, vol. 17, no. 21, p. e202401049, 2024.

53. P. Mistry, S. Das, R. Patra, and I. Chatterjee, “Exploring N-centered umpolung reactivity in photoredox-catalyzed amidation with an α-iminoester,” Org. Chem. Front., vol. 11, no. 23, pp. 6778–6783, 2024.

54. T. Akhtar, K. Kaur, G. Singh, N. Kaur, and N. Singh, “Fluorescent ionic liquid aggregates: A self-assembled approach for pesticide detection and catalysis,” J. Agric. Food Chem., 2024.

55. H. Dhiman, R. Ghalta, R. Bal, and R. Srivastava, “N-doped carbon nitride with embedded pd nanoparticles for selective photocatalytic valorisation of biomass-derived vanillin into vanillyl alcohol and 2-methoxy-4-methyl phenol,” ACS Appl. Nano Mater., vol. 7, no. 21, pp. 24819–24832, 2024.

56. V. Parihar, G. Singh, N. Duhan, S. Kumar, T. J. Dhilip Kumar, and C. M. Nagaraja, “Non-noble metal anchored 2D covalent organic framework for ambient CO2 fixation to high-value compounds,” ChemSusChem, vol. 18, no. 4, p. e202401497, 2025

57. K. Bhavya et al., “Oxygen nanobubbles halt tumor aggression and metastasis by inhibiting hypoxia-induced epithelial-to-mesenchymal transition in lung and mammary adenocarcinoma,” ACS Appl. Nano Mater., vol. 7, no. 21, pp. 25198–25211, 2024.

58. H. Paul, D. Das, S. K. Ariyan, S. Pradhan, and I. Chatterjee, “Photoredox catalyzed reductive trifluoromethylation of imines via a radical umpolung strategy,” Chem. Commun. (Camb.), vol. 60, no. 89, pp. 13016–13019, 2024.

59. P. Gautam, I. Ciuta, V. B. Teif, and S. K. Sinha, “Predicting p53-dependent cell transitions from thermodynamic models,” J. Chem. Phys., vol. 161, no. 13, 2024.

60. A. K. Manal, D. Rajendra Kanchan, A. Banerjee, J. Zhao, and R. Srivastava, “Recycling Valuable Phenol from Polycarbonate Plastic Waste Via Direct Depolymerization and Csp2− Csp3 Bond Cleavage Under Mild Conditions,” ChemSusChem, vol. 17, no. 24, 2024.

61. A. K. Manal, A. Shivhare, S. Lande, and R. Srivastava, “Synergistic catalysis for promoting selective C-C/C-O cleavage in plastic waste: structure-activity relationship and rational design of heterogeneous catalysts for liquid hydrocarbon production,” Chem. Commun. (Camb.), vol. 60, no. 90, pp. 13143–13168, 2024.

62. C. Kumari, N. Prasad Sahoo, M. Kumar, and A. Goswami, “Tetrasubstituted chromanone synthesis by a tandem oxa□Michael/Michael addition reaction of 2□hydroxyacetophenones and alkynyl nitriles,” European J. Org. Chem., 2024.

63. P. Rani, R. Das, and C. M. Nagaraja, “A review on framework (MOF/COF/POP)-based materials for efficient conversion of CO2 to bio-active oxazolidinones,” Inorganic Chemistry Frontiers, 2025

64. B. Pati et al., “An upgraded solid-phase assembly of chelators (DOTA and NOTA) enabled bacterial uptake studies of radiolabeled peptide,” Chembiochem, vol. 26, no. 1, p.

e202400996, 2025.

65. N. Rasool, Y. Thakur, and Y. Singh, “Antibacterial lecithin/chitosan nanoparticles for the sustained release of ciprofloxacin to treat ocular bacterial infections,” Chem. Asian J., vol. 20, no. 5, p. e202400933, 2025.
66. S. Kalra, S. Saini, N. Kaur, and N. Singh, “Dipeptide-functionalized type II heterojunctions: a bioinspired dual functionality for quinalphos detection and photodegradation,” Journal of Materials Chemistry A, vol. 13, no. 3, pp. 2019–2031, 2025.
67. N. Bhatia, D. Mehta, K. Garg, S. Kaur, and T. C. Nagaiah, “Employing mesoporous nitrogen containing carbon for simultaneous electrochemical detection of heavy metal ions,” Chem. Asian J., vol. 20, no. 5, p. e202401315, 2025
68. Ashy, K. Banerjee, and M. Gupta, “Enhancing solar thermal fuel efficiency through dopant-mediated structural modifications in triphenylene-based mesogenic matrices,” ACS Appl. Energy Mater., 2024.
69. K. Paul, A. Sharma, and A. Pandey, “Exploring algorithmic solutions for the Independent Roman Domination problem in graphs,” Discrete Appl. Math., vol. 364, pp. 143–152, 2025.
70. Ashy and M. Gupta, “Photoresponsive ionic liquid crystals,” J. Mol. Liq., vol. 419, no. 126740, p. 126740, 2025.
71. M. Kumar, A. Dhiman, G. Singh, N. Kaur, and N. Singh, “Pyrene functionalized organic cation receptor-based ‘turn-on’ fluorescence approach for monitoring of chlorpyrifos in food, soil, and water samples,” Anal. Chim. Acta, vol. 1336, no. 343488, p. 343488, 2025.
72. P. Beniwal and T. J. Dhilip Kumar, “Superalkali OLi3 anchored biphenylene for hydrogen storage: Acumen from first-principles study,” J. Energy Storage, vol. 108, no. 114947, p. 114947, 2025.
73. S. Kaur et al., “Unleashing high yield urea production by pulse electrodeposition of Bi/Cu via Co-reduction of N2 and CO2,” ACS Energy Letters, vol. 10, no. 1, pp. 85–93, 2024
74. N. Duhan, B. Chakraborty, and T. D. Kumar, “Biphenylene-graphene van der Waals bilayer heterostructure as an anode material for Li-ion batteries,” Journal of Energy Storage, vol. 112, 2025.
75. M. Singh et al., “Boosted capacity and stability of aqueous iron-sulfur battery using DMSO as an electrolyte additive,” Energy Storage Mater., no. 103965, p. 103965, 2024.
76. A. Singh, A. Kumar, N. Kaur, and N. Singh, “Chemically Modified Gelatin/Chitosan as a Chemosensor Adsorbent for Detection of Toxic Metals and Removal of Organic Dyes,” Polymers for Advanced Technologies, vol. 36, no. 1, 2025.
77. S. Dutt, N. Duhan, V. Kale, and P. Banerjee, “Electrochemical ring opening and [3 + 2] cycloaddition of aziridines: Access to 1,2-bifunctionalized products and imidazolines,” Org. Lett., vol. 27, no. 4, pp. 989–994, 2025.
78. V. Kale, S. Shee, S. Dutt, N. Sinha, A. T. Biju, and P. Banerjee, “Electroredox N-heterocyclic carbene-catalyzed enantioselective (3 + 3) annulation of enals with 2-naphthols,” Org. Lett., vol. 27, no. 1, pp. 57–62, 2025.
79. N. M. Tripathi, B. K. Das, A. Chowdhury, V. Gour, and A. Bandyopadhyay, “Introducing regioselective disulfide linkages in

peptides under pseudodilute conditions by harnessing bro□nsted acid-activated N-chlorosuccinimide," JACS Au, vol. 5, no. 2, pp. 802–810, 2025.

80. A. C. Shaikh et al., "Isolated neutral organic radical unveiled solvent-radical interaction in highly reducing photocatalysis," Angew. Chem. Int. Ed Engl., vol. 64, no. 9, p. e202420483, 2025

81. R. Kishan, P. Rani, N. Duhan, T. J. Dhilip Kumar, and C. M. Nagaraja, "Noble-metal-free ZnII-anchored pyrene-based covalent organic framework (COF) for photocatalytic fixation of CO2 from dilute gas into bioactive 2-oxazolidinones," ChemSusChem, vol. 18, no. 10, p. e202402535, 2025.

82. V. Parihar, B. Kumar, G. Singh, and C. M. Nagaraja, "Rational design of porous organic framework (POF) for efficient conversion of CO2 to cyclic carbonates and 2-oxazolidinones at atmospheric pressure conditions," Chem. Asian J., vol. 20, no. 8, p. e202401546, 2025.

83. N. Lal, Deepshikha, P. Singh, and A. C. Shaikh, "Red-light mediated formylation of indoles using a helical carbenium ion as a photoredox catalyst," Chem. Commun. (Camb.), vol. 61, no. 14, pp. 3005–3008, 2025.

84. P. Singh, Deepshikha, N. Lal, M. V. Mane, and A. C. Shaikh, "Ruthenium-catalyzed intramolecular Allene-alkyne cascade cyclization: Access to the sulfone-cyclopenta[a]naphthalene core," Org. Lett., vol. 27, no. 5, pp. 1153–1158, 2025.

85. L. Sharma, Ranbir, G. Singh, N. Kaur, and N. Singh, "Surface engineered nanoparticles coupled with pattern recognition techniques for rapid identification and discrimination of multiple thiols in a real sample matrix," Anal. Chem., vol. 97, no. 1, pp. 1010–1018, 2025.

86. V. Chawla, P. Bundel, and Y. Singh, "ALP-mimetic cyclic peptide nanotubes: A multifunctional strategy for osteogenesis and bone regeneration," Biomacromolecules, vol. 26, no. 3, pp. 1686–1700, 2025.

87. S. Kaur, K. Garg, and T. C. Nagaiah, "Aqueous Zn-ORR/CER battery in tandem electrolyte utilizing dual-function Ag catalyst," ACS Energy Lett., pp. 1430–1438, 2025.

88. S. Tolani, N. M. Tripathi, D. Mitra, A. Bandyopadhyay, and A. Kumar, "BPS2025 - Impact of differential stapling on peptide recognition and dynamics," Biophys. J., vol. 124, no. 3, p. 395a, 2025.

89. M. Singh et al., "Economical 550 V energy harvesting from plastic and electronic wastes using human bodily motions," J. Mater. Chem. A Mater. Energy Sustain., 2025.

90. A. Sharma, N. Kaur, and N. Singh, "Functional nanofibres of Tb(III)-coupled metal-organic gel: Detection to decontamination of thiabendazole in environmental samples," Chem. Asian J., vol. 20, no. 6, p. e202401088, 2025.

91. P. Beniwal and T. J. Dhilip Kumar, "Li-doped 2D aza-fused covalent organic framework: a promising avenue for hydrogen storage," Sustain. Energy Fuels, 2025.

92. P. Beniwal, "Modulation of H2 adsorption in C9N4 monolayer via biaxial strain for hydrogen storage," Applied Surface Science, vol. 690, 2025.

93. A. Chauhan, R. Ghalta, and R. Srivastava, "Photocatalytic hydrogenation of levulinic acid and furfural to fuel additives over Ru-

decorated carbon-channelized catalyst," ACS Sustain. Chem. Eng., 2025.

94. K. Kaur, T. Akhtar, G. Singh, N. Kaur, and N. Singh, "Rapid detection and visible light driven photocatalytic degradation of chloramphenicol in aqueous medium using CoAl2O4/rGO nanocomposite," New J Chem, 2025.

95. A. Sharma, N. Kaur, and N. Singh, "Peptidomimetic-Based Interface Design: Efficient Encapsulation of Diverse Active Pharmaceutical Ingredients in Wastewater Remediation during Effluent Treatment Plant (ETP) Processing," Langmuir, no. 8, pp. 5355–5370, 2025.

96. A. Nagar, G. Singh, A. Alam, P. Pachfule, and C. M. Nagaraja, "Benzothiadiazole-based donor-acceptor covalent organic framework for photocatalytic hydrogen generation," Sustainable Energy & Fuels, vol. 9, no. 7, pp. 1885–1894, 2025.

97. A. Nagar, G. Singh, A. Alam, P. Pachfule, and C. M. Nagaraja, "Design of donor-acceptor covalent organic frameworks for photocatalytic hydrogen generation," Mater. Chem. Front., 2025.

98. N. Maurya, P. Jana, H. Sharma, S. Bandyopadhyay, and S. Das, "5,5'-Biindeno[2,1-c]fluorene: importance of C5-C5' linkage for an indeno[2,1-c]fluorene dimer exhibiting an open-shell ground state," Chem. Commun. (Camb.), vol. 61, no. 25, pp. 4808–4811, 2025.

99. M. Kumar, A. Kumar, S. Devi, and A. Goswami, "Ag (I)-Catalyzed Intramolecular Cascade Cyclization to Construct [6-5-7-6] Heterotetracyclic (– N and– O) Indole Fused Scaffolds," Advanced Synthesis & Catalysis, vol. 367, no. 12, 2025.

100. P. Beniwal, B. Chakraborty, and T. J. Dhilip Kumar, "Effect of N-doping and biaxial compressive strain on H2 adsorption of 2D holey graphyne monolayer via first-principles study," Int. J. Hydrogen Energy, vol. 115, pp. 186–197, 2025.

101. R. Devi, "Electrospun Nanofibers with Antibacterial and Antioxidant Activities for Air Purification," ACS Applied Nano Materials, vol. 8, pp. 5513–5526, 2025.

102. D . Bhardwaj, V. Chawla, A. Gupta, A. Dhiman, Y. Singh, and G. Agrawal, "Fe/Se nanocomposite-loaded chitosan/alginate films for wound healing," Int. J. Biol. Macromol., vol. 306, no. Pt 3, p. 141626, 2025

103. A . Chaturvedi, S. Kaur, K. Garg, and T. C. Nagaiah, "High yield ammonia production via glucose oxidation assisted electrochemical nitrate reduction," Journal of Materials Chemistry A, vol. 13, no. 14, pp. 9923–9932, 2025.

104. V. Chawla, S. Roy, J. Raju, P. Bundel, D. Pal, and Y. Singh, "Proangiogenic cyclic peptide nanotubes for diabetic wound healing," ACS Appl. Bio Mater., vol. 8, no. 4, pp. 2787–2799, 2025.

105. N. Saini, A. Thakur, S. Saini, N. Kaur, and N. Singh, "Synergizing ML and Fluorescent Biomolecules: A New Era in Sensing Platforms," TrAC Trends in Analytical Chemistry, 2025.

106. P. K. Sharma, P. Jana, S. Bandyopadhyay, and S. Das, "Cyano disubstituted tetrabenzoindeno[2,1-a]fluorene: open-shell or closed-shell?," Chem. Commun. (Camb.), vol. 60, no. 57, pp. 7319–7322, 2024

107. P. K. Sharma, A. Babbar, S. Sahewal, and S. Das, “Syntheses and Properties of Two Isomeric Phenanthroacephenanthrylene Derivatives,” European Journal of Organic Chemistry, vol. 27, no. 48, 2024.

108. H. Sharma, P. Jana, D. Mallick, S. Bandyopadhyay, and S. Das, “6,6’-Biindeno[1,2-b]fluorene: an open-shell indenofluorene dimer,” Chem. Sci., vol. 15, no. 48, pp. 20215–20222, 2024.

DEPARTMENT OF CIVIL ENGINEERING

JOURNAL ARTICLES

1. K. Singh and S. R. Chavan, “LH-moment-based regional flood frequency analysis framework to determine design floods in Krishna River basin,” J. Hydrol. Reg. Stud., vol. 58, no. 102282, p. 102282, 2025.
2. A. K. Singh and S. R. Chavan, “An approach to regional flood frequency analysis for general peak discharge distribution datasets,” J. Hydrol. (Amst.), vol. 650, no. 132493, p. 132493, 2025.
3. S. Kaur and S. R. Chavan, “Assessing the impacts of land use and climate change on streamflow generation in the Nowrangpur catchment based on the SWAT–land-use update tool,” J. Water Clim. Chang., vol. 16, no. 1, pp. 70–91, 2025.
4. A. Tyagi, N. Gupta, R. K. Tiwari, N. James, and S. R. Chavan, “Determining the impact of anthropogenic activities and climate change on landslide susceptibility for the Himalayan region,” Nat. Hazards (Dordr.), vol. 121, no. 5, pp. 5239–5265, 2025.
5. P. L. Kurmi and P. Haldar, “Seismic evaluation of open ground storey RC buildings with realistic functional openings in upper storey infills,” Structures, vol. 72, no. 108214, p. 108214, 2025.
6. R. M. Kannan, P. Haldar, and N. James, “Assessment of shallow rocking foundation supporting RC shear wall frame structure: a numerical study,” Bull. Earthquake Eng., vol. 23, no. 4, pp. 1489–1511, 2025
7. O. Mishra, A. N. Roy Chowdhury, and P. Haldar, “A concurrent multi-scale framework for performance assessment of moment resisting reinforced concrete frame,” Eng. Struct., vol. 330, no. 119949, p. 119949, 2025.
8. S. Mishra, I. Dhada, P. Haldar, and P. Zende, “Evaluation of photocatalytic efficiency of TiO2 applied over cement plaster for mitigating urban air pollutant: TVOC,” Build. Environ., vol. 267, no. 112223, p. 112223, 2025.
9. D. Baldev, T. Modgil, M. Surana, P. Haldar, Y. Singh, and J. Pathak, “Sustainable local seismic culture in vernacular buildings of the Indian Himalayas: Field observations, knowledge dissemination, and recommendations,” Int. J. Disaster Risk Reduct., vol. 111, no. 104689, p. 104689, 2024.
10. K. K. K. Reddy and P. Haldar, “Influence of effective stiffness on seismic response of RC frame building with shear walls,” J. Vib. Eng. Technol., vol. 12, no. S2, pp. 1635–1645, 2024.
11. P. L. Kurmi and P. Haldar, “Effect of prevalent irregular configuration of infills on the seismic collapse of Indian RC buildings,” Struct. Infrastruct. Eng.:

Maint. Manage. Life-Cycle Des. Perform., pp. 1–14, 2024.

12. R. M. Kannan, N. James, and P. Haldar, “Seismic response of rocking shallow foundation in RC framed structure: A parametric study,” J. Vib. Eng. Technol., vol. 12, no. 5, pp. 7121–7134, 2024.
13. P. L. Kurmi and P. Haldar, “Comparative study of the code-prescribed design interventions for open ground storey buildings in India,” Innov. Infrastruct. Solut., vol. 9, no. 4, 2024.
14. R. M. Kannan, P. Haldar, and N. James, “Isolated shallow rocking foundation on different soils with varying embedment depth,” Dis Prev Res, vol. 3, no. 1, 2024.
15. Z. Naorem and P. Haldar, “Effect of seismic design provisions of Indian standards on seismic response of URM infilled RC buildings on hill,” J. Vib. Eng. Technol., vol. 12, no. 5, pp. 7107–7120, 2024.
16. K. K. K. Reddy, P. Haldar, and S. Mishra, “Parametric study on chronological evolution of seismic design provisions for Indian RC shear wall buildings,” J. Vib. Eng. Technol., vol. 12, no. 3, pp. 4699–4713, 2024.
17. D. Banerjee, S. Ganguly, and W.-P. Tsai, “A novel hybrid machine learning framework for spatio-temporal analysis of reference evapotranspiration in India,” J. Hydrol. Reg. Stud., vol. 58, no. 102271, p. 102271, 2025.
18. S. Ganguly and S. Ganguly, “Using Iron-Oxide Nanoparticles Synthesized at Varying Temperatures to Remove Cr(VI): Characterization, Adsorption Mechanism, and Optimization study. Surfaces and Interfaces,” vol. 51, 2025
19. T. Prashanth, S. Ganguly, G. Manoj, and D. Teppala, “A novel approach to analyze the impact of groundwater drought on the perennial environment and hyporheic zone of surface water bodies,” J. Hydrol. (Amst.), vol. 652, no. 132668, p. 132668, 2025.
20. R. Goswami, R. Das, and S. Ganguly, “Performance optimization study on a novel waste heat flow-based wick-finned distillation system for clean and sustainable pure water production,” Sustain. Energy Technol. Assessments, vol. 72, no. 104076, p. 104076, 2024.
21. A. Das, D. Banerjee, and S. Ganguly, “Assessment of the evolution of groundwater quality for the state of California, United States using weighted index overlay analysis,” 2024.
22. S. Ganguly and S. Ganguly, “Addition of magnetite nanoparticles and chitin biopolymer powders into the ambient sandy loam soil for the effective removal of Cr(VI): Batch adsorption and optimization study by response surface methodology,” Adv. Powder Technol., vol. 35, no. 6, p. 104487, 2024.
23. H. Ahmad, T. M. Rahul, and N. K. Asija, “Accelerators and hurdles, and their mediating effects on electric vehicle adoption,” Transp. Policy (Oxf.), vol. 162, pp. 20–30, 2025.
24. H. Ahmad and T. M. Rahul, “Targeted information intervention among consumer clusters for electric vehicle penetration – A case study of Punjab, India,” Case Stud. Transp. Policy, vol. 16, no. 101202, p. 101202, 2024.
25. G. Goet, I. Sonkar, S. Kumar, K. S. Hari Prasad, and C. S. P. Ojha, “Effect of salinity on crop growth and soil moisture dynamics: A study with root water uptake model,” J. Hazard. Toxic Radioact. Waste, vol. 28, no. 3, 2024.
26. S. Sudesan, I. Sonkar, H. Prasad, and O. Chandra Shekhar Prasad,

"Experimental study to understand the effects of deficit irrigation in maize," J. Water Clim. Chang., vol. 15, no. 8, pp. 3815–3827, 2024.

27. A. Kumar and I. Sonkar, "Estimability analysis and optimization of soil hydraulic and abiotic stress parameters from root zone salt-water dynamics in soil column lysimeter," Plant Soil, 2025.
28. J. Abass and P. Muthulingam, "Incorporation of Phase Change Materials into Building Materials and Envelopes for Thermal Comfort and Energy Optimization: A Comprehensive Review," Journal of Building Engineering, 2025.
29. B. H. Abdin, S. Muthulingam, S. Manigandan, and S. Chandra, Synthesizing MePCM from Industrial Waste-Derived Nanoparticles via Surfactant-Free Pickering Emulsion for Building Applications Under Hot Climate. 2025.
30. P. J. Abass and S. Muthulingam, "Energy-efficient concrete roofs for buildings: Integrating macroencapsulated nano-enhanced PCMs for hot climate adaptation," Case Stud. Therm. Eng., vol. 66, no. 105744, p. 105744, 2025.
31. B. H. Abdin and S. Muthulingam, "Advancing multi-weather resilient roof: Experiment augmented multifaceted thermal parameter analysis with integrated hexad PCMs under tropical steppe climate," Building and Environment, vol. 269, 2025.
32. S. Chauhan, S. Muthulingam, and S. Chandra, "Analysis of High-Temperature and Strain Amplitude Effects on Low Cycle Fatigue Behavior of Pitting Corroded Killed E350 BR Structural Steel," International Journal of Fatigue, 190 AD.
33. D. Baldev, T. Modgil, M. Surana, P. Haldar, Y. Singh, and J. Pathak, "Sustainable local seismic culture in vernacular buildings of the Indian Himalayas: Field observations, knowledge dissemination, and recommendations," Int. J. Disaster Risk Reduct., vol. 111, no. 104689, p. 104689, 2024.
34. I. Latif, M. Surana, and A. Banerjee, "Effects of material properties uncertainty on seismic fragility of reinforced-concrete frames using machine learning approach," J. Build. Eng., vol. 86, no. 108871, p. 108871, 2024.
35. A. Jain and M. Surana, "Peak floor acceleration demands in torsionally irregular buildings," Earthq. Eng. Struct. Dyn., vol. 53, no. 3, pp. 1145–1167, 2024.
36. S. K. Saikia, A. S. Rajput, and K. Saini, "Utilizing ground granulated blast furnace slag during carbon sequestration in concrete," J. Mater. Civ. Eng., vol. 37, no. 2, 2025.
37. S. N. Amini and A. S. Rajput, "Effect of reinforcement corrosion and axial load levels on seismic response of non□ductile reinforced concrete columns," Struct. Concr., no. suco.202400571, 2025.
38. P. K. V. R. Padalu, M. Surana, and A. S. Rajput, "Seismic behaviour of timber-reinforced masonry housing typologies in the Himalayan region: A state-of-the-art survey," Iran. J. Sci. Technol. Trans. Civ. Eng., 2025.
39. S. K. Saikia and A. S. Rajput, "Effect of carbon sequestration methods on uptake potential and characteristics of ordinary portland cement-based concrete," Constr. Build. Mater., vol. 418, no. 135330, p. 135330, 2024.
40. S. K. Saikia, A. S. Rajput, and K. Saini, "Effect of employing carbon sequestration technologies while using

electric arc furnace ash in cementitious binder," J. Build. Eng., vol. 95, no. 110192, p. 110192, 2024.

41. S. N. Amini and A. S. Rajput, "Seismic response assessment of ductile reinforced concrete columns affected by corrosion and axial load variations," Structures, vol. 65, no. 106699, p. 106699, 2024.
42. S. N. Amini and A. S. Rajput, "Seismic performance of ductile and non-ductile reinforced concrete columns under varied axial compression. Structural Engineering and Mechanics, An Int'l," Journal, vol. 91, no. 5, pp. 427–441, 2024
43. S. N. Amini and A. S. Rajput, "Effect of corrosion location and transverse reinforcement on flexural-ductile response of reinforced concrete beams," International Journal of Civil Infrastructure, 2022.
44. S. N. Amini and A. S. Rajput, "Assessing the seismic performance of lightly reinforced columns under the influence of corrosion: an experimental and Numerical study," World Conference on Earthquake Engineering.
45. A. Gani, S. Pathak, A. Hussain, S. Ahmed, and P. J. Omar, "Impact of Pollutants on Groundwater Quality and Health Risk Assessment of Quaternary Aquifer, Northern India," Toxic, and Radioactive Waste ASCE, vol. 29, 2025.
46. A. Gani, S. Pathak, and A. Hussain, "Comprehensive Analysis of Modified Heavy Metal Pollution Index and Health Risk Assessment in the Yamuna River of Delhi, India: A Crucial Study for Environmental Health Management," Toxic, and Radioactive Waste, vol. 28, 2024.
47. A. Gani, S. Pathak, A. Hussain, A. K. Shukla, and S. Chand, "Emerging pollutant in surface water bodies: a review on monitoring, analysis, mitigation measures and removal technologies of micro-plastics," Environ. Geochem. Health, vol. 46, no. 7, p. 214, 2024.
48. A. Gani, A. Hussain, S. Pathak, and A. Banerjee, "An empirical investigation on the elimination of heavy metals using bioremediation method for selected plant species," Phys. Chem. Earth (2002), vol. 134, no. 103568, p. 103568, 2024.
49. A. Gani, A. Hussain, S. Pathak, and P. J. Omar, "Analysing heavy metal contamination in groundwater in the vicinity of Mumbai's landfill sites: An in-depth study," Top. Catal., vol. 67, no. 15–16, pp. 1009–1023, 2024.
50. A. Banerjee et al., "Long-term climate change and anthropogenic activities together with regional water resources and agricultural productivity in Uganda using Google Earth Engine," Phys. Chem. Earth (2002), vol. 134, no. 103545, p. 103545, 2024.

Conference Papers

1. Hibretu Kaske Kasa, Putul Haldar*, Adil Ahmad, (2025), "Numerical Study on In-plane Behaviour of Reinforced Concrete Sandwich Panel with Expanded Poly-Styrene Core", Innovative Building Materials and Construction Technologies Expo-2025 (IBMCTE-2025), 19–20 March 2025, New Delhi, India.
2. Manoj Kannan Rajamanickam, Naveen James, Putul Haldar (2024), "Effect of Shallow Rocking Foundation on Seismic Energy Dissipation Capacity and Self-Centering Ability of RC

Framed Buildings", 8th International Conference on Recent Advances in Geotechnical Earthquake EngineeringandSoilDynamics,11-14 December 2024, IIT Guwahati, India.

3. Hibretu Kaske Kasa, Putul Haldar*, Adil Ahmad, (2024), "Numerical Study on Effect of Variation in Thickness of Expanded Polystyrene Core in Sandwich Panel under Axial Load", 18th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-18), 13–15 November 2024, Chiang Mai, Thailand.
4. Shweta Mishra, Putul Haldar*, and Indramani Dhada, (2024), "Effectiveness of TiO2-Anatase & Rutile Phase in Photocatalytic Reduction of Urban Air Pollution", 18th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-18), 13–15 November 2024, Chiang Mai, Thailand.
5. Onkar Mishra, Putul Haldar*, Amar Nath Roy Chowdhury, (2024), "Nonlinear Finite Element Assessment of Bolted Precast Beam-Column Connection: A Parametric Study", 18th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-18), 13–15 November 2024, Chiang Mai, Thailand.
6. Shweta Mishra, Putul Haldar*, and Indramani Dhada, (2024), "Experimental Investigation of Photocatalytic Efficiency of TiO2 in Reducing Urban Air Pollution", 7th International Conference Series on Geotechnics, Civil Engineering and Structures (CIGOS-2024), 04-05 April 2024, Ho Chi Minh City, Vietnam.
7. Hibretu Kaske Kasa, Putul Haldar*, Adil Ahmad (2024), "FEA of the in-plane behaviour of reinforced concrete sandwich panels with an EPS core", 18thWorld Conference on Earthquake Engineering (WCEE2024), in Milan, Italy, from 30th June to 5th July 2024.
8. Onkar Mishra, Putul Haldar*, Amar Nath Roy Chowdhury (2024) "A Concurrent Multi-scale Finite Element Framework for Precast Bolted Beam-Column Connection", 1st International Conference on Net-Zero Built Environment: Innovations in Materials, Structures, and Management Practices, June 19-21, 2024, Oslo, Norway.
9. Zimmy Singh Naorem, and Putul Haldar* (2024) "Influence of Openings on Seismic Failure Mechanism of URM Infilled RC Hill Buildings", 1st International Conference on Net-Zero Built Environment: Innovations in Materials, Structures, and Management Practices, June 19-21, 2024, Oslo, Norway.
10. Onkar Mishra, Putul Haldar*, Amar Nath Roy Chowdhury (2024) "A Concurrent Multi-scale Finite Element Framework for Precast Bolted Beam-Column Connection", 1st International Conference on Net-Zero Built Environment: Innovations in Materials, Structures, and Management Practices, June 19-21, 2024, Oslo, Norway.
11. Zimmy Singh Naorem, Mithlesh Patel and Putul Haldar* (2024), "Effect of Floating Columns on the Seimic Response of Infilled RC Buildings on Hills", 7th International Conference on Civil Engineering for Sustainable Development (ICCESD 2024), 7 - 9 February 2024, Khulna, Bangladesh.
12. Manoj Kannan Rajamanickam, Naveen James, Putul Haldar* (2024), "Effect of Shallow Rocking Foundation on Seismic Energy Dissipation Capacity and Self-Centering Ability of RC Framed Buildings", 8th International Conference on Recent Advances in Geotechnical Earthquake EngineeringandSoilDynamics,11-14

December 2024, IIT Guwahati, India.

13. Prashanth T., Ganguly S., Gummadi M., and Dharmraj. Identification and mapping the surface water bodies that are sensitive to groundwater drought in the Godavari basin, India. European Geosciences Union (EGU) General Assembly 2024 abstract. Vienna, Austria. 18th Apr 2024. doi: 10.5194/egusphere-egu24-55.
14. Das A, Banerjee D and Ganguly S. Assessment of the evolution of groundwater quality for the state of California, United States using weighted index overlay analysis. European Geosciences Union (EGU) General Assembly 2024 abstract. Vienna, Austria. 16th Apr 2024. doi: 10.5194/egusphere-egu24-8383.
15. Ganguly S, Das A and Banerjee D. Assessment of the Evolution of Groundwater Quality Using Machine Learning and Deep Learning Models. AOGS Annual Meeting 2024. Pyeongchang, South Korea, 23-28th June 2024.
16. Ganguly S and Ganguly S. Numerical Modelling on the Tranport and Fate of Hexavalent Chromium Leaked from a Landfill Site. India-Dalhousie Student Research Symposium. Online event, April 3-4, 2024.
17. Prashanth T. and Ganguly S. Estimation of suspended sediment concentration and discharge by using satellite derived bathymetry technique for the South Indian Rivers. Poster presentation in State of the Art Techniques in River Corridor Research and Management: An Indo French Perspective. IIT Delhi. 4-5th July 2024.
18. Prashanth T, Ganguly S, Mohanta, B.K. and Ganguly S. Groundwater vulnerability assessment due to seawater intrusion by integrating well–logging, machine learning & MCDA techniques. American Geophysical Union (AGU) Fall Meeting 2024 abstract. Washington DC, USA, 9-13th Dec 2024.
19. Ganguly S and Ganguly S. On the natural adsorption capacity of the ambient soil of Rupnagar, Punjab, India to attenuate Cr (VI) plume: Insights into the fate & transport and associated health risks. American Geophysical Union (AGU) Fall Meeting 2024 abstract. Washington DC, USA, 9-13th Dec 2024.
20. Banerjee D, Ganguly S and Tsai W-P. Precipitation Nowcasting using Convolutional Long Short-Term Memory (ConvLSTM): A case study in Punjab, India. American Geophysical Union (AGU) Fall Meeting 2024 abstract. Washington DC, USA, 9-13th Dec 2024.
21. Sonkar A and Ganguly S and Das R. Revitalizing Abandoned Oil Wells in Gandhar Geothermal Field, India: A Study on Geothermal Energy Extraction Using Well Doublet Technology. American Geophysical Union (AGU) Fall Meeting 2024 abstract. Washington DC, USA, 9-13th Dec 2024.
22. Prashanth T, Ganguly S, Teppala D, and Gummadi M. A holistic approach for identifying artificial groundwater recharge zones to rejuvenate ungauged lakes affected by groundwater drought. International Groundwater Conference 2025 National Institute of Hydrology, Roorkee, India 5-7th March 2025.
23. Banerjee D and Ganguly S. Integrating remote sensing, GIS, and machine learning for groundwater logging detection and forecasting in agriculture-dominated regions. International Groundwater Conference 2025. National Institute of Hydrology, Roorkee, India 5-7th March 2025

24. Kantode A, Prashanth T, & Ganguly S. Development of a precise regional-scale groundwater model by coupling MODFLOW & Machine Learning algorithms: A case study in Bist-Doab region, Punjab, India. European Geosciences Union (EGU) General Assembly 2024 abstract. To be held in Vienna, Austria. 27th April-2nd May 2025. Doi: 10.5194/egusphere-egu25-1365, 2025. (Abstract accepted).
25. Prashanth T & Ganguly S. On a novel approach to identify ungauged rivers sections losing their perenniality & rejuvenation potential due to combined natural forcing and anthropogenic activities. AOGS Annual Meeting 2025. To be held in Singapore, 27 Jul-1st Aug 2025. (Abstract accepted).
26. Ganguly S & Ganguly S. Development of a Socio–Economic Vulnerability Index on Exposure to Hexavalent Chromium [Cr(VI)] in the Urban and Rural Areas of Rupnagar district, Punjab, India. AOGS Annual Meeting 2025. To be held in Singapore, 27 Jul-1st Aug 2025. (Abstract accepted).
27. Das A, Ganguly S. and Pathak S. Robust Prediction of Maize Production for the State of California, USA using Machine Learning Algorithms. AOGS Annual Meeting 2025. To be held in Singapore, 27 Jul-1st Aug 2025. (Abstract accepted).

43. S. N. Amini and A. S. Rajput, “Effect of corrosion location and transverse reinforcement on flexural-ductile response of reinforced concrete beams,” International Journal of Civil Infrastructure, 2022.
44. S. N. Amini and A. S. Rajput, “Assessing the seismic performance of lightly reinforced columns under the influence of corrosion: an experimental and Numerical study,” World Conference on Earthquake Engineering.
45. A. Gani, S. Pathak, A. Hussain, S. Ahmed, and P. J. Omar, “Impact of Pollutants on Groundwater Quality and Health Risk Assessment of Quaternary Aquifer, Northern India,” Toxic, and Radioactive Waste ASCE, vol. 29, 2025.
46. A. Gani, S. Pathak, and A. Hussain, “Comprehensive Analysis of Modified Heavy Metal Pollution Index and Health Risk Assessment in the Yamuna River of Delhi, India: A Crucial Study for Environmental Health Management,” Toxic, and Radioactive Waste, vol. 28, 2024.
47.
48. A. Gani, S. Pathak, A. Hussain, A. K. Shukla, and S. Chand, “Emerging pollutant in surface water bodies: a review on monitoring, analysis, mitigation measures and removal technologies of micro-plastics,” Environ. Geochem. Health, vol. 46, no. 7, p. 214, 2024.
49. A. Gani, A. Hussain, S. Pathak, and A. Banerjee, “An empirical investigation on the elimination of heavy metals using bioremediation method for selected plant species,” Phys. Chem. Earth (2002), vol. 134, no. 103568, p. 103568, 2024.
50. A. Gani, A. Hussain, S. Pathak, and P. J. Omar, “Analysing heavy metal contamination in groundwater in the vicinity of Mumbai’s landfill sites: An in-depth study,” Top. Catal., vol. 67, no. 15–16, pp. 1009–1023, 2024.
51. A. Banerjee et al., “Long-term climate change and anthropogenic activities together with regional water resources and agricultural productivity in Uganda using Google Earth Engine,” Phys. Chem. Earth (2002), vol. 134, no. 103545, p. 103545, 2024.

BOOK CHAPTER

1. Z. Naorem and P. Haldar, “Influence of openings on seismic failure mechanism of URM infilled RC hill buildings,” in Lecture Notes in Civil Engineering, Cham: Springer Nature Switzerland, 2025, pp. 1381–1393.
2. S. Mishra, P. Zende, P. Haldar, and I. Dadha, “Experimental investigation of photocatalytic efficiency of TiO2 in reducing urban air pollution,” in Lecture Notes in Civil Engineering, Singapore: Springer Nature Singapore, 2025, pp. 57–64.
3. Z. Naorem and P. Haldar, “Assessment of the failure mechanisms of URM infilled RC hill buildings,” in Lecture Notes in Civil Engineering, Singapore: Springer Nature Singapore, 2024, pp. 339–347.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

JOURNAL ARTICLES

1. S. Dhamal, W. Ben-Ameur, and T. Chahed, “An investment framework for continuous time opinion dynamics on networks,” IEEE Transactions on Automatic Control, 2025.
2. S. Dhamal, W. Ben-Ameur, T. Chahed, E. Altman, A. Sunny, and S. Poojary, “A game theoretic framework for distributed computing with dynamic set of agents,” Ann. Oper. Res., vol. 336, no. 3, pp. 1871–1904, 2024.
3. S. Pokhriyal, S. Jain, G. Ghalme, S. Dhamal, and S. Gujar, “Simultaneously achieving Group Exposure Fairness and within-group meritocracy in stochastic bandits,” arXiv [cs.LG], 2024.
4. A. Kaushal, O. Almurshed, A. Muftah, N. Auluck, and O. Rana, “ToSiM-IoT: Towards a Sustainable Optimisation of Machine Learning Tasks in Internet of Things,” IEEE Internet of Things Journal, 2025.
5. O. Almurshed et al., “Enhancing performance of machine learning tasks on edge-cloud infrastructures: A cross-domain Internet of Things based framework,” Future Gener. Comput. Syst., vol. 166, no. 107696, p. 107696, 2025.
6. A. Kaushal et al., “SHIELD: A secure heuristic integrated environment for load distribution in rural-AI,” Future Gener. Comput. Syst., vol. 161, pp. 286–301, 2024.
7. R. Ganesan et al., “Application of concept drift detection and adaptive framework for non linear time series data from cardiac surgery,” Comput. Intell., vol. 40, no. 3, 2024.
8. M. Sahi, N. Auluck, A. Azim, and M. A. Maruf, “Dynamic hierarchical intrusion detection task offloading in IoT edge networks,” Softw. Pract. Exp., vol. 54, no. 11, pp. 2249–2271, 2024.
9. M. Al-Maruf, A. Sahi, and N. Azim, “Optimizing DNN Training with Pipeline Model Parallelism for Enhanced Performance in Embedded Systems,” Journal of Parallel and Distributed Computing.
10. S. Solanki, S. Jain, and S. Gujar, “Fairness and privacy guarantees in federated contextual bandits,” arXiv [cs.LG], 2024.

11. A. Sood, S. Jain, and S. Gujar, “Fairness of exposure in online restless multi-armed bandits,” arXiv [cs.LG], 2024.

12. S. Pokhriyal, S. Jain, G. Ghalme, S. Dhamal, and S. Gujar, “Simultaneously achieving Group Exposure Fairness and within-group meritocracy in stochastic bandits,” arXiv [cs.LG], 2024.

13. S. Saxena and S. Jain, “Exploring and mitigating gender bias in recommender systems with explicit feedback,” arXiv [cs.IR], 2021.

14. A. Kumar and J. Singh, “Optimizing location and power of chargers to reduce interference in battery-less WSNs,” IEEE Sens. J., vol. 24, no. 16, pp. 26552–26563, 2024.

15. A. Jaiswal, A. Kumar, A. Hazra, N. Mazumdar, and J. Singh, “Optimizing power beacon deployment in battery-less wireless sensor networks for transforming E-commerce,” IEEE Trans. Consum. Electron., pp. 1–1, 2024.

16. Sanchit, N. Singh, and J. Singh, “Multi□objective GA to schedule task graphs on heterogeneous voltage frequency islands,” Concurr. Comput., vol. 36, no. 22, 2024.

17. A. Jaiswal, S. Shivateja, A. Hazra, N. Mazumdar, J. Singh, and V. G. Menon, “UAV-enabled mobile RAN and RF-energy transfer protocol for enabling sustainable IoT in energy-constrained networks,” IEEE Trans. On Green Commun. Netw., vol. 8, no. 3, pp. 1118–1127, 2024.

18. Sanchit, Jain, A., Singh, J., & Singh, N. (2024). Energy Efficient Heuristics to Schedule Task Graphs on Heterogeneous Voltage-Frequency Islands. IETE Journal of Research, 70(10), 7735–7750.

19. P. Sinha, K. Prathik, S. Das, and V. K. Tavva, “SmartDeCoup: Decoupling the STT-RAM LLC for even write distribution and lifetime improvement,” J. Syst. Arch., vol. 161, no. 103367, p. 103367, 2025.

20. P. Sinha, M. L. Sai, S. Das, and V. K. Tavva, “TENDRA: Targeted Endurance Attack on STT-RAM LLC,” IEEE Embed. Syst. Lett., pp. 1–1, 2025.

21. U. Niyaz, A. S. Sambyal, and D. R. Bathula, “Leveraging different learning styles for improved knowledge distillation in biomedical imaging,” Comput. Biol. Med., vol. 168, no. 107764, p. 107764, 2024.

22. S. Mishra, V. Aggarwal, S. Pal, and V. Agarwal, “HeRo: Heuristic-Based Routing in Payment Channel Networks,” IEEE Networking Letters, vol. 2024, pp. 56–60.

23. V. Agarwal, O. Ardakanian, and S. Pal, “Robust peer-to-peer federated learning for non-intrusive load monitoring in smart homes,” Energy Build., vol. 329, no. 115209, p. 115209, 2025.

24. V. Agarwal, S. Mishra, and S. Pal, “Towards a sustainable blockchain: A Peer-to-Peer Federated Learning based approach,” ACM Trans. Internet Technol., vol. 24, no. 4, pp. 1–26, 2024.

25. V. Agarwal, O. Ardakanian, and S. Pal, “A robust and privacy-aware federated learning framework for non-intrusive load monitoring,” IEEE Trans. Sustain. Comput., vol. 9, no. 5, pp. 766–777, 2024.

26. A. Singh, S. Dharamdasani, P. Sharma, and S. Gupta, “BaMBo: An annotated bone marrow biopsy dataset for segmentation task,” bioRxiv, 2024.

27. P. Raina, S. Dharamdasani, D. Chinnam, P. Sharma, and S. Gupta,

"BoMBR: An annotated bone marrow biopsy dataset for segmentation of reticulin fibers," bioRxiv, 2024.

28. D. Girish, Y. Hao Chan, S. Gupta, and J. C. Rajapakse, "Robustness of explainable AI algorithms for disease biomarker discovery from functional connectivity datasets"," BHI.
29. T. Pietz et al., "PEPerMINT: peptide abundance imputation in mass spectrometry-based proteomics using graph neural networks," Bioinformatics, vol. 40, no. Suppl 2, pp. ii70–ii78, 2024.
30. S. P. Singh, S. Gupta, and J. C. Rajapakse, "Sparse deep neural network for encoding and decoding the structural connectome," IEEE J. Transl. Eng. Health Med., vol. 12, pp. 371–381, 2024.
31. V. Kulkarni et al., "XFBench: A Cross-Cloud Benchmark Suite for Evaluating FaaS Workflow Platforms," CCGrid, vol. 2024, pp. 543–556.
32. M. A. Ganaie, M. Sajid, A. K. Malik, and M. Tanveer, "Graph embedded intuitionistic fuzzy random vector functional link neural network for class imbalance learning," IEEE Trans. Neural Netw. Learn. Syst., vol. 35, no. 9, pp. 11671–11680, 2024.
33. A. Quadir, M. A. Ganaie, and M. Tanveer, "Intuitionistic fuzzy generalized eigenvalue proximal support vector machine," Neurocomputing, vol. 608, no. 128258, p. 128258, 2024.
34. K. Anwar, M. Wasid, A. Zafar, M. A. Ganaie, and A. Iqbal, "Soft computing techniques in multi-criteria recommender systems: A comprehensive review," Applied Soft Computing, 2024.
35. G. Singh, K. Rana, S. Kumar, and P. Goyal, "NVMS-Net: A novel constrained Noise-View Multi-Scale Network for detecting general image processing based manipulations," IEEE Transactions on Artificial Intelligence, 2024.
36. J. Dhar et al., "Dual-phase neural networks for feature extraction and ensemble learning for recognizing human health activities," Appl. Soft Comput., vol. 169, no. 112550, p. 112550, 2025.
37. M. S. Kanroo, H. Kawoosa, K. Rana, and P. Goyal, "C3E: An Effective Approach For Automated Chart Classification and Chart Content Extraction"," Computers and Electrical Engineering.
38. J. Dhar, N. Zaidi, M. Haghighat, A. Alavi, S. Roy, and P. Goyal, "Enhanced Multimodal Fusion Learning with Dual Robust Information Fusion Attention for Medical Imaging Classification," WACV.
39. H. S. Kawoosa, M. S. Kanroo, K. Rana, and P. Goyal, "Robust page object detection network for heterogeneous document images," Int. J. Doc. Anal. Recognit., 2024.
40. V. Rathi, K. Rana, and P. Goyal, "Iterative spectral correlation based multispectral image demosaicking," Signal Image Video Process., vol. 18, no. 11, pp. 7873–7886, 2024.
41. K. Rana, P. Goyal, and G. Sharma, "Dual-branch convolutional neural network for robust camera model identification," Expert Syst. Appl., vol. 238, no. 121828, p. 121828, 2024.

CONFERENCE PAPER

1. Sharma and N. Auluck, “Dynamic real-time scheduling on distributed hierarchical fog networks,” in 2024 IEEE 31st International Conference on High Performance Computing, Data and Analytics Workshop (HiPCW), 2024, pp. 131–132.
2. A. Naskar, V. K. Tavva, and S. Banerjee, “GPU accelerated construction of time respecting data structure for temporal graphs,” in 2024 IEEE High Performance Extreme Computing Conference (HPEC), 2024, pp. 1–7.
3. P. Sinha, K. P. Bv, S. Das, and V. K. Tavva, “PROLONG: Priority based Write Bypassing Technique for Longer Lifetime in STT-RAM based LLC,” in Proceedings of the International Symposium on Memory Systems, 2024, pp. 89–103.
4. W. H. Mir, N. Goel, and V. K. Tavva, “CARDR: DRAM cache assisted ransomware detection and recovery in SSDs,” in Proceedings of the International Symposium on Memory Systems, 2024, pp. 104–115.
5. Praseetha, M. Mutyam, and V. K. Tavva, “Cache line pinning for mitigating row hammer attack,” in Proceedings of the 53rd International Conference on Parallel Processing, 2024, pp. 802–811.
6. U. Niyaz, A. S. Sambyal, and D. R. Bathula, “Wavelet-based feature compression for improved knowledge distillation,” in 2024 IEEE International Symposium on Biomedical Imaging (ISBI), 2024, pp. 1–4.
7. A. Chaudhuri, A. Sambyal, and D. Bathula, “Mutually exclusive multi-modal approach for Parkinson’s disease classification,” in Proceedings of the 17th International Joint Conference on Biomedical Engineering Systems and Technologies, 2024.
8. P. Kamboj and S. Pal, “QoS-aware flow routing with minimizing active links and rule capacity constraints in SDN networks,” in 2024 22nd International Symposium on Network Computing and Applications (NCA), 2024, pp. 211–218.
9. S. Mishra, S. Pal, and S. Dey, “BlasT: Blood clot classification model using transfer learning based convolutional neural network,” in 2024 16th International Conference on COMmunication Systems & NETworkS (COMSNETS), 2024.
10. A. Phutela, S. S. Patare, and S. Pal, “IoT-based wearable band for elderly care,” in 2024 IEEE 21st International Conference on Mobile Ad-Hoc and Smart Systems (MASS), 2024, pp. 664–669.
11. Y. H. Chan, J. Liang Ang, S. Gupta, Y. He, and J. C. Rajapakse, “Subtype-specific biomarkers of Alzheimer’s disease from anatomical and functional connectomes via graph neural networks,” in ICASSP 2024 - 2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2024.
12. A. Tripathi, A. Thakur, A. S. Prasad, B. R. Tamma, and S. Chattopadhyay, “MADE: An MEC supported platform independent and version agnostic framework for mobile application deployment,” in 2024 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 2024, pp. 1–6.
13. L. R. Sookha, G. Sharma, M. A. Ganaie, and A. Dhall, “A spectro-statistical approach for emotion identification from EEG signals,” in 2024 IEEE 18th International

Conference on Automatic Face and Gesture Recognition (FG), 2024.

14. J. Chauhan, P. L. Rosin, and P. Goyal, “Burnsnet: Burn region segmentation network from color images with two-way CNN,” in 2024 IEEE International Conference on Image Processing (ICIP), 2024, vol. 41, pp. 3172–3178.

BOOK CHAPTER

1. J. Vibulan, S. Dhamal, S. Jain, O. Kumar, A. Kumar, and H. Singh, “Fair assignment on multi-stage graphs,” in Proceedings of International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2025.
2. P. Bhardwaj, N. Auluck, and A. Azim, “Machine Learning Powered Workload Prediction and Task Offloading in Vehicular Networks,” in The 34th International Conference on Collaborative Advances in Software and Computing (CASCON), Toronto, Canada, 2024.
3. S. Chede, L. Chew, and A. Shukla, “Circuits, Proofs and Propositional Model Counting”,” in the 44th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS-2024), 2024.
4. A. Al-Maruf, N. Azim, and M. Auluck, “FeaMod: Enhancing Modularity, Adaptability and Code Reuse in Embedded Software Development,” in The IEEE 25th International Conference on Information Reuse and Integration, San Jose, USA, 2024.
5. M. Donipati, A. Jaiswal, A. Hazra, N. Mazumdar, and J. Singh, “Optimizing UAV-Based Data Collection in IoT Networks With Dynamic Service Time and Buffer-Aware Trajectory Planning,” in IEEE Transactions on Network and Service Management, .
6. G. Prathamesh Nitin Tanksale, S. Raghav, and S. Seethiraju, “RRR : Rethinking Randomized Remapping for High Performance Secured NVM LLC,” in IEEE International Symposium on Hardware Oriented Security and Trust (HOST), Fall cycle, 2025.
7. A. S. Sambyal, U. Niyaz, S. Shrivastava, N. C. Krishnan, and D. R. Bathula, “Ls+: Informed label smoothing for improving calibration in medical image classification,” in International Conference on Medical Image Computing and Computer-Assisted Intervention, Cham; Nature Switzerland: Springer, 2024, pp. 513–523.
8. M. S. Kanroo, H. S. Kawoosa, J. Dhar, and P. Goyal, “PiExtract: An End-to-End Data Extraction pipeline for Pie-Charts,” in 27th International Conference on Pattern Recognition (ICPR), Kolkata, India, 2024.
9. J. Dhar, K. Rana, and P. Goyal, “Uncertainty-RIFA-net: Uncertainty aware robust information fusion attention network for brain tumors classification in MRI images,” in Lecture Notes in Computer Science, Cham: Springer Nature Switzerland, 2025, pp. 311–327.

BOOK CHAPTER

1. S. Gupta, S. Jain, C. Narayanan, G. Krishnan, and N. Ghalme, Capacitated Online Clustering Algorithm.
2. P. Mallela, V. Kumar, S. Shashi, and S. Jha, A Multi-Stage Framework for Cost-Effective Performance in Human-AI Teams.

DEPARTMENT OF ELECTRICAL ENGINEERING

JOURNAL ARTICLES

1. P. Kalkal and A. V. R. Teja, "A novel selective harmonic mitigation PWM technique with THD minimization using second-order sliding modes," IEEE Trans. Ind. Electron., pp. 1–11, 2024.
2. A. Azeem, R. Teja, and S. Payami, "A Single-Phase Integrated Power Charger Considering High Frequency Behaviour for Two Motor Drives Fed Electric Vehicles," IEEE Journal of Emerging and Selected Topics in Power Electronics, no. 1, 2025.
3. P. Kalkal and R. Teja, "The Negative Modulation Index: A Key for Augmenting Solutions in Selective Harmonic Elimination and Mitigation Strategies," IEEE Transactions on Industrial Electronics, 2024.
4. P. Kalkal and A. V. R. Teja, "A novel graphical technique for multiple harmonic mitigation in a two-level inverter with only two switching angles," IEEE J. Emerg. Sel. Top. Power Electron., vol. 12, no. 3, pp. 3052–3062, 2024.
5. V. K. Srivastava and A. Sharma, "An optimized switching integrated transmitter pad for generating orthogonal H-field components to localize implanted devices," IEEE J. Electromagn. RF Microw. Med. Biol., vol. 8, no. 4, pp. 363–371, 2024.
6. S. Kumar Gupta, M. Kumar, S. Kumar, and A. Sharma, "Adaptive wireless power transfer enabled IoT sensor nodes by a polarization-insensitive scalable planar rectenna module," IEEE Sens. J., vol. 24, no. 20, pp. 33139–33147, 2024.
7. S. Jain, A. Bharadwaj, and A. Sharma, "A mortarboard-shaped receiver antenna for drone wireless charging to achieve an outspread misalignment tolerance towards imperfect landing," IEEE Trans. Veh. Technol., vol. 74, no. 1, pp. 61–73, 2025.
8. A. Vivek Kumar Srivastava and A. Ahmad, "A Machine Learning Assisted Localization and Magnetic Field Forming for Wireless Powering of Biomedical Implant Devices," IEEE Transactions on Antennas and Propagation, 2024.
9. A. Vikas Kumar Malav, "mu WSense: A Self-Sustainable Microwave-Powered Battery-Less Wireless Sensor Node for Temperature and Humidity Monitoring," IEEE Sensors Letters, 2024.
10. A. Vikas Kumar Malav, "A Miniaturized Coupler-Integrated Rectenna Element to Eliminate Hybrid-Coupler Circuit for Polarization Insensitive Wireless Power Transmission," IEEE Transactions on Microwave Theory and Techniques.
11. S. Kumar, V. Sharma, and A. Sharma, "SWIPT Module for Battery Less Ultra Low Power Sensor Nodes," IEEE Sensors Letters.
12. A. Thakur, A. Sharma, and I. J. G. Zuazola, "A wearable circulator□like circularly polarised antenna for full□duplex wireless body area network applications," IET Microw. Antennas Propag., vol. 18, no. 11, pp. 838–848, 2024.
13. M. Kumar and A. Sharma, "A Compact Planar Multisector Rectenna Array with Full-Wave Rectification for 3D Uniform Wireless Powering of IoT nodes," IEEE Transactions on Antennas and Propagation, 2025

14. A. S. Kumar and B. P. Padhy, “Headroom-based frequency and DC voltage control for large disturbances in multi-terminal HVDC (MTDC) grids,” IEEE Trans. Ind. Appl., pp. 1–10, 2024.
15. A. S. Kumar and B. P. Padhy, “Headroom-based frequency and DC voltage control for large disturbances in multi-terminal HVDC (MTDC) grids,” IEEE Trans. Ind. Appl., pp. 1–10, 2024.
16. S. Beura and B. P. Padhy, “Effect of cyberattack on event detection algorithm in distribution system using synchrophasor measurements,” IEEE Trans. Ind. Appl., pp. 1–10, 2024.
17. R. Gond, P. Shukla, B. Prakash, and B. Rawat, “Vertically aligned MoS2/ZnO heterostructure for highly selective NH3 sensing at room temperature,” ACS Applied Electronic Materials, 2024.
18. A. Rawat and B. Rawat, “Multichannel Two-Dimensional MoS_2 Nanosheet MOSFET for Future Technology Node,” IEEE Trans. Electron Devices, vol. 71, no. 6, pp. 3945–3951, 2024
19. A. Goel, M. H. R. Ansari, N. El-Atab, and B. Rawat, “Unraveling the Dynamics of HfO 2-Based NW-CTT as an Artificial Synapse,” IEEE Transactions on Electron Devices, vol. 71, no. 8, pp. 5125–5132, 2024.
20. M. Shankar Yadav, K. Varshney, and B. Rawat, “Memory Switching versus Threshold Memory Switching: Finding a Promising Synaptic Device for Brain-Inspired Artificial Learning Systems,” ACS Applied Engineering Materials, 2024.
21. K. Varshney, P. Shukla, B. Prakash, D. M. Das, and B. Rawat, “Enhancing resistive switching characteristics of MoS_2-based memristor through O_2 plasma irradiation-induced defects,” IEEE J. Electron Devices Soc., vol. 13, pp. 737–744, 2025
22. R. Gond, P. Shukla, and B. Rawat, “Tio 2-decorated mos 2 nanocomposite for co 2 sensing at room temperature,” IEEE Sensors Letters.
23. A. Beniwal, R. Gond, X. Karagiorgis, B. Rawat, and C. Li, “Room Temperature Operated Fe 2 O 3/PANI-based Flexible and Eco-friendly Ammonia Sensor with Sub-ppm Detectability”IEEE Sensors Letters,2025/1/8,” IEEE Sensors Letters, 2025.
24. P. Shukla, R. Gond, A. Beniwal, C. Li, and B. Rawat, “Disposable and Highly Sensitive Humidity Sensor based on PEDOT: PSS/GO Heterostructure,” IEEE Journal on Flexible Electronics, 2025.
25. A. Beniwal, P. Ganguly, G. Khandelwal, R. Gond, B. Rawat, and C. Li, “Additive strategies to mitigate humidity interference effects on PEDOT: PSS sensors for ammonia detection,” IEEE Sensors Journal, 2025.
26. P. Shukla, R. Gond, and B. Rawat, “High-Performance VA-MoS 2/GO Heterostructure-based Sensor for In-situ Soil Moisture Sensing,” IEEE Sensors Letters, 2025.
27. A. Goel, A. Rawat, and B. Rawat, “Finding a Promising CMOS Inverter Architecture With Silicon Nanosheet for Future Technology Node,” IEEE Transactions on Electron Devices, 2025.
28. S. Kumar, R. Singh, B. Kumbhani, and S. Agarwal, “A new paradigm for IRS-NOMA transmission,” IEEE Trans. Veh. Technol., vol. 73, no. 7, pp. 10835–10839, 2024.
29. B. Hemant Kumar Sharma, “Secrecy capacity of hybrid FSO-RF communication links,” Journal of Optics, no. 9, 2024.
30. S. Kumar and B. Kumbhani, “Wireless

Powered Reconfigurable Intelligent Surface Aided Cognitive NOMA Network With Hardware Impairments: IBL and FBL Analysis," IEEE Internet of Things Journal, 2025.

31. K. Sameer, N. Singh, R. Gupta, and B. Singh, "THz Hybridization in CRAN-Based Vehicular Networks: Performance and Handoff Implications," IEEE Communications Letters, 2025.
32. A. Hari et al., "Contactless breathing monitoring at home and in the hospital: Protocol for a low-cost frequency-modulated continuous-wave radar-based device," JMIR Res. Protoc., vol. 14, p. e59532, 2025.
33. S. K. Singh et al., "WIND: A wireless intelligent network digital twin for federated learning and multi-layer optimization," IEEE Commun. Stand. Mag., pp. 1–1, 2025
34. S. Kumar and B. Kumbhani, "Performance analysis of active STAR-RIS-assisted NOMA with hardware impairments at finite blocklength," Digit. Signal Process., vol. 163, no. 105206, p. 105206, 2025.
35. A. Gupta, "Chandupatla Chakradhar Reddy 'Noise Impact on Optimum Parameters for Signal Deconvolution'Publication date 2024/8/2," IETE Journal of Research.
36. M. Singh, S. Kumar, A. Kafle, K. Garg, P. Sharma, and C. Tharamani, "Economical 550 V energy harvesting from plastic and electronic waste using human motions"Accepted 15th January 2025," Journal of Materials Chemistry A, 2025.
37. P. Muppala, "Analytical Model for Transient Space Charge in Low Density Polyethylene" 2025/2/13," journal-IEEE Transactions on Dielectrics and Electrical Insulation.
38. U. Dutta and A. Mukhopadhyay, "Comparative analysis of electrostatic filtration in pilot pulse-jet and flat-based test rigs," Indian Journal of Fibre & Textile Research, vol. 50, no. 1, 2025.
39. S. Vohra, "Circuit implementation of on-chip trainable spiking neural network using CMOS based memristive STDP synapses and LIF neurons," Integration, vol. 95, 2024.
40. A. Sherin, S. Thomas, and R. Kushwaha, "Devarshi Mrinal Das, "Design and Analysis of 3D Integrated Folded Ferro-Capacitive Crossbar Array (FC 2 A) for Brain-Inspired Computing System," IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2024.
41. K. Varshney, P. Shukla, B. Prakash, D. M. Das, and B. Rawat, "Enhancing resistive switching characteristics of MoS_2-based memristor through O_2 plasma irradiation-induced defects," IEEE J. Electron Devices Soc., vol. 13, pp. 737–744, 2025.
42. N. Sharma, R. K. Srivastava, D. Sehgal, and D. M. Das, "A low-power common-mode insensitive rail-to-rail dynamic comparator for ADCs," Integration (Amst.), vol. 100, no. 102288, p. 102288, 2025.
43. S. Boyapati and M. Devarshi, "Impact of EMI on the Reliability of Crossbar Architecture-based Inference in CMOS Technology," IEEE Transactions on Components, Packaging and Manufacturing Technology, 2025.
44. D. Dwivedi, S. Singh, J. Kalaiselvi, and K. A. Chinmaya, "The impact of modulation techniques on brushless DC motor drive," Int. J. Circuit Theory Appl., vol. 53, no. 8, pp. 4627–4639, 2025.
45. A. Gupta, R. S. Reddy, and K. Jayaraman, "An input current-based

method for fault diagnosis of high resistance connection in BLDC motors," IEEE Sens. J., vol. 24, no. 9, pp. 14844–14854, 2024.

46. P. Singh Bhakar, J. Kalaiselvi, N. Brahmendra Yadav, and J. Gorla, "Transition and Postfault Correction Strategy for a Single-Phase Inverter With Improved Redundant Leg Utilization," IEEE Transactions on Industrial Electronics, 2024

47. T. J. Nistane, S. Singh, S. Payami, and K. Jayaraman, "Modeling, analysis, and online detection of interturn short-circuit fault in medium-frequency transformer of dual-active-bridge converter," IEEE Trans. Ind. Electron., vol. 72, no. 3, pp. 3125–3135, 2025.

48. A. Gupta, P. S. Bhakar, S. R. Reddy, and J. Kalaiselvi, "Fault diagnosis and tolerance in converters of brushless DC motor drives for low-speed applications," IEEE Trans. Energy Convers., pp. 1–10, 2025.

49. A. Hari et al., "Contactless breathing monitoring at home and in the hospital: Protocol for a low-cost frequency-modulated continuous-wave radar-based device," JMIR Res. Protoc., vol. 14, p. e59532, 2025

50. J. S. Inderjeet, "CMOA-Net: Competent Multi-Observant Attention Network for Single-image Super-Resolution in," IEEE Transactions on Emerging Topics in Computational Intelligence.

51. J. S. Inderjeet, "MDTN: Multi-scale Dense Transformer Network for Single-Image Super-Resolution in 'Image and Vision Computing,'" DOS, 2024.

52. S. Vohra, A. Sherin, M. Thomas, and D. M. Sakare, "Circuit implementation of on-chip trainable spiking neural network using CMOS based memristive STDP synapses and LIF neurons," Integration, vol. 95, 2024.

53. S. A. Thomas, D. M. Das, M. Sakare, and S. K. Vohra, "Full CMOS Circuit for Brain-Inspired Associative Memory With On-Chip Trainable Memristive STDP Synapse," Full CMOS Circuit for Brain-Inspired Associative Memory With On-Chip Trainable Memristive STDP Synapse, 2024.

54. S. K. Vohra, M. Sakare, A. P. James, and D. M. Das, "SpiMAM: CMOS implementation of bio-inspired spiking multidirectional associative memory featuring in-situ learning," IEEE Trans. Circuits Syst. I Regul. Pap., pp. 1–12, 2024.

55. P. Rohith and G. Duhan, "Excitation of high-quality quasi-BIC toroidal mode in a lattice perturbed terahertz metasurface"Applied Physics Letters,2024/10/14," Applied Physics Letters

56. P. Khedgarkar, D. Mohit, and P. Ganeriwala, "TCAD-based investigation of 1/f noise in advanced 22 nm FDSOI MOSFETs"," Applied Physics Letters, 2024.

57. P. M. Reddy and K. R. Sekhar, "Instantaneous induced braking energy modeling and disperse inverter voltage vector synthesis for maximum energy recovery in IM-based drives," IEEE Trans. Ind. Appl., vol. 61, no. 1, pp. 703–713, 2025.

58. A. Ishwarrao Gedam, K. R. Sekhar, and N. Kumar, "A new minimum DC voltage ripple generating PWM selection algorithm for voltage source inverter," IEEE J. Emerg. Sel. Top. Power Electron., vol. 13, no. 1, pp. 1177–1187, 2025.

59. Indian Institute of Technology Ropar and B. K. Gupta, "A configurable multi input port hybrid inverter topology with quadrupled voltage gain for PV and hybrid applications," CPSS Trans. Power Electron. Appl., vol. 9, no. 4,

2024.

60. A. Kumar and R. Sekhar, “A Novel DC Capacitor Deficit Power Balancing Mechanism for Innate Maximum Power Tracking With Eliminated Regulators in PV-Inverters,” IEEE Transactions on Industrial Electronics, 2009.
61. A. Kumar, B. K. Gupta, A. S. Kiran, and K. R. Sekhar, “An adaptive fractional voltage MPPT with the exponential sliding AC voltage and current controllers for enhanced power processing integrity,” IEEE Trans. Ind. Appl., vol. 61, no. 3, pp. 4342–4351, 2025.
62. S. De and R. Sodhi, “A unified cyber attack detection and mitigation framework for an islanded AC microgrid,” IEEE Trans. Syst. Man Cybern. Syst., vol. 54, no. 9, pp. 5270–5282, 2024.
63. M. Pandit and R. Sodhi, “Efficient PMU Data Compression Using Enhanced Graph Filtering Enabled Principal Component Analysis,” IEEE Transactions on Knowledge and Data Engineering, 2025.
64. S. De and R. Sodhi, “A Replay-Attack-Resilient Power System State Estimation Scheme”IEEE Transactions on Automation Science and Engineering,2025/3/27,” IEEE Transactions on Automation Science and Engineering, 2025.
65. S. Agarwal and R. Sodhi, “A novel power theft and data breach detection technique for low-voltage distribution networks,” Electric Power Syst. Res., vol. 243, no. 111503, p. 111503, 2025.
66. B. Kumari, R. Sharma, and M. Sahoo, “ABCD Parameter based Analytical AC Modeling of Novel Cu-Carbon Hybrid Interconnects for Noise Constrained Nanoscale Systems”,” Scientific Reports.
67. M. G. Kumar, Y. Agrawal, H. Pulluri, and R. Sharma, “Essential frequency analysis for stacked cu-CNT composite cells of TSVs,” IEEE Access, vol. 13, pp. 41221–41229, 2025.
68. H. Barnes et al., “Benchmarking and Reproducibility in Computational and Experimental Characterization of Electronic Packages for Signal/Power Integrity: Four benchmarks serve as standardized cases,” IEEE Antennas Propag. Mag., vol. 67, no. 2, pp. 51–63, 2025.
69. C. Pichot et al., “New and emerging directions in the fields of antennas and propagation,” IEEE Trans. Antennas Propag., vol. 73, no. 1, pp. 566–581, 2025
70. S. A. Thomas, S. Kushwaha, R. Sharma, and D. Das, Design and Analysis of 3D Integrated Folded Ferro-Capacitive Crossbar Array (FC2A) for Brain-Inspired Computing. .
71. S. Guglani et al., “Artificial neural networks with fast transfer learning for statistical signal integrity analysis of MWCNT and MLGNR interconnect networks,” IEEE Trans. Electromagn. Compat., vol. 66, no. 3, pp. 939–948, 2024.
72. R. Sharma et al., “Nanoscale spin rectifiers for harvesting ambient radiofrequency energy,” Nat. Electron., vol. 7, no. 8, pp. 653–661, 2024.
73. R. Sharma and H. Yang, “Sensitive spin-rectifier-based rectenna and on-chip array for wireless energy harvesting,” Nature Electronics, 2024.
74. D. Kumar, R. Sharma, F. Wang, Y. Liu, S. Zhao, and H. Yang, “Quantum rectification based on room temperature multidirectional nonlinearity in Bi2Te3,” Nano Lett., vol. 24, no. 40, pp. 12545–12551, 2024.

75. G. Kumawat, V. Shah, and S. Payami, “A universal-input on-board charger integrated power converter for switched reluctance motor drive based EV application,” IEEE Trans. Ind. Appl., vol. 60, no. 4, pp. 6458–6468, 2024.
76. T. J. Nistane, S. Singh, S. Payami, and K. Jayaraman, “Modeling, analysis, and online detection of interturn short-circuit fault in medium-frequency transformer of dual-active-bridge converter,” IEEE Trans. Ind. Electron., vol. 72, no. 3, pp. 3125–3135, 2025.
77. A. Azeem, R. Teja, and S. Payami, “A Single-Phase Integrated Power Charger Considering High Frequency Behaviour for Two Motor Drives Fed Electric Vehicles,” IEEE Journal of Emerging and Selected Topics in Power Electronics, 2024.
78. S. Bhattacharyya, P. Kumar, S. Darshi, S. Agarwal, and S. Shailendra, “Cross layer MAC protocol for a peer conscious opportunistic network coded cooperation system,” IEEE Trans. Mob. Comput., pp. 1–13, 2022.
79. S. Majhi, A. Darshi, S. Almohammedi, and P. Bhattacharyya, “Outage Analysis Using Probabilistic Channel Model for Drone Assisted Multi-User Coded Cooperation System,” vol. 7, 2024.
80. S. K. Singh et al., “WIND: A wireless intelligent network digital twin for federated learning and multi-layer optimization,” Techrxiv, 2025.
81. A. Hari et al., “Contactless breathing monitoring at home and in the hospital: Protocol for a low-cost frequency-modulated continuous-wave radar-based device,” JMIR Res. Protoc., vol. 14, p. e59532, 2025.
82. S. Bhattacharyya, S. Darshi, and Z. Lin, “Outage Analysis of Downlink RSMA in Vehicular Cluster: A Copula-Based Approach,” IEEE Wireless Communications Letters, 2025.
83. P. Kumar et al., “UAV-assisted IRS system with energy harvesting: Enhanced reliability in critical scenarios for 5G/6G wireless communication,” IEEE Access, pp. 1–1, 2025.
84. N. Gupta, S. Agarwal, and A. Fakhreddine, “Fairness-aware utility maximization for multi-UAV-aided terrestrial networks,” IEEE Open J. Veh. Technol., vol. 5, pp. 1611–1624, 2024.
85. S. Kumar, R. Singh, B. Kumbhani, and S. Agarwal, “A new paradigm for IRS-NOMA transmission,” IEEE Trans. Veh. Technol., vol. 73, no. 7, pp. 10835–10839, 2024.
86. D. Mishra, B. Kumbhani, N. Gupta, and S. Agarwal, Trajectory and Resource Allocation for UAV Replacement to Provide Uninterrupted Service. 2024.
87. S. Gautam and S. Kumar, “BLE Periodic Advertising Based Energy Efficient Sensor Node Operation for Transfer of Large Data in Monitoring Applications,” IEEE Internet of Things Journal, 2024.
88. S. Gautam and S. Kumar, “Low Power BLE Relay Node Operation in Mesh-like Architectures for Precision Agriculture,” IEEE Sensors Journal, vol. 9, no. 9, 2024.
89. R. Raina, J. Kamal, and S. Singh, “Gas, Temperature & Humidity Sensors-based Onion Quality Monitoring System,” IEEE Sensors Letters, 2024.
90. R. Verma and S. Kumar, “AviEar: An IoT-based Low Power Solution for Acoustic Monitoring of Avian Species,” IEEE Sensors Journal, 2024.
91. R. Lalit Kumar Baghel, S. Raina, and L. Kumar, “IoT Based Integrated Sensing and Logging Solution for Cold Chain

Monitoring Applications," IEEE Journal of Radio Frequency Identification, 2024.

92. S. Gautam and S. Kumar, "BLE extended advertisements for energy efficient and reliable transfer of large sensor data in monitoring applications," IEEE Trans. On Green Commun. Netw., vol. 9, no. 3, pp. 1092–1106, 2025.

93. R. Raina, K. Jeet Singh, S. Kumar, and S. Jain, "Bluetooth low energy-based novel power efficient buffalo calving detection solution," IEEE Netw. Lett., vol. 7, no. 1, pp. 6–10, 2025.

94. S. Gautam and S. Kumar, "Analysis of the maximum achievable throughput of extended advertisements in BLE," IEEE Internet Things J., vol. 12, no. 12, pp. 22168–22186, 2025.

95. P. Hambarde, G. Wadhwa, S. Kumar Vipparthi, S. Murala, and A. Dhall, "Occlusion Boundary Prediction and Transformer Based Depth-Map Refinement From Single Image"ACM," ACM Transactions on Multimedia Computing.

96. M. Mandal, Y. R. Meedimale, M. S. K. Reddy, and S. K. Vipparthi, "Neural Architecture Search for Image Dehazing," IEEE Trans. Artif. Intell., vol. 4, no. 5, pp. 1337–1347, 2023.

97. M. Verma, G. Gopalani, S. Bharara, S. Kumar Vipparthi, and S. Murala, "Former-HGR: Hand Gesture Recognition with Hybrid Feature-Aware Transformer" Authorea Preprints," Mohamed Abdel-Mottaleb, 2025

98. D. Prem Shanker Yadav and S. K. Kumar Tyagi, "A novel approach for image retrieval in remote sensing using vision-language-based image caption generation," Multimedia Tools and Applications, vol. 2025.

99. P. Hambarde, G. Wadhwa, S. Kumar Vipparthi, S. Murala, and A. Dhall, "Occlusion boundary prediction and transformer based depth-map refinement from single image," ACM Transactions on Multimedia Computing, 2024.

100. J. Singh, S. Murala, and G. Sankara Raju, "KL-DNAS: Knowledge distillation-based latency aware-differentiable architecture search for video motion magnification"IEEE Transactions on Neural Networks and Learning Systems,2024/1/8," IEEE Transactions on Neural Networks and Learning Systems, 2024.

101. A . Kulkarni, S. S. Phutke, S. K. Vipparthi, and S. Murala, "Multi-medium image enhancement with attentive deformable transformers," IEEE Trans. Emerg. Top. Comput. Intell., vol. 9, no. 2, pp. 1659–1672, 2025.

102. S. Ahmad, S. Bano, S. Chanda, S. Kumar Vipparthi, and S. Murala, "TRUST: Time-Domain Residual Unsupervised Stability Technique for Improved Heart Rate Estimation" 2025 IEEE," pp. 2025–2027.

103. P. Prabhat and R. Teja, "Impact of Discretization Techniques on Model Predictive Control of SRMs" IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society," pp. 3–06, 2024.

104. M . Bharadwaj, V. K. Ananth, A. Srivastava, and C. C. Sharma, "Dual-mode antenna with non-uniform coil array for wireless power transmission and method thereof," U. S. Patent Application, vol. 310, 2024.

105. R. Kumar, "Assessment of Electro-Thermal

Runaway Dynamics of AC Conductor Sleeves Designed for Medium Voltage Transmission System," Date of Publication, pp. 1–1, 2024.

106. R. Khan et al., "Spectroformer: Multi-domain query cascaded transformer network for underwater image enhancement," pp. 1454–1463, 2024.

107. P. Saxena, D. K. Tyagi, S. K. Vipparthi, and S. Murala, "WARMOS: Enhancing weather-affected referred moving object segmentation," in Lecture Notes in Computer Science, Singapore: Springer Nature Singapore, 2025, pp. 105–117.

108. P. Saxena, D. Susim Mukul Roy, S. Kumar Tyagi, and S. Kumar Vipparthi, "RefMOS: A Robust Referred Moving Object Segmentation framework based on text query," pp. 2024–2027.

109. P. S. Yadav, D. K. Tyagi, and S. K. Vipparthi, "Fusing image and text features for scene sentiment analysis using whale-honey badger optimization algorithm (WHBOA)," in Lecture Notes in Computer Science, Cham: Springer Nature Switzerland, 2025, pp. 446–462

CONFERENCE PAPER

1. S. Ahmad et al., "PULSE: Physiological understanding with liquid signal extraction," in 2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025, pp. 4574–4584.
2. P. Mishra, N. Mehta, S. K. Vipparthi, and S. Murala, "USWformer: Efficient sparse wavelet transformer for underwater image enhancement," in 2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025, pp. 3372–3382.
3. K. Garg, R. Sarker, A. Ahmad, M. Kaur, and A. V. Ravi Teja, "A simplified hybrid model for state of charge estimation using 1-D Kalman filter and Coulomb counting," in IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society, 2024, pp. 1–6.
4. K. K. Verma, S. Sonkar, P. Majhi, and A. R. Teja, "Design and Analysis of optimized Mast Structure for a Blade-less Wind Turbine," in IECON 2024-50th Annual Conference of the IEEE Industrial Electronics Society, IEEE, 2024, pp. 1–6.
5. A. H. Kumar and A. V. R. Teja, "Targeted Output Driven Dataset Generation Methodology for Training Neural Network Controllers in Specific nth Order Systems," in IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society, Chicago, IL, USA, 2024, pp. 1–6.
6. R. Sarker, A. Ahmad, R. Teja, and S. Payami, Series Connected Cell Monitoring System of Li-ion Battery with I2C and Cloud Interfacing" IECON 2024-50th Annual Conference of the. IEEE Industrial Electronics Society.
7. G. Pooja and R. Teotia, A Novel Active Damping Method in Grid Connected Inverter using Multiple Feedback" IECON 2024-50th Annual Conference of the IEEE. .
8. S. Mukherjee, P. Kalkal, and R. Teja, "Selective Harmonic Control in Two-Level Inverters with Three Switching Angles using a Graphical 3D to 2D Approach" IECON 2024-50th Annual Conference of the IEEE Industrial Electronics Society," vol. 11, 2024.

9. A. Thakur and A. Sharma, “Low-Profile Orthogonal-Ports Dual-Polarized Antenna for Full-Duplex WBAN Applications,” in 15th International Conference on Computing Communication and Networking Technologies, 2024, pp. 2024–2026.
10. A. Bharadwaj and A. Reddy, “Enhancing Resilience of WPT Systems to Lateral Misalignment Using Near-Field Coil Antennas” 2024 IEEE 5th India Council International Subsections Conference,” pp. 2024–2028.
11. S. Bansal, V. K. Malav, and A. Sharma, “Battery-less reconfigurable intelligent surface powered by energy harvesting rectenna array,” in 2024 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 2024, pp. 1–5.
12. S. Gupta, M. Shankar Yadav, and B. Venkata Kalyan Tavva, “Exploring the Potential of a 1T-1M HfO X-Based Resistive Switching Device for Articulating Artificial Neural Network Hardware,” International Semiconductor Conference, 2024.
13. M. Shankar Yadav and B. Rawat, “Can Threshold Memory Switching Memristor be Effectively Utilized for the Hardware Implementation of Brain-Inspired Neuromorphic Systems,” in 2024 International Semiconductor Conference, .
14. D. Salwan, S. Agarwal, B. Kumbhani, S. Darshi, and K. Namuduri, “Sumit Chakravarty, Ashwin Ashok, ‘Communication Receiver Design for PSK-LFM Joint Sensing and Communication Waveform’ 2024 IEEE International Conference on Communications Workshops (ICC Workshops),” pp. 2024–2026.
15. S. Bhattacharyya, S. Darshi, B. Kumbhani, J.-Y. Pan, and A. Akram, “RSMUC: An Alternative to Coded Cooperation for QoS Enhancements in Next Generation Vehicular Networks,” pp. 2024–2035, 2024.
16. S. Kumar and B. Kumbhani, “Performance Analysis of RIS-assisted Full-Duplex Two-Way NOMA using iFBL and FBL Codes,” IEEE Middle East Conference on Communications and Networking, pp. 2024–2035, 2024.
17. S. Kumar, R. Singh, and B. Kumbhani, “Polarised-decoupling for STAR-RIS assisted Dual Serve,” pp. 2024–2035, 2024.
18. N. Sameer Kumar Singh, R. Gupta, S. Singh, and B. Kumar, Seamless V2I Connectivity: How THz Waves and Base Station Density Contribute” 2024 IEEE International Conference on Advanced Networks and Telecommunications Systems. .
19. P. Pandey, “Effect of Inhomogeneous Ageing of Insulation on Electric Field Distribution of a 220kV HVAC in-Service Cable,” IEEE Transactions on Dielectrics and Electrical Insulation, no. 6, 2024.
20. A. Bharadwaj, C. C. Reddy, and A. Sharma, “Enhancing Resilience of WPT Systems to Lateral Misalignment Using Near-Field Coil Antennas,” in 2024 IEEE 5th India Council International Subsections Conference (INDISCON), IEEE, 2024, pp. 1–4.
21. P. Sharma, P. K. Pandey, and C. C. Reddy, “Structural alteration and electric field estimation inside HVAC cable due to inhomogeneous aging,” in 2024 IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), 2024, pp. 1–4.
22. “Some Experiments on Thermal Aging of XLPE Underground Cables,” in 10th International Conference on Condition Monitoring and Diagnosis, CMD, 2024

23. P. Mishra, P. Johri, and P. Sharma, “Effect of Insulation Bulging on the Electric Field Distribution in AC Cables,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
24. P. Sharma and R. Kumar, “Investigation on Cable Breakdown Using Aluminium Foil as Electrode” 22-24,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
25. A. Dhiman and H. Kumar Azmeera, “Intelligent Diagnosis of Transformer Faults Using DGA”,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
26. R. Kumar, P. Johri, and P. Sharma, “AC Conductivity Measurement of Conductor Sleeves” 2024/11/22,” in 2024 IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), .
27. A. Das, “Investigation of Sheath Current at Different Joints for Different Types of Bonding During Busbar Fault,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
28. H. Syed Mohammad Anas, “Effect of Curing on the AC and DC Breakdown Strength of Cable Insulation,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
29. S. Harshith Kumar Azmeera, “Effect of Thermal Stress on MV Cable Insulation,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
30. P. Johri, “Investigations on the Revision in the Eccentricity Limits to Improve the Performance of Extruded HVDC Cables,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
31. A. Das, “Location of Damaged Insulation for an Underground Power Cable Under High-Frequency Model,” in IEEE 7th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), 2024.
32. D. Chowdhury, Shivdeep, and D. M. Das, “A pulse oximeter and a controller designed for automatic regulation of oxygen concentrators,” in 2024 37th International Conference on VLSI Design and 2024 23rd International Conference on Embedded Systems (VLSID), 2024.
33. K. Varshney, S. Mani, D. M. Yadav, and B. Das, “Finding a Promising Oxide Material for Resistive Random Access Memory with Graphene Electrode,” in 37th International Conference on VLSI Design and 2024 23rd International Conference on Embedded Systems, 2024, pp. 2024–2025.
34. K. Varshney, P. Shukla, and B. Prakash, “Devarshi Mrinal Das, Brajesh Rawat, “Improved Resistive Switching and Synaptic characteristics on 2-D Graphene/MoS 2/Graphene Memristor using O 2 Plasma Irradiation,” in 8th IEEE Electron Devices Technology & Manufacturing Conference (EDTM), 2024.
35. A. Bharadwaj, C. C. Reddy, and A. Sharma, “Enhancing Resilience of WPT Systems to Lateral Misalignment Using Near-Field Coil Antennas,” in 2024 IEEE 5th India Council International Subsections Conference (INDISCON), IEEE, 2024, pp. 1–4.
36. S. Bhaskara, K. V. Shabari Girishan, S. Datta, S. Gupta, and K.

Lakshmiramanan, “Devarshi Mrinal Das, Hardik Jeetendra Pandya, “A Novel Charge Neutral, Programmable, Wireless Brain Stimulation System for Rat Experiments,” in 8th International Conference on Biomedical Engineering and Applications (ICBEA), 2024, pp. 124–130.

37. M. K. Singh, R. Nagulapalli, D. M. Das, and M. Sakare, “An RC-based dual injection locked delay cell for high-frequency ring VCOs,” in 2024 35th Irish Signals and Systems Conference (ISSC), 2024.
38. A. Sherin, S. Thomas, and R. Kushwaha, “Devarshi Mrinal Das, “Modeling and comparing the impact of resistive and capacitive crossbar associated parasitics of neuromorphic circuits,” in 31st International Conference on Mixed Design of Integrated Circuits and System, 2024, pp. 2024–2026.
39. N. Sharma, S. Sharma, and D. M. Das, “A 66mumathrm W Asynchronous Time-Domain Bulk-Tuned Offset Cancellation Circuit for High-Precision Dynamic Comparator,” in 31st International Conference on Mixed Design of Integrated Circuits and System, 2024, pp. 2024–2026
40. S. Sharma and N. Sharma, “Devarshi Mrinal Das, “A 0.006 mm 2 Low Input Capacitance Low Power Fully Differential Neural Amplifier,” in 31st International Conference on Mixed Design of Integrated Circuits and System, 2024, pp. 2024–2026.
41. N. J. Azhar Yaseen, S. Sharma, and H. Shrimali, “Devarshi Mrinal Das, “A 66dBΩ 5 GHz and 44,” in 88√ Hz/(pA• pW) Inductorless TIA in 65 nm CMOS” 2024 31st International Conference on Mixed Design of Integrated Circuits and System, pp. 2024–2026.
42. N. Raj, T. J. Nistane, S. Singh, and J. Kalaiselvi, “Analysis, online detection and localization of hall sensor fault in three phase brushless DC motor drive,” in 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), 2024, pp. 1–6.
43. A. Tripathi and P. Singh Bhakar, “A Fault-Tolerant Single-Phase Inverter Using Redundant Leg,” IEEE International Communications Energy Conference (INTELEC), no. 8, 2024.
44. Inderjeet and J. S. Sahambi, “GAMSRN: Global attention multi-scale residual network for single-image super-resolution and low-light enhancement,” in 2025 National Conference on Communications (NCC), 2025, pp. 1–6.
45. Inderjeet and J. S. Sahambi, “Residual frequency content awareness approach for image super resolution,” in 2024 National Conference on Communications (NCC), 2024, pp. 1–6.
46. H. Mehra, M. K. Singh, Z. R. Sheikh, R. Nagulapalli, and M. Sakare, “A noise and mismatch improved charge pump for PLL in 28nm CMOS technology,” in 2024 International Conference on Integrated Circuits, Communication, and Computing Systems (ICIC3S), 2024.
47. M. K. Singh, R. Nagulapalli, D. M. Das, and M. Sakare, “An RC-based dual injection locked delay cell for high-frequency ring VCOs,” in 2024 35th Irish Signals and Systems Conference (ISSC), 2024.
48. P. Singh, R. Walia, R. Nagulapalli, and M. Sakare, “A Linearity Improved Equalizers for Short-Channel Communication Links”2024,” in 35th Irish Signals and Systems Conference, 2024, pp. 2024–2026.
49. T. Zahid Rashid Sheikh, R. Kaur, H.

Nagulapalli, and M. Shrimali, “A 5.4 mW 12GHz Quadrature VCO using current reusing technique in 28nm CMOS technology” 2024 15th International Conference on Computing Communication and Networking Technologies,” pp. 2024–2026.

50. Y. Bansal, K. Chauhan, R. Sodhi, S. Chakrabarti, and A. Sharma, “A Modified Load Flow Method for Enhancing Resiliency of Islanded Active Distribution Networks,” IEEE Power & Energy Society General Meeting, pp. 2024–2027, 2024.
51. S. Dash, R. Sodhi, and S. N. Singh, “Cluster-wise response aggregation-based differentially private pool energy market model,” in 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), 2024, pp. 1–6.
52. S. Agarwal and R. Sodhi, “A fast multilevel vulnerability assessment strategy for power systems cyber security,” in 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), 2024, pp. 1–6.
53. S. Agarwal and R. Sodhi, “A Multilevel Vulnerability Assessment Strategy of Nk-j Contingencies for Ensuring the Cybersecurity of Power Systems,” in IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation, 2024.
54. S. Kushwaha, C. Bhaskara Rao, P. R. Shamini, S. Roy, and R. Sharma, “Impact of Scaling on Large Crossbar Arrays for Neuromorphic Applications”,” in 2025 IEEE 29th Workshop on Signal and Power Integrity (SPI), Gaeta, Italy.
55. Y. Mekala Girish Kumar and R. Agrawal, “High Frequency Analysis of Cu-CNT based Tapered TSV Bumps”,” in 2025 IEEE 29th Workshop on Signal and Power Integrity (SPI), Gaeta, Italy.
56. A. Kumari Jakhar, A. Dasgupta, R. Sharma, and S. Roy, “Spacer Optimization using a Neuro-PSO Approach for Improving FinFET Repeater Performance in On-Chip Global MLGNR Interconnects”,” in 2024 IEEE Electrical Design of Advanced Packaging and Systems (EDAPS), .
57. K. Varshney and R. Sharma, “Devarshi Mrinal Das, and Brajesh Rawat, “Performance of Plasma Treated 2D MoS2 Synaptic Memristor for Neuromorphic Computing,” IEEE Electrical Design of Advanced Packaging and Systems, 2024.
58. S. Kushwaha, S. Das, and R. Roy, “Signal Integrity Analysis of Ultra-scaled Copper-Graphene Heterogeneous Interconnect Structures”,” in 2024 IEEE Electrical Design of Advanced Packaging and Systems (EDAPS), .
59. S. A. Thomas, S. Kushwaha, R. Sharma, and D. M. Das, “Modeling and comparing the impact of resistive and capacitive crossbar associated parasitics of neuromorphic circuits,” in 2024 31st International Conference on Mixed Design of Integrated Circuits and System (MIXDES), 2024, pp. 171–176.
60. S. Krishnakumar et al., “Vertical power delivery for high performance computing systems with buck-derived regulators,” in 2024 IEEE 74th Electronic Components and Technology Conference (ECTC), 2024, pp. 2136–2142.
61. R. R. Khorasani, X. Li, J. W. Kim, P. Murali, R. Sharma, and M. Swaminathan, “Package power delivery architecture for high performance computing systems with

a 1 kW IVR operated in CCM-DCM boundary mode condition," in 2024 IEEE 74th Electronic Components and Technology Conference (ECTC), 2024, pp. 285–292.

62. M. Choi et al., "Thermal analysis of high current vertical power delivery network with embedded microchannel cooling," in 2024 23rd IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm), 2024, pp. 1–8.
63. S. Krishnakumar et al., "Design considerations for DC-DC voltage regulators in distributed vertical power delivery systems," in 2024 IEEE International Symposium on Circuits and Systems (ISCAS), 2024, pp. 1–5.
64. H. Yang et al., "Spin Devices for Nonvolatile Memories, Unconventional Computing, and Energy Harvesting" 2024 IEEE International Electron Devices Meeting (IEDM)," pp. 2024–2036.
65. A. Ahmad and S. Agarwal, "Demonstration of machine learning based receiver for MISO system using software-defined radios," in 2024 IEEE International Conference on Machine Learning for Communication and Networking (ICMLCN), 2024, pp. 1–2.
66. P. Kumar Mahato, M. Alam, and S. Payami, Analysis and Diagnosis of Power Converter Faults in Switched Reluctance Motor Drives" IECON 2024-50th Annual Conference of the IEEE. .
67. R. Sarker, A. Ahmad, R. Teja, and S. Payami, Series Connected Cell Monitoring System of Li-ion Battery with I2C and Cloud Interfacing" IECON 2024-50th Annual Conference of the IEEE. .
68. M. Alam and S. Payami, Strategic High-Frequency Switching of Idle Phases for Static & Dynamic Eccentricity Detection in Switched Reluctance Motors" IECON 2024-50th Annual Conference of the IEEE. .
69. D. Salwan, S. Agarwal, B. Kumbhani, S. Darshi, and K. Namuduri, "Sumit Chakravarty, Ashwin Ashok, 'Communication Receiver Design for PSK-LFM Joint Sensing and Communication Waveform' 2024 IEEE International Conference on Communications Workshops (ICC Workshops)," pp. 2024–2026.
70. S. Bhattacharyya, S. Darshi, B. Kumbhani, J.-Y. Pan, and A. Akram, "RSMUC: An Alternative to Coded Cooperation for QoS Enhancements in Next Generation Vehicular Networks," pp. 2024–2035, 2024.
71. S. Gautam and S. Kumar, "A Novel BLE Extended Advertising Based Industrial Automation Framework with Modbus Protocol," in IEEE 99th Vehicular Technology Conference, 2024.
72. S. Gautam and S. Kumar, "RTOS Based Data Logger Using BLE Periodic Advertising for Cold Chain Temperature Monitoring," in IEEE 99th Vehicular Technology Conference, 2024, pp. 2024–2026
73. R. Verma, R. Raina, V. Garg, S. Gautam, and S. Kumar, "An IoT-based biodiversity monitoring system," in 2024 IEEE International Conference on Omni-layer Intelligent Systems (COINS), 2024, pp. 1–6.
74. R. Raina and S. Kumar, "Angle of Arrival Antenna Array Design for BLE 5.1 Direction Finding," in " 2024 International Symposium on Antennas and Propagation,
75. A. Kulkarni, S. Shruti, S. Phutke, and S. Kumar Vipparthi, "C2AIR: consolidated compact aerial image haze removal," pp. 749–758, 2024.

76. P. Mishra, S. Kumar Vipparthi, and S. Murala, “Underwater Image Enhancement Using Wavelet Triple Self-Attention” Proceedings of the Asian Conference on Computer Vision,” pp. 84–101, 2024.

77. R. Tekchandani, R. Maheshwari, P. Hambarde, S. Satya Narayan Tazi, and S. Kumar Vipparthi, “Luminate: Linguistic Understanding and Multi-Granularity Interaction for Video Object Segmentation,” in 2024 IEEE International Conference on Image Processing,

78. P. Saxena, D. K. Tyagi, S. K. Vipparthi, and S. Murala, “WARMOS: Enhancing weather-affected referred moving object segmentation,” in Lecture Notes in Computer Science, Singapore: Springer Nature Singapore, 2025, pp. 105–117.

79. A. Dukre et al., Frequency Modulated Deformable Transformer for Underwater Image Enhancement” International Conference on Pattern Recognition

80. S. Singh, N. Mehta, K. N. Prakash, S. K. Vipparthi, and S. Murala, “Probing Attention-Driven Normalizing Flow Network for Low-Light Image Enhancement,” in International Conference on Pattern Recognition, Cham; Nature Switzerland: Springer, 2024, pp. 137–151.

81. M. Wani, A. Md Raqib Khan, S. S. Kulkarni, S. Phutke, and S. Kumar Vipparthi, “Attentive Color Fusion Transformer Network (ACFTNet) for Underwater Image Enhancement,” in International Conference on Pattern Recognition, Cham: Springer Nature Switzerland, 2024, pp. 308–324.

82. A. Md Raqib Khan, A. Negi, S. Shruti, S. Phutke, and S. Kumar Vipparthi, “Phaseformer: Phase-based Attention Mechanism for Underwater Image Restoration,” pp. 2025–2027.

83. S. Ahmad, S. Bano, S. Chanda, S. Kumar Vipparthi, and S. Murala, “TRUST: Time-Domain Residual Unsupervised Stability Technique for Improved Heart Rate Estimation” 2025 IEEE,” pp. 2025–2027.

84. S. Ahmad et al., “PULSE: Physiological understanding with liquid signal extraction,” in 2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025, pp. 4574–4584.

85. P. Mishra, N. Mehta, S. K. Vipparthi, and S. Murala, “USWformer: Efficient sparse wavelet transformer for underwater image enhancement,” in 2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025, pp. 3372–3382.

86. R. Khan et al., “Spectroformer: Multi-domain query cascaded transformer network for underwater image enhancement,” in Proceedings of the IEEE/CVF winter conference on applications of computer vision, 2024, pp. 1454–1463.

87. A. Kulkarni, S. S. Phutke, S. Kumar Vipparthi, and S. Murala, “C2AIR: consolidated compact aerial image haze removal,” in Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, 2024, pp. 749–758.

88. P. Mishra, S. K. Vipparthi, and S. Murala, “U-ENHANCE: Underwater image enhancement using wavelet triple self-attention,” in Lecture Notes in Computer Science, Singapore: Springer Nature Singapore, 2025, pp. 87–104.

89. P. Saxena, D. Susim Mukul Roy, S. Kumar Tyagi, and S. Kumar Vipparthi, “RefMOS: A Robust Referred Moving Object Segmentation framework based on text query,” pp. 2024–2027.

90. A. Shakya et al., “Two-Stage, Global-Local Approach for Cell Nuclei Segmentation in Histopathology Images,” in IEEE 8th International Conference on Information and Communication Technology, 2024, pp. 2024–2036.
91. A. Shakya et al., “Two-Stage, Global-Local Approach for Cell Nuclei Segmentation in Histopathology Images,” in IEEE 8th International Conference on Information and Communication Technology, 2024, pp. 2024–2036.
92. A. Dukre et al., “Frequency Modulated Deformable Transformer for Underwater Image Enhancement,” in International Conference on Pattern Recognition, Cham: Springer Nature Switzerland, 2024, pp. 121–136.
93. S. Singh, N. Mehta, S. Prakash, and S. Kumar Vipparthi, Probing Attention-Driven Normalizing Flow Network for Low-Light Image Enhancement” International Conference on Pattern Recognition. .
94. A. Md Raqib Khan, S. Shruti, S. Phutke, and S. Kumar Vipparthi, Attentive Color Fusion Transformer Network (ACFTNet) for Underwater Image Enhancement” International Conference on Pattern Recognition. .

BOOK CHAPTER

1. S. K. Gupta and A. Sharma, “Octa-Port Dual-Polarized Antenna/Rectenna for MIMO Simultaneous Wireless Information and Power Transfer (SWIPT),” in IEEE Microwave and Wireless Technology Letters, 2024.
2. M. S K Vipparthi and G. Verma, “Deep Insights of Learning-Based Micro Expression Recognition: A Perspective on Promises,” in IEEE Transactions on Emerging Topics in Computational Intelligence, S. S. Phutke, S. K. Vipparthi, and S. Murala, Eds. 2024.
3. S. Sonkhla and A. R. Teja, “Fast Global MPPT Algorithm using Buck-Boost Topology to Track under any Operating Conditions,” in IECON 2024-50th Annual Conference of the IEEE Industrial Electronics Society, IEEE, 2024, pp. 1–6.
4. P. Kalkal and R. Teja, “Enhanced Modulation Index Range for Mitigation of,” in 5 th and 7 th Harmonics in a Five-Level Three-Phase Inverter” IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society, 2024, pp. 3–06.

BOOKS

1. K. Varshney, M. S. Yadav, D. M. Das, and B. Rawat, To be appear at VLSID 2024 Finding a Promising Oxide Material for Resistive Random Access Memory with Graphene Electrode. 2024.
2. S. K. Vohra, M. Sakare, A. P. James, and D. M. Das, SpiMAM: CMOS Implementation of Bio-Inspired Spiking Multidirectional Associative Memory Featuring In-Situ Learning. IEEE Transactions on Circuits and Systems I: Regular Papers. 2024.
3. N. Sharma and V. Hande, Devarshi Mrinal Das, “A Dynamic Comparator With Cross-Coupled Pre-Amplifier With< 160ps Delay and 81 Fj. ns EDP” Integrated Circuits and Systems. 2024.
4. H. Mehra, D. M. Das, P. Singh, U. Chichhula, and M. Sakare, A PRBS

Generator Using Merged XOR-D Flip-Flop as Building Blocks. 2024.

5. A. P. Mazumdar, S. Narayan, and S. K. Vipparthi, SBI-DHGR: Skeleton-based intelligent dynamic hand gestures recognition. .
6. M. Verma and S. K. Vipparthi, Cross-centroid ripple pattern for facial expression recognition" Multimedia Tools and Applications. 2024.
7. M. Kuldeep Marotirao Biradar, S. Mandal, S. Dube, and D. Kumar Vipparthi, Triplet-set feature proximity learning for video anomaly detection" Image and Vision Computing. 2024.

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

JOURNAL ARTICLES

1. S. Jha, A. Amritesh, and P. Singh, "Manifestations of Love of Sport in Indian Elite Athletes: An Autobiographical Study," The International Journal of Sport and Society, vol. 16, no. 2, 2025.
2. S. Agarwal and S. R. Behera, "Mammoth backlog of court cases pending in India: A spatial visualisation," Reg. Stud. Reg. Sci., vol. 11, no. 1, pp. 757–760, 2024.
3. P. Chetia and S. R. Behera, "Do firms' performance act as a catalyst of innovation: empirical evidence from innovative Indian manufacturing firms," Ind. Growth Dev. Rev., vol. 17, no. 2, pp. 108–139, 2024.
4. S. R. Behera, L. Mallick, and T. Mishra, "The saving-investment relationship revisited: New evidence from regime-switching cointegration approach," Int. Econ. J., vol. 38, no. 2, pp. 236–269, 2024.
5. S. Agarwal and S. R. Behera, "The spatial footprint of financial assistance to poor households in India: a district-level analysis," Finance and Space, vol. 1, no. 1, pp. 121–123, 2024.
6. S. Agarwal and S. R. Behera, "Location and geographical concentration patterns of Indian manufacturing industries: Evidence from the rural and urban areas," Singap. Econ. Rev., vol. 69, no. 03, pp. 955–999, 2024.
7. L. Mallick, S. R. Behera, and M. Bhattacharya, "Impact of exchange rate on trade balance of India: Evidence from threshold cointegration with asymmetric error correction approach," Foreign Trade Review, vol. 59, no. 2, pp. 279–308, 2024.
8. P. Mukherjee and S. Bardhan, "Dynamic spillovers among equity, gold and oil markets during COVID and Russia-Ukraine war: Evidence from India," Asia-Pac. Financ. Mark., 2024.
9. P. Jain and S. Bardhan, "Sustainable energy deployment in developing countries: The role of composition of energy aid," Econ. Syst., vol. 48, no. 3, p. 101195, 2024.
10. B. Rakshit and S. Bardhan, "Implications of bank competition, financial stability, and gender gap on access to finance: Evidence from Sub-Saharan Africa," International Journal of Finance & Economics, vol. 29, no. 4, pp. 4394–4418, 2024.

DEPARTMENT OF MATHEMATICS

JOURNAL ARTICLES

1. N. K. Pande, A. Jain, A. Kumar, and A. K. Gupta, “Conservative Deep NeuralNetworks for Modeling Competition of Ribosomes with Extended Length,” Physica D:Nonlinear Phenomena, vol. 470, 2024.
2. M. S. Dhull, A. Kumar, and A. Wyłoma□ska, “The expectation-maximization algorithm for autoregressive models with normal inverse Gaussian innovations,” Commun. Stat. Simul. Comput., vol. 53, no. 11, pp. 5421–5441, 2024.
3. M. S. Dhull and A. Kumar, “Geometric infinitely divisible autoregressive models,” Stat. Pap. (Berl), 2024.
4. N. Gupta, A. Kumar, N. Leonenko, and J. Vaz, “Generalized fractional derivatives generated by Dickman subordinator and related stochastic processes,” Fract. Calc. Appl. Anal., vol. 27, no. 4, pp. 1527–1563, 2024.
5. N. Bhootna and A. Kumar, “Tempered stable autoregressive models,” Commun. Stat. Theory Methods, pp. 1–21, 2022.
6. N. Bhootna and A. Kumar, “GARTFIMA process and its empirical spectral density based estimation,” J. Appl. Stat., vol. 51, no. 10, pp. 1919–1945, 2024.
7. X.-J. He, P. Pasricha, T. Lu, and S. Lin, “Vulnerable options with regime switching and stochastic liquidity,” Q. Rev. Econ. Finance, vol. 98, no. 101930, p. 101930, 2024.
8. X.-J. He, P. Pasricha, and S. Lin, “Analytically pricing European options in dynamic markets: Incorporating liquidity variations and economic cycles,” Econ. Model., vol. 139, no. 106839, p. 106839, 2024.
9. P. Pasricha, D. Selvamuthu, and P. Tardelli, “Structural credit risk models with stochastic default barriers and jump clustering using Hawkes jump-diffusion processes,” Opsearch, vol. 62, no. 2, pp. 1061–1081, 2025.
10. M. A. Bhat and G. S. R. Kosuru, “Wiener-Lebesgue point property for Sobolev Functions on Metric Spaces,” arXiv [math.FA], 2024.
11. M. A. Bhat and G. S. R. Kosuru, “Trace principle for Riesz potentials on Herz-type spaces and applications,” J. Inequal. Appl., vol. 2024, no. 1, 2024.
12. J. Singh, S. Murala, and G. S. R. Kosuru, “KL-DNAS: Knowledge distillation-based latency aware-differentiable architecture search for video motion magnification,” IEEE Trans. Neural Netw. Learn. Syst., vol. 36, no. 2, pp. 2342–2352, 2025.
13. L. Mahto, J. Chakraborty, J. Kumar, A. Tripathi, M. Sen, and W. Ketterhagen, “Decoupling calibration and coarse-graining: Quest for a generalized parameter set for DEM simulation of pharmaceutical powder,” Powder Technol., vol. 457, no. 120903, p. 120903, 2025.
14. S. Yadav, D. Wadhwa, M. Singh, and J. Kumar, “An opportunity for streamlined computational fluid dynamics integration via a semi-analytical method for weighted finite volume fragmentation equations,” Physics of Fluids, vol. 36, 2024.
15. Z. Ansari, M. Rae, J. Kumar, and M. Singh, “Optimizing numerical performance of enzymatic coagulation

models: Insights into proteolysis and gelation dynamics," Physics of Fluids, vol. 36, 2024.

16. D. Ghosh, J. Paul, J. Kumar, and J. C. Yao, "The multi-dimensional coagulation and collisional breakage equation with unbounded kernel," Applicable Analysis, vol. 104, no. 7, pp. 1353–1375, 2024.
17. D. Ghosh, J. Kumar, A. Petrusel, and J. C. Yao, "Stationary solution to a non-singular coagulation multiple fragmentation equation with source and efflux," Journal of Nonlinear and Convex Analysis, vol. 26, pp. 515–527, 2025.
18. D. Ghosh, J. Paul, J. Kumar, and J. C. Yao, "The multi-dimensional coagulation-fragmentation model with unbounded kernel," Fixed Point Theory, vol. 25, pp. 569–588, 2024
19. D. Ghosh, J. Kumar, and A. Petrusel, "Stability analysis of time dependent solutions for the coagulation equation with source and efflux," Journal of Nonlinear and Convex Analysis, vol. 25, pp. 2571–2586, 2024.
20. Y. Deki et al., "Numerical Simulation of Effects of Phase Separation on Viscous Fingering in Radial Hele-Shaw Flows," J. Fluid Mech, vol. 1003, 2025.
21. J. S. Hong, L. Palodhi, M. Mishra, and M. C. Kim, "Onset and growth of viscous fingering in miscible annular ring," Phys. Fluids (1994), vol. 36, no. 7, 2024.
22. A. Patmonoaji, Y. Nagatsu, and M. Mishra, "Instability dynamics of viscous fingering interaction on dual displacement fronts," J. Fluid Mech., vol. 995, no. A5, 2024.
23. P. Verma, V. Sharma, C. Y. Chen, and M. Mishra, "Damkohler Number independent critical regime in reactive viscous fingering J," J. Fluid Mech, vol. 1000, 2024.
24. S. Kundu, S. N. Maharana, and M. Mishra, "Existence and uniqueness of solution to unsteady Darcy-Brinkman problem with Korteweg stress for modelling miscible porous media flow," J. Math. Anal. Appl., vol. 539, no. 2, p. 128532, 2024.
25. L. Palodhi, M. C. Kim, and M. Mishra, "Trade off between hydrodynamic and thermodynamic forces at the liquid-liquid interface," Langmuir, vol. 40, no. 14, pp. 7595–7606, 2024.
26. T. Ban et al., "Momentum transport of morphological instability in fluid displacement with changes in viscosity," Phys. Chem. Chem. Phys., vol. 26, no. 6, pp. 5633–5639, 2024.
27. B. Rana, R. Kamath, M. Mishra, and K. C. Jena, "Impact of ion-specific interactions on laser-induced liquid microjet generation," Phys. Fluids (1994), vol. 36, no. 2, 2024.
28. R. X. Suzuki, S. Seya, T. Ban, M. Mishra, and Y. Nagatsu, "Arresting of interfacial phase separation with an imposed flow," Phys. Rev. Fluids, vol. 9, no. 2, 2024.
29. B. Garg and S. Sarkar, "J-contractive operator valued functions, vector valued de Branges spaces and functional models," J. Math. Anal. Appl., vol. 549, no. 2, p. 129564, 2025.
30. S. Mahapatra and S. Sarkar, "Analytic Kramer sampling and quasi Lagrange-type interpolation in vector valued RKHS," Results Math., vol. 79, no. 6, 2024.
31. T. Chatterjee and S. Garg, "On arithmetic nature of a □-Euler-double zeta values," Proc. Am. Math. Soc., 2024.
32. T. Chatterjee and S. Garg,

"Transcendental nature of p-adic digamma values," Res. Number Theory, vol. 10, no. 4, 2024.

33. T. Chatterjee and T. Komatsu, "Frobenius numbers associated with Diophantine triples of x^2+3 y^2=z^3, to appear in the Revista dela Real Academia de Ciencias Exactas."

34. M. Vashisth, "Unique determination of the damping coefficient in the wave equation using point source and receiver data," arXiv [math.AP], 2019.

35. R. Bhardwaj, R. Kumar Mishra, and M. Vashisth, "On the inversion of generalized V-line transform of a vector field in R2," Mathematical Methods in the Applied Sciences, vol. 48, pp. 6512–6520, 2025

36. N. Kumar, T. Sarkar, and M. Vashisth, "Stable determination of a time-dependent matrix potential for a wave equation in an infinite waveguide," Communications on Analysis and Computation, vol. 2, no. 4, pp. 343–366, 2024.

37. A. Saxena and K. Mondal, "A further study on weak Byzantine gathering of mobile agents," Theor. Comput. Sci., vol. 1022, no. 114892, p. 114892, 2024.

38. N. Bhatt, B. Gorain, K. Mondal, and S. Pandit, "Distributed independent sets in interval and segment intersection graphs," Int. J. Found. Comput. Sci., pp. 1–29, 2024.

39. A. Saxena, B. Gorain, S. Mandal, and K. Mondal, "Brief announcement: Pebble guided rendezvous despite fault," in Lecture Notes in Computer Science, Cham: Springer Nature Switzerland, 2025, pp. 121–125.

40. T. Kaur, K. Paul, and K. Mondal, "Mobile agents on chordal graphs: Maximum independent set and beyond," Theor. Comput. Sci., vol. 1055, no. 115490, p. 115490, 2025.

41. S. Deb and P. S. Dutta, "Deep learning at the forefront of detecting tipping points," Nat. Mach. Intell., vol. 6, no. 12, pp. 1433–1434, 2024.

42. K. Kulkarni, S. Deb, and P. S. Dutta, "Efficacy of dynamic eigenvalue in anticipating and distinguishing tipping points†," bioRxiv, 2024.

43. S. Deb, E. Mahendru, P. Goyal, V. Guttal, P. S. Dutta, and N. C. Krishnan, "Optimal sampling of spatial patterns improves deep learning based early warning signals of critical transitions," Royal Society Open Science, vol. 11, no. 6, 2024.

44. R. Kumar, H. Alkhayuon, S. Wieczorek, and P. S. Dutta, "Pace in Concert with Phase: Rate-induced Phase-tipping in Birhythmic Oscillators," Proceedings of the Royal Society A, vol. 481, 2025.

45. A. Mandal, S. Sarkar, S. Chakraborty, and P. S. Dutta, "Mitigating ecological tipping points via game–environment feedback," Proc. Math. Phys. Eng. Sci., vol. 481, no. 2312, 2025.

46. V. Kalia and B. Kumar, "Traces of Poincaré series at square discriminants and Fourier coefficients of mock modular forms," Acta Arith., vol. 216, no. 1, pp. 1–18, 2024.

47. B. Kumar and M. Manickam, "Karam Deo Shankhadhar, Simultaneous nonvanishing of central L-values with large level," Forum Mathematicum, vol. 37, no. 2, pp. 503–514, 2025.

48. M. A. Henning, A. Pandey, and V. Tripathi, "More on the complexity of defensive domination in graphs," Discrete Appl. Math., vol. 362, pp. 167–179, 2025.

49. K. Paul, A. Sharma, and A. Pandey, "Exploring algorithmic solutions for the

Independent Roman Domination problem in graphs," Discrete Appl. Math., vol. 364, pp. 143–152, 2025.

50. K. Paul and A. Pandey, "Perfect Italian domination on some generalizations of cographs," Comput. Appl. Math., vol. 43, no. 6, 2024.
51. K. Paul, A. Sharma, and A. Pandey, "Algorithmic results for weak Roman domination problem in graphs," Discrete Appl. Math., vol. 359, pp. 278–289, 2024.
52. K. Paul and A. Pandey, "Some algorithmic results for eternal vertex cover problem in graphs," J. Graph Algorithms Appl., vol. 28, no. 3, pp. 69–85, 2024.
53. S. N. Chattopadhyay and A. K. Gupta, "B-tipping points in plankton dynamics: Stochasticity and early warning signals," Phys. Rev. E., vol. 110, no. 6–1, p. 064218, 2024.
54. N. K. Pande, A. Jain, A. Kumar, and A. K. Gupta, "Conservative deep neural networks for modeling competition of ribosomes with extended length," Physica D, vol. 470, no. 134415, p. 134415, 2024.
55. M. Verma, A. K. Gupta, and S. Sharma, "Traffic flow dynamics and oscillation control in conserved fractal networks," The European Physical Journal B, vol. 97, no. 10.
56. S. N. Chattopadhyay and A. K. Gupta, "Bistability and the emergence of oscillation in a multiple-loop traffic network," Nonlinear Dyn., vol. 112, no. 22, pp. 19959–19971, 2024.
57. N. Bhatia and A. K. Gupta, "Local resetting in a bidirectional transport system," J. Stat. Phys., vol. 191, no. 7, 2024.
58. S. N. Chattopadhyay and A. K. Gupta, "Tipping Points, Multistability, and Stochasticity in a Two-Dimensional Traffic Network Dynamics," Chaos, vol. 34, no. 7.
59. N. K. Pande, A. Kumar, and A. K. Gupta, "Forecasting stock indices: Stochastic and artificial neural network models," Comput. Econ., vol. 65, no. 4, pp. 1937–1969, 2025.
60. A. Jain and A. K. Gupta, "A mathematical framework for analyzing particle flow in a network with multiple pools," Royal Society Open Science, vol. 11, no. 5.
61. A. Gupta and A. K. Gupta, "Competition for resources in an exclusion model with biased lane-changing mechanism," Phys. Rev. E., vol. 109, no. 3–1, p. 034132, 2024.
62. M. Verma, T. Singla, A. K. Gupta, and S. Sharma, "The role of occupancy on traffic flow in a multiple-loop networks," Physica A: Statistical Mechanics and its Applications, vol. 638.
63. N. Bhatia and A. K. Gupta, "Totally asymmetric simple exclusion process with local resetting in a resource-constrained environment," Phys. Rev. E., vol. 109, no. 2–1, p. 024109, 2024.
64. A. Gupta and A. K. Gupta, "Reservoir crowding in a dynamically disordered bidirectional system with narrow entrances," Chaos, Solitons & Fractals, vol. 178.
65. D. Goyal, S. C. Martha, and B. N. Mandal, "Oblique water wave scattering by a step," J. Eng. Math., vol. 151, no. 1, 2025.
66. S. C. Sunita Choudhary and T. Martha, "The scattering of water waves by M-floating porous plates over M-1-trenches," Journal of Offshore Mechanics and Arctic Engineering-ASME, 2025.

67. S. Choudhary and S. C. Martha, “Mitigation of incident wave load on a floating bridge in the existence of horizontal thin porous plate,” International Journal of Advances in Engineering Sciences and Applied Mathematics, vol. 17, no. 1, pp. 1–13, 2025.
68. G. Sahoo, V. Venkateswarlu, and S. C. Martha, “Mitigation of structural response on a floating elastic plate in the presence of multiple porous structures,” Appl. Ocean Res., vol. 154, no. 104412, p. 104412, 2025.
69. S. Hatui, G. Kaur, and S. Sabnam, “On the twisted group ring isomorphism

CONFERENCE PAPER

1. Saxena, T. Kaur, and K. Mondal, “Dispersion on time varying graphs,” in Proceedings of the 26th International Conference on Distributed Computing and Networking, 2025, pp. 269–273
2. T. Kaur, A. Saxena, P. S. Mandal, and K. Mondal, “Black hole search in dynamic graphs,” in Proceedings of the 26th International Conference on Distributed Computing and Networking, 2025, pp. 221–230.
3. A. Saxena and K. Mondal, “Path connected dynamic graphs with a study of efficient dispersion,” in Proceedings of the 26th International Conference on Distributed Computing and Networking, 2025, pp. 171–180

BOOKS

1. T. Chatterjee and S. Garg, Algebraic identities among q -analogue of Euler double zeta values. 2024.
2. T. Chatterjee and S. Dhillon, Special values of derivatives of certain L -functions. 2024.

DEPARTMENT OF MECHANICAL ENGINEERING

JOURNAL ARTICLES

1. S. Raik, B. Kaur, S. Kumar, V. Rattan, N. Kumar, and S. Bhattacharyya, “Secretome Derived From Mesenchymal Stem Cells Cultured as Monolayer Show Enhanced Bone Regeneration Compared to Secretome From 3D Spheroid-Clues From the Proteome,” Advanced Healthcare Materials, vol. 14, no. 15, 2025.
2. A. M. Kurup, R. K. Bhushan, N. Kumar, N. Kumar, and R. K. Sen, “Assessment of the effects of core decompression on the patho-biomechanics of the femoral head in avascular necrosis: A biomechanical perspective,” Injury, vol. 56, no. 6, p. 112350, 2025
3. S. Singh, V. Kumar, S. P. Singh, and N. Kumar, “Investigation of gold-silicon eutectic bonding to realize the symmetric sensing element of MEMS piezoresistive accelerometer,” IEEE Transactions on Components,

Packaging and Manufacturing Technology, 2025.

4. S. Sharma et al., “Multifaceted skeletal effects of sevelamer carbonate in a secondary hyperparathyroidism model,” Endocrine, vol. 88, no. 2, pp. 581–596, 2025.
5. R. Saini et al., “Graphene–nickel oxide–polyaniline ternary nanocomposite embedded epoxy coating on mild steel for corrosion protection,” Adv. Eng. Mater., 2025.
6. N. Kumar, M. Mahala, and A. Agrawal, “A coupled thermo-mechanical model for warm single-point incremental forming process,” Arch. Civ. Mech. Eng., vol. 25, no. 1, 2024.
7. G. Saraf and C. K. Nirala, “Experimental investigation of micro-pillar textured WC inserts during turning of Ti6Al4V under various cutting fluid strategies,” J. Manuf. Process., vol. 113, pp. 61–75, 2024.
8. G. Saraf, N. H. Sutrave, and C. K. Nirala, “Sustainable approach for machining of Ti6Al4V using micro-pillar textured turning tool insert,” Sustain. Mater. Technol., vol. 40, no. e00929, p. e00929, 2024.
9. J. Airao, A. Jain, C. K. Nirala, and D. Unune, “Tribological performance in micro-milling of Ti6Al4V under nanofluid-based minimum quantity lubrication,” Int. J. Interact. Des. Manuf. (IJIDeM), vol. 19, no. 3, pp. 1807–1819, 2025.
10. M. Pal, A. Agrawal, and C. K. Nirala, “An investigation of the formability of ultra-thin CP-Ti-Gr2 foils considering thickness-to-grain-size effects under controlled heat treatment in μ-ISF,” J. Manuf. Process., vol. 131, pp. 1202–1218, 2024.
11. G. Saraf, G. Sharma, R. Kumar, and C. K. Nirala, “Experimental and numerical investigation on heat dissipation capability of micro-pillar textured cutting tools,” Sci. Rep., vol. 15, no. 1, p. 12282, 2025.
12. J. Airao, A. Gupta, C. K. Nirala, and A. W. J. Hsue, “Bayesian neural networks modeling for tool wear prediction in milling Al 6061 T6 under MQL conditions,” The International Journal of Advanced Manufacturing Technology, vol. 135, no. 5, pp. 2777–2788, 2024.
13. C. W. E. Lam et al., “Condensate droplet roaming on nanostructured superhydrophobic surfaces,” Nat. Commun., vol. 16, no. 1, p. 1167, 2025.
14. K. Kamaluddin, G. C. Pal, P. Dhar, C. S. Sharma, and D. Samanta, “Parallel governing criteria for non-Newtonian droplet rebound suppression on superhydrophobic surfaces,” Colloids Surf. A Physicochem. Eng. Asp., vol. 684, no. 133128, p. 133128, 2024.
15. N. Kumar, R. K. Upadhyay, C. S. Sharma, and A. Agrawal, “Surface quality enhancement of warm incremental forming process using solid lubricant with varying etching period,” Proc. Inst. Mech. Eng. Pt. B: J. Eng. Manuf., vol. 238, no. 9, pp. 1327–1337, 2024.
16. S. Kavuri, G. Karapetsas, C. S. Sharma, and K. C. Sahu, “Freezing of sessile droplet and frost halo formation,” arXiv [physics.flu-dyn], 2023.
17. G. C. Pal, M. Agrawal, S. S. Siddhartha, and C. S. Sharma, “Damping the jump of coalescing droplets through substrate compliance,” Soft Matter, vol. 20, no. 32, pp. 6361–6370, 2024.
18. S. Gorai, D. Samanta, and S. K. Das, “Heat transfer in simultaneously developing turbulent mixed convection

flows in vertical tubes," Heat Trans. Eng., pp. 1–20, 2023.

19. R. Kumar, S. S. Padhee, and D. Samanta, "Aerodynamic performance and flow mechanism of 3D flapping wing using discrete vortex method," J. Fluids Struct., vol. 127, no. 104128, p. 104128, 2024.
20. R. Kumar and D. Samanta, "Numerical simulation of bending and length-varying flapping wing using discrete vortex method," Int. J. Mod. Phys. C., vol. 35, no. 06, 2024
21. P. Gupta, P. Dhar, and D. Samanta, "Electromagnetohydrodynamics (EMHD) of a confined liquid droplet suspended in another liquid pool," Int. Commun. Heat Mass Transf., vol. 159, no. 108239, p. 108239, 2024.
22. P. K. Agnihotri, S. Rahal, M. D. Choudhury, D. Samanta, and S. K. Das, "Designing lotus-like superhydrophobic self-cleaning surface using carbon nanotubes," 2024.
23. R. Kumar, S. S. Padhee, and D. Samanta, "Numerical simulations of bio-inspired approaches to enhance underwater swimming efficiency," Phys. Fluids (1994), vol. 36, no. 5, 2024.
24. P. Gupta, P. Dhar, and D. Samanta, "Viscoelasticity-contrast driven electrohydrodynamic behaviour of a droplet-suspended-in-a-confined-liquid configuration," J. Nonnewton. Fluid Mech., vol. 338, no. 105406, p. 105406, 2025.
25. S. Gorai, D. Samanta, and S. K. Das, "Examining heat transfer in the developing laminar-turbulent mixed convection flow regime with buoyancy effects," Int. J. Therm. Sci., vol. 210, no. 109671, p. 109671, 2025.
26. G. V. V. S. Vara Prasad, P. Kumar, P. Dhar, and D. Samanta, "Fluid dynamics of droplet impact and splitting on superhydrophobic wedges," Proc. Math. Phys. Eng. Sci., vol. 481, no. 2309, 2025.
27. M. Singh, S. Basu, and D. Samanta, "Non-Newtonian fluid droplet impact dynamics on thin liquid films," Phys. Fluids (1994), vol. 37, no. 2, 2025.
28. A. M. Bhaskaran, A. Paul, A. Roy, D. Samanta, and P. Dhar, "The fluid dynamics of liquid mushrooms," arXiv [physics.flu-dyn], 2025.
29. G. V. V. S. V. Prasad, P. Kumar, P. Dhar, and D. Samanta, "Droplet impact and splitting behaviour on superhydrophobic wedges," arXiv [physics.flu-dyn], 2024.
30. P. Gupta, P. Dhar, and D. Samanta, "Deformation transients of confined droplets within interacting electric and magnetic field environment," arXiv [physics.flu-dyn], 2022.
31. D. K. Tyagi and D. K. Mahajan, "Novel net-shape manufacturing of bioresorbable coronary stents using micro-injection molding process," CIRP J. Manuf. Sci. Technol., vol. 60, pp. 25–37, 2025.
32. G. C. Pal, M. Agrawal, S. S. Siddhartha, and C. S. Sharma, "Damping the jump of coalescing droplets through substrate compliance," Soft Matter, vol. 20, no. 32, pp. 6361–6370, 2024
33. D. Yogeshwar, R. Repaka, and N. K. Marath, "A double serpentine channel liquid cooling plate for hotspot targeted cooling of lithium-ion batteries in a battery module," Int. J. Therm. Sci., vol. 209, no. 109521, p. 109521, 2025.
34. A. Yesu, M. Srivastava, P. K. Agnihotri, and S. Basu, "Minimizing environmental degradation in fracture

toughness of carbon fiber/epoxy composites using carbon nanotubes," Eng. Fract. Mech., vol. 294, no. 109734, p. 109734, 2023.

35. P. K. Agnihotri, S. Rahal, M. D. Choudhury, D. Samanta, and S. K. Das, "Designing lotus-like superhydrophobic self-cleaning surface using carbon nanotubes," 2024.

36. V. Agrawal, T. Ghosh, R. Kumar, E. Singla, and P. K. Agnihotri, "Design and fabrication of dual electrochromic device with broader color space," J. Mater. Sci.: Mater. Electron., vol. 35, no. 18, 2024.

37. H. S. Bedi, S. S. Padhee, and P. K. Agnihotri, "Tailoring the extension-bending-twisting coupling in composite laminates using carbon nanotube hybridization," Model. Simul. Mat. Sci. Eng., vol. 32, no. 5, p. 055025, 2024.

38. S. N. Tiwari, V. Kumar, and P. K. Agnihotri, "Anisotropic response of bidirectionally ice-templated alumina/epoxy composites," International Journal of Applied Ceramic Technology, vol. 22, no. 3, 2025.

39. A. B. Singh, G. Gaurav, P. Sarkar, G. S. Dangayach, and M. L. Meena, "Present, past, and future of lean Six Sigma applications: From evolution to the era of artificial intelligence," Recent Pat. Eng., vol. 18, no. 5, 2024.

40. S. Sharma and P. Sarkar, "Biological knowledge capture and representation inspired by Zachman Framework principles," Int. J. Interact. Des. Manuf. (IJIDeM), vol. 18, no. 8, pp. 5623–5642, 2024.

41. S. Sharma and P. Sarkar, "A framework to describe biological entities for bioinspiration," International Journal on Interactive Design and Manufacturing (IJIDeM), vol. 18, no. 8, pp. 5681–5700, 2024.

42. A. Bihari Singh, G. Gaurav, P. Sarkar, G. Sharan Dangayach, and M. Lal Meena, "Current understanding, motivations, and barriers towards implementing sustainable initiatives in the hospitality industry in the age of automation and artificial intelligence," Recent Pat. Eng., vol. 18, no. 7, 2024.

43. A. B. Singh, Y. Mishra, C. Dusad, G. S. Dangayach, P. Sarkar, and M. L. Meena, "Navigating uncertainty: Cutting-edge approaches in process control and monitoring for risk mitigation in supply chain management," Engineering Proceedings, vol. 67, no. 1, 2024.

44. R. P. Patil et al., "Retinal vascular pathology in a mouse model of Lafora progressive myoclonus epilepsy," Neurosci. Res., vol. 204, pp. 58–63, 2024.

45. M. R. Saxena and R. K. Maurya, "Determination of cyclic air-fuel ratio and analysis of low and high-frequency variations in dual-fuel RCCI engine," Int. J. Engine Res., vol. 25, no. 12, pp. 2230–2248, 2024.

46. N. Deswal and R. Kant, "Machining performance of Al3003 alloy during ultrasonic vibration-assisted turning," J. Braz. Soc. Mech. Sci. Eng., vol. 46, no. 10, 2024.

47. N. Deswal and R. Kant, "Experimental investigation on hybrid turning of aluminum alloy using ultrasonic vibration and laser energy," Machining Science and Technology, vol. 29, no. 3, pp. 439–464, 2025.

48. U. Singh and S. Kumar, "Smoothed floating node method for modelling cohesive fracture in quasi-brittle materials," Mech. Adv. Mater. Struct., pp. 1–15, 2022.

49. H. Markanday, S. C. Roy, and M. A. J. Somers, “On the effect of salt bath nitrocarburizing on the cavitation erosion behavior of AISI 304L stainless steel,” Eng. Fail. Anal., vol. 165, no. 108752, p. 108752, 2024.

50. S. Chauhan, S. Muthulingam, and S. Chandra Roy, “Analysis of high temperature and strain amplitude effects on low cycle fatigue behavior of pitting corroded killed E350 BR structural steel,” Int. J. Fatigue, vol. 190, no. 108611, p. 108611, 2025.

51. V. Kumar, S. J. Singh, and S. P. Harsha, “Temperature-dependent vibration characteristics of porous FG material plates utilizing FSDT,” Int. J. Struct. Stab. Dyn., 2023.

52. V. Kumar, S. J. Singh, V. H. Saran, and S. P. Harsha, “Vibration response of the exponential functionally graded material plate with variable thickness resting on the orthotropic Pasternak foundation,” Mechanics Based Design of Structures and Machines, vol. 52, pp. 2841–2868, 2024.

53. A. K. Pathak, S. J. Singh, and S. S. Padhee, “Asymptotically correct isoenergetic formulation of geometrically nonlinear anisotropic plates,” Mech. Adv. Mater. Struct., pp. 1–23, 2024.

54. S. Singh, S. J. Singh, and J. Prasad, “Derivation, validation, and prediction of loading-induced mineral apposition rates at endocortical and periosteal bone surfaces based on fluid velocity and pore pressure,” Bone Rep., vol. 19, p. 101729, 2023.

55. A. V. Sirsat and S. S. Padhee, “Analytic solution to isotropic axisymmetric cylinder under surface loadings problem through variational principle,” Research Square, 2022.

56. A. V. Sirsat and S. S. Padhee, “Analysis of axisymmetric hollow cylinder under surface loading using variational principle,” Math. Mech. Solids, vol. 29, no. 4, pp. 718–742, 2024.

57. R. Kumar, S. S. Padhee, and D. Samanta, “Numerical simulations of bio-inspired approaches to enhance underwater swimming efficiency,” Phys. Fluids (1994), vol. 36, no. 5, 2024.

58. N. K. Shakya and S. S. Padhee, “Asymptotic analysis of Timoshenko-like orthotropic beam with elliptical cross-section,” European Journal of Mechanics-A/Solids, vol. 102, 2023.

59. R. Kumar, S. S. Padhee, and D. Samanta, “Aerodynamic performance and flow mechanism of 3D flapping wing using discrete vortex method,” J. Fluids Struct., vol. 127, no. 104128, p. 104128, 2024.

60. N. K. Shakya and S. S. Padhee, “Computationally efficient optimal design of hygrothermally stable laminate with bend–twist coupling by analytical and numerical strategy,” Compos. Part A Appl. Sci. Manuf., vol. 170, no. 107546, p. 107546, 2023.

61. S. Kaur, S. Swayamjyoti, V. Taneja, S. S. Padhee, V. Nigam, and K. C. Jena, “Molecular dynamics simulation of salt diffusion in constituting phosphazene-based polymer electrolyte,” J. Phys. Condens. Matter, vol. 36, no. 44, p. 445901, 2024.

62. A. K. Pathak, S. J. Singh, and S. S. Padhee, “Asymptotically correct isoenergetic formulation of geometrically nonlinear anisotropic plates,” Mech. Adv. Mater. Struct., pp. 1–23, 2024.

63. M. Thakur, N. Nakka, J. Bommiditha, S. S. Surkanti, and S. S. Padhee, “Sand inclusion composite structures for enhanced ballistic impact resistance,” arXiv [physics.app-ph], 2025

CONFERENCE PAPER

1. S. Rathor, S. Kumar, E. Singla, R. Kant, and C. K. Nirala, "Robotic tool-path generation for complex and overhang-angled parts through offline programming," in Advances In Robotics - 6th International Conference of The Robotics Society, 2023.
2. A. Sharma, B. Singh, and P. Sarkar, "Internet of things enabled adjustable ramp system for productivity enhancement of micro, small and medium enterprises," in IPDIMS 2023, 2024.
3. A. K. Pathak and S. S. Padhee, "Analysis of stiffened in-homogeneous plates," in FOURTH INTERNATIONAL CONFERENCE ON ADVANCES IN PHYSICAL SCIENCES AND MATERIALS: ICAPSM 2023, 2024.
4. N. K. Yadav, A. S. Chandel, R. K. Maurya, and S. S. Padhee, "Quantifying environmental and health impacts of conventional diesel and methane diesel RCCI engine emissions: A numerical analysis," in SAE Technical Paper Series, 2024, vol. 1.

BOOK CHAPTERS

1. S. Anand and C. S. Sharma, "Thermofluidics Design Evolution of Biomimetic Micropillar Wick for Thin-Film Evaporative Cooling," in APS Division of Fluid Dynamics Meeting Abstracts, 2024, pp. L11-21.
2. G. Pal, C. W. E. Chandra, and C. S. Lam, "Complete, partial, and non-coalescence of sessile droplets on superhydrophobic surfaces," in APS Division of Fluid Dynamics Meeting Abstracts, 2024, pp. L08-010.
3. P. Gupta, P. Dhar, and D. Samanta, "Transient Electrohydrodynamic Behaviour of a Non-Newtonian Droplet in Another Non-Newtonian Medium: A Mathematical Exploration," in APS Division of Fluid Dynamics Meeting Abstracts, 2024, pp. X06-008.
4. A. R. Patel, P. Sarkar, H. Singh, and H. Tyagi, Formulation, Monitoring, and Adaptation for Moving Towards a Low Carbon Economy. 2024.
5. K. K. Dwivedi, R. Jhorar, S. Kumar, and N. Kumar, "Mechanical Stimulation Alters the Collagen Protein Structure in Skin Tissue," in Microbiology-2.0 Update for a Sustainable Future, Singapore; Singapore: Springer Nature, 2024, pp. 451–465.

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

JOURNAL ARTICLES

1. A. Pratap, P.-A. Hsiung, and N. Sardana, "Tmrf: Trustworthy microstructure recognition framework with deep learning and explainable AI," J. Mater. Res., vol. 40, no. 6, pp. 932–951, 2025.
2. G. P. Singh, R. Chatterjee, S. K. Sharma, K. Sahni, Deepika, and N. Sardana, "Enhancement of solar cell efficiency through laser assisted surface texturing," Int. J. Adv. Eng. Sci. Appl. Math., 2025.
3. A. Pandey and N. Sardana, "Effect of functionalization on properties of Scandium-based MXenes: A DFT study," Comput. Mater. Sci., vol. 248,

no. 113598, p. 113598, 2025.

4. G. P. Singh, B. Fuhrmann, F. Syrowatka, J. Schilling, and N. Sardana, “Plasmonic coupling effect of annealed gold nanoarrays,” Phys. Scr., vol. 99, no. 11, p. 115518, 2024.
5. A. Pratap, T.-K. Vi, Y. W. Lee, N. Sardana, P.-A. Hsiung, and Y.-C. Kao, “A DT framework integrating human and artificial intelligence for power consumption prediction in CNC machining,” Int. J. Adv. Manuf. Technol., 2024.
6. G. Pal Singh and N. Sardana, “Vibrational modes of Metribuzin: A theoretical and experimental comparison,” ChemistrySelect, vol. 9, no. 33, 2024.
7. G. P. Singh, B. Fuhrmann, F. Syrowatka, J. Schilling, and N. Sardana, “Tuning the plasmonic response of periodic gold nanodisk arrays for urea sensing,” J. Mater. Sci, vol. 59, pp. 6497–6508, 2024.
8. S. K. Tiwari et al., “Microstructural and mechanical properties of Cr-Ni3Al alloy films synthesized by magnetron sputtering,” J. Mater. Eng. Perform., 2023.
9. S. K. Tiwari et al., “Sputter-deposited zirconium doped nickel-aluminide coatings for high-temperature oxidation-resistant applications,” J. Vac. Sci. Technol. A, vol. 42, no. 5, 2024.
10. S. K. Tiwari et al., “Characterization of sputter-deposited hydrophobic chromium doped nickel alumnide coatings for mechanical and high-temperature oxidation-resistant applications,” J. Mater. Sci., vol. 59, no. 29, pp. 13632–13651, 2024.
11. S. Garg et al., “Compact polarization-insensitive microwave metamaterial absorber with hepta-band characteristics,” Phys. Scr., vol. 99, no. 7, p. 075541, 2024.
12. G. P. Singh et al., “Enhancement of plasmonic response by piezoelectrically deposited gold films,” Indian J. Phys. Proc. Indian Assoc. Cultiv. Sci. (2004), vol. 98, no. 6, pp. 2141–2146, 2024.

CONFERENCE PAPER

1. A. Pratap and N. Sardana, “Explaining the identification of granular crack with deep learning and XAI,” in 2024 IEEE Region 10 Symposium (TENSYMP), 2024, pp. 1–6.
2. A. Upadhyay, S. Kumar, A. K. Singh, P. D. Kumar, and N. Sardana, “Vacuum brazing of tungsten and Fe-co-Ni alloy along with micro-structural evaluation of joint interface using SEM,” in Springer Proceedings in Physics, Singapore: Springer Nature Singapore, 2024, pp. 117–123.

BOOK CHAPTERS

1. A. Pratap and N. Pandey, “Chapter 8: Machine learning and additive manufacturing: A case study for quality control and monitoring,” in R. Kant, Modern Materials and Manufacturing Techniques, ISBN 9781032566337, vol. 8, CRC Press, 2024.
2. A. Luharia, G. Mishra, R. Dhande, R. K. Singh, and P. Patwa, “Introducing medical radiation physics expertise in clinical practice at Datta meghe institute of medical sciences (deemed to be university),” J. Datta Meghe Inst. Med. Sci. Univ., vol. 16, no. 3, pp.

594–595, 2021.

3. R. Tiwari, P. K. Kumar, and N. Ray, Proceedings of the International Conference on Fundamental and Industrial Research on Materials, iConFIRM 2023; 11-14 Dec; Ropar, India Springer Proceedings in Physics.

DEPARTMENT OF PHYSICS

JOURNAL ARTICLES

1. D. Kaur, R. Dahiya, V. Sheokand, and G. Bassi, "Mukesh Kumar 'Ultrafast, self-powered and highly-stable PtS-Ga_2O_3 heterojunction photodetector for broad-spectrum sensing' Surfaces and Interfaces," vol. 61, 2025.
2. S. Dahiya, G. Chakkar, and P. Kumar, "Mukesh Kumar "Interface engineering for minimizing trapped charge density in β-Ga_2O_3 Schottky barrier diodes for high-performance power devices," Materials Today Physics, vol. 50.
3. G. Bassi, R. Dahiya, A. G. Chakkar, and P. Kumar, "Mukesh Kumar "Large area, ultrafast, suppressed dark current and high-performance PtSe2/MoS2 van der Waals heterostructure based visible to NIR broadband photodetector," Applied Surface Science, vol. 681, 2025.
4. G. Bassi and D. Kaur, "Rohit Dahiya and Mukesh Kumar "2D-3D heterostructure of PtS2−x/Ga2O3 and their band alignment studies for high performance and broadband photodetector," Nanotechnology, vol. 35, 2024.
5. D. Kaur, R. Dahiya, N. Ahmed, and M. Kumar, "Vertically Graded Oxygen Vacancies in Amorphous Ga2O3 for Offsetting the Conventional Trade-Off between Photoresponse and Response Time in Solar-Blind Photodetectors," ACS Appl. Electron. Mater, 2024.
6. D. Kaur, R. Rakhi, J. Posti, D. Singh, and S. Roy, "Mukesh Kumar "Nanopatterning Induced Si Doping in Amorphous Ga2O3 for Enhanced Electrical Properties and Ultra-Fast Photodetection," Small, vol. 2024.
7. D. Kaur, R. Dahiya, and M. Shivani, "Origin of near-failure in Au contacts to polycrystalline b-Ga2O3 at high temperatures using interfacial studies," Applied Physics Letters, vol. 124, 2024.
8. L. Bainsla et al., "Large out-of-plane spin-orbit torque in topological Weyl semimetal TaIrTe4," Nat. Commun., vol. 15, no. 1, p. 4649, 2024.
9. S. Singh et al., "Competition between the neutron-proton pair break-ups delineating the level structure of 202Po," arXiv [nucl-ex], 2025.
10. T. Petruse et al., "Direct measurement of the 19F(p,α)16O reaction using the LHASA detector array," Eur. Phys. J. A, pp. 61–64, 2025.
11. R. Palit et al., "Review of isomers in the A ≈ 135 region and nuclear shape evolution," Eur. Phys. J. Spec. Top, vol. 233, pp. 933–952, 2024.
12. N. Goel et al., "First lifetime measurement of the 9− isomer in 92Nb," Eur. Phys. J. A, vol. 60, pp. 234–235, 2024.
13. M. Beuschlein et al., "Electric quadrupole excitation strengths of 112,116,120Sn from nuclear

resonance fluorescence," J. Vogel, J. Wiederhold, R. Zidarova, and M. Zweidinger, Phys. Rev, vol. 110, 2024.

14. S. Karuseichyk, I. Audoin, V. Pal, and F. Bretenaker, "Non-symmetrical vortex beam shaping in VECSEL laser arrays," Photonics Res., vol. 13, no. 6, p. 1600, 2025.
15. A. Kumari, V. Dev, and V. Pal, "Abrupt autofocusing of circular Airy derivative beams in complex media," Opt. Laser Technol., vol. 183, no. 112319, p. 112319, 2025.
16. L. K. Sharma and V. Pal, "Kerr beam self-cleaning under different initial modal excitation conditions in the anomalous dispersion regime of a graded index multimode fiber," Optical Fiber Technology, vol. 88, 2024.
17. A. Kumari, V. Dev, T. M. Hayward, R. Menon, and V. Pal, "Generating optical vortex needle beams with a flat diffractive lens," Journal of Applied Physics, vol. 136, 2024.
18. M. Amooei, G. Kulkarni, J. Upham, and R. W. Boyd, "Efficient characterization of spatial Schmidt modes of multiphoton entangled states produced from high-gain parametric down-conversion"," Phys. Rev. A, vol. 111, 2025
19. K. Katin, S. Chakraborti, A. Sharma, and M. Muruganathan, Eds., "Interfacial configuration driven transport properties in Graphene-hBN heterostructures Renu Sangwan," Manoharan Muruganathan, and Rakesh Kumar JPCC, vol. 129, 2025.
20. Pandey, G. Wang, and G. Singh, "•Instabilities in the Blistering of Two-Dimensional Materials Mukesh," vol. 12, 2025.
21. "•Mott interactions driven insulating behaviour in Ruthenium based double perovskites: A2SmRuO6 (A = Ba & Sr) Sahil Dani; Rabia Pandit," Rakesh Kumar J. Alloys and compounds, vol. 1006, 2024.
22. "•Electron Beam Irradiation-Induced Atomically Thin Domes of Two-Dimensional Materials: Graphene and MoS2 Mukesh Pandey," Rajeev Ahuja & Rakesh Kumar Surfaces and Interfaces, vol. 51, 2024.
23. "•Enhancement of superconductivity in Zr2S2C arising from phonon softening on transition from bulk to monolayer Prarena Jamwal," Rajeev Ahuja & Rakesh Kumar J. Phys. : Condens. Matter, vol. 36, 2024.
24. "Studying the impact of bi-axial strain on the electronic and optical properties of Ba2YBiO6 and Ba2ScBiO6 double perovskites for optoelectronic applications: Ab Initio Calculations Sahil Dani," Rakesh Kumar The European Physical Journal Plus, vol. 139, 2024.
25. Van, "Hove singularity driven enhancement of superconductivity in two dimensional Tungsten monofluoride (WF) Prarena Jamwal," Rajeev Ahuja & Rakesh Kumar J. Phys.: Condens. Matter, vol. 36, 2024.
26. S. Lis et al., "Purcell enhanced laser action using a super-Tamm cavity mode," Optics Letters, vol. 50, no. 6, pp. 1869–1872, 2025.
27. N. Singh, D. Sehgal, A. Venkatesan, and R. V. Nair, "Enhancing NV- center coherent emission using the weak-coupling regime of a hybrid metal-dielectric architecture," Physical Review Applied, vol. 22, 2024.
28. N. Ahmed, F. H. Lone, and R. V. Nair, "Enhanced collection efficiency of quantum emitter mediated by extra ordinary optical transmission in a plasmonic cavity," J. Phys. B At. Mol. Opt. Phys., vol. 58, no. 1, p. 015401, 2025.

29. R. Dhankhar, N. Singh, and R. V. Nair, “Probing the electronic ground state of the nitrogen-vacancy center in nanodiamonds at room temperature,” Optik (Stuttg.), vol. 315, no. 172038, p. 172038, 2024.

30. B. Luhar, R. Dhankhar, V. Rajesh, A. Nair, S. Nagendra, and V. Suman Kalyan Pal, “Charge Transfer Mediated Photoluminescence Engineering in WS2 Monolayers for Optoelectronic Application,” ACS Applied Nano Materials, vol. 7, 2024.

31. M. Khokhar, N. Singh, S. Shinki, and R. V. Sarkar, “Purcell enhancement using spatially distributed random cavities enabled by silicon pyramid arrays”,” Physical Review A, vol. 110, 2024.

32. M. Khokhar, A. Faraz, and R. V. Inam, “Structure-induced tunable multipolar moments and the associated Purcell enhancement in silicon-like metasurfaces, ” Physica Status Solidi (RRL),” Physica Status Solidi (RRL) - Rapid Research Letters, vol. 18, 2024.

33. A. Bhunia, P. Joshi, N. Singh, B. Chakraborty, and V. Rajesh, “Isolated single photon emitters with low Huang-Rhys factor in hexagonal boron nitride at room temperature”,” Journal of Physics D: Applied Physics, vol. 57, 2024.

34. S. Sinay, A. Behera, M. Redhu, V. Rajesh, and K. S. Nair, “Enhancement of dual Zero Phonon Line Emissions in Nanodiamonds using Quasi-Periodic Photonic Structures,” Optics Letters, vol. 49, 2024.

35. “The effect of resummation on retarded Green’s function and greybody factor in AdS black holes, Julián Barragán Amado(Lisbon U),” Julián Barragán Amado(Lisbon U.), Shankhadeep Chakrabortty(Indian Inst. Tech., Ropar), Arpit Maurya(Indian Inst. Tech., Ropar), no. 11, 2024.

36. “Boundary Carrollian Conformal Field Theories and Open Null Strings Arjun Bagchi(Indian Inst),” Tech., Kanpur), Pronoy Chakraborty(Indian Inst. Tech., Ropar), Shankhadeep Chakrabortty(Indian Inst. Tech., Ropar), Stefan Fredenhagen(Vienna U.), Daniel Grumiller(Vienna, Tech. U.) , Phys. Rev. Lett, vol. 134, 2025.

37. “Non-relativistic Conformal Field Theory in Momentum Space Rajesh Kumar Gupta, Meenu,” The European Physical Journal C, vol. 85, 2025

38. D. Tomar et al., “Signature of interfacial water structure at the air-drug-polymer aqueous interface studied by sum frequency generation vibrational spectroscopy,” J. Chem. Phys., vol. 162, no. 13, 2025.

39. S. Sarabjeet Kaur, V. Swayamjyoti, S. Srikant, V. Padhee, and K. C. Nigam, “Molecular Dynamics Simulation of Salt Diffusion in Constituting Phosphazene-based Polymer Electrolyte”,” J. Phys.: Condens. Matter, vol. 36, 2024.

40. B. Rana, R. Kamath, M. Mishra, and K. C. Jena, “Impact of Ion-Specific Interactions on Laser-Induced Liquid Microjet Generation”,” Physics of Fluids, vol. 36, 2024.

41. H. Kaur, M. Garg, D. Tomar, S. Singh, and K. C. Jena, “Role of Tungsten Disulfide Quantum Dots in Specific Protein-Protein Interactions at Air-Water Interface”,” J. Chem. Phys, vol. 160, 2024.

42. R. Hissariya, N. Tripathi, S. K. Mishra, V. Shukla, and T. Brumme, “Exchange bias and inhomogeneous spin states in La1.5□Sm0.5□NiMnO6,” Physical Review Materials, vol. 8, 2024.

43. S. Kaur et al., “Unleashing high yield urea production by pulse electrodeposition of Bi/Cu via Co-reduction of N2 and CO2,” ACS

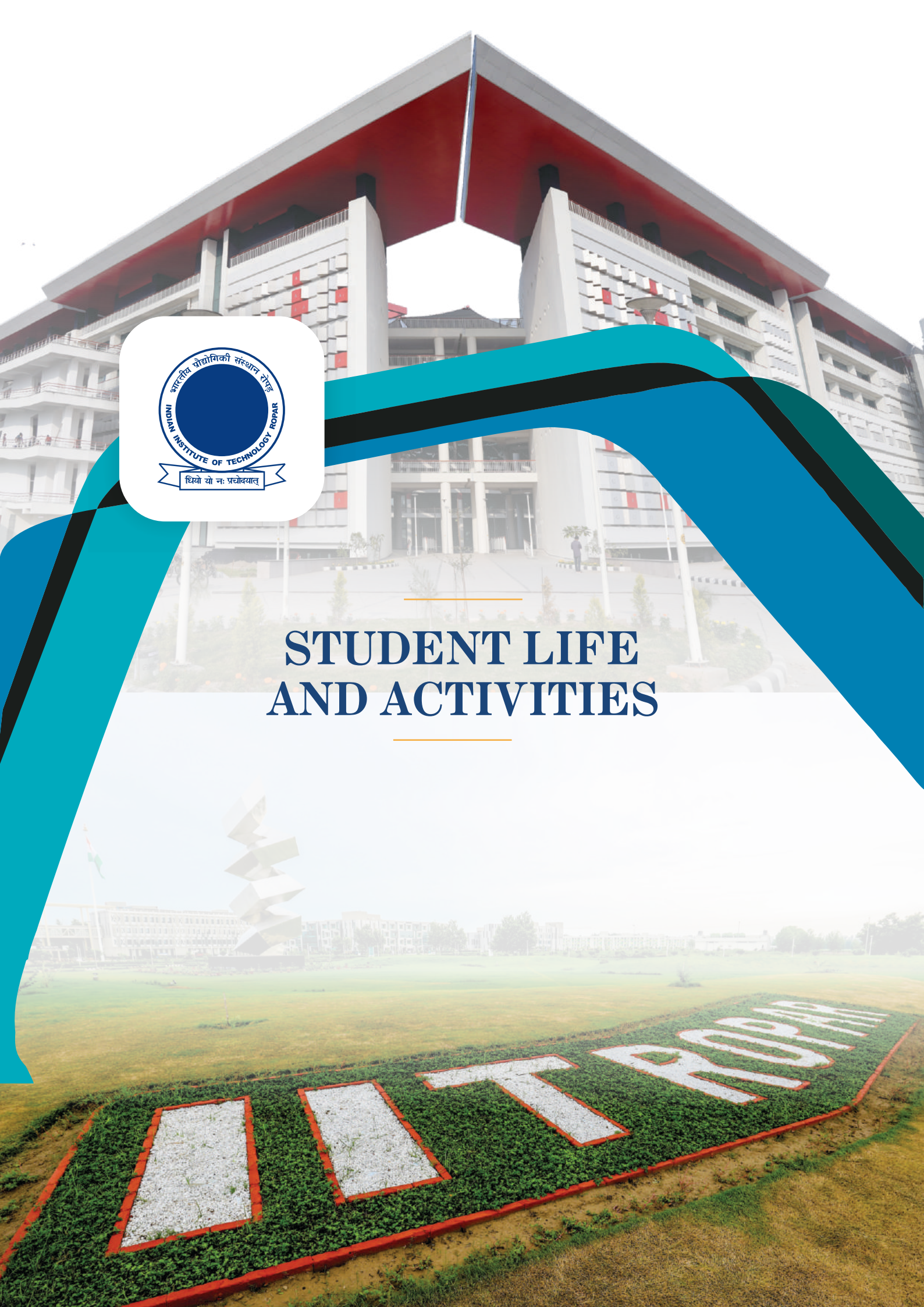
Energy Letters, vol. 10, no. 1, pp. 85–93, 2024.

44. L. Sequencing Rameshwar, V. Kumawat, N. K. Shukla, and R. Jena, “The Merits of a Folded Graphene Nanodevice for Reliable DNA Sequencing Rameshwar L,” Biswarup Pathak* ACS Applied Electronic Materials, vol. 6, 2024.
45. S. Bharadwaj, A. Midha, S. Sharma, G. S. Sidhu, and R. Kumar, “Optical screening of citrus leaf diseases using label-free spectroscopic tools: A review,” J. Agric. Food Res., vol. 18, no. 101303, p. 101303, 2024.
46. G. Uppal, T. Goyal, A. Kumar, and R. Kumar, “Unravelling changes in single-cell osteoarthritic chondrocytes through coupling of Raman spectroscopy and multivariate curve resolution-alternating least square (MCR-ALS) algorithm,” Microchem. J., vol. 212, no. 113264, p. 113264, 2025.
47. K. Athira Ravindran, D. Tiwari, and D. Roy, “Versatility of Spin-Logic and High-Density Multistate Memory Enabled by a Single Spin-Orbit Torque Device" Raghvendra Posti, Athira Ravindran K, Dhananjay Tiwari,” Raghvendra Posti, 2025.
48. A. Kumar, C. Kalouni, R. Posti, K. Vivek, D. Malik, and D. Tiwari, “Unveiling magnetic states in nanotubes: insights from remanent ferromagnetic resonance spectroscopy,” Physica Scripta, vol. 100, 2025.
49. R. Posti, C. Kalouni, D. K. Tiwari, and D. Roy, “Initialization-free multistate memristor: Synergy of spin-orbit torque and magnetic fields,” arXiv [cond-mat.mes-hall], 2024.
50. T. Rahaman, A. Kumar, S. J. Ray, and D. Roy, “Two-dimensional van der Waals materials and heterostructures for spin-orbit torque applications,” SPIN, vol. 14, no. 02, 2024.
51. D. Kaur et al., “Nanopatterning induced Si doping in amorphous Ga2O3 for enhanced electrical properties and ultra-fast photodetection,” Small, vol. 20, no. 35, p. e2309277, 2024.
52. P. Sakrikar et al., “Pressure tuning of competing interactions on a honeycomb lattice,” Nat. Commun., vol. 16, no. 1, p. 4712, 2025.
53. R. Khasanov et al., “Influence of pressure on properties of multi-gap type-I superconductor BeAu,” arXiv [cond-mat.supr-con], 2025.
54. P. Dalmas de Réotier, A. Yaouanc, D. Andreica, R. Gupta, R. Khasanov, and G. Lapertot, “Origin of the suppression of magnetic order in MnSi under hydrostatic pressure,” Phys. Rev. Lett., vol. 133, no. 23, p. 236502, 2024.
55. K. Bhattacharya, A. K. Bharatwaj, C. Singh, and R. Gupta, “Hydrostatic and chemical pressure driven crossover from the commensurate to the incommensurate state of the Weyl semimetal Mn3+xSn1-x,” Phys. Rev. B, vol. 110, 2024.
56. R. Gupta, D. Das, F. V. Rohr, C. Wittevin, and R. Khasanov, “Isotropic s-wave superconductivity in disordered type-II dirac semimetal PdTe2,” Phys. Rev. B, vol. 109, 2024.

CENTER OF RESEARCH FOR ENERGY EFFICIENCY & DECARBONIZATION

JOURNAL ARTICLES

1. A. B. Huluka, S. Muthulingam, S. Manigandan, and C. Shekhar, “Synthesizing MePCM from industrial waste-derived nanoparticles via surfactant-free pickering emulsion for building applications under hot climate,” Next Research, vol. 2, no. 2, p. 100195, 2025.
2. V. S. Pawak, V. K. Bhatt, M. Sabapathy, and V. A. Loganathan, “Multifaceted analysis of microplastic pollution dynamics in the Yamuna river: Assessing anthropogenic impacts and ecological consequences,” J. Hazard. Mater., vol. 480, no. 135976, p. 135976, 2024.



STUDENT LIFE AND ACTIVITIES

BOARD OF SPORTS AFFAIRS:



The Institute has a Board of Sports Activities (BOSA) which encourages the students to participate in local / Inter- / Intra-college / Hostel Sports Activities to boost their performance in inter IIT Sports meet.

All sports facilities including gymnasium are regularly upgraded to enhance the quality of facilities at the Institute. There are international level modern sports fields / grounds with floodlights facilities. The various events/activities that took place under the Board are as under:

Rann Neeti (Annual Sports Fest of IIT Roorkee): The event held from 12th – 14th April, 2024. The boys cricket team of IIT Ropar stood 2nd amongst 6 teams playing in the tournament.

International Yoga Day (21st June 2024): Board of Sports Activities, IIT Ropar celebrated the International Day of Yoga at IIT Ropar on 21st June, 2024 in which around 300 students, faculty and staff participated. This year's theme was - "Yoga for Self and Society". All the participants were provided with yoga mats, t-shirts & refreshments.





Sports Eureka (August 2024): ISMP introduced freshers to the IIT Ropar and its different clubs. All the Clubs were also introduced to them by the Club representatives. The details about the facilities, arrangements, equipment and inter/intra-college competitions were shared with them through a presentation. A four-day tournament was conducted for the freshers in August, 2024.



IYSC 2024-25 (Inter Year Sports Championship): Inter Year Sports Championship 2024-25 consist of a tournament of sports between 1st year, 2nd year, 3rd year, 4th year, M.Tech + M.Sc. and PhD students. It was started on 4th September, 2024 including 11 different sports in which around 600-700 students participate in various sports. It was concluded by 10th October, 2024 with 5 weeks of full on action, competition and chase for the overall general championship among different years.





SANGRAM (Annual Sports Fest of IIT Roorkee): IIT Ropar weightlifting team showcased wonderful athleticism in the Annual IIT Roorkee Fest and bagged 12 Medals.





• Gold: 3 | • Silver: 3 | • Bronze: 6

ITUSA (INTER TECHNICAL UNIVERSITY SPORTS ASSOCIATION) BASKETBALL CHAMPIONSHIP 2024

IIT Ropar organized basketball Championship under ITUSA in the month of November, 2024. Eight men's team and five women team including our team participated in the tournament. A total of 122 students participated excluding teams from IIT Ropar. Thapar University (TIET) bagged the first position in both men and women section while NIT Hamirpur placed 2nd in both men and women section.





INTER IIT SPORTS MEET 2024, IIT KANPUR & IIT INDORE (DEC, 2024)

The 57th edition of Inter IIT Sports Meet witnessed IIT Ropar securing the 9th position among 23 IITs with the following achievements:



- **Gold Medal:** Tennis Women
  (Vrinda Dua, Spurthy Mula, Nehal Abbott, Gouri Chandra Tiwari)
  Vrinda Dua was awarded Best Player of the tournament.

- Gold Medal: Weightlifting U69 kg Category by Man Singh.
- Gold Medal: Weightlifting U62 kg Category by Shrey Jalota.
- Silver Medal: Weightlifting U56 kg Category by Ujjal Das.

IIT ROPAR WON THE OVERALL WEIGHTLIFTING GENERAL CHAMPIONSHIP.

- 4th Position: Long Jump Women by Elaine Anna Joseph.
- 4th Position: 800 m Race Men by Sawan Kumar Meena.
- 5th Position: Weightlifting U56 kg by Ujjal Das.



IIT ROPAR WEIGHTLIFTING TEAM

IRCC (Intra Ropar Cricket Championship): This was a cricket tennis ball tournament held in the month of Jan, 2025, which consisted of 9 teams, out of which 7 teams were of students and 2 of staff & faculty. The tournament engaged more than 100 students and more than 40 staff & faculty members.





VolleyCom (March, 2025): The The Volleyball Club of IIT Ropar organized a mixed volleyball tournament featuring 7 student teams—each featuring 12 students with an equal number of boys and girls—and one faculty team. The event engaged around 90 students and 15 faculty and staff members.

URJA'25 (Annual Sports Fest TIET, Patiala) 14th-16th February, 2025): IIT Ropar Cricket team had a successful run in the Annual TIET, Patiala Sports Fest. Cricket Team made it till the semifinals and were placed at 4th Position among 16 teams which participated in the tournament.





Battle of Baddies, March 2025): The Badminton Club of IIT Ropar organized a mixed gender badminton tournament which consisted of 6 teams with each team consisting of 4 boys and 2 girls. It engaged around 50 students which was conducted in Shiwalik Academy, Ropar.

SPORTECH'25 Annual Sports Fest, IIT Delhi: The athletics team participated in annual sports fest of IIT Delhi held from 7th-10th March, 2025. 11 students participated across 14 events in which they have secured the podium. The detailed achievements are given.

1. **Gold medal in Shot put Men.**
2. **Gold medal in 100m Women**
3. **Gold medal in Long Jump women**
4. **Silver Medal in 4x100m relay Women**
5. **Silver Medal in 4x400m relay Women**
6. **Silver medal in 200m women**
7. **Silver medal in 400m women**
8. **Bronze medal in Long Jump Women.**









AAROHAN' 2025 (Annual Sports Fest of IIT Ropar): Aarohan 2025 was held from 28th – 30th March, 2025 at IIT Ropar, bringing together over 900 participants (250+ girls and 650+ boys) from 15 colleges across India. Across 16 sporting events and more than 100 matches, the fest showcased intense competition and sportsmanship.

Events were hosted at multiple venues including IIT Ropar Main Campus, Shiwalik Academy (for badminton), and Satluj Public School (for cricket). Over 60 officials, including referees, judges, and medical staff, ensured the smooth conduct of the fest.

Major participating Institutions included IIT Roorkee, Thapar Institute (Patiala), Chitkara University (Punjab), and JUIT Waknaghat.

- **IIT Roorkee** emerged as the **Overall Champions** with 108 points
- **IIT Ropar** secured **Runner-Up** position with 96 points
- **TIET Patiala** stood **3rd** with 82 points





Board of Hostel Affairs (BOHA):

The Board of Hostel Affairs (BOHA) oversees all hostels and mess facilities at the institute, ensuring a comfortable and well-managed residential experience for students. It monitors food quality, menu planning, and overall mess operations through the Mess Committee. BOHA also organizes cultural celebrations, special dinners, and various activities to enhance student engagement. A major highlight is the General Championship (GC), a prestigious inter-hostel competition that fosters camaraderie and competitive spirit.

Janmashtmi Celebration (Sep, 2024): Embracing the sacred aura of Janmashtami, two splendid events i.e. Matki Decoration and Dahi Handi were organized by the BOHA in the hostel premises.







Ganesh Chaturthi (Sep 2024): On the auspicious occasion of Ganesh Chaturthi on 7th Sep 2024, BOHA organized a special dinner in the mess premises for all students.

Navratri Celebration (Oct 2024): On the auspicious festival of Navaratras, the Garba competition was organized by BOHA. Following this enchanting event, all students are invited to partake in the spirited Dandiya Night, where rhythmic beats and colorful attire merge in celebration. This harmonious convergence of dance and tradition not only pays homage to the divine feminine but also fosters a sense of unity and belonging among participants. It's a jubilant affair that epitomizes the spirit of Navratri, bringing together communities in jubilation and reverence for the goddess.





Deepawali Celebration and Rangoli Competition (Nov 2024):IIT Ropar celebrated Diwali with great enthusiasm on 31st October 2024. The campus came alive with vibrant lights, decorations, and community activities. A Diwali Pooja brought together students and staff for prayers in a serene, festive atmosphere. The celebration concluded with a special dinner featuring a variety of dishes, fostering togetherness and joy across the campus.





Lohri and Makar Sankranti Celebrations (Jan 2025): Lohri was celebrated with a traditional bonfire and Pooja, accompanied by lively Punjabi Dhol beats that energized the crowd. Attendees enjoyed festive snacks like peanuts, rewari, and popcorn, adding to the joyous spirit.On 14th January, Makar Sankranti was marked by a Kite Flying Competition near the mess. Students enthusiastically formed teams and flew colorful kites provided by the organizers, making the celebration vibrant and engaging.





BOARD OF LITERARY AFFAIRS (BOLA):

The Board of Literary Affairs at IIT Ropar is dedicated to nurture and promote literary excellence and creativity within the campus. It oversees and organizes all literary activities, providing a vibrant platform for students to explore and showcase their talents. Under its umbrella, the board hosts various clubs, including poetry, quizzing, debating, oratory, filmmaking, Model United Nations (MUN), and a movie club, catering to diverse literary and artistic interests. The activities/sessions took place under the various clubs are as under:

Filmski Club : To keep the students community stress free, Filmski arranged to screen various movies, live matches and events during the period. Some of the events included playing Indian Premier League (IPL) Matches in the month of April, 2024.





MALHAR' 2024, THE LITERATURE FEST (APRIL 2024): The very first Literature Festival of IIT Ropar mainly highlighting the Book Fair, Kavi Sammelan, Ghazal Night, Open Mics, Jamming and Competitions was organized from 7th – 9th April, 2024. The fest touched the beauty of literary arts in various spheres of life, through multiple events ensuring to captivate your senses. From heart touching performances by the Kavis, Gazal artists the fest ended on a remarkable note. The glimpses of the events took place during the fest are depicted under:





ALFAAZ CLUB: Alfaaz (poetry) Club Organized The Following Events/sessions

Death Eternal

Hollow is the soul of death,
With remorse it is filled,
Heavy is the heart of death,
With grief it is filled,

Cracked is his skin,
Torn is his cloth,
Empty is his gaze,

Forever he was,
Forever he is,

And yet,

Gentle is the soul of death,
With solace it is filled,
Tender is the heart of death,
With love it is filled,

Soft is his touch,
Silken is his veil,
Forgiving is his embrace,

Forever he was,
Forever he is,

And Eternal he shall be.

~ Oku

वहम मुझे कुछ इतना हो गया था,
लगने लगा वो शख्स मेरा हो गया था।

आज फिर घण्टो उसी पेड़ के नीचे उसका इंतेज़ार किया,
आज फिर घर लौटते लौटते अंधेरा हो गया था।

आज बाजार में दिखा तो वो 'राज' मगर अफसोस,
अब तक वो कोई नया चेहरा हो गया था।

मुझे याद है जब तू मेरा हुआ करता था,
घास गुलाबी होती थी, आसमान सुनहरा हो गया था।

सोचा सोने से पहले कुछ वक्त उसके बारे में सोच लूँ,
सोने चला तो मालूम पड़ा कि सवेरा हो गया था।

-राज श्रीवास्तव

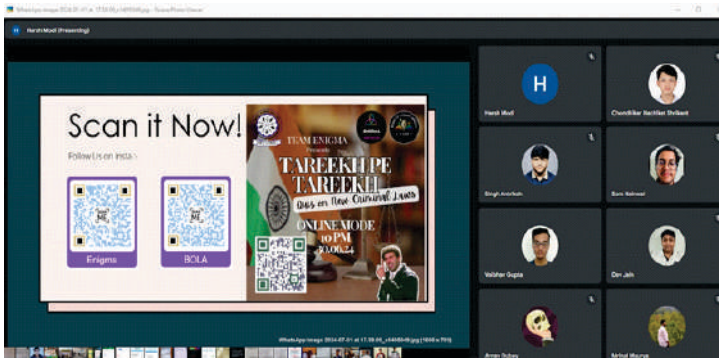
#rajkibaat

The Club also Organized 6 ISMP Sessions for the introduction and orientation of the club to freshers. The activities conducted in these sessions were Literary Excerpts Competition and Poetry Slam.





Quiz And Group Discussion Event On Three New Criminal Laws: The Board of Literary Affairs organized a quiz and group discussion activity among the students of the Institute to aware them of the three new criminal laws being impletemented from 1st July, 2024 namely: Bharatiya Nyay Sanhita, 2023



Bharatiya Nagarik Suraksha Sanhita, 2023 and Bharatiya Sakshya Adhiniyam, 2023.

Kavi Sammelan on the occasion of Hindi Diwas by the Board of Literary Affairs: The Board in collaboration with Hindi Cell organized the Grand Kavi Sammelan at IIT Ropar on 24th September 2024. Approximately 700-800 students along with faculty & staff members attended the event.



BOARD OF CULTURAL ACTIVITIES (BOCA)

The Board of Cultural Activities (BOCA) at IIT Ropar is the heart of the institute's cultural scene, fostering artistic expression and vibrant student engagement. It oversees a diverse array of clubs, including Alankar (Music Club), Arturo (Photography Club), D'Cypher (Dance Club), Epicure (Culinary Club), Undekha (Dramatics Club), Vibgyor (Fine Arts Club), and Panache (Fashion Club). Throughout the year, BOCA organizes exciting events like jamming nights, Bhangra sessions, ramp walks, and street plays, ensuring a lively campus atmosphere. The flagship event, Zeitgeist, is IIT Ropar's annual cultural fest, featuring renowned celebrities, musicians, and comedians, drawing immense participation.

Alankar Club: The Alankar (Music) Club organized the following events:

- **Farewell Jamming (10th May 2024):** The newly appointed core team of Alankar for the upcoming session performed on 10th night to bid farewell to the outgoing batch of 2024, it was held in the Student Activity Centre Old Cafeteria Circle.





INDEPENDENCE DAY (15TH AUG, 2024): For the Independence Day event, a selection of well-known patriotic songs was curated and prepared. The performances incorporated elements of creativity and originality, enhancing the compositions. This endeavor fostered a nationalistic atmosphere within the auditorium. The performers demonstrated exceptional dedication and effort, contributing significantly to the success of the event.

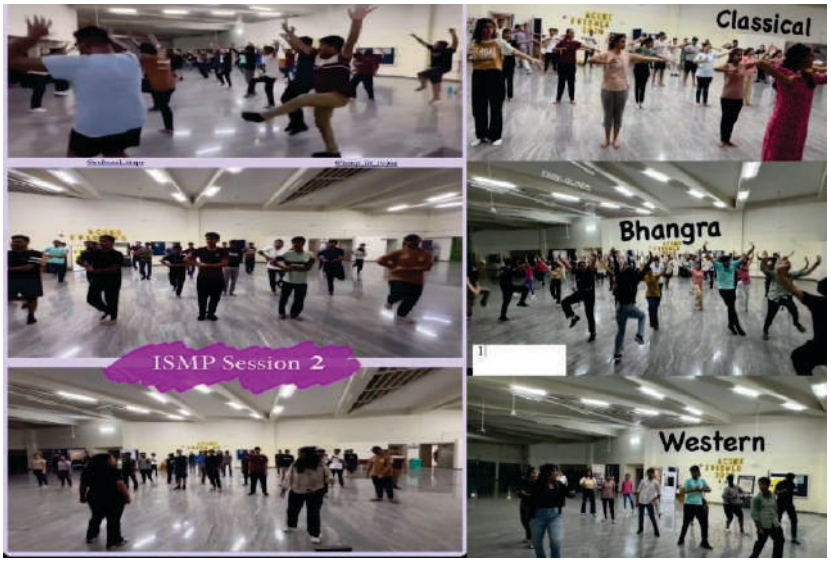


THE FOLLOWING SESSIONS WERE CONDUCTED:

1. Keyboard Session
2. Vocal Session
3. Guitar Session
4. Drum Session

D'Cypher Club: The Club organized the following events:

ISMP ACTIVITIES (22 JULY 2024 - 13 AUGUST 2024): Under the Institute Student Mentorship Program that took place we took 6 sessions with two groups per session for the new freshers batch 2024. These sessions were 2 hours long and we introduced the students to three different dance forms Classical, Bhangra and Western in which we taught three small choregraphies of each dance form.



Cultural Night, Zeitgeist 2024 (25th – 27th Oct 2024): This event happened in collaboration with Alankaar the music club, where we gave a warm welcome to the freshers with a myriad of solo and duet performances and a medley of 15 minutes prepared especially for them.



Dance Events under Zeitgeist (Oct 2024): The club hosted three major dance events during Zeitgeist:



- **Swaltza (26 Oct 2024):** A solo/duet dance competition with 18 registrations and 15 performances, where the top three were declared winners.
- **Xuberance (27 Oct 2024):** A group dance competition held in the auditorium with 5 teams from Punjab and Delhi, totaling 80 participants. The top three teams won prizes from a Rs. 25,000 pool.
- **Smack That (27 Oct 2024):** A street battle on the basketball court featuring 3 teams from Punjab and Delhi, drawing a huge audience. One team emerged as the winner.Additionally, a 10-day dance workshop led by choreographer Mr. Naresh Thakur was held in December 2024, preparing students for the Inter IIT Cult Meet 7.0 at IIT Patna.

Arturo (Photography) Club: The sessions/events included are as under:



- **Selfie Sprint:** An offline event organized by Arturo under ISMP. The event aimed to help freshers interact with their batchmates as well as seniors. The task was for participants to approach others and take a selfie with them. There was huge participation from first-year students, and the event received a lot of positive feedback.

- **Fotopedia:** Theme - Based Photography Fotopedia invited participants to submit photographs based on specific themes, including Abstract Photography, Long Exposure, and Nature and Cityscapes. Participants showcased their creativity through thoughtful compositions that captured the essence of each theme. The event featured a diverse range of entries—from stunning skylines to imaginative interpretations of natural landscapes.





Carnaval du Cinéma: Carnaval du Cinéma was an exciting event organized by Panache, where participants dressed up as characters from various movies and series, showcasing a diverse range of genres and styles. This creative endeavor encouraged students to explore character portrayal, emphasizing the importance of styling and presentation. The lively photoshoot atmosphere allowed attendees to capture the essence of their favorite characters while engaging with fellow students, reinforcing Panache's mission to inspire individuality and creativity in fashion.



Lashkara: Exploring Post-Apocalypse Themes Through Costume Creation: Our team's performance at Lashkara, themed around Post-Apocalypse, effectively showcased our creative approach to character design. We selected compelling characters such as Mutations, Marshalls, Plague Doctors, and Skeletons, each representing different facets of a dystopian world. Our costume design team meticulously crafted these outfits to highlight the theme's dramatic elements while ensuring that each character was distinct and visually striking.

Undekha (Dramatics) Club: The sessions/events included are as under:

- ISMP PLAY: The first event under Undekha was the ISMP Play, which was performed in the auditorium during ISMP. The name of the play was 'Gaj Foot Inch', written by Mr. KP Saxena.





SHORT FILM: A short film was made by the Freshers that were selected in the club auditions.It was released on 2nd October, which is celebrated as Gandhi Jayanti and Swachta Diwas. The short film was made to stress upon the message of cleanliness.







Vibgyor (Fine Arts) Club: The sessions/events included are as under:

Poster making competition on three new criminal laws: The Board of Cultural Affairs organized a poster making competition among the students of the Institute to aware them of the three new criminal laws being impletemented from 1st July, 2024 namely: Bharatiya Nyay Sanhita, 2023 Bharatiya Nagarik Suraksha Sanhita, 2023 and Bharatiya Sakshya Adhiniyam, 2023.

BOARD OF SCIENCE & TECHNOLOGY (BOST):

The Board of Science and Technology (BOST) at IIT Ropar serves as a dynamic center of innovation and technical excellence. Comprising **11 active clubs—Aeromodelling, Automotive, CIM, Coding, Fincom, Robotics, Softcom, Zenith, Esportz, Monochrome, and Softcom**—the board nurtures curiosity and hands-on learning across diverse technological domains.

BOST engages in areas such as **mechatronics, software development, cybersecurity, game development, and competitive programming,** encouraging interdisciplinary exploration and creativity. The board's reach also extends to model rocketry, astronomy, esports, computational simulations, and design, pushing the boundaries of student-driven scientific discovery.

In addition, BOST promotes the study of **quantitative finance, case analysis, and advanced computational methods,** equipping students with real-world problem-solving capabilities. Through participation in **national and international competitions,** the board consistently represents IIT Ropar on global platforms, showcasing the institute's technical prowess and innovation.

Aeromodelling Club

The Aeromodelling Club had an eventful semester filled with innovation, learning, and outreach activities:

- **Drone for Independence Day:** A key highlight of the year was the successful design and assembly of a drone using the S500 frame, which was flown during the Independence Day celebrations at IIT Ropar. The drone, carrying the Indian flag, was showcased in the presence of the Director and other dignitaries, symbolizing both technical achievement and patriotic spirit.
- **Technoxian 2024 – International Participation:** The club proudly represented IIT Ropar at Technoxian 2024, an international robotics and drone competition featuring teams from Azerbaijan, Bangladesh, Russia, and several other countries. Competing alongside top innovators, our team demonstrated exceptional technical skill and creativity in drone technology.
- **Collaboration with Pehchaan Ek Safar:** Emphasizing social responsibility, the club collaborated with Pehchaan Ek Safar, an IIT Ropar-based NGO, to conduct an outreach session at a local government school—introducing students to basic drone technology and aeromodelling concepts.
- **Pilot Training for Juniors:** To foster learning among new members, a Pilot Training Program was organized using advanced drone simulation software. This initiative allowed juniors to gain hands-on experience in flying and controlling drones in a safe, virtual environment.
- **RC Plane Competition:** During the winter term, the club hosted a Self-Leveling RC Plane Competition, where participants developed and coded flight-stabilization algorithms for RC planes. The event encouraged applied learning and innovation in control systems and aerodynamics.

PROJECTS:

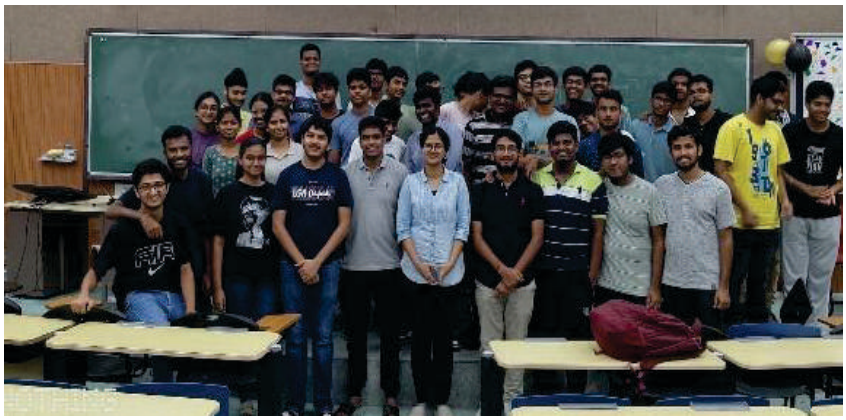
Drone Swarming: Developed autonomous drone swarm behavior using simulation and communication protocols.

LiDAR in Swarming: Integrated LiDAR for enhanced obstacle detection and navigation during swarm operations.

VTOL Development: Designed and prototyped a vertical take-off and landing drone. Work included CAD design, thrust control systems, and software integration for smooth transition between flight modes.

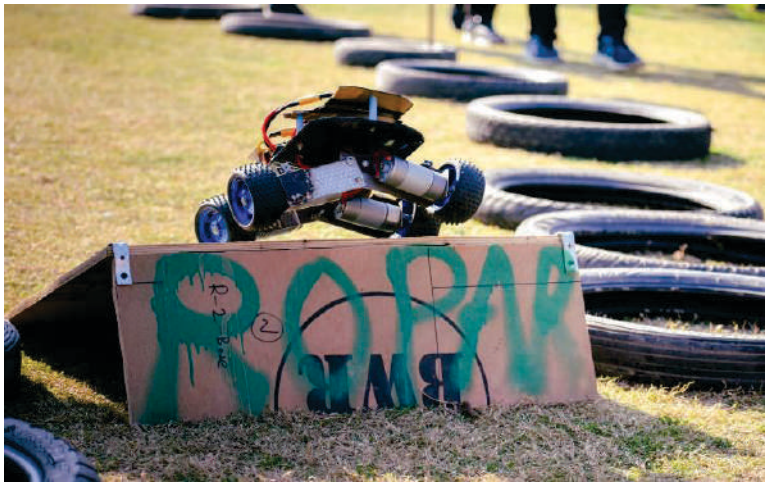


Automotive Club



- Robosoccer - successfully built the robosoccer bot taking inspiration from the one built in the previous tenure.
- Autonomous Guided Vehicle (A G V) - successfully built the AGV with the help of ESP32 and sonar sensors which had a driving assistance system to avoid obstacles to prevent accidents
- Session on Introduction to Anatomy of a Car - The session explained different systems of a car, their working
- Session on Introduction to SolidWorks - The session explained the use of basic tools in solid works and how to design complex geometrical shapes.
- Session on Introduction to Ev's - Electric Vehicle's
- Session on SLAM - Simultaneous Localization and Mapping

- **ADVITYA 2025:** During Advitya, our annual tech fest, the Automotive Club organized "Full Throttle," an RC ATV racing event that showcased engineering creativity and technical skills. Teams competed on a challenging track, testing their vehicles' speed, maneuverability, and durability. The event drew a large, enthusiastic audience and highlighted the competitive spirit of participants. It concluded with a prize distribution ceremony recognizing the top-performing teams.



Coding Club

- Organized a 5 day bootcamp on Data structures and Algorithms.
- Organized a Practice contest on Data structures and Algorithms.
- AlgoVerse: exploring the universe of algorithms (session)



Esportz Club

1. Organized a tournament of stumble guys, subway surfers, among us in different slots.
2. Conducted a Clash royale tournament

EVENTS:

- Organised an online Valorant event.
- Conducted a Clash Royale Tournament.

General Championship:

- An online **Valorant** competition was conducted by the Esports Club for the General Championship.
- An online **Codm** competition was conducted by the Esports Club for the General Championship.
- An online **Bgmi** competition was conducted by the Esports Club for the General Championship.



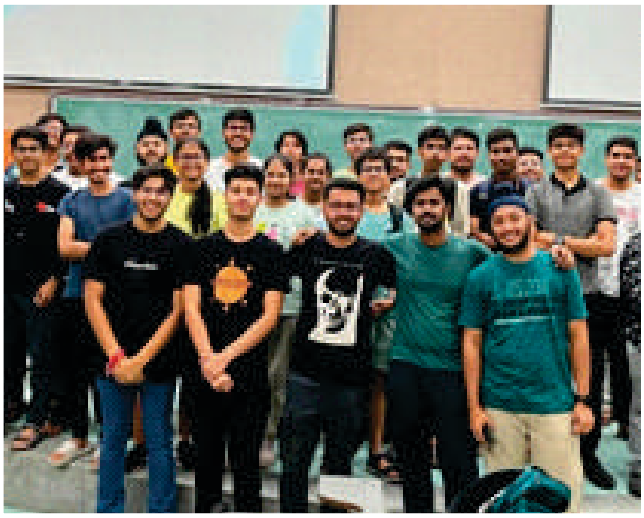
Fincom Club: The various sessions took place under the club are as:

- **July 2024 - Nov 2024**
- Introduction to Financial Derivatives by Dr. Arun Sir - Content -Basic information about commodities, futures and options.
- Session on MBA by Hitbullseye (sponsor session).
- Introduction to Non-Core domains by Piyush Kumar, Vineet Kumar, Mohit Sharma - introduced Quant, Product Management & data science.
- Session on Quantitative Finance by Kshitij Anand.
- Session on careers in Consulting by Siddhant Bhagat.
- Session on Personal finance by Zerodha.
- Session on Esops, Startup Ecosystem, Fintech byAkshat Pandey (2015 Alumni).
- Finesse 2nd edition - Club magazine, Launched on 15th August, 2024 in the presence of Director of IIT Ropar and Dean Student Affairs.
- Traders Arena portal (in collaboration with Softcom)- A portal that can be used for simulated a real life paper trading.



Iota Cluster Club: The Iota Cluster Club organized sessions introducing students to key concepts in Machine Learning and Artificial Intelligence.

- Basics of Machine Learning, Regression, and Classification: Provided an overview of fundamental ML principles and algorithms.
- Introduction to Neural Networks and Backpropagation: Explained the structure of neural networks, activation functions, and the concept of backpropagation.



CIM Club: The CIM (Computer Integrated Manufacturing) Club continued to inspire creativity and technical innovation through a range of design and modeling activities during the semester.

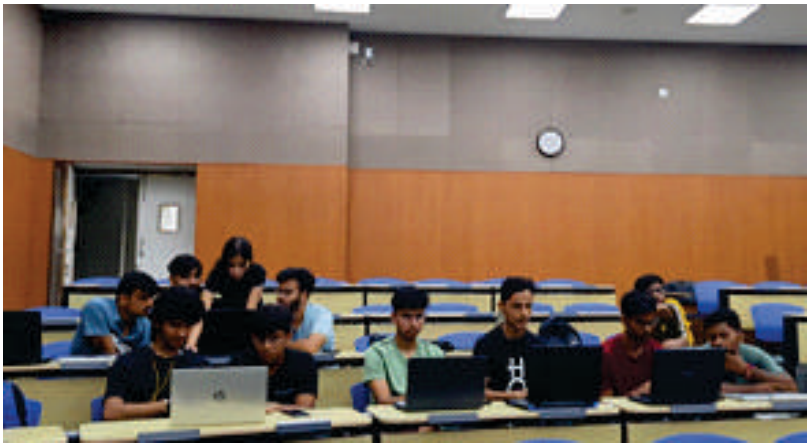
- **Model Creation Projects:** The club undertook the exciting challenge of designing and fabricating special models, including a Mini Machine Gun 134, the New Parliament Structure, and a Fighter Jet. These projects showcased members' skills in 3D modeling, mechanical design, and precision fabrication, reflecting the club's commitment to practical learning.
- **Ganesh Chaturthi Mandap Design Competition:** To celebrate Ganesh Chaturthi, the club organized a Mandap Design Competition that encouraged participants to blend traditional aesthetics with innovative design concepts. The event not only fostered cultural engagement but also provided students an opportunity to apply their engineering and design knowledge in a creative context.





Monochrome Club

- Session on Canva - an open session on Canva and Photoshop, where members explored key techniques in photo editing and design
- Session on Photoshop Basics - this session introduced the essential of Photoshop basics.
- Session on Advanced Photoshop Tools - on advanced techniques, including blending options, light effects, shadow effect and many more.
- Special Sessions for Zeitgeist GD Team -2
- Pixels in Motion - design Competition - Photo Collage Competition where your imagination is the limit!



Robotics Club

- Microcontrollers and Basics of Tinkercad
- Physics and Control Systems Communication and Advanced Protocols - Focused on communication methods and advanced protocols in robotics.
- Hands-On Sessions (3) - Each theory session was complemented by a practical session where members engaged in:

  1.Creating circuits and programming microcontrollers.

  2.Building circuits with sensors and actuators.

  3.Conducting experiments to observe motion and control principles.



- The Robotics Club participated in the Technoxian 2024 held at Mathura, UP - World Robotics Championship, where members showcased their skills and projects.

Softcom Club



- Smart India Hackathon - Internal Ideathon : Coordinated an Internal Ideathon for filtering the applications for the Smart India Hackathon from the institute.
- Overnight Hackathon - Students will be engaged overnight in the CS Labs for building a software solution for the given problem statement. Teams from each batch will get a different problem statement on which they can innovate and develop overnight and present a demo of their solutions at the end.

Zenith Club: The sessions are as under:

July 2024 - Nov 2024

- **Star Gazing (3 sessions)**

1. Introduced participants to basic astronomy concepts and celestial navigation
2. Observed prominent celestial objects such as the Moon, planets, and constellations using the club's telescope
3. Engaged in discussions about space exploration and the significance of various observed celestial bodies



BOARD OF ACADEMIC AFFAIRS (BOAA):

The Board of Academic Affairs (BOAA) acts as a crucial link between students and the administration, focusing on addressing academic concerns effectively. With representatives from all branches of each year, BOAA ensures clear communication between students and professors. It advocates for student interests, influencing positive changes in academic policies. The board plays a vital role in improving the overall academic experience, aiming to create a supportive environment where every student's voice matters

The events/sessions took place under the Board are as under:

1. Interaction sessions: Regular interaction sessions of 1st year with 2nd and 3rd year. Internship related sessions of 2nd year with 3rd year. It has already been done for all branches.
2. A presentation Event (Conveying Complexity): A presentation event held on 19th October in 2 rounds. More than 55 students registered for the event and more than 50 students participated in the event. We had our esteemed professors to judge the event. Overall event was successful due to the large participation of students.



BOARD OF WELLNESS AFFAIRS (BOWA):

The Boards caters the mental health and counseling needs of the students, faculties and staff. Our system is especially working towards addressing the psychological difficulties of the students and promoting the wellness among the whole campus community. Our main focus is to create a proactive and preventative environment for mental health care of all. The objective of this cell is to increase the help seeking behavior among the community, and to remove the fear of stigma by close others and to make the counseling services more user friendly.

There is another unit working in coordination with Board of Wellness Affairs i.e. a Counselling Cell named as “Snehita Wellbeing Cell”. This cell conducts various educational activities/sessions for student’s well-being like – Dealing with Academic Anxiety, Self Discipline & Wellbeing, Time Management, Power of Happiness, Relaxation Exercises & Mindfulness etc. Snehita Buddies have been constituted to address the stress related concerns of students under Snehita Wellbeing Cell



SUMMARY OF ACCOUNTS

RECEIPT AND PAYMENT ACCOUNT OF INDIAN INSTITUTE OF TECHNOLOGY ROPAR FOR THE FINANCIAL YEAR 2024-25

RECEIPT	राशि (रु. में) / Amount (in Rs.) 31.03.2025	PAYMENT	राशि (रु. में) / Amount (in Rs.) 31.03.2025
I. Opening Balances		**I. Expenses**	
a) Cash Balance	0	a) Establishment Expenses	785688635
b) Bank Balance		b) Academic Expenses	321435919
i) In Current accounts	14704963	c) Administrartive Expenses	352161054
ii) In deposit accounts (FDR)	0	d) Transportation Expenses	2836911
iii) Savings accounts (Institute)	183264268	e) Repair & Maintenance	121108681
iv) Savings accounts (R & D)	32904280	f) Prior Period Expenses	0
		g) Finance Cost	172083173
II. Grant-in-Aid		**II. Payment against Earmarked/Endowmnet Funds**	0
- on Revenue Account	2197698878		
- on Capital Account	336100000		
- Adjustment -LD Charges	1970027		
III. Academic Receipts	275981976	**III. Payment against Sponsored Projects/Schemes**	512372805
IV. Receipt against Earmarked/Endowmnet Funds	0	**IV. Payment against Sponsored Fellowships and Scholarships**	102582430
Benevolent fund	434350		
Student Welfare Fund	133100		
V. Receipt against Sponsored Projects/Schemes	538154126	**V. Investment and Deposits made**	
		(a) Out of Earmarked/Endowmnet Funds	0
VI. Receipt against Sponsored Fellowships and Scholarships	102482664	(a) Out of Own Funds (Investments - Others)	0

RECEIPT	राशि (रु. में) / Amount (in Rs.) 31.03.2025	PAYMENT	राशि (रु. में) / Amount (in Rs.) 31.03.2025
VII. Income on Investments from		**VI. Term Deposits with Scheduled Banks**	
a) Earmaked/Endowmnet Funds	0	FDR (Institute)	2410559553
b) Other Investments	0	FDR (R&D)	269226505
	0	**VII. Expenditure on Fixed Assets and Capital Works in Progress**	
VIII. Interest received on		a) Fixed Assets	379384467
a) FDR	124589598	b) Capital Work in Progress	262491023
b) Loans and Advances	0		
c) Savings Bank Accounts	2529549	**VIII. Other Payments including statutory payments**	643637291
d) Saving & FDR (R&D)	16727773		
		IX. Refunds of Grants	0
		- Refunds of Grants (Projects)	0
IX. Investments Encashed		**X. Deposits and Advances**	2519764
Endowment Fund	0		
X. Term Deposits with Scheduled Banks Encashed		**XI. Other Payments**	0
FDR (Institute)	2053616396	**XII. Closing Balances**	
FDR (R&D)	329925000	a) Cash Balance	0
XI. Other Income (including Prior Period Income)	38400002	b) Bank Balance	
		i) In Current accounts	18873460
		ii) In deposit accounts (FDR)	
XII. Deposits and Advances	0		
- HEFA TERM LOAN		iii) Savings accounts (Institute)	135277811
	317177985		
		iv) Savings accounts (R & D)	126301204
XIII. Miscellaneous Receipts including Statutory Receipts	51745751		
TOTAL	**6618540686**	**TOTAL**	**6618540686**