



एकादश दीक्षांत समारोह रिपोर्ट

11th Convocation Report

❧ 2022-23 ❧



भारतीय प्रौद्योगिकी संस्थान इन्दौर
Indian Institute of Technology Indore





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Volume-I: Highlights of the Institute



भारतीय प्रौद्योगिकी संस्थान इन्दौर
Indian Institute of Technology Indore



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About Us

In keeping with India's vision to become a world leader in Science and Technology and to usher in a new revolution, resulting in unprecedented economic growth, the Government of India reassessed the need for technical manpower and decided to set up eight new IITs. Six of them started functioning back in the academic year 2008-09. These were established at Hyderabad, Gandhinagar, Rajasthan, Ropar, Patna, and Bhubaneswar. IIT Indore and IIT Mandi started functioning in July 2009.

Indian Institute of Technology Indore, located in Madhya Pradesh, known as IIT Indore or IITI, is an Institute of National Importance established by the Government of India in 2009. It is one of the eight new IITs started by the Ministry of Human Resource Development (India), Government of India. The Institution started functioning from 2009-10 on a temporary campus at the Institute of Engineering and Technology of Devi Ahilyabai University under the mentorship of IIT Bombay. Shri Arjun Singh, the Union HRD Minister, laid the foundation of the permanent campus, spread over an area of around 501.42-acre (2.1 km²), on 17th February 2009 at Simrol, a location on Khandwa Road about 25 km from the city of Indore. Since February 2016, IIT Indore has started functioning from its permanent campus.

Infrastructure of the Institute: Total area 501 acres. Total Constructed area: 2,21,000 sq. mtr. which includes 5 hostels, Academic PoD Buildings, Learning Resource Center (Central Library, Administrative Building, Lecture Hall Complex with Seminar Hall and Auditorium, Community Health Center, Central Dining Facility, 3 Residencial Units, Sports Complex (Indoor), Kendriya Vidyalaya Building and Allied Services).

Departments/Streams:

- Astronomy, Astrophysics and Space Engineering
- Biosciences and Biomedical Engineering
- Computer Science and Engineering
- Electrical Engineering
- Mechanical Engineering
- Metallurgical Engineering and Materials Science
- Civil Engineering
- Humanities and Social Sciences
- Physics
- Chemistry
- Mathematics

Courses available:

- BTech
- MSc, MSc+PhD dual degree
- MS (Research), MS (Research)+PhD dual degree
- MS Degree in Data Science and management (MS-DSM)
- BTech + MTech Dual degree
- MTech, MTech+PhD dual degree
- Student Exchange Program (SEP)
- PhD

Office of the Registrar Meetings of the Authorities held during the F.Y: 2022-2023

Board of Governors	: Five meetings held on 29.04.2022, 11.08.2022, 14.12.2022, 23.01.2023 and 16.02.2023
Finance Committee	: Five meetings held on 29.04.2022, 11.08.2022, 14.12.2022, 23.01.2023 and 16.02.2023
Building and Works Committee	: Three meetings held on 11.04.2022, 13.06.2022 and 31.10.2022
Senate	: Four meetings held on 06.04.2022, 21.07.2022, 11.11.2022 and 20.03.2023



Mission

The driving force behind the 21st Century is the development of knowledge-intensive societies. It has led to the establishment of new Institutes of higher learning in India. Indian Institute of Technology Indore, established in 2009, is part of the initiative that envisages India as a global knowledge and technology leader. Continuing with the tradition of the older IITs, IIT Indore aims to play an active role in propelling India on her growth trajectory by focusing on research-based education and innovation-driven research and entrepreneurship. IIT Indore aims to achieve this mission with humanistic concerns.



Vision

Academics

- To inculcate and promote an academic community with independence of thought and free expression of research and innovation ideas.
- To provide a balance of continuously updated knowledge with extensive hands-on training on sophisticated facilities.
- To start new academic programs in futuristic areas such as data science, electric vehicles, intelligent transport system, space engineering, Indian scientific knowledge, etc.
- To increase the internationalization of the Institute by selecting an increasing number of international students and engaging distinguished international faculty in teaching and research.
- To increase candidates from Industries, Defense forces, and Engineering Institutions in different PG and PhD programs.
- To increase the involvement of adjunct faculty from Industries for teaching, research, and innovation.
- To involve experts from reputed industries and Foreign Universities in curricula design.

Research, Development, and Entrepreneurship

- Promote interdisciplinary research in science, engineering, humanities and social sciences.
- Conduct disruptive and socially impacting research on some chosen areas such as sustainable development, climate change, and food and water security.
- Promote industry-oriented research leading to new products, processes, and technologies.
- Focus on the convergence of life sciences, medical sciences, and agricultural sciences with engineering.
- Promote the culture of start-ups and entrepreneurship by establishing of Industrial Research Park, which will be a focal point in Central India.
- Aggressive patenting and protection of IPR.



Objectives

- Enhancement of academic, technological, and social outreach of the Institute through societal research, education, healthcare, sanitation, and rural development.
- Development of world-class research and learning facilities for industries, teaching, and research institutions.
- Skill development and scaling up the research and innovation towards the national requirements.
- To contribute to the development of world-class technological innovation in Engineering and Biomedical instrumentation, Defense, E-vehicles, alternate energy resources, etc.



Director's Message

Indian Institute of Technology Indore (IIT Indore) has expanded its research, academic, and outreach activities exponentially since its establishment in July 2009. Now the Institute is amongst the top-ranking institutions in the country and has also made its debutant entry in the most recognized QS World Ranking as well. The Institute has more than 2400 students on its roll and 180 faculty members from a diverse range of disciplines and research expertise.

With our well-recognized BTech programs in the disciplines of Civil Engg, Mechanical Engg, Computer Science and Engg, Electrical Engg, and Metallurgical Engg, we are now commencing **4 New BTech Programmes** in Space Science and Engg, Chemical Engg, Mathematics and Computing and Engineering Physics. From Academic Year 2023-24, we are also expanding our **MTech Programmes** in **6 new specializations** besides successfully running the MTech programmes in 9 disciplines. I take pride in sharing that amongst these, **2 new MTech programmes are designed specifically for Automobile Industry and for Defence Technology**. Further, to enrich our Undergraduate students' interaction with the industry professionals, we are creating the **Academic Bank of Credit System** which will open opportunities for the industry personnel to register for BTech Programmes. As per the objectives of the **New Education Policy (NEP)**, the BTech programmes will be open to qualified and experienced industry professionals and there will be flexibility in undertaking courses and the duration of completion of the programme. Besides reaching out to industry through these academic programmes we have also created **opportunities for students and teachers of Govt. Engineering Colleges of Madhya Pradesh (MPGECs)**. Second year students of MPGECs can apply for a two-week interactive programme at IIT Indore campus, and 50 meritorious students will get this opportunity. Similarly, **50 meritorious Final Year BTech/BE students of MPGECs will get a chance to undertake BTech Project and courses of the 8th Semester and stay on IIT Indore campus for one semester**. IIT Indore is also opening admissions to **PhD programme under College Teachers category for the young faculty members of MPGECs**. We also offer a joint MS degree in Data Science and Management with Indian Institute of Management Indore, which is an online program and is becoming very popular. We offer PhD degrees in 19 disciplines of Technology, Sciences and Humanities and Social Sciences, and currently we have more than 580 PhD Scholars enrolled.

Besides creating academic interaction avenues for industry, teachers, and students from all over the country, particularly Madhya Pradesh, we are also **enhancing students' learning experiences through fascinating initiatives**. The establishment of the **Centre for Entrepreneurship Education and Development (CEED)** offers entrepreneurship courses for BTech students, and recently it organized

Boot Camps for training on Entrepreneurial Skills and a Faculty Development Programme successfully with huge response from students and teachers. To facilitate entrepreneurial activities a **Section 8 Company Advanced Centre for Entrepreneurship (ACE) Foundation** is also registered. To encourage our students and faculty members to translate their excellent research ideas into viable products or technologies, the **Centre for Translational Research (CTR)** has been established. The centre is undertaking collaborative projects with industries. These projects are the outcome of the Industry Academia Conclave organized by the Institute last year. To provide advisory support to all the activities intersecting academia and industry through research, an **Industrial Advisory Board** is also established at the Institute.

Research has been IIT Indore's forte since its inception in the year 2009. To **accelerate the research in fundamental, experimental, and translational research for the benefit of society and the industry**, the Institute has launched various schemes for its students and faculty members. The **BTP Projects with potential tech solutions may receive a funding of Rs. 5 Lakhs**; PhD students can compete for "**Advanced Lab Project**" scheme for visit of 1-3 months to their area's advanced laboratory anywhere in the world. The young faculty members can apply for a **Seed Grant** of Rs. 10 Lakhs and additionally under the "**Dream Lab Collab Scheme**" seek additional funding of Rs. 5 lakhs for international visits to support research proposals with excellent possibilities. We are also announcing **15 Postdoctoral Fellowships** for passing out PhD Scholars whose doctoral research can be translated into a product or patent. To appreciate the recognizable contributions of the senior faculty members in research and teaching, **11 Institute Chair Professors'** positions will be awarded. The Institute also received **BIS Chair Professorships** signifying the dedicated research being conducted by our faculty members. The increasing levels of excellence in teaching, research, and technology development, including patents, is evident through our rising competition among faculty members and is recognized every year through several Institute awards as well. The Institute also received notable research projects funding including the **DRISHTI Cyber Physical System project**, where translational research and technology development activities in the domain of Cyber Physical Systems are being carried out. The total outlay of the project is about Rs. 100 crores which is supported by the Department of Science and Technology, Government of India. The Institute established the **Jai Prakash Narayan National Centre of Excellence in the Humanities (JPN Centre)** with a total funding of Rs. 9.68 crores from the Ministry of Education. This will be a national centre undertaking research, training, and academic activities in the areas of environmental and digital humanities. The Institute also has several **Centers of Excellence supported under the DST-FIST** programme with a total funding outlay of Rs. 22 crores.

IIT Indore is also exceeding in making the campus a truly **smart, lean, and green campus** keeping with our aim to be environmentally friendly. We **rejuvenated 6 natural water bodies** on the campus which will significantly contribute to groundwater recharge. With gratitude to the Honorable Minister of Education's grant we are also making "**Amrit Sarovar**" which will be a human made large water body. Additionally, **8 check dams** in the natural catchments on the campus for soil and water conservation are also being made. **Forest Area conservation and development** is also in progress with the construction of Forest Beat Guards' Office and accommodation and plans for conservation of forest plants and animal species. **Plantation Drive** in every monsoon is becoming a culture at IIT Indore with an ambition to plant 700 Peepal Saplings (Sacred Fig), 1000 Neem Saplings and other fruit, flowering, and avenue trees along a trench of 9 kms on the campus. Programmes are being designed, new courses are being formulated to make education holistic in nature and innovative methods of teaching and learning are being introduced.

Life for young students with their academic ambitions can be challenging at times, but at IIT Indore, the efforts are incessantly made to enrich life through various steps. Two major programmes in this line include **“LIVE” for living a self-created balance** emotionally and academically. The second initiative is **“The Genesis”** which is an induction programme of two-week duration for the new entrants to assimilate the information and acclimatize themselves to the exciting and challenging life.

With immense pride and pleasure, we are organizing the **Eleventh Convocation of the Institute on July 15, 2023**. **Professor Dr. Volker Epping, President of Leibniz University at Hannover and Vice President of TU9 Universities Alliance**, will grace the occasion as the Chief Guest. The Institute is also honoured to have **Mr. Senapathy ‘Kris’ Gopalakrishnan former CEO and Managing Director Infosys** as our Guest of Honour. It is my great delight to share that this year we have 554 students graduating from the Institute. All the students have made their best efforts in achieving excellence in their academics, co-curricular and sports activities and won accolades. The distinction in academic performance is recognized through the award of various medals. The proud medalists include the recipients of the President of India Gold Medal, Institute Silver Medals, Best BTech Project Award, Buti Foundation Gold Medal for the best woman student securing the highest CPI among all graduating students of Masters Programmes; and VPP Menon Gold Medal for Best PhD Thesis by a Graduating Woman candidate. We also appreciate the graduating batch who have notably worked hard to acquire all the laboratory skills during their reduced stay of two years on campus. I wish all the graduating students a very bright future and all the success in their career and life.

Professor Suhas S Joshi
Director IIT Indore

Board of Governors, IIT Indore



Chairman

Professor Deepak B. Phatak

Indian Institute of Technology Indore

Members

Professor Suhas S. Joshi

Director,
Indian Institute of Technology Indore

Shri Rakesh Ranjan

Additional Secretary (TE), Govt. of India,
Ministry of Education, New Delhi

Shri Manu Shrivastava

Principal Secretary
Department of Technical Education & Skill Development,
Govt. of Madhya Pradesh

Professor Yogesh M. Joshi

Department of Chemical Engineering, IIT Kanpur

Professor Dhananjay V. Bhatt

Professor (Retd.), Department of Mechanical Engineering
S. V. National Institute of Technology, Ichchhanath, Surat

Shri Manoj Kohli

Executive Chairman, SB Energy (Soft Bank Group) New Delhi

Prof. Preeti A. Bhobe (Senate Nominee)

Department of Physics
Indian Institute of Technology Indore

Prof. Prabhat Kumar Upadhyay (Senate Nominee)

Department of Electrical Engineering
Indian Institute of Technology Indore

Mr. S. P. Hota

Registrar and Secretary to BoG
Indian Institute of Technology Indore

Institute Functionaries



Director, IIT Indore

Prof. Suhas S. Joshi

w.e.f. January 31, 2022



Dean, Academic Affairs

Prof. Devendra Deshmukh
(w.e.f. Jan 1, 2020)



Dean, Academic Affairs

Prof. Vipul Singh
(w.e.f. June 2, 2023)



Dean, Administration

Prof. Pritee Sharma
(w.e.f. Jan 1, 2020)



Dean, Administration

Prof. Sandeep Chaudhary
(w.e.f. February 23, 2023)



Dean, Student Affairs

Prof. Srivathsan Vasudevan



Dean, Infrastructure Development

Prof. Manish Kumar Goyal



**Dean, Research &
Development**

Prof. I.A. Palani



**Dean, International Affairs &
Outreach**

Prof. Avinash Sonwane



Dean, Resources Generation

Prof. Anand Parey



Registrar, IIT Indore

Mr. S. P. Hota

Associate Deans

Academics (PG & Ph.D. Programs)	: Dr. Eswara Prasad Korimilli
Academics (Infrastructure)	: Dr. Antony Vijesh
Academics (UG Programs)	: Prof. Ram Bilas Pachori
Faculty Affairs	: Prof. Amod C. Umarikar (since Nov 2022)
Research and Development- I	: Prof. Aruna Tiwari
Research and Development- II	: Dr. Bodhisatwa Mazumdar
Administration	: Dr. Santosh Hosmani
Infrastructure Development-I	: Dr. Guru Prakash
Student Affairs	: Dr. Sanjeev Singh
International Relations-I	: Prof. Raghunath Sahoo
International Relations-II	: Prof. Sanjay Kumar Singh

Heads of Departments

Humanities and Social Sciences	: Prof. Nirmala Menon (From January 3, 2020 to March 31, 2023) Prof. Ruchi Sharma (w.e.f. April 1, 2023)
Computer Science & Engineering	: Dr. Somnath Dey
Electrical Engineering	: Prof. Vipul Singh (From August 9, 2019 to August 23, 2022) Prof. Vivek Kanhangad (w.e.f. August 24, 2022)
Mechanical Engineering	: Prof. Santosh Kumar Sahu (From February 11, 2020 to March 31, 2023) Prof. Shanmugam Dhinakaran (w.e.f. April 1, 2023)
Chemistry	: Prof. Biswarup Pathak (From January 8, 2020 to March 31, 2023) Prof. Tushar Kanti Mukherjee (w.e.f. April 1, 2023)
Mathematics	: Dr. Niraj Kumar Shukla
Physics	: Prof. Pankaj R. Sagdeo
Astronomy, Astrophysics and Space Engineering	: Prof. Abhirup Datta
Biosciences and Biomedical Engineering	: Prof. Amit Kumar
Metallurgical Engineering and Materials Science	: Dr. Vinod Kumar (From January 13, 2020 to March 29, 2023) Dr. Ajay Kumar Kushwaha (w.e.f. March 30, 2023)
Civil Engineering	: Dr. Abhishek Rajput

Professor In-charge of Centres

Centre of Advanced Electronics	: Prof. Mukesh Kumar
Computer and Information Technology Centre	: Dr. Neminath Hubballi
Centre of Futuristic Defense and Space Technology	: Dr. Indrasen Singh
Centre for Entrepreneurship Education and Development	: Dr. Swaminathan R.
Centre for Rural Development and Technology	: Dr. Debayan Sarkar
DST-FIST Centre of Excellence in Gear Engineering	: Prof. Neelesh Kumar Jain
Sophisticated Instrument Centre (SIC)	: Prof. Apurba K. Das
Centre for Indian Scientific Knowledge Systems	: Prof. G. S. Murthy
Centre for Electric Vehicle and Intelligent Transport Systems	: Prof. Amod C. Umarikar
Counselling Services	: Prof. Aruna Tiwari
Training & Placement	: Dr. Pavan Kumar Kankar
Central Workshop	: Dr. Dan Sathiaraj

Members of Senate of IIT Indore

Chairman

Professor Suhas S. Joshi

Director, IIT Indore

External Experts

Professor Himanshu Rai

Shri Shankar V. Nakhe

Mr. B Anil Baliga

Professor Abhiram G. Ranade

Professor Ajay Kumar Jain

Director, IIM Indore

Director, RRCAT

Executive Vice President, VE Commercial Vehicles Ltd.

Professor, IIT Bombay

Professor, MDI, Gurgaon

Deans

Professor Vipul Singh

Professor Sandeep Chaudhary

Professor Avinash Sonawane

Professor Manish Kumar Goyal

Professor I.A. Palani

Professor Srivathsan Vasudevan

Professor Anand Parey

Professor Abhishek Srivastava

Professor Devendra L. Deshmukh

Dean, Academic Affairs

Dean, Administration

Dean, International Relations

Dean of Infrastructure Development

Dean, Research and Development

Dean, Student Affairs

Dean, Alumni and Corporate Relations

Dean, Faculty Affairs

Dean, Educational Outreach

Head of Departments

Dr. Abhishek Rajput

Dr. Somnath Dey

Professor Vivek Kanhangad

Professor Shanmugam Dhinakaran

Dr. Ajay Kumar Kushwaha

Professor Amit Kumar

Professor Abhirup Datta

Professor Tushar Kanti Mukherjee

Dr. Niraj Kumar Shukla

Prof. Pankaj R. Sagdeo

Professor Ruchi Sharma

HOD, Civil Engineering

HOD, Computer Science and Engineering

HOD, Electrical Engineering

HOD, Mechanical Engineering

HOD, Metallurgy Engineering and Materials Science

HOD, Biosciences and Biomedical Engineering

HOD, Astronomy, Astrophysics and Space Engineering

HOD, Chemistry

HOD, Mathematics

HOD, Physics

HOD, Humanities and Social Sciences

Professors

Professor Narendra S. Choudhary	Computer Science and Engineering
Professor Neelesh Kumar Jain	Mechanical Engineering
Professor Anand Parey	Mechanical Engineering
Professor Ram Bilas Pachori	Electrical Engineering
Professor Abhinav Kranti	Electrical Engineering
Professor Vimal Bhatia	Electrical Engineering
Professor Rajneesh Misra	Chemistry
Professor Suman Mukhopadhyay	Chemistry
Professor Subhendu Rakshit	Physics
Professor Krushna R. Mavani	Physics
Professor Sarika Jalan	Physics
Professor Sandeep Chaudhary	Civil Engineering
Professor Avinash Sonawane	Biosciences and Biomedical Engineering
Professor G. S. Murthy	Biosciences and Biomedical Engineering
Professor Santosh Kumar Vishvakarma	Electrical Engineering
Professor Shaibal Mukherjee	Electrical Engineering
Professor Vipul Singh	Electrical Engineering
Professor Prabhat Kumar Upadhyay	Electrical Engineering
Professor Trapti Jain	Electrical Engineering
Professor Mukesh Kumar	Electrical Engineering
Professor Manish Kumar Goyal	Civil Engineering
Professor Neelima Devarakonda Satyam	Civil Engineering
Professor I. A. Palani	Mechanical Engineering
Professor Bhupesh Kumar Lad	Mechanical Engineering
Professor Santosh Kumar Sahu	Mechanical Engineering
Professor Ritunesh Kumar	Mechanical Engineering
Professor Dhinakaran Shanmugam	Mechanical Engineering
Professor Aruna Tiwari	Computer Science and Engineering
Professor Abhishek Srivastava	Computer Science and Engineering
Professor Kapil Ahuja	Computer Science and Engineering
Professor Abhirup Datta	Astronomy, Astrophysics and Space Engineering
Professor Amit Kumar	Biosciences and Biomedical Engineering
Professor Prashant Kodgire	Biosciences and Biomedical Engineering
Professor Sk. Safique Ahmad	Mathematics
Professor Apurba Kumar Das	Chemistry
Professor Sampak Samanta	Chemistry
Professor Sanjay Kumar Singh	Chemistry
Professor Biswarup Pathak	Chemistry
Professor Nirmala Menon	Humanities and Social Sciences
Professor Pritee Sharma	Humanities and Social Sciences
Professor Ruchi Sharma	Humanities and Social Sciences
Professor Preeti Anand Bhobe	Physics
Professor Rajesh Kumar	Physics
Professor Sudeshna Chattopadhyay	Physics
Professor Parasharam M. Shirage	Metallurgy Engineering and Materials Science
Professor Swadesh K. Sahoo	Mathematics

Professor Raghunath Sahoo	Physics
Professor Amod C. Umarikar	Electrical Engineering
Professor Vivek Kanhangad	Electrical Engineering
Professor Srivathsan Vasudevan	Electrical Engineering
Professor Devendra L. Deshmukh	Mechanical Engineering
Prof. Pankaj Ramesh Sagdeo	Physics
Prof. Somaditya Sen	Physics
Prof. Ankhi Roy	Physics
Prof. Mobin Shaikh	Chemistry
Prof. Anjan Chakraborty	Chemistry
Prof. Tushar Kanti Mukherjee	Chemistry

Other Authorities

Dr. Jayaprakash Murugesan	Chief Warden
Dr. Sharad Gupta	Convener, Health Center Advisor Committee
Dr. Anand Petare	Workshop Superintendent, Central Workshop

Student Representatives (for non-evaluation item only)

General Secretary, Student Gymkhana	Ex-officio
Academic Secretary, Student Gymkhana	Ex-officio

Secretary

Mr. S. P. Hota	Registrar, IIT Indore
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Medal Winners and Graduating Students

Indian Institute of Technology Indore

11th Convocation 2023: Recipients of Medals and Awards

THE PRESIDENT OF INDIA GOLD MEDAL

For the best academic performance among all the UG graduating students



Mr. Purnadip Chakrabarti

BTech (CSE)

Roll No. 190002048

INSTITUTE SILVER MEDAL

For the best academic performance among all the graduating UG students of particular Department



Mr. Krishanu Saini

BTech (CSE)

Roll No. 190001029



Mr. Satyam Vatsa

BTech (CE)

Roll No. 190004031



Mr. Aryan Rastogi

BTech (EE)

Roll No. 190002007



Ms. Ishika Budhiraja

BTech (ME)

Roll No. 190003030



Ms. Rama Sandeep Edlabadkar

BTech (MEMS)

Roll No. 190005033

INSTITUTE SILVER MEDAL

For the best overall performance among all the graduating PG students (MTech. and MSc. Programs)



Ms. Samriddhi Saxena

M.Tech (MEMS)
Roll No. 2102105005



Mr. Sayeed Kazim Hussain Nasir

MSc (AASE)
Roll No. 2103121007

BEST B.TECH. PROJECT (BTP) AWARD

Amongst all the graduating UG students



Mr. Prasheel Kumar Tiwari

BTech (CSE)
Roll No.190004025



Ms. Jyotishna Baishya

BTech (CSE)
Roll No. 190001021

Project Title: “ Intra-Sensor Fingerprint Presentation Attack Detection”

BUTI FOUNDATION GOLD MEDAL

For the best academic performance among all the graduating female PG students



Ms. Srijita Pal

MSc (Chemistry)
Roll No. 2103131026

INSTITUTE SILVER MEDAL

For the best all-round performance among all the graduating students



Ms. Niyati Totala

B.Tech (CE)

Roll No. 190004023

VPP MENON GOLD MEDAL

For the best PhD Dissertation work by a female student



Ms. Jaspreet Kaur

PhD (Biosciences and Biomedical Engineering)

Roll No. 1701171017

Thesis Title: *"Nano/Hybrid Carriers: Synthesis and Evaluation for Therapeutic Applications"*

Graduating Students

S. No.	Roll No.	Student's Name	Program	Department
1	180004004	Anurag Verma	BTech	CE
2	180004008	Desh Deepak Singh	BTech	CE
3	180004039	Yerrulu Ruben Rohith	BTech	CE
4	190004001	Aashish Kumar Meena	BTech	CE
5	190004002	Abhinav Aman	BTech	CE
6	190004004	Ajay Kumar Mina	BTech	CE
7	190004005	Andrali Neeraj	BTech	CE
8	190004006	Anil Katewa	BTech	CE
9	190004007	Anjali Patel	BTech	CE
10	190004008	Atish Avinash Chavan	BTech	CE
11	190004009	Chitvan Ramani	BTech	CE
12	190004011	Devang Chaudhary	BTech	CE
13	190004012	Digvijay Singh Rathore	BTech	CE
14	190004013	Erumalla Sai Kumar	BTech	CE
15	190004014	Kamble Vivek	BTech	CE
16	190004015	Kummari Ramya	BTech	CE
17	190004016	Lekshmi S Sunil	BTech	CE
18	190004017	Manish Kori	BTech	CE
19	190004018	Mekala Anjali	BTech	CE
20	190004019	Naik Aditya Milind	BTech	CE
21	190004020	Naveen Kumar Sharma	BTech	CE
22	190004021	Nishant Kumar	BTech	CE
23	190004022	Nitish Kumar	BTech	CE
24	190004023	Niyati Totala	BTech	CE
25	190004024	Pokala Sai Rithwik	BTech	CE
26	190004026	Rahul Roy	BTech	CE
27	190004027	Ritik Bansal	BTech	CE
28	190004028	Sakshi Pandey	BTech	CE
29	190004030	Samhith Damani	BTech	CE
30	190004031	Satyam Vatsa	BTech	CE
31	190004032	Shaga Soumya	BTech	CE
32	190004033	Shiva Sharma	BTech	CE
33	190004034	Shivam Rajpoot	BTech	CE
34	190004035	Shivraj Meena	BTech	CE
35	190004036	Shubham Bohra	BTech	CE
36	190004037	Siddhant Sachidanand Shukla	BTech	CE

S. No.	Roll No.	Student's Name	Program	Department
37	190004038	Simma Sai Ram	BTech	CE
38	190004039	Sumer Thakur	BTech	CE
39	190004041	Udit Kumar Nirapure	BTech	CE
40	190004042	Vishwas Raj Batham	BTech	CE
41	190004043	Vivek Gupta	BTech	CE
42	190005008	Ayush Chaudhary	BTech	CE
43	190005020	Khokhani Harshit Chaitanyabhai	BTech	CE
44	160001029	Kodi Vikas	BTech	CSE
45	160001039	Nandeshwar Pankaj Siddharth	BTech	CSE
46	170001036	Prateek Keshao Tadas	BTech	CSE
47	190001001	Abhishek Bansal	BTech	CSE
48	190001002	Amit Kumar	BTech	CSE
49	190001003	Anikeit Sethi	BTech	CSE
50	190001004	Anjali Gupta	BTech	CSE
51	190001005	Anushka Paul	BTech	CSE
52	190001006	Arastu	BTech	CSE
53	190001007	Asireddy Abhinav Reddy	BTech	CSE
54	190001008	Bhoomil Sanjaykumar Gohel	BTech	CSE
55	190001009	Deepali Sukhija	BTech	CSE
56	190001010	Deepika Sukhija	BTech	CSE
57	190001011	Deepkamal Singh Jassal	BTech	CSE
58	190001012	Devansh Sahu	BTech	CSE
59	190001013	Dipin Garg	BTech	CSE
60	190001014	Divyansh Maheshwari	BTech	CSE
61	190001015	Eish Malvi	BTech	CSE
62	190001016	Garvit Galgat	BTech	CSE
63	190001018	Harsh Ramkishan Kushwaha	BTech	CSE
64	190001019	Inteti Sweeyanth Harsha Vardhan	BTech	CSE
65	190001020	Jainil Shah	BTech	CSE
66	190001021	Jyotishna Baishya	BTech	CSE
67	190001022	Keelisetti Lokesh	BTech	CSE
68	190001023	Keren Megha Tudu	BTech	CSE
69	190001024	Kethavath Jagadeesh	BTech	CSE
70	190001025	Khajjayam Venkata Sai Abhiram	BTech	CSE
71	190001026	Kola Sai Ram	BTech	CSE
72	190001027	Komal Kumar	BTech	CSE

S. No.	Roll No.	Student's Name	Program	Department
73	190001028	Kondampally Aakash Reddy	BTech	CSE
74	190001029	Krishanu Saini	BTech	CSE
75	190001030	Kuldeep Singh	BTech	CSE
76	190001031	Kushaan Gowda	BTech	CSE
77	190001032	Likhitha Kyatham	BTech	CSE
78	190001033	Makula Nitin Krishna	BTech	CSE
79	190001034	Manish Kumar Patel	BTech	CSE
80	190001035	Mayank Raj	BTech	CSE
81	190001036	Mididoddi Sai Mounika	BTech	CSE
82	190001037	Mogre Parul	BTech	CSE
83	190001038	Mohit Kumar	BTech	CSE
84	190001039	Mukesh Kumar Nandkishor Meena	BTech	CSE
85	190001040	Nimish Bansal	BTech	CSE
86	190001041	Nunemunthala Shiva	BTech	CSE
87	190001042	Palamakula Sharath	BTech	CSE
88	190001043	Panapakala Pooja Sree	BTech	CSE
89	190001044	Parikh Neel Kalpeshbhai	BTech	CSE
90	190001046	Peddamalla Bhuvana Sree	BTech	CSE
91	190001047	Ponugoti Sruthi	BTech	CSE
92	190001048	Priyanshu Uttam	BTech	CSE
93	190001049	Rahul Kumar	BTech	CSE
94	190001050	Rahul Mahbubani	BTech	CSE
95	190001051	Ria	BTech	CSE
96	190001052	Rishabh Soni	BTech	CSE
97	190001053	Rohit Banga	BTech	CSE
98	190001054	Saket Kumar	BTech	CSE
99	190001056	Seelam Praveen	BTech	CSE
100	190001057	Shivesh Dave	BTech	CSE
101	190001058	Somya Mehta	BTech	CSE
102	190001059	Srikakolapu Naga Soma Satya Bhagavan	BTech	CSE
103	190001061	Tanishq Jain	BTech	CSE
104	190001062	Thathireddy Pradeep Reddy	BTech	CSE
105	190001063	Thota Naga Sai Durga Revanth	BTech	CSE
106	190001064	Thudi Venkata Sai Jadeja	BTech	CSE
107	190001065	Vaibhav Chandra	BTech	CSE
108	190001067	Yash Bontala	BTech	CSE

S. No.	Roll No.	Student's Name	Program	Department
109	190001068	Yash Satyanand Suvarna	BTech	CSE
110	190002014	Boyapati Hritikesh	BTech	CSE
111	190002048	Purnadip Chakrabarti	BTech	CSE
112	190004025	Prasheel Kumar Tiwari	BTech	CSE
113	190002001	Aditya Sanjeev Arcot	BTech	EE
114	190002002	Aman Dehariya	BTech	EE
115	190002003	Amit Anand	BTech	EE
116	190002004	Amogh Sudhir Dixit	BTech	EE
117	190002005	Anupama Suresh Babu K	BTech	EE
118	190002006	Arjit Giri	BTech	EE
119	190002007	Aryan Rastogi	BTech	EE
120	190002008	Ashish Gautam	BTech	EE
121	190002009	B Akhil Kumar	BTech	EE
122	190002010	Badwaik Harsh Bhojraj	BTech	EE
123	190002011	Beplawat Jigyanshu	BTech	EE
124	190002012	Bharat Kumar Gupta	BTech	EE
125	190002013	Bhavyash Gautam	BTech	EE
126	190002015	Brahmadev Rai Shrivastava	BTech	EE
127	190002016	Chirag Kothari	BTech	EE
128	190002017	Deepak Gulwani	BTech	EE
129	190002018	Desa Bipin Chandh	BTech	EE
130	190002019	Devarapalli Sai Kalyan	BTech	EE
131	190002020	Divyanshu Bhargava	BTech	EE
132	190002021	Eshaan Sachdeva	BTech	EE
133	190002022	Gautam Kumar	BTech	EE
134	190002023	Goli Teja Sree	BTech	EE
135	190002024	Gouroju Aditya	BTech	EE
136	190002025	Harsh Kumar Jain	BTech	EE
137	190002026	Jenish Sudeep Shah	BTech	EE
138	190002027	K Ashwin	BTech	EE
139	190002028	Kaparthi Divya	BTech	EE
140	190002029	Karika Siddhartha	BTech	EE
141	190002031	Kartikeya Sen	BTech	EE
142	190002032	Kashish Bansal	BTech	EE
143	190002033	Khomane Avikshit Sanjay	BTech	EE
144	190002034	Khushbu Ajit Lalwani	BTech	EE

S. No.	Roll No.	Student's Name	Program	Department
145	190002035	Kondeti Vinay	BTech	EE
146	190002036	Lokesh Singla	BTech	EE
147	190002037	Mareddy Sriya Reddy	BTech	EE
148	190002038	Mattewada Abhinav Kishore	BTech	EE
149	190002039	Mondem Sreeja Yadav	BTech	EE
150	190002040	Muppidi Suresh	BTech	EE
151	190002041	Neelanshu Garg	BTech	EE
152	190002042	P.santhosh	BTech	EE
153	190002043	Pallavi Upadhyay	BTech	EE
154	190002044	Pankaj Mina	BTech	EE
155	190002045	Patnam Harshey	BTech	EE
156	190002046	Potu Sidhartha Reddy	BTech	EE
157	190002047	Praveen Sorat	BTech	EE
158	190002049	Rahul Kumar	BTech	EE
159	190002050	Rahul Kumar Gupta	BTech	EE
160	190002051	Rakesh Kumar	BTech	EE
161	190002052	Ravi Verma	BTech	EE
162	190002053	Rounak Goyal	BTech	EE
163	190002054	Sagar Shirish Joshi	BTech	EE
164	190002055	Sai Pranavi K	BTech	EE
165	190002056	Samuel Rohith Abraham	BTech	EE
166	190002057	Satyam Amritlal Gupta	BTech	EE
167	190002058	Shrey Rajpurohit	BTech	EE
168	190002059	Shreya Deep	BTech	EE
169	190002060	Shri Krishan Kumar	BTech	EE
170	190002061	Sunchu Jahnavi	BTech	EE
171	190002062	Tushar Goyal	BTech	EE
172	190002063	Vangala Abhyuday	BTech	EE
173	190002064	Varakala Vathsalya Spoorthi	BTech	EE
174	190002065	Vardhan Paliwal	BTech	EE
175	190002066	Vijay Ramswaroop Meena	BTech	EE
176	190002067	Vikas Kumar Meena	BTech	EE
177	190002068	Vineet Tripathi	BTech	EE
178	190002069	Yuvraj Singh	BTech	EE
179	190003034	Lokinder Singh	BTech	EE
180	190003061	Siddhant Rathi	BTech	EE

S. No.	Roll No.	Student's Name	Program	Department
181	190004029	Sakshi Verma	BTech	EE
182	180003009	Anil Kumar	BTech	ME
183	180003013	Chatle Sanket Subhash	BTech	ME
184	180003032	Mahendra Begar	BTech	ME
185	180003046	Sachin Kumar	BTech	ME
186	180003049	Sarthak Barik	BTech	ME
187	190003001	Aashish Jammar	BTech	ME
188	190003002	Abburi Venkatrama Bharath	BTech	ME
189	190003003	Aboli Devidas Dhawale	BTech	ME
190	190003004	Adhip Sashi Dey	BTech	ME
191	190003005	Aditya Bhardwaj	BTech	ME
192	190003006	Ajay Ramswaroop Meena	BTech	ME
193	190003007	Akash Gupta	BTech	ME
194	190003008	Amujuru Naveen Kumar	BTech	ME
195	190003009	Anjali Singhal	BTech	ME
196	190003010	Ankur Rai	BTech	ME
197	190003011	Anubhav Singh	BTech	ME
198	190003012	Anushk Gautam	BTech	ME
199	190003013	Ashish Raj	BTech	ME
200	190003014	Atul Prajapati	BTech	ME
201	190003015	Balveer Bairwa	BTech	ME
202	190003016	Bantu Gnaneswara Rao	BTech	ME
203	190003017	Bhupendra Singh	BTech	ME
204	190003018	Chakka Veera Venkata Surya Narayana	BTech	ME
205	190003019	Chandak Shubh Manish	BTech	ME
206	190003020	Debtirtha Saha	BTech	ME
207	190003021	Devendra Ahirwar	BTech	ME
208	190003022	Dhanesh Devrani	BTech	ME
209	190003023	Dhruv Gupta	BTech	ME
210	190003024	Gadge Pranjal Prafull	BTech	ME
211	190003025	Gangarapu Pavan Kumar Reddy	BTech	ME
212	190003026	Golla Amith	BTech	ME
213	190003028	Harshit Diyundi	BTech	ME
214	190003029	Hasan Mustafa	BTech	ME
215	190003030	Ishika Budhiraja	BTech	ME
216	190003031	Khushi	BTech	ME

S. No.	Roll No.	Student's Name	Program	Department
217	190003032	Kondru Thanmai	BTech	ME
218	190003033	Kushal Singh	BTech	ME
219	190003035	Madhurjya Das	BTech	ME
220	190003036	Md Riyaz Ahmed	BTech	ME
221	190003037	N Bhagavathi	BTech	ME
222	190003038	Nallamothu Aravind Ratna	BTech	ME
223	190003039	Narendra Meena	BTech	ME
224	190003040	Pepeti Venkata Sai Kesava Siddhardha	BTech	ME
225	190003041	Pittala Sejal	BTech	ME
226	190003042	Piyush Pachori	BTech	ME
227	190003043	Pote Siya Vikrant	BTech	ME
228	190003044	Priyal Dubey	BTech	ME
229	190003045	Rachit Agrawal	BTech	ME
230	190003046	Raju Akash Sai Prasad Reddy	BTech	ME
231	190003047	Rakuditi Satya Sai Eswar	BTech	ME
232	190003048	Rishabh Yadav	BTech	ME
233	190003049	Rishu Pal	BTech	ME
234	190003050	Ritik Arora	BTech	ME
235	190003051	S Thanikai Adhithiyan	BTech	ME
236	190003052	Said Snehal Dattatraya	BTech	ME
237	190003053	Santosh Kumar Meena	BTech	ME
238	190003054	Sarisha Das	BTech	ME
239	190003055	Shejal Shailesh Gauns	BTech	ME
240	190003056	Shibani Shashin	BTech	ME
241	190003057	Shlok Chawla	BTech	ME
242	190003058	Shravan Roy	BTech	ME
243	190003059	Shruti Prakash Jain	BTech	ME
244	190003060	Shubham C Bankar	BTech	ME
245	190003062	Siddharth Vinayak Kale	BTech	ME
246	190003063	Surapu Sai Praveen	BTech	ME
247	190003064	Tirunagiri Sai Kiran	BTech	ME
248	190003065	Ujjawal Mittal	BTech	ME
249	190003066	Utkarsh Dattu Khairnar	BTech	ME
250	190003067	Vangapandu Satya Venkata Vinay Lohit	BTech	ME
251	190003068	Vasu Agarwal	BTech	ME
252	190003069	Vijay Pralani	BTech	ME

S. No.	Roll No.	Student's Name	Program	Department
253	190003070	Waghmare Hrishikesh Kailas	BTech	ME
254	190003071	Yadavalli Sai Teja	BTech	ME
255	190003072	Yash Gupta	BTech	ME
256	190005007	Ashish Uike	BTech	ME
257	180005002	Abhay Gaikwad	BTech	MEMS
258	180005014	Madhavaram Vishal	BTech	MEMS
259	180005016	Mohanakannan C	BTech	MEMS
260	180005031	Sulam Ganesh Yadav	BTech	MEMS
261	180005037	Yugant Janardhan Nagpure	BTech	MEMS
262	190005001	Abhishek Dhangar	BTech	MEMS
263	190005002	Anadita Prasad	BTech	MEMS
264	190005003	Ananya Sahu	BTech	MEMS
265	190005004	Ankit Pandey	BTech	MEMS
266	190005005	Arambh Choukse	BTech	MEMS
267	190005006	Arpit Vyas	BTech	MEMS
268	190005009	Ayush Nath	BTech	MEMS
269	190005010	Chhavi Rathore	BTech	MEMS
270	190005011	Danduprolu Lavanya	BTech	MEMS
271	190005013	Godi Saketh Karthikeya	BTech	MEMS
272	190005016	Harsh Vardhan Agrawal	BTech	MEMS
273	190005017	Hemant Kumar	BTech	MEMS
274	190005018	Indira Vashisth Medepalli	BTech	MEMS
275	190005019	Ishan Bharti	BTech	MEMS
276	190005021	Mahanya Kochhar	BTech	MEMS
277	190005022	Manav Tejas Trivedi	BTech	MEMS
278	190005023	Manish Sahoo	BTech	MEMS
279	190005024	Mudit Vyas	BTech	MEMS
280	190005025	Narayan Kabra	BTech	MEMS
281	190005026	Nikhil Gupta	BTech	MEMS
282	190005027	Niraj Kumar	BTech	MEMS
283	190005028	Piyush Nimbhore	BTech	MEMS
284	190005029	Ponna Revanth	BTech	MEMS
285	190005030	Pradumn Patidar	BTech	MEMS
286	190005031	Pranav Surabhi	BTech	MEMS
287	190005032	Rajat Kushwaha	BTech	MEMS
288	190005033	Rama Sandeep Edlabadkar	BTech	MEMS

S. No.	Roll No.	Student's Name	Program	Department
289	190005034	Sahu Prasanth Kumar	BTech	MEMS
290	190005035	Sanduru Lochan	BTech	MEMS
291	190005037	Siddhesh Shelke	BTech	MEMS
292	190005038	Sudhanshu Shresth	BTech	MEMS
293	190005039	Surisetti Lalitha Sree	BTech	MEMS
294	190005040	Toni Moyong	BTech	MEMS
295	190005041	Tushar Tiwari	BTech	MEMS
296	190005042	Vernika Gautam	BTech	MEMS
297	190005043	Vivek Bhushan	BTech	MEMS

S.No.	Roll Number	Name	Program	Department	Specialization
1	2003121001	Alvera Farooqui	M.Sc.	AASE	Astronomy
2	2103121001	Vednarayan Sriram Iyer	M.Sc.	AASE	Astronomy
3	2103121002	Ansh Chopra	M.Sc.	AASE	Astronomy
4	2103121004	Pranjali Sharma	M.Sc.	AASE	Astronomy
5	2103121005	Soumya Manoj Gupta	M.Sc.	AASE	Astronomy
6	2103121006	Avinash Kumar Himanshu	M.Sc.	AASE	Astronomy
7	2103121007	Sayeed Kazim Hussain Nasir	M.Sc.	AASE	Astronomy
8	2103121010	Priyatam Kumar Mahto	M.Sc.	AASE	Astronomy
9	2103121011	Amit Poonia	M.Sc.	AASE	Astronomy
10	2103121012	Saurabh	M.Sc.	AASE	Astronomy
11	2103121013	Sumit Gautam	M.Sc.	AASE	Astronomy
12	2103121014	Keshav Aggarwal	M.Sc.	AASE	Astronomy
13	2103171001	Akrati Tandon	M.Sc.	BSBE	Biotechnology
14	2103171002	Rishav Nag	M.Sc.	BSBE	Biotechnology
15	2103171003	Isha Dhingra	M.Sc.	BSBE	Biotechnology
16	2103171004	Samiksha Sanjog Rele	M.Sc.	BSBE	Biotechnology
17	2103171005	Sonali Adhikari	M.Sc.	BSBE	Biotechnology
18	2103171006	Vinod Yadav	M.Sc.	BSBE	Biotechnology
19	2103171007	Vaibhav Chouhan	M.Sc.	BSBE	Biotechnology
20	2103171008	Rahul Sharma	M.Sc.	BSBE	Biotechnology
21	2103171009	Neha Singh	M.Sc.	BSBE	Biotechnology
22	2103171010	Siddharth Singh	M.Sc.	BSBE	Biotechnology
23	2103171011	Sushma Ahirwar	M.Sc.	BSBE	Biotechnology
24	2103171012	Rudrajit Mandal	M.Sc.	BSBE	Biotechnology
25	2103171013	Tanishq Meena	M.Sc.	BSBE	Biotechnology
26	2103171016	Junaid Ahmed	M.Sc.	BSBE	Biotechnology
27	2103171018	Priyanka Patra	M.Sc.	BSBE	Biotechnology
28	2103171021	Yogesh	M.Sc.	BSBE	Biotechnology
29	2103171022	Duddugunta Mohanchaitanya Reddy	M.Sc.	BSBE	Biotechnology
30	2103171025	Abhijeet Singh	M.Sc.	BSBE	Biotechnology
31	2103171026	Nikhil Kumar	M.Sc.	BSBE	Biotechnology
32	2103171027	Sampurna Dasgupta	M.Sc.	BSBE	Biotechnology
33	2103131001	Adarsh Sonkar	M.Sc.	Chemistry	Chemistry
34	2103131002	Ankit Gupta	M.Sc.	Chemistry	Chemistry
35	2103131003	Ankita Vikram Valvi	M.Sc.	Chemistry	Chemistry
36	2103131004	Aparajita Sahu	M.Sc.	Chemistry	Chemistry
37	2103131005	Arjun Kumbhakar	M.Sc.	Chemistry	Chemistry
38	2103131006	Ayushi Singh	M.Sc.	Chemistry	Chemistry
39	2103131007	Biswajit Biswas	M.Sc.	Chemistry	Chemistry
40	2103131008	Divya Khandelwal	M.Sc.	Chemistry	Chemistry
41	2103131009	Kashish Gupta	M.Sc.	Chemistry	Chemistry
42	2103131010	Khushboo	M.Sc.	Chemistry	Chemistry

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43	2103131011	Mohammad Sodoor	M.Sc.	Chemistry	Chemistry
44	2103131012	Mohit Kumar	M.Sc.	Chemistry	Chemistry
45	2103131013	Naman Chaudhary	M.Sc.	Chemistry	Chemistry
46	2103131014	Nishita Jain	M.Sc.	Chemistry	Chemistry
47	2103131015	Nitish Kumar	M.Sc.	Chemistry	Chemistry
48	2103131016	Pranjal Gupta	M.Sc.	Chemistry	Chemistry
49	2103131017	Prerna	M.Sc.	Chemistry	Chemistry
50	2103131018	Rajneesh Kumar Yadav	M.Sc.	Chemistry	Chemistry
51	2103131019	Ritik	M.Sc.	Chemistry	Chemistry
52	2103131020	Rohitash Meena	M.Sc.	Chemistry	Chemistry
53	2103131021	Sachin Debnath	M.Sc.	Chemistry	Chemistry
54	2103131022	Saikat Sinha	M.Sc.	Chemistry	Chemistry
55	2103131023	Saryu Bhardwaj	M.Sc.	Chemistry	Chemistry
56	2103131024	Shashank Rathi	M.Sc.	Chemistry	Chemistry
57	2103131025	Shubh Jhawar	M.Sc.	Chemistry	Chemistry
58	2103131026	Srijita Pal	M.Sc.	Chemistry	Chemistry
59	2103131027	Sudhanshu Kumar	M.Sc.	Chemistry	Chemistry
60	2103131028	Tanu Chauhan	M.Sc.	Chemistry	Chemistry
61	2103131029	Tushar Nandkishor Gajbhiye	M.Sc.	Chemistry	Chemistry
62	2103131030	Vigneshwaran V	M.Sc.	Chemistry	Chemistry
63	2103141001	Asik Doctor	M.Sc.	Mathematics	Mathematics
64	2103141002	Anushka Tiwari	M.Sc.	Mathematics	Mathematics
65	2103141003	Dhanraj Shrivastav	M.Sc.	Mathematics	Mathematics
66	2103141004	Muzamil Nazir Bhat	M.Sc.	Mathematics	Mathematics
67	2103141005	Shubhdeep Das	M.Sc.	Mathematics	Mathematics
68	2103141007	Yovan Singh	M.Sc.	Mathematics	Mathematics
69	2103141008	Ritik Mishra	M.Sc.	Mathematics	Mathematics
70	2103141009	Adarsh Jain	M.Sc.	Mathematics	Mathematics
71	2103141010	Nitin Kumar Mangal	M.Sc.	Mathematics	Mathematics
72	2103141011	Aslam	M.Sc.	Mathematics	Mathematics
73	2103141012	Dheeraj Kumar Saha	M.Sc.	Mathematics	Mathematics
74	2103141013	Arun Kumar	M.Sc.	Mathematics	Mathematics
75	2103141014	Mansi Yadav	M.Sc.	Mathematics	Mathematics
76	2103141015	Lokendra Kumar	M.Sc.	Mathematics	Mathematics
77	2103141016	Tithi Sarkar	M.Sc.	Mathematics	Mathematics
78	2103141017	Nikhil	M.Sc.	Mathematics	Mathematics
79	2103141019	Sanjit Kisku	M.Sc.	Mathematics	Mathematics
80	2103151002	Anurag	M.Sc.	Physics	Physics
81	2103151004	Avinash Kaur	M.Sc.	Physics	Physics
82	2103151005	Bhuwan Moyal	M.Sc.	Physics	Physics
83	2103151006	Debankan Sannamoth	M.Sc.	Physics	Physics
84	2103151007	Girish Raju Wakale	M.Sc.	Physics	Physics

S.No.	Roll Number	Name	Program	Department	Specialization
85	2103151008	Hitesh Arora	M.Sc.	Physics	Physics
86	2103151010	Joginder	M.Sc.	Physics	Physics
87	2103151011	Kali Meena	M.Sc.	Physics	Physics
88	2103151013	Kapil Tulshiram Meheta	M.Sc.	Physics	Physics
89	2103151015	Kumar Saumya	M.Sc.	Physics	Physics
90	2103151016	Laksha Pradip Das	M.Sc.	Physics	Physics
91	2103151017	Lucky Raj	M.Sc.	Physics	Physics
92	2103151018	Mahima Kochar	M.Sc.	Physics	Physics
93	2103151019	Palzor Lepcha	M.Sc.	Physics	Physics
94	2103151020	Rik Chakraborty	M.Sc.	Physics	Physics
95	2103151021	Satyabrata Mandal	M.Sc.	Physics	Physics
96	2103151022	Shankar Nair	M.Sc.	Physics	Physics
97	2103151026	Tarun Indoriya	M.Sc.	Physics	Physics
98	2103151027	Uttama Kumar Saint	M.Sc.	Physics	Physics
99	2103151028	Vikash Kumar Singar	M.Sc.	Physics	Physics
100	2103151029	Vikrant Sharma	M.Sc.	Physics	Physics
101	2103151030	Vineet Kumar	M.Sc.	Physics	Physics
102	2102121001	Ankit Bhanu	M.Tech.	AASE	Space Engineering
103	2102121002	Shubhanshu Umeshchandra Bishwash	M.Tech.	AASE	Space Engineering
104	2102121003	Narthu Santhosh Kumar	M.Tech.	AASE	Space Engineering
105	2102121004	Pushp Ranjan	M.Tech.	AASE	Space Engineering
106	2102121005	Archishman Guha	M.Tech.	AASE	Space Engineering
107	2102106002	Prashant Mall	M.Tech.	CEVITS	EVT
108	2102106003	Vivek Paliwal	M.Tech.	CEVITS	EVT
109	2102106004	Gourav Manohar Sardar	M.Tech.	CEVITS	EVT
110	2102106007	Maitreya Jain	M.Tech.	CEVITS	EVT
111	2102106008	O P Mishra	M.Tech.	CEVITS	EVT
112	2102102002	Pyndah JS Rama Krishna	M.Tech.	EE	CSP
113	2102102003	Kumari Kamini	M.Tech.	EE	CSP
114	2102102004	Smriti Uniyal	M.Tech.	EE	CSP
115	2102102005	Surabhi Sinha	M.Tech.	EE	CSP
116	2102102006	Mansi Singh	M.Tech.	EE	CSP
117	2102102007	Bethapudi Shirly Susan	M.Tech.	EE	CSP
118	2102102008	Richa Kumari	M.Tech.	EE	CSP
119	2102102010	Naveen B	M.Tech.	EE	CSP
120	2102102012	Yadav Shivani Rani	M.Tech.	EE	CSP
121	2102102013	Pawar Shubham Rajebhau	M.Tech.	EE	CSP
122	2102102014	Akah Precious Chiemena	M.Tech.	EE	CSP
123	2102102017	Vivek Kumar Tiwari	M.Tech.	EE	VDN
124	2102102018	Rushikesh Madhukar Hake	M.Tech.	EE	VDN
125	2102102019	Megha Nawaria	M.Tech.	EE	VDN
126	2102102020	Shuvam Biswas	M.Tech.	EE	VDN

S.No.	Roll Number	Name	Program	Department	Specialization
127	2102102021	Jagannadham Sai Kumar	M.Tech.	EE	VDN
128	2102102022	Pracheta Chatterjee	M.Tech.	EE	VDN
129	2102102023	Kurapati Kishore Reddy	M.Tech.	EE	VDN
130	2102102024	Aastha Jha	M.Tech.	EE	VDN
131	2102102025	Guntupalli Keerthi	M.Tech.	EE	VDN
132	2102102026	Ankit Gangwar	M.Tech.	EE	VDN
133	2102102027	Bhawesh Chandraker	M.Tech.	EE	VDN
134	2102103020	Piyush Pradip Upkare	M.Tech.	ME	MSD
135	2102103021	Mukesh Pal	M.Tech.	ME	MSD
136	2102103023	Shubham Kumar	M.Tech.	ME	MSD
137	2102103025	Anurag Pathak	M.Tech.	ME	MSD
138	2102103026	Kovvuri Sowmya	M.Tech.	ME	MSD
139	2102103028	Shekhar Yadav	M.Tech.	ME	MSD
140	2102103029	Pankaj Kumar Baser	M.Tech.	ME	MSD
141	2102103001	Aman Kumar	M.Tech.	ME	PIE
142	2102103002	Athuri Bharath Kumar	M.Tech.	ME	PIE
143	2102103004	Ayush Singh	M.Tech.	ME	PIE
144	2102103005	Bhavesh Jain	M.Tech.	ME	PIE
145	2102103008	Rajat Verma	M.Tech.	ME	PIE
146	2102103010	Shubham Birle	M.Tech.	ME	PIE
147	2102103012	Mr. Sumantra Aarya	M.Tech.	ME	PIE
148	2102103013	Akash Yadav	M.Tech.	ME	PIE
149	2102105002	Praveen Rautela	M.Tech.	MEMS	MSE
150	2102105003	Muppirala Subrahmanya Venkata R.	M.Tech.	MEMS	MSE
151	2102105004	Akula Surya Teja	M.Tech.	MEMS	MSE
152	2102105005	Samridhi Saxena	M.Tech.	MEMS	MSE
153	2102105016	Namrata Sarania	M.Tech.	MEMS	Metallurgical Engineering
154	2102105017	Sajid Qureshi	M.Tech.	MEMS	Metallurgical Engineering
155	2102105018	Ashit Palai	M.Tech.	MEMS	Metallurgical Engineering
156	2102105020	Nagilla Pranay Reddy	M.Tech.	MEMS	Metallurgical Engineering
157	2102105021	Siddhant Sharma	M.Tech.	MEMS	Metallurgical Engineering
158	2102105022	Aayush Pathak	M.Tech.	MEMS	Metallurgical Engineering
159	2102105023	Yogendra Sharma	M.Tech.	MEMS	Metallurgical Engineering
160	2102105024	Nitin Sehgal	M.Tech.	MEMS	Metallurgical Engineering
161	2102105026	Sahil Kumar	M.Tech.	MEMS	Metallurgical Engineering
162	2102105027	Rajeev Kumar	M.Tech.	MEMS	Metallurgical Engineering
163	2104121001	Saswata Dasgupta	MS (Research)		AASEAASE
164	2004101003	Joshi Zarnaben Pranavkumar	MS (Research)		CSECSE
165	2004101009	Saurav Kumar	MS (Research)		CSECSE
166	2004101011	Swastik Saxena	MS (Research)		CSECSE
167	2004101012	Manas Kagde	MS (Research)		CSECSE
168	2004101013	Ritu Bharat Munot	MS (Research)		CSECSE

S.No.	Roll Number	Name	Program	Department	Specialization
169	2104101004	Bharath Kollanur	MS (Research)	CSE	CSE
170	2004102001	Ashwani Bhargava	MS (Research)	EE	EE
171	2004102004	Rahul Rajendra Pawar	MS (Research)	EE	EE
172	2004102007	Sumiran Mehra	MS (Research)	EE	EE
173	2104102004	Praneet Jain	MS (Research)	EE	EE
174	2004103009	Yashaswi Malve	MS (Research)	ME	ME
175	180003054	Sidhartha Khare	BTMT	ME	MSD

S. No.	Roll No.	Student's Name	Program	Department
1	1801121008	Sriyasriti Acharya	PhD	AASE
2	1801121002	Mohd. Kamran	PhD	AASE
3	1901121003	Chandrani Chatterjee	PhD	AASE
4	1601121007	Majidul Rahaman	PhD	AASE
5	1701121002	Aishrila Mazumder	PhD	AASE
6	1801121005	Unnati Kashyap	PhD	AASE
7	1701171005	Md Fulbabu Sk	PhD	BSBE
8	1701171018	Omkar Indari	PhD	BSBE
9	1701171008	Mrinal Kashyap	PhD	BSBE
10	1701171004	Deeksha Tiwari	PhD	BSBE
11	1701171013	Uma Shankar	PhD	BSBE
12	1701171001	Neha Jain	PhD	BSBE
13	1501171012	Ramesh Kumar	PhD	BSBE
14	1701171016	Arjun Meda	PhD	BSBE
15	1701171017	Jaspreet Kaur	PhD	BSBE
16	1701171002	Rahul Kumar Verma	PhD	BSBE
17	1701271003	Dharmendra Kashyap	PhD	BSBE
18	1501271011	Saumya Jaiswal	PhD	BSBE
19	1501171005	Yogesh Kumar Shivhare	PhD	BSBE
20	1701171010	Bhavana Joshi	PhD	BSBE
21	1701271001	Sajjan Rajpoot	PhD	BSBE
22	1701131017	Faizal Khan	PhD	Chemistry
23	1701231002	Rishi Ranjan	PhD	Chemistry
24	1701131018	Tapas Ghosh	PhD	Chemistry
25	1701231001	Devraj Singh	PhD	Chemistry
26	1901204001	T Venkatesh Varma	PhD	CE
27	1801204001	Moirangthem Johnson Singh	PhD	CE
28	1701204001	Thakare Akshay Anil	PhD	CE
29	1701204002	Waqar Ul Hasan	PhD	CE
30	1901201001	Lokendra Birla	PhD	CSE
31	1701101006	Vikas Chauhan	PhD	CSE
32	1701101004	Mahesh Joshi	PhD	CSE
33	1801201005	Vivek Singh Baghel	PhD	CSE
34	1701101001	Akhilesh Mohan Srivastava	PhD	CSE
35	1701102001	Krishnendu S	PhD	EE
36	1801202005	Pradeep Kumar Chaudhary	PhD	EE

S. No.	Roll No.	Student's Name	Program	Department
37	1601102009	Mahendra Singh Thakur	PhD	EE
38	1701202005	Sanjay Kumar	PhD	EE
39	1701202002	Pawan Kumar	PhD	EE
40	1701102007	Puneet Singh Thakur	PhD	EE
41	1901102019	Alok Kumar Shukla	PhD	EE
42	1701102005	Gopal Ramkrushnaji Raut	PhD	EE
43	1901102010	Guddu Kumar	PhD	EE
44	1801202003	Chandan Kumar Singh	PhD	EE
45	1501202009	Sonawane Ajinkya Jibhau	PhD	EE
46	1701102008	Kamal Kishore Garg	PhD	EE
47	1501261004	Ankit Tiwari	PhD	HSS
48	1801103010	Manikandan M	PhD	ME
49	1701203001	Pushpanjay Kumar Singh	PhD	ME
50	1701203006	Pavan Gupta	PhD	ME
51	1901103005	Madhur Gupta	PhD	ME
52	1601103005	Jyotirmoy Barman	PhD	ME
53	1601203004	Khan Rehan Wasim	PhD	ME
54	1701203005	Nemane Vaibhav Vilas	PhD	ME
55	1401103004	Gurjeet Singh	PhD	ME
56	1701103004	Palash Dewangan	PhD	ME
57	1906103001	Vinod Singh Thakur	PhD	ME
58	1801103006	Chaudhary Bhaveshbhai Motibhai	PhD	ME
59	1901203004	Nagendra Singh Ranawat	PhD	ME
60	1901103006	Shalini Singh	PhD	ME
61	1701141004	Sudipta Sarkar	PhD	Mathematics
62	1701205011	Nikita Guha	PhD	MEMS
63	1701205004	Mahesh Patel	PhD	MEMS
64	1806105001	Abhinav Sharma	PhD	MEMS
65	1701205014	Vipul Jain	PhD	MEMS
66	1701105010	Siddhartha Suman	PhD	MEMS
67	1701105002	Vishesh Manjunath	PhD	MEMS
68	1701205007	Sangam Sangral	PhD	MEMS
69	1801205004	Aditya Bhardwaj	PhD	MEMS
70	1806105002	Tulika Dixit	PhD	MEMS
71	1801205008	Manoj Dattopant Joshi	PhD	MEMS
72	1701105006	Priyanka Sahu	PhD	MEMS

S. No.	Roll No.	Student's Name	Program	Department
73	1701205006	Sandeep Jain	PhD	MEMS
74	1801205007	Subhash Chand Yadav	PhD	MEMS
75	1701151007	Prashant Kumar Mishra	PhD	Physics
76	1701151013	Suman Deb	PhD	Physics
77	1801251001	Minal Rajesh Gupta	PhD	Physics
78	1503151005	Ankit Mishra	PhD	Physics
79	1701151005	Sumit Kumar Kundu	PhD	Physics
80	1901151001	Tanushree Ghosh	PhD	Physics
81	1901151017	Chanchal Rani	PhD	Physics
82	1701251006	Ravindra Singh	PhD	Physics

Rankings

In yet another matter of great pride to Indore, IIT Indore has been ranked 454th in the QS World University Rankings 2024. It is 11th amongst the Indian Universities and is ranked the highest amongst the second generation IITs. The universities are judged across 08 key ranking indicators including academics, research, citations, international outlook, sustainability and employment outcomes to provide the most comprehensive and balanced comparisons available. This year's QS World University Rankings included almost 1,500 institutions from around the world including universities from diverse locations across Europe, Asia and North America.

In the recently released "India Rankings 2023 by NIRF, Ministry of Education", IIT Indore has attained a significant improvement in NIRF ranking across multiple categories. IIT Indore is positioned 14th among engineering institutions of the country. In this category, institutions are judged across 05 key ranking parameters that includes academics, research, graduation outcome, outreach & inclusivity, and perception. Also, IIT Indore is positioned at 28th in Overall and 21st in Research category respectively.



Category	Ranking	
	NIRF-2022	NIRF-2023
Engineering	16	14
Overall	31	28
Research	26	21

Prof. Suhas Joshi, Director, congratulated the IIT Indore community and urged them to pursue their research and academic activities with diligence, which essentially will contribute to growth of the Institute and pave the way for more global recognitions in future.

Faculty Affairs

Faculty Affairs Office deals with all administrative matters related to the faculty members. It maintains administrative records from recruitment to relieving of the faculty members. The office is headed by Professor Abhishek Srivastava, Dean of Faculty Affairs, assisted by Prof. Amod C. Umarikar -Associate Dean, Cdr. Sunil Kumar (Retd.) - Joint Registrar, Mr. Sunil Sawle – Junior Superintendent, and Mr. Amit Mishra – Junior Superintendent (Technical).

This office enables the following tasks:

- Conduct of recruitment drive and appointment of permanent/contractual/ visiting/emeritus faculty members in various departments.
- Joining formalities of newly joined faculty members.
- Maintenance of Service Records and Personal File of faculty members.
- Processing of all service matters, including pay, promotion, leave, LTC, dependent list, deputation, annual increment, extension of tenure for contractual appointments, confirmation, etc.
- Regular updation of service details.
- Providing responses to MHRD/RTI Queries and Lok Sabha/Rajya Sabha questionnaires.

Some of the major works undertaken during the year 2022-23 are as follows:

- Conduct of Special Recruitment Drive for Reserved category candidates.
- Development of Faculty Application Portal for New Recruitment.
- Formulation of various policies for standardization of rules and procedures.
- Streamlining the joining formalities to ensure minimal movement and faster adaptation of the newly joined member to the new environment.
- Provision of Welcome Kit to the newly joined faculty members.
- Reduced paperwork and approval through emails.
- Timely provision of LTC to faculty members.

Faculty positions filled as on March 31, 2023

Designation	Strength
Professor	57
Associate Professor	45
Assistant Professor Grade-I	63
Assistant Professor Grade-II	15
Total	180

The number of faculty members joined service at IIT Indore during the year 2022-23 is 12 and details are as follows:

Designation	Strength
Assistant Professor Grade I	07
Assistant Professor Grade II	05
Total	12

Total 05 Professor and 13 Associate Professor were appointed.

- Prof. Ganti S Murthy, Professor, Department of Biosciences & Biomedical Engineering, relieved for full-time attachment for two years as National Coordinator at Indian Knowledge System (IKS) division of MoE, w.e.f. July 22, 2022(FN).
- Prof. Narendra S. Chaudhari, Professor, Department of Computer Science and Engineering was relieved on September 8, 2022 (A/N) to Join as Vice-Chancellor, Assam Science & Technology University, Guwahati, Assam on deputation.

3. Dr. Prashanta Garain, Assistant Professor Grade I, Department of Mathematics, relieved on February 24, 2023 (AN), to join as Assistant Professor Grade I at the Indian Institute of Science Education and Research Berhampur.
4. Dr. Saikat Sarkar, Assistant Professor Grade I, Department of Civil Engineering, relieved on May 11, 2023 (AN), to join as Assistant Professor Grade I at the Indian Institute of Technology Delhi.

Recognition and Awards

Best Technology Development Award 2023

The details of the technology and the inventors are as follows:

Technology Details	Inventors
Novel ASPAR-B drug for the treatment of blood cancer: Currently under phase I/II clinical trials	Prof. Avinash Sonawane, Mainak Biswas, Soumika Sengupta and Vikram Gota
A method of maintenance for high-performance machineries employing axial pump and multiple cylinders	R. Gupta, Dr. P.K. Kankar, Dr. A. Miglani
Design Space Exploration of Optimal k-Cycle Transient Fault Tolerant Datapath Based on Multi-Objective Power-Performance Tradeoff	Dr. Anirban Sengupta
Si-ITO Semiconductor Heterojunction Technology for Tunable Photonic Devices	Swati Rajput, Vishal Kaushik, Prem Babu, Suresh K. Pandey and Prof. Mukesh Kumar
IoT Enabled Real-Time Monitoring NO ₂ Gas Sensor	Chandrabhan Patel, Sumit Chaudhary, Mayank Dubey and Prof. Shaibal Mukherjee

Best Research Paper Award 2023

The details are as follows:

Title of the Research Paper	Author(s)
"Gigaelectronvolt emission from a compact binary merger"	Alessio Mei, Biswajit Banerjee, Gor Oganessian, Om Sharan Salafia, Stefano Giarratana, Marica Branchesi, Paolo D'Avanzo, Sergio Campana, Giancarlo Ghirlanda, Samuele Ronchini, Amit Shukla, Pawan Tiwari
"Small Molecule Screening Discovers Compounds that Reduce FMRpolyG Protein Aggregates and Splicing Defect Toxicity in Fragile X-Associated Tremor/Ataxia Syndrome"	Arun Kumar Verma, Eshan Khan, Subodh Kumar Mishra, Amit Kumar
"Machine Learning Aided Interpretable Approach for Single Nucleotide-Based DNA Sequencing using a Model Nanopore"	Milan Kumar Jena, Diptendu Roy, Biswarup Pathak
"Micro and macro-structural properties of waste tyre rubber fibre-reinforced bacterial self-healing mortar"	Akshay Anil Thakare, Trilok Gupta, Roshni Deewan, Sandeep Chaudhary
"Adaptation of Pair-Polar Structures to Compute a Secure and Alignment-Free Fingerprint Template"	Vivek Singh Baghel, Syed Sadaf Ali, Surya Prakash

"Real-Time Event Detection Based on Weibull Distribution Using Synchrophasor Measurements for Enhanced Situational Awareness"	Adnan Iqbal, Trapti Jain
"Intuitionistic Fuzzy Weighted Least Squares TwinSVMs"	M. Tanveer, M. A. Ganaie, A. Bhattacharjee, C. T. Lin.
"Topological defects embedded large-sized single-walled carbon nanotubes for hydrogen storage: A molecular dynamics study"	Saurabh Mishra, S.I. Kundalwal
"Theory abide experimental investigations on morphology driven enhancement of electrochemical energy storage performance for manganese titanate perovskites electrodes"	Narasimharao Kitchamsetti, Manopriya Samtham, Pravin N. Didwal, Dharendra Kumar, Diwakar Singh, Santosh Bimli, Parameshwar R Chikate, Dr. Dudekula Althaf Basha, Sunil Kumar, Chan-Jin Park, Sudip Chakraborty, Rupesh S. Devan
"Phonon-mode-specific lattice dynamical coupling of carriers in semiconductors using Raman and optical spectroscopic techniques"	Omkar V. Rambadey, Minal Gupta, P. R. Sagdeo

Best Teacher Award 2022-2023

Category (Student Strength)	Name of the Faculty Member and Department
Less than 30 students' strength	Dr. Sunil Kumar, Department of Metallurgical Engineering and Materials Science
Between 31 to 120 students' strength	Dr. Abhishek Rajput, Department of Civil Engineering
Greater than 120 students' strength	Dr. Ananya Ghoshal, School of Humanities and Social Sciences



Administration

The Administration Section deals with general administration and all HR matters related to the Staff members. It maintains administrative records from recruitment to relieving of staff members. The administration office functions under the overall guidance of the Dean of Administration, Associate Dean of Administration and the Registrar and the administrative/HR functions are executed by the Deputy Registrar (Administration) and a team of five staff members.

This office enables the following tasks:

- Conduct of recruitment drive and appointment of permanent/contractual/ Outsourced staff members.
- Joining formalities of newly joined staff members.
- Maintenance of Service Records and Personal Files of staff members.
- Processing of all service matters, including pay, promotion, leave, LTC, dependent list, deputation, annual increment, extension of tenure for contractual appointments, confirmation, etc.
- Regular updation of service details.
- Providing responses to MHRD/RTI Queries and Lok Sabha/Rajya Sabha questionnaires.
- Monitoring and redressal of grievances received on CPGRAMS and at the Institute Grievance Cell.
- Coordination for the functioning of KV IIT Indore and the Institute Creche Facility.

Non-Teaching Staff positions as on March 31, 2023:

Group 'A' Officers	23
Technical Staff Members	45
Administrative Staff Members	63
Total	131

Number of non-teaching staff members appointed during the year is as under:

Non-teaching staff	23
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Details of Training Programs (In-house) attended by all Non-Teaching Staff

Topics of Training	Trainer/Instructor	Designation	Date
Allowances (TA/LTC/CEAS)	Mr. Pradeep Agarwal	Joint Registrar (F&A)	1-Apr-22
English and Effective Communication for Professionals: Strategies, Discourse, and Practical Application	Dr. Ananya Ghoshal	Assistant Professor	8-Apr-22
An overview of RTI Act 2005	Mr. Suresh Chandra Thakur	Assistant Registrar (Admin)	3-Jun-22
Transport Allowance for Central Government Employees	Mr. Tanmay Harsh Vaishnav	Section Officer (F&A)	10-Jun-22
Disaster Management and Overview	Mr. Ramakant Kaushik	Chief Security Officer (Grade-II)	17-Jun-22
Management of Departmental Library	Mr. Rajesh Kumar	Assistant Librarian (Grade-I)	24-Jun-22
Abilene Paradox: Management of Agreements	Mr. Saroj Kumar Mallick	Executive Engineer (Electrical)	01-Jul-22
Expert Talk cum Motivational Session	Commodore (Dr) Manohar Nambiar	Registrar, IIT Hyderabad	15-Jul-22
Written English Communication Skills	Dr. Ananya Ghoshal	Assistant Professor	9-Sep-22
Interview Techniques	Mr. S. P. Hota	Registrar	23-Sep-22
Highlights of Union Budget 2023-24	Mr. Pradeep Agarwal	Joint Registrar	10-Feb-23

Recognition and Awards

S. No.	Institute Awards 2023 (for Non Teaching, Technical and Supporting Staff Members)	Name of the Non-Teaching Staff
1	Outstanding Performance by Senior Non-Teaching Staff Member (Group A)	1. Mr. Suresh Chandra Thakur, Assistant Registrar (Then)
2	Outstanding Performance by Junior Non-Teaching Staff Member (Group B and C)	1. Ms. Bindu Suresh, Junior Superintendent 2. Mr. Dinesh Chouhan, Junior Assistant 3. Mr. Ankit Tiwari, Junior Assistant
3	Outstanding Performance by Technical Staff Member	1. Mr. Praveen Kaushal, Audio Visual Technician 2. Mr. Amit Jadhav, Junior Lab Assistant
4	Outstanding Performance by Supporting Staff Member	1. Mr. Ved Prakash Thakur, Attendant 2. Mr. Anil Sanwle, Attendant



Achievements



Dr. Nitin Upadhyay
Senior Lab Assistant

Awarded PhD Degree in Physics by Devi Ahilya Vishwavidyalaya (DAVV), Indore vide DAVV Notification No. PhD Cell/ 2023/711 dated April 28, 2023.

Research Title: "Structural Study of Transition Metal Complexes Based on X-Ray Spectroscopy Techniques".



Mr. Brajesh Dwivedi
Senior Assistant

Conferred "Satna Gaurav Award" by Shri Shivraj Singh Chouhan, Hon'ble Chief Minister of Madhya Pradesh, on 25th January 2023, organized by Municipal Corporation, Satna. The award was conferred upon Mr. Dwivedi for his participation in International Cricket Series/ tournaments as a leading Dibyang Cricketer and also for promoting differently abled (dibyang) cricketers in the state of Madhya Pradesh since the year 2017.



Ms. Riyanka Sharma
Junior Assistant

Qualified in the Fastest Fingers First Round of 109th Episode of "Kaun Banega Crorepati (KBC)", season 14 and reached on the Hot Seat hosted by the Legendary Actor and Star of the Millenium , Shri Amitabh Bachchan on Sony TV on December 30, 2022.

Research and Development (R&D)



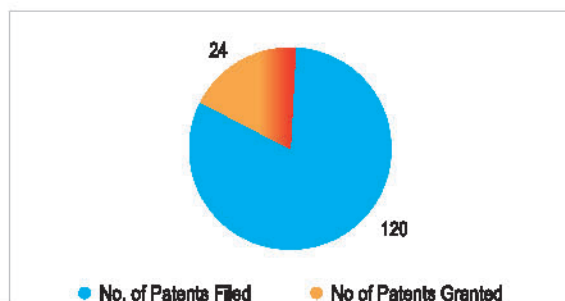
IIT Indore envisages promoting inter-disciplinary research focusing on basic and applied research, technology development, and innovation. This vision has helped the Institute to excel in all spheres of science, engineering, humanities and social sciences. A key competence of IIT Indore is in research driven academic programs as it forms a core component of undergraduate and postgraduate teaching. IIT Indore has consciously promulgated the idea of involving undergraduate students in forefront research projects. This has led to the initiation of a formal undergraduate research scheme, Promotion of Research, and Innovation for Undergraduate Students (PRIUS). Research at IIT Indore has been recognized at both international and national levels. Faculty members and scientists are actively involved in several key international projects and joint collaborations with research organizations in Japan, South Korea, Russian Federation, Portugal, France, Germany, UK, USA and many other countries.

Key Achievement of Research & Development at IIT Indore

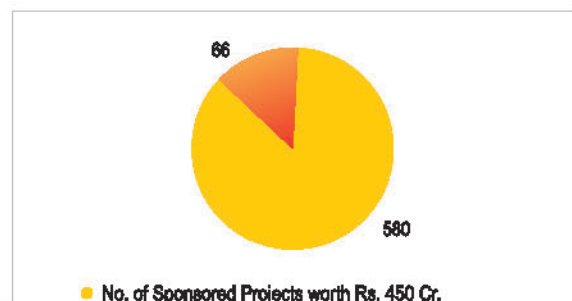
- 580 R&D projects worth Rs. 450 cr. from different funding agencies.
- 311 consulting projects worth Rs. 14 cr. till date.
- Over 6154 reputed publications.
- A high impact project worth Rs. 100 Cr under the DST National Mission on Cyber physical system for developing technologies and training manpower in the field of cyber physical systems.
- A National Research Centre of Excellence in the Humanities has been established in the Institute as J P Narayan Centre of Excellence in the Humanities to serve as a premier Research Centre with projects in interdisciplinary areas of the Humanities in collaboration with Sciences and Engineering.
- Drone and related Technology project funded by MeitY is executed by the Institute with a key objective to leverage collaborative activities in human resource development through capacity building in education and training in the area of Unmanned Aircraft Systems (UAS).
- 8 DST-FIST from Centers of Excellence (CoEs) established with funding worth Rs. 17 Cr.
- Filed over 120 patents; 24 have been already granted.
- Translation Research Centre was established to formalise the translation research ecosystem and extend the commercialisation of technology from the research to the product stage.

- 16 YFRSG (Young Faculty Research Seed Grant) was provided to young faculties of IIT Indore worth Rs. 1.6 Cr as a bridge funding by the Institute before the first regular grant from the external funding agencies.
- 4 YFRCG (Young Faculty Research Catalysing Grant) provided to young faculties of IIT Indore worth Rs. 1.33 Cr by the institute to inculcate an interdisciplinary research ecosystem in the cutting-edge areas of national and international needs.
- 25 IDF applications are granted under SIPPT (Scheme for Intellectual Property Protection and Technology Translation) by the Institute to support the faculty members by providing partial financial support for each patent upto 25,000/- INR for Indian Patent Filing.
- 10-15 positions for TRL level 05 and beyond with an annual ceiling of Rs. 01 Crore is sanctioned by the Institute for Translation Research Fellowship.
- IPR Awareness Programme (Under National Intellectual Property Awareness Mission) conducted by the Institute in the association of NIPAM.
- 5 Best Technology & 10 Best Research Paper Award provided by the institute to the students and faculty members with a contingency amount of Rs. 2 Lakh for each award.
- R&D MMS cell created to catalyze smooth project execution.
- The Institute signed an MOU with the Bureau of Indian Standards to develop collaborative activities in the field of Standardization and Conformity Assessment on the basis of equality and reciprocity.

Patents

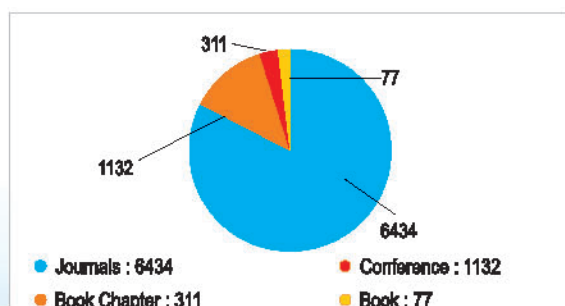


Projects

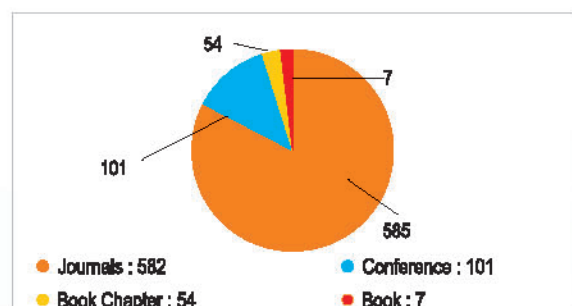


Publication

Overall

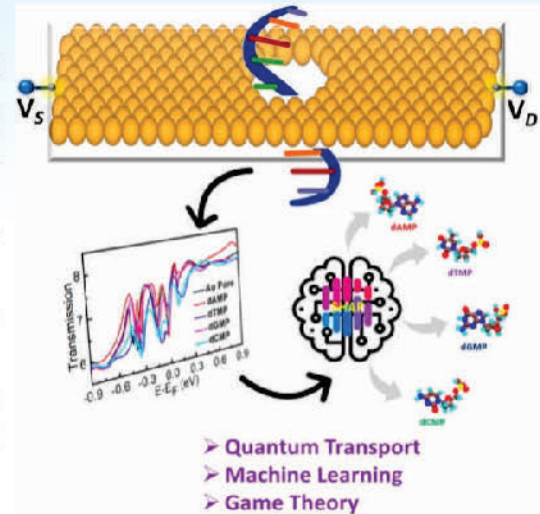


F.Y. 2022 - 23



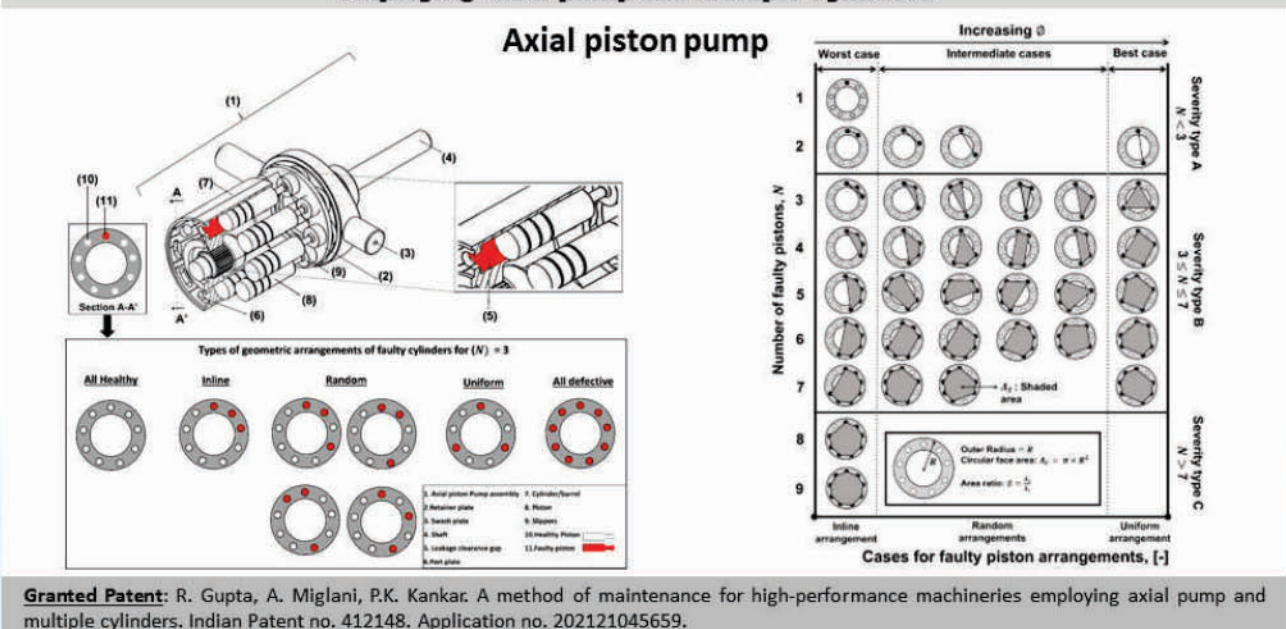
Research Work:

- Small Molecule Screening Discovers Compounds that Reduce FMRpolyG Protein Aggregates and Splicing Defect Toxicity in Fragile X-Associated Tremor/Ataxia Syndrome.
- Micro and macro-structural properties of waste tyre rubber fibre-reinforced bacterial self-healing mortar.
- Adaptation of Pair-Polar Structures to Compute a Secure and Alignment-Free Fingerprint Template.
- Real-Time Event Detection Based on Weibull Distribution Using Synchrophasor Measurements for Enhanced Situational Awareness.
- Intuitionistic Fuzzy Weighted Least Squares Twin SVMs.
- Topological defects embedded large-sized single-walled carbon nanotubes for hydrogen storage: A molecular dynamics study.
- Theory abide experimental investigations on morphology driven enhancement of electrochemical energy storage performance for manganese titanate perovskites electrodes.
- Phonon-mode-specific lattice dynamical coupling of carriers in semiconductors using Raman and optical spectroscopic techniques.
- Si-ITO Semiconductor Heterojunction Technology for Tunable Photonic Devices.
- Design Space Exploration of Optimal k-Cycle Transient Fault Tolerant Datapath Based on Multi-Objective Power-Performance Tradeoff.
- Machine Learning Aided Interpretable Approach for Single Nucleotide-Based DNA Sequencing using a Model Nanopore.

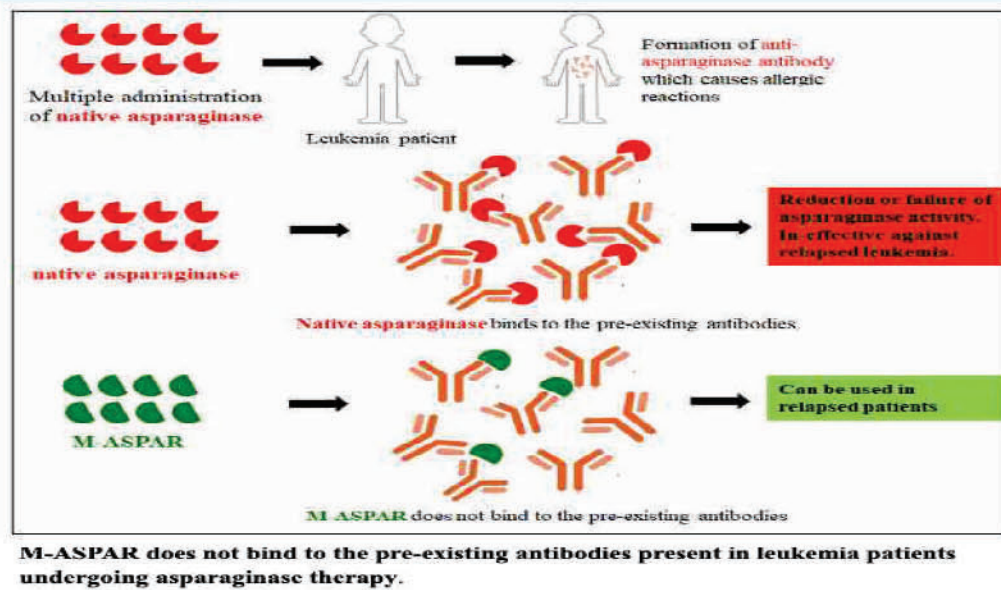


Technologies Developed

A method of maintenance for high-performance machineries employing axial pump and multiple cylinders



A method of maintenance for high-performance machineries employing axial pump



Novel ASPAR-B drug for the treatment of blood cancer Currently under phase III clinical trials

Consolidated Photographs/figures projecting key results about the technology/research:

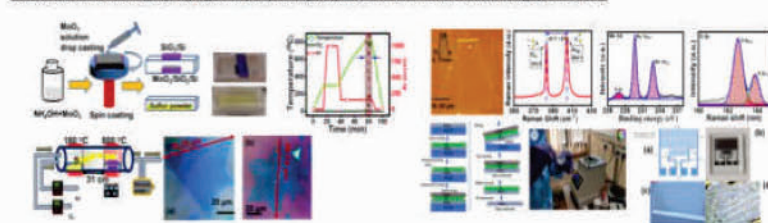


Fig. 1: Solution-assisted CVD process for the development of wafer-scale, electronic-grade, and uniform MoS₂ monolayers and films and experimental validation and surface-energy assisted transfer process of MoS₂.

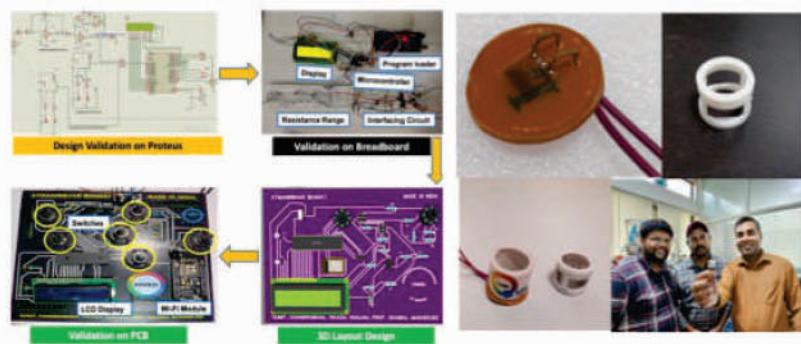


Fig. 2: Fabrication of URRC for wide resistance range measurement and packaged 2D MoS₂ monolayer sensor on interdigitated electrodes (IDEs).

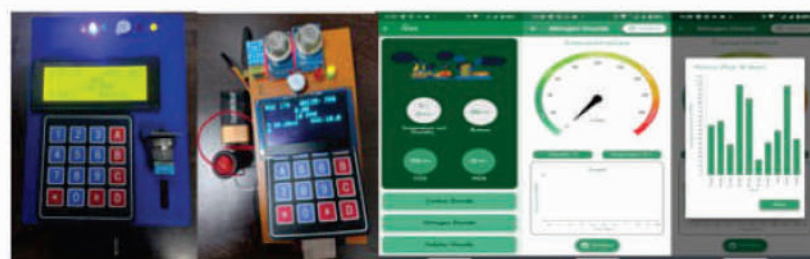
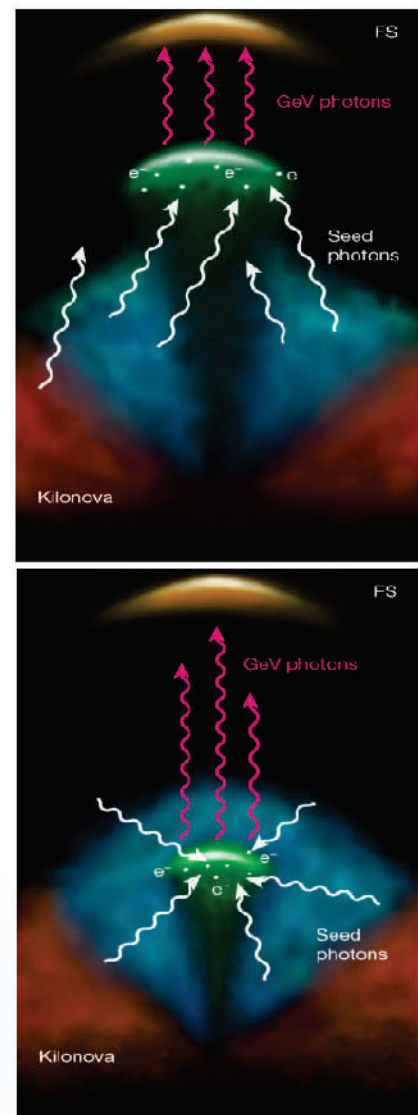


Fig. 3: Indigenous packaged sensor system housing Quantum Sensor and development of android mobile application for real-time monitoring.

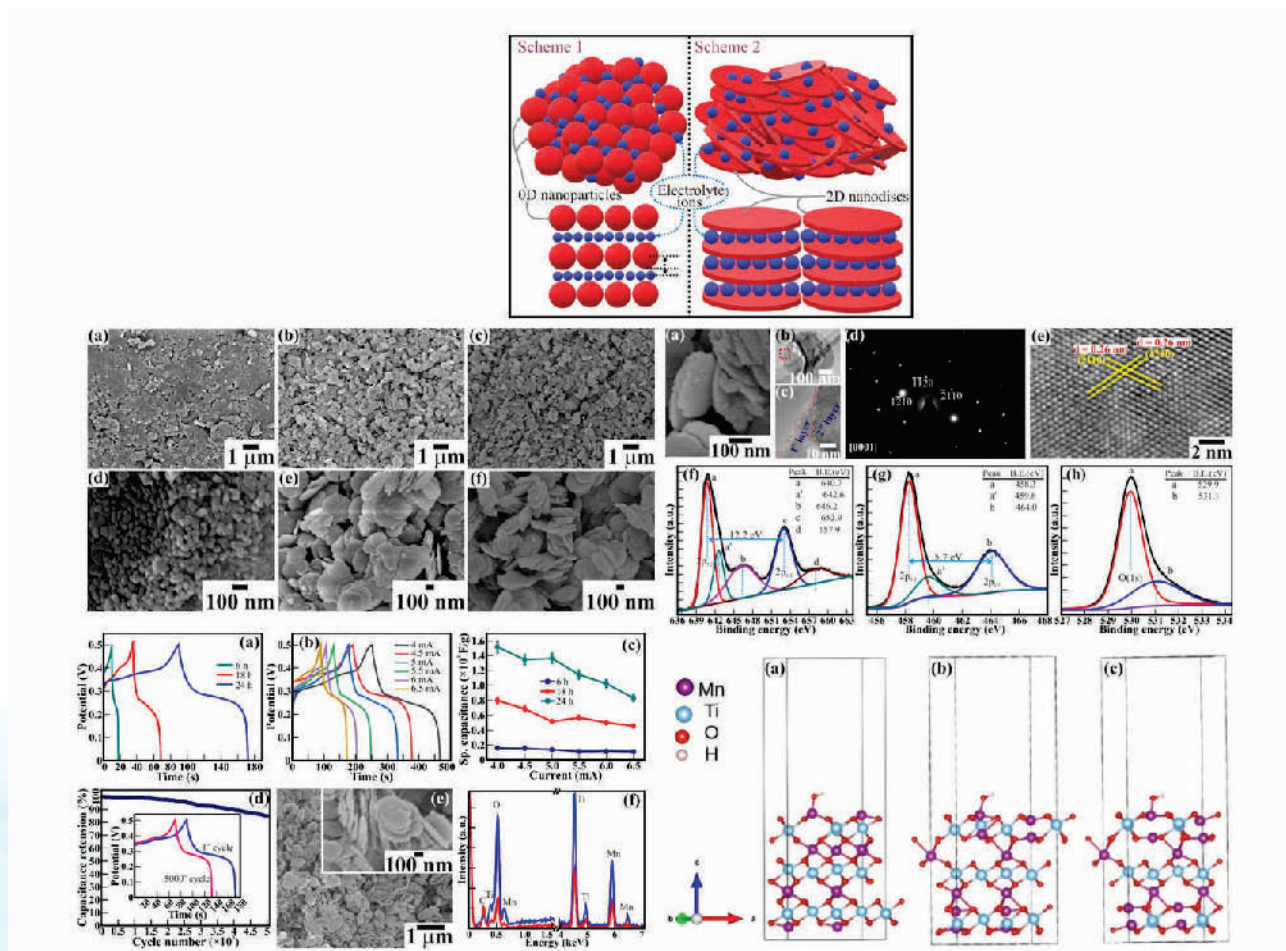
IoT Enabled Real-Time Monitoring NO₂ Gas Sensor and multiple cylinders



Gigaelectronvolt emission from a compact binary merger



Micro and macro-structural properties of waste tyre Rubber Fibre-Reinforced Bacterial self-healing mortar



International Relations



A talk on "Transmission Dynamics of COVID-19 in Nepal: Mathematical Models for Effective Control" by Mr. Khagendra Adhikari, Tribhuvan University, Amrit Campus, NEPAL



A talk on "Modeling Malaria Transmission in Nepal: Impact of Imported Cases through Cross-Border Mobility" by Mr. Ramesh Gautam, Tribhuvan University, Ratna Rajya Laxmi Campus, NEPAL

ITI Faculty members as visiting/adjunct faculty abroad:

1. Prof. Kapil Ahuja: Visiting Professor at Institut Mines-Télécom Atlantique, France for AY 2023.
2. Dr. Rupesh S. Devan: Adjunct Professor at Multidisciplinary Academic Research Center, National Dong Hwa University, Hualien, Taiwan (Since 7th March 2023).
3. Dr. Guru Prakash: Was a visiting faculty at University of Waterloo from 1st December 2022 till 31st December 2022.

MoUs with Foreign Universities:

We have 80+ active international MoUs, the most recent ones are mentioned below:

National Ilan University, Taiwan
 National Taipei University of Technology, Taiwan
 Julius-Maximilians-University Würzburg (JMUW)
 Kwansei Gakuin University, Japan
 University of Zilina in Zilina
 The University of Bordeaux, France
 University West Sweden, Sweden
 Université de Lille, France
 University of Agder, Norway
 Széchenyi István University Győr, Hungary
 University of Luxembourg
 Leibniz University Hannover, Hannover, Germany
 University of Rostock, Germany
 The University of Kansas, US

National Taipei University of Technology, Taiwan
 Swinburne University of Technology, Australia
 Wigner Research Center for Physics, Hungarian
 Academy of Sciences, Budapest, Hungary
 Aristotle University of Thessaloniki, Greece
 University of Gothenburg, Sweden
 Università degli studi Di Udine, Italy
 Forschungszentrum Borstel - Leibniz Lung Center, Germany
 Dipartimento di Scienze Biomediche dell' Università di Sassari (UNISS); Sassari, Italy
 University of Johannesburg, South Africa
 Tec De Monterrey, Mexico
 University of Purdue, USA

Virtual Meetings



Meeting with Prof. Herwany, Education and Culture Attaché for the Embassy of the Republic of Indonesia in New Delhi, India.



Meeting with National Ilan University, Taiwan.

In-person Meetings:



32 International students from 11 different countries including USA, UK, Germany, Brazil, Belgium, Mexico, Egypt, Trinidad & Tobago, Azerbaijan, and South Africa, visited IIT Indore on 4th August 2022 under Global BP STEM Academic program in association with American Field Service (AFS), India. The visit was coordinated by Emerald Heights International School, Indore which is an active member of AFS since 2012 under the Indore chapter (MP) India.



*Prof. Pascal Maussion from
Toulouse INP visited IIT Indore*



*Consul-General of Singapore Embassy,
Mr. Cheong Ming Foong visited IIT Indore*



*Prof. Poching Johnny Wu, the President of the National Ilan University Taiwan along with
five delegations visited IIT Indore, later IITI signed an MoU with NIU*



*Ms. Sweny Rokani, who oversees the Indian continent for the Academic Programme Business Unit at
the National University of Singapore (NUS), paid a visit to IIT Indore*

Student Exchange Program lists with their awardees of the last year

Program Name	Beneficiaries	Awardees
Short-term Research Fellowship Program (1-3 months)	International PhD students	1. Halima Benali (Morocco) 2. Brigita De Vega (UK) 3. Dibyashree Poudyal (Nepal) 4. Raghu Nath Prajapati (Nepal)
Short-term Research Fellowship Program (1-3 months)	IITI PhD students	1. Sushmita Agarwal (Italy) 2. Rahul Kumar Yadav (France) 3. Mayank Dubey (Japan) 4. Lekhnath Sharma (US) 5. Kunal Gupta (Italy)
Semester Exchange Program (1-6 months)	IITI UG/PG students	1. Jenish Shah (France) 2. Nagilla Pranay Reddy (Japan)

International Awards and Grants received by IITI faculty members.

Dr Ajay Kumar Kushwaha's research paper entitled 'Electrodeposition of Ni-Co Alloy films for Hydrogen Evolution' received BEST ORAL PRESENTATION AWARD at the 11th Asia Conference on Mechanical and Materials Engineering (ACMME-2023) which was held during 8th to 11th June 2023 at Sapporo Japan.

Dr M. Tanveer received the 2022 APNNS Young Researcher Award. He is the only Indian to receive this award in the history of APNNS.

Dr Anirban Sengupta received various international awards:

- Distinguished Visitor Medal by IEEE Computer Society, USA in 2023 for outstanding scientific contributions.
- Ranked in Stanford University's Top 2% Scientists worldwide across all domains and in Top 0.3 % Scientists worldwide in IT/Networking/Architecture domain.
- His authored book was published by IET in 2023 catalogued/showcased in British Library.
- He got reappointed in the Editorial Board, as Associate Editor, of IEEE Transactions on VLSI Systems (only Professor and Scientist from India on the board).

Prof. Neelima Satyam received JSPS BRIDGE Fellowship award.

One of the Dr. Saptarshi Ghosh's research articles, entitled "Broadband Polarization-Insensitive Tunable Frequency Selective Surface for Wideband Shielding," published in IEEE Transactions on Electromagnetic Compatibility, vol. 60, no. 1, pp. 166-172, 2018, has received the prestigious Motohisa Kanda Award in 2022 for receiving the highest citations among all the papers published in the last 5 years (2017-2021) in IEEE Transactions on Electromagnetic Compatibility.

Dr Shomik Dasgupta has been elected FRHistS, Fellow of the Royal Historical Society of Great Britain in December 2022, in recognition of his contribution to historical scholarship. The Royal Historical Society is the most prestigious and globally recognised fellowship of historians in academia.

Dr Suman Majumdar received a SPARC grant of 65 lakh INR on 10th June 2023 as the Indian PI in collaboration with faculties of the University of Sussex, UK, for the project titled, "Galaxies through the ages: using synergistic multi-wavelength observations".

On June 23 Prof. Avinash Sonawane, Dean IR was elected as a Steering and Executive Committee member of Heritage Network hosted by Universidad Politecnica de Madrid (Spain) for a duration of four years.

Dr Ananya Ghoshal's project on inclusive education and learning in the 21st century, "Only Connect: Empowering Schools for the Disabled in Indore to Engage in a Participatory and Inclusive Online Public Sphere," was funded by the Embassy of the United States of America in April 2022 as one of the winning entries in the prestigious Alumni Micro Grants Project Competition. The project was completed in September 2022 and is now hosted online at www.onlyconnectindore.org.

Prof. Nirmala Menon received Indo-Swiss Bilateral Project on "Digital Twins: negotiating identity and translocated heritage in the global age".

Prof. Abhinav Kranti has been awarded with the ASEM-DUO Belgium-Wallonia-Brussels fellowship award, which aims to support technology development of PrFET for high-speed and analog/RF applications.

Prof. Avinash Sonawane, Dean, International Relations, IIT Indore has been appointed as 'DAAD Research Ambassador' for a three-year period between 2022-25.

Indo-German Science & Technology Centre (IGSTC) Awarded "Small Immediate Need Grants (SING)" to Dr. Hem Chandra Jha, Indian Institute of Technology, Indore to undertake research on "Unrevealing the role of peroxisome in Epstein Barr virus-mediated infections".

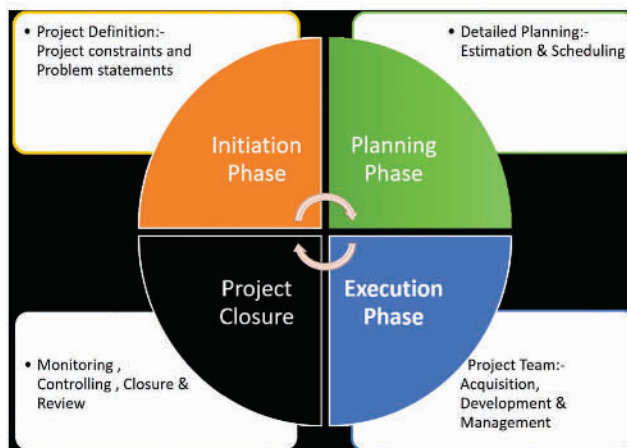
Prof. Sandeep Chaudhary to lead a team of researchers at NPL, Russia as one of the 30 winners of the ninth mega grant competition of the Government of the Russian Federation.

International Scholarships received by IITI Students

Name of the Scholarship/Fellowship	Awardee's Name	Department	Program
Overseas Visiting Doctoral Fellowship	Vivek Saxsena	ME	PhD
IEEE MTT-S Undergraduate Scholarship (2023)	Aryan Rastogi	EE	BTech
Mitacs Globalink Research Internship 2023	Ujjwal Hendwe	EE	BTech
	Aditya Guhagarkar	EE	BTech
	Kshitij Bhat	ME	BTech
	Parth Dwivedi	CE	BTech
	Dhruv Parasrampur	EE	BTech
	Soham Ghewari	ME	BTech
	Amit Dhavale	ME	BTech
	Chinmayi Adoni	EE	BTech
	Shruti Modi	CSE	BTech
	Nischit Hosamani	CSE	BTech
	Sejal Kotian	MEMS	BTech
	Jitin Kumar	MEMS	BTech
DAAD Fellowship	Priya Ghosh	BSBE	PhD
Charpak lab Scholarship	Puneet Gupta	ME	BTech
SING Funds (Indo-German Science & Technology Centre)	Kanchan Samadhiya	BSBE	PhD
Charpak Exchange Scholarship 2023 (Spring Session)	Jenish Shah	EE	BTech
Humboldt Fellowship for Postdocs	Minu Treasa Abraham	CE	PhD

Campus Infrastructure Development

IIT Indore was allotted 501.42 acres of land, including 200 acres of forest area. Infrastructure Development Office of IIT Indore is one of the most important service units which plays a vital role in providing the requisite infrastructure facilities such as buildings, electricity, water supply, roads and pathways, parks and gardens and all other amenities required in the campus, along with its maintenance. Institute has completed a mandate of 2.21 Lakhs Square meter area (36 structures) of construction.



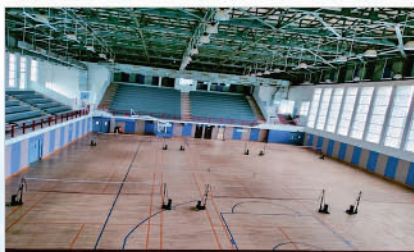
In last one year, following developments were carried out in the campus:

1. Sports Complex
2. Development of Amrit Sarovar
3. Construction of Forest Beat Office
4. Construction of Rainwater Harvesting ponds
5. Single Lane Forest Road
6. Development of Sports Arena
7. Horticulture work around POD
8. Annual Maintenance Contracts for electrical, civil, HVAC. utility services

1. Sports Complex: It has all facilities of indoor & outdoor games, dedicated by the Honorable Minister of Education, Govt. of India in 2022:

Salient Features of Sports Complex are as follows:

- 1) Indoor Badminton Court (06 numbers)
- 2) Indoor Basketball Court – (02 numbers)
- 3) Gym
- 4) Squash Court (03 numbers)
- 5) Swimming pool
- 6) Outdoor Volleyball Court
- 7) Outdoor Basketball Court



Indoor Badminton Court /
Indoor Basketball Court



Gym



Squash Court



Swimming Pool



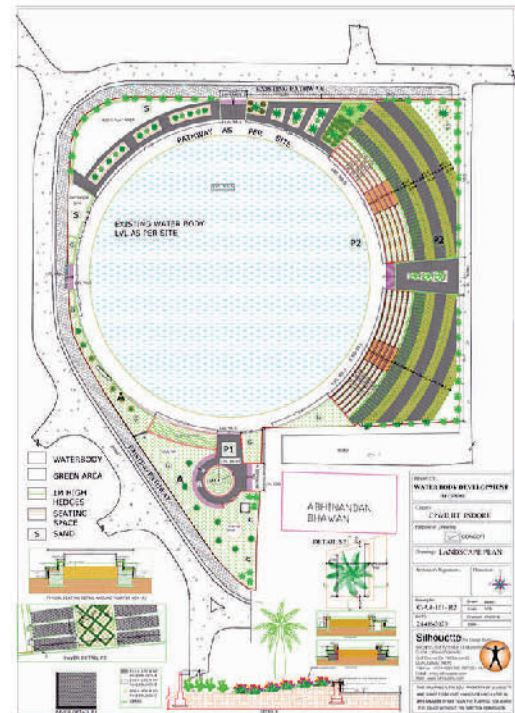
Outdoor Volleyball Court



Outdoor Basketball Court

2. Development of Amrit Sarovar at IIT Indore: The work of “Amrit Sarovar” was awarded to Rural Engineering services (RES), Government of Madhya Pradesh and an amount of Rs. 1 Crore was granted by the Hon’ble Minister Shri Dharmendra Pradhan. Accordingly, work has been started and excavation work is completed by the Institute along with railing and walking track. The Diameter of Sarovar is 98 Meter having more than 10,000 Cum water capacity.

Amrit Sarovar has the following major features: Walking track 6 m wide, Amphitheater, Fountain, Childrens play area, Open gym.



3. Construction of Forest Beat Office: Forest beat office is constructed in the forest area of IIT Indore campus as a compliance of diversion of forest land. The forest beat office will provide the office, residential & nursery space to the state forest department. It will be helpful for afforestation, restocking and maintenance of the forest area around the IIT Indore campus.



4. Construction of Rainwater Harvesting ponds: IIT Indore is developing 8 number rainwater harvesting ponds of total capacity approximate 22.32 Crore Liters in the campus for water conservation.

5. Single Lane Road in Forest Area: Single Lane road of 2.8 Km along with 9 culverts in forest area is being developed to access the forest area in case of forest fire & surveillance.



6. Development of Sports Arena: Work of development of sports arena is under tendering process and works will be started by January 2023.

Salient features of sports arena are as follows:

- 1) Football ground
- 2) Synthetic athletic track
- 3) Hockey ground
- 4) Lawn tennis courts – 2 Nos.
- 5) Volleyball courts – 2 Nos
- 6) Various sports facilities such as Discus & hammer base, Javelin throw, High Jump, Short put, Steeplechase, Polo vault, triple jump and long jump including warm up area.



7. Landscape / Horticulture work around POD buildings: Development of horticulture work is completed by CPWD Horticulture Wing near POD-3 cluster. The total development includes development of lawn of 3,400 Square Meter, plantation of 261 nos. trees, 1860 nos. shrubs, hedge/ edge / ground cover 9077 Nos.



8. Annual Maintenance Contracts for Electrical, Civil, HVAC. Utility services: To control and account for all maintenance costs on a long-term, fixed basis, AMC works are initiated for Electrical, Civil, HVAC & Utility services.

9. Massive plantation drive on campus: The Institute has encouraged its community members to plantation and organised many plantation drives. Around 3,000 plants have been planted last year, and land development was completed for the plantation of around 5,000 plants in the monsoon season of 2023.



10. J.P. Narayan Center of Excellence in Humanities: J.P. Narayan Center of Excellence is developed at the Institute. The building has a G+2 story with RCC framed structure. The total area of the building is 846 Square Meters. The cost of the construction of the building is Rs. 177 lacs. The cost of furnishing the J.P. Narayan Center of Excellence is Rs. 48.23 lacs.



11. Development of bird watch towers in forest area:

Two bird watch towers have been created in the Forest Area with bamboo. This will facilitate students to be closer to nature in a safe environment.



Student Affairs

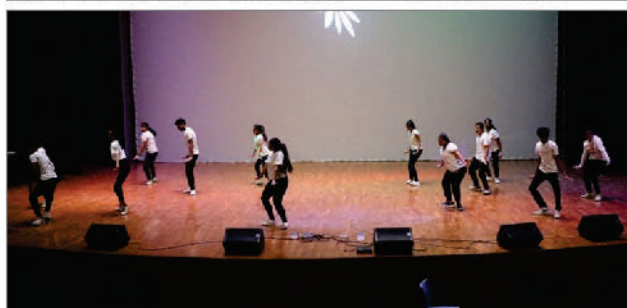
Student Affairs Office operates as an administrative interface to the students at IITI for the conduction of various events through Student Gymkhana through a team headed by Professor Srivathsan Vasudevan, Dean of Student Affairs (DoSA), assisted by Dr. Sanjeev Singh, Associate Dean of Student Affairs (ADoSA), Cdr. Sunil Kumar (Retd.), Joint Registrar Student Affairs, Mr. Tanmay H. Vaishnav, Section Officer and Mr. Digant Karve, PA to DoSA.

Student life at IIT Indore comprises a judicious balance between different academic and extra-curricular activities, including BTech project work as part of other courses, industrial visits, etc., that go a long way in bolstering the students' knowledge, experience, and personality. Students' extra-curricular activities are driven by a systematic structure of clubs within the Institute that channel the activities. Some clubs worth mentioning include the Programming Club, Drama Club, Gaming Club, etc. Various student-run cells, such as the Entrepreneurship Cell and Students International Activity Cell, help expose the students to industry and academia and help develop their skills. This, coupled with the fact that IIT Indore has a very healthy student-to-faculty ratio, plays a definitive role in providing the students with the best environment possible for learning and overall development.

Cultural Council

Throughout the year, the student community was enriched by a diverse array of events organized by various Cultural Clubs. The Cultural Council engaged people through Tamasha, a unique arts celebration. Various clubs came together to showcase student talent on stage for Independence Day and Teacher's Day; and represented Indian traditions at the Apna Culture event.

The campus also hosted the competitive T-vs-M event and organized festive gatherings like Garba Night. The standout event of the year was Fluxus 10.0, which was a resounding success.



Science & Technical Council

IIT Indore has a fast-developing technical network. The IIT Indore contingent stood at the overall 11th position and two teams won bronze and gold medals respectively at the Inter-IIT Tech Meet. The eBAJA was conducted where IIT Indore bagged 20th rank in the CAE and SALES events. IITI SoC and Winter of CP were also conducted by the Programming Club. Other Tech Clubs conducted various workshops and events throughout the year.

Sports Council

The Sports Council at IIT Indore organized various sports events in which the events were a part of significant flagship events. The sports council introduced new tournaments like JOSH, SHAURYA, and The General Championship in which most of the sports events were conducted.

JOSH was conducted mostly for the freshers so that they could get familiarized with the sports culture of the Institute. SHAURYA was an Inter Hostel Tournament in which the hostels competed as contingents. The General Championship was a major flagship event conducted over six months in which the contingents were formed batch-wise.



Academic Council

The Academic Council, under the Students' Gymkhana of the Indian Institute of Technology Indore, conducted the Research Conclave to nurture young minds toward research, innovation and entrepreneurship. Further, the Career Guidance Series 2.0 was organized to reflect students' passions, interests and abilities. Later, the "Industry connects talks" was introduced as an initiative to enlighten the ideas and establish a deeper understanding of the industrial world. To set the stage high for the new students, Departmental Orientations for all the branches were held. On the occasion of International Women's Day 2022, an event was conducted in collaboration with the Women Cell IITI to celebrate the role of women in our society and to spread awareness about the same.



TEDx IIT Indore

The highlight of the year was the fourth edition of TEDx IIT Indore, created in the spirit of TED's overall mission to research and discover "ideas worth spreading". The theme 'Atomic to Cosmic' represented the pursuit of excellence is a path that has obstacles and hardships along the way. One must shed blood and sweat alike to conquest these challenges. The rise to the top is the inspiration behind "Atomic to Cosmic", which signifies all the atomic efforts made day in and day out to shine like stars amongst the ordinary. It featured thought-provoking talks from Ms. Richa Singh, Dr. Varun Kapoor, Mr. Ashu Ghai and Mr. Rahul Bhargava. The event was a grand success and added another feather to our cap.



Placement Cell

The Training and Placement Cell is the Central point of contact for Campus Placements of students at the Institute. The Placement session at IIT Indore was a hybrid event this season, which started in October 2022 and concluded in May 2023 (for full-time hirings). For the Internship, the process started in August 2022 and lasted until September 2022.

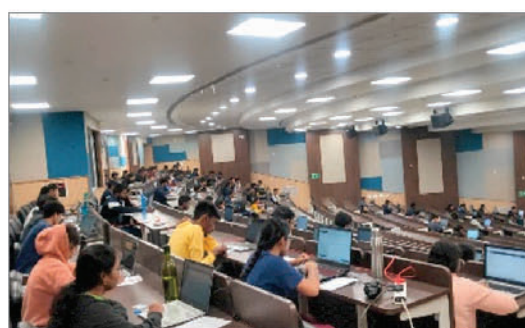
- The market crisis impacted the hiring of many renowned companies, which resulted in lesser companies for the on-campus placements for the 2022-23 session. However, we were successful in increasing the number of offers from last year, and 80+ companies and two PSUs participated in this year's Placement Drive.
- The placement was conducted in two phases. Phase I started in October 2022, while the second phase began in January 2023. Considering the increasing number of courses on offer and the corresponding specializations, the Placement cell has continuously strived towards achieving maximum participation of students from across all programs.

Placement Drive Highlights for 2022-23:

Key Metrics	Details
Total No. of Companies	80+
Total No. of Offers	244
Total No. of PPO Offered	54
International Job Offers	30
Highest Domestic CTC	68 LPA (INR)
Average Domestic CTC	24.5 LPA (INR)
Highest International CTC	45 LPA (INR)
Average International CTC	41.50 LPA (INR)
Total PSU Offers	8 Offers (GAIL & BEL)

Student Pre-Placement Preparation:

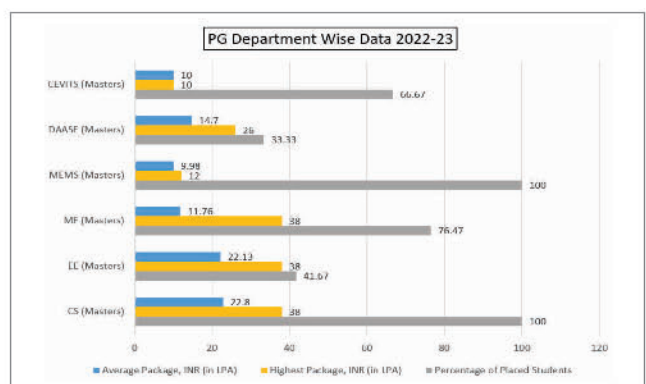
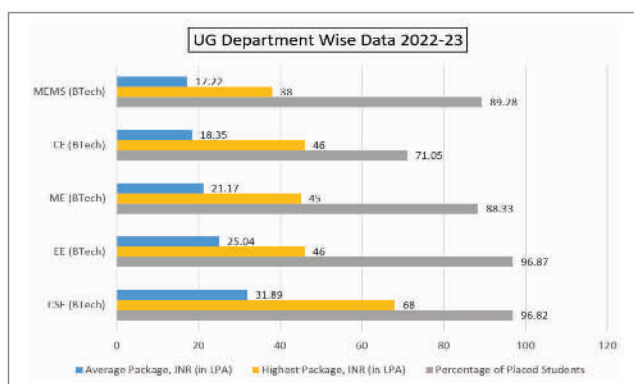
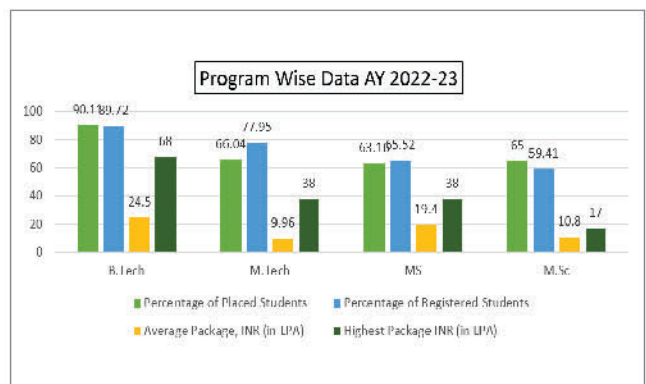
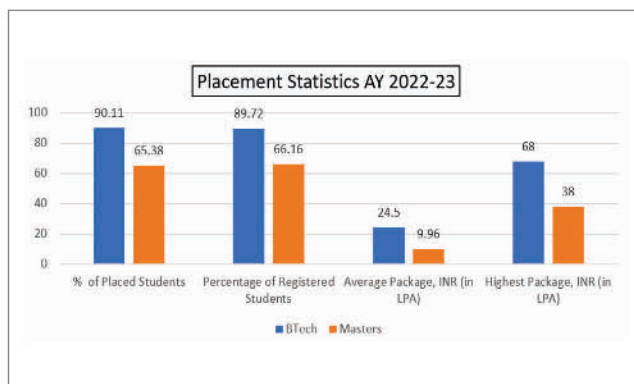
One of the primary functions of the Placement Office is to prepare students for their campus placement and internships by making them adept at the various techniques of practicing Online Coding Challenges and working on Online Software while appearing for Online Assessments as part of the Campus Placement Process. The Placement Cell facilitates a variety of hackathons by premier recruiters to impart hands-on experience for various domains viz, engineering, coding, consultancy, finance, analytics, etc.



The Placement Office acts as a connecting link between the recruiter and students, facilitating career progression through due planning and preparation. The Placement Cell works in tandem with the student placement managers to ensure that the best of the industry recruiters visit the campus for placements. The student team at the Institute takes the necessary inputs for identifying and mapping the student's skill sets by systematic industry groundwork. Placement activity begins through rigorous analysis of Market trends with an aim to invite the most prominent recruiters offering lucrative compensation. Efforts were made to understand the virtual process, including career planning, and help was extended to discover opportunities based on the student's background, qualifications, and previous experiences.

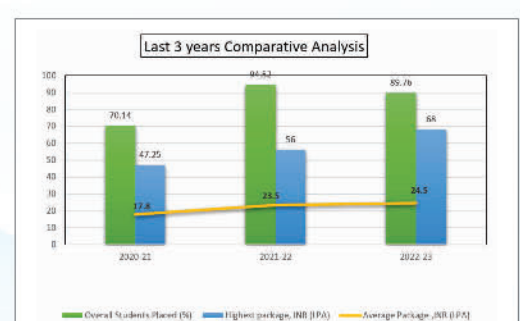
Recruiters Profile:

IIT Indore has seen remarkable growth in terms of both the number of companies visiting the campus and the compensation being offered. The initial part of the season was dominated by companies offering Software Development, Research Engineer, AI/ML, and Data Science Analyst roles. Most of these firms are world leaders in their respective domains. The world's best consulting firms, banks, and software companies take part in placements, and over the years, IIT Indore has tried to fetch the best of the recruiters to hire the finest pool of students. Some non-core roles have grabbed attention over the previous years due to multiple factors such as hefty compensation, career growth prospects, work culture, ethical guidelines, etc. This year, a new "Jewelry" segment also entered to take our talent for their smooth operations.



Last three years Placement Statistics Comparison

Last Three Years comparison (2020-21, 2021-22 & 2022-23)			
Program	2019-20	2020-21	2021-22
Overall Students Placed (%)	70.14	94.52	89.76
Highest package, INR (LPA)	47.25	56	68
Average Package, INR (LPA)	17.8	23.5	24.5



Internships Report:

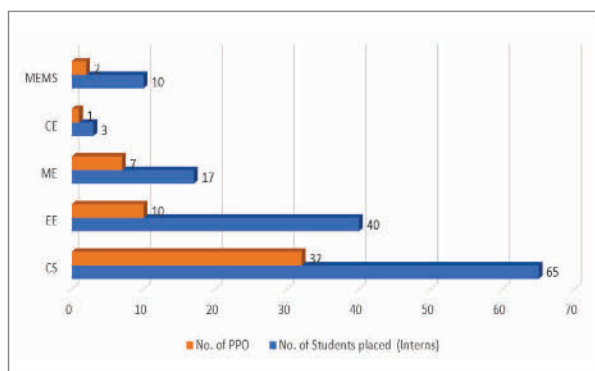
Industrial exposure is a prerequisite to enter the corporate world. Students at IIT Indore pursue Internships, usually as part of BTP Projects. Students from their third year of B.Tech appear for the Campus Internship Process. Taking into consideration students and the roles offered, the Placement Office strives to provide students with the best opportunities in their areas of interest. The Placement Office also encourages research by providing students the research internship opportunities at esteemed universities. The Internship season 2022-23 started in August 2022 and continued until September 2022. There was a total of 135 students who got selected for the internships. Prominent recruiters included Goldman Sachs, D.E Shaw, Google, Flipkart, Arcesium, Samsung, etc.

Internship Highlights:

- Tremendous growth was witnessed in terms of Internship Opportunities for the Academic Year 2022-23. The number of students who received internship offers increased drastically from 68 to 135 this year.
- The highest stipend for the Internship Session 2022-23 was INR 1,50,000.



Department-wise Internship Graph (AY 2022-23):



The placement drive at IIT Indore has witnessed a tremendous increase in placement statistics over the years. For the AY 2022-23, the campus placement process started in August 2021 and concluded in May 2022. The placement was successfully concluded in two phases. The placement process for phase I was conducted from October-December 2022, which witnessed the participation of top-notch companies recognized globally, including Pre-Placement Offers (PPO), while phase II was conducted from January 2023-

May 2023. 383 students registered for the placements (both UG and Masters).

The entire placement process was conducted in hybrid mode. PSUs like GAIL & BEL were also part of our Placement Drive 2022-23. Some registered students also preferred to go for higher Studies in institutes of National/International repute. Our excellent placement record over the years speaks about our value proposition which is showcased in subsequent years.



Halls of Residence (Hostel)

A.P.J. Abdul Kalam Hostel is the first Hostel at IIT Indore's permanent campus and was inaugurated in 2016. Subsequently, Homi Jehangir Bhabha (HJB) Hostel was inaugurated in 2019, and Devi Ahilya, Vikram Sarabhai (VSB), & C.V. Raman (CVR) Hostels in 2020. Each Hostel has 99 units that accommodate a total of 574 students. Each unit has six bedrooms with single occupancy for each room. It also has a furnished living area, a common kitchen, two toilets, and two washrooms. IIT Indore ensures that students from different states, languages, and different departments are allotted a unit to promote an interdisciplinary approach to study and research and national bonding among them. All the hostels are also equipped with solar hot water facilities, and APJ Hostel is centrally air-conditioned.



The Hostel Department is headed by Dr. Jayaprakash Murugesan, Chief Warden, who is assisted by Mr. Digant Karve, Senior Assistant, and Mr. Surendra Singh Sulya, Junior Assistant at the Chief Warden Office. A Warden heads each Hostel with the assistance of a Supervisor and Attendant. The details of the Hostels are as follows: -

Hostel No.	Hostel Name	Hostel Type (Girls/Boys)	Warden/Warden In-charge	Associate Warden
01	APJ Hostel (Avul Pakir Jainulabdeen Abdul Kalam)	Boys	Dr. Harekrishna Yadav	—
02	CVR Hostel (Chandrasekhara Venkata Raman)	Boys	Dr. Saptarshi Ghosh	—
03	HJB Homi Jehangir Bhabha	Boys	Dr. Jayaprakash Murugesan	—
04	Devi Ahilya Hostel	Girls	Dr. Charitha Cherugondi	Dr. Ananya Ghoshal
05	Vikram Sarabhai Hostel	Boys	Dr. Ram Sajeewan Maurya	—
06	J C Bose Hall of Residence	Married Research Scholars'	Dr. Saikat Sarkar	

Guest Rooms/Units in Hostel

The Hostel also has guest house facilities to cater to 85 guests. The guest rooms provide facilities like smart LED TV, Sofa Set, Center Table, Cooler, Microwave, Electric Kettle, Mattress, Blanket, Bedsheet, Pillow, Towels, and Cloth Stand, etc.



Basic Facilities in Hostel



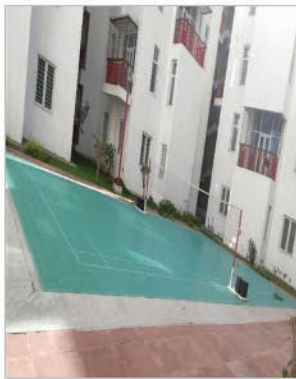
Basic Room



Common Hall



News Paper Stand



Badminton Court



Table Tennis



Soccer Table



Magazine Stand

Central Dining Facility

The Institute has a Central Dining Facility (Carbon building) wherein around 5000 people can have their meals at one point. Students of different hostels can have meals together in the dining hall. Separate sections have been developed for dining for students, Institute staff, and guests. The dining hall comprises 03 big-sized and 04 small-sized kitchens, 02 common washrooms, and an elevator facility as well. An Executive Dining Hall has also been equipped in the Central Dining Facility for Hospitality & Dining services to the Institute's invited/VIP guests.



Students are served healthy and nutritious meals wherein the student body decides the menu on a weekly basis, and a dining committee monitors the overall functions. The quality of food is maintained by taking frequent feedback and immediate addressal of complaints. The payments are made to the caterer on a monthly meal plan basis. The payment is made through Smart Card Facility and is cashless. The entire central dining facility follows COVID-appropriate behavior. Besides regular dining services, the Carbon Building also houses several kiosks serving delicacies and other services around the clock.

The functioning of the central dining section is supervised by a team of dining staff, student body, and student volunteers and administered by a dining committee headed by Dr. Pravarthana Dhanpal, Dining Warden.

Counselling Cell

Counselling Cell has been integral to IIT Indore since its inception in December 2011. The function of this cell is to offer a supportive and conducive environment for students wherein he/she can discuss personal concerns or academic challenges and seek professional help from the counselling cell team members.

With a vision to enhance positive well-being and facilitate the overall development of the IIT Indore student community, the Cell's services are equally accessible to all the students (B.Tech, M.Tech/ M.Sc, Ph.D and any other courses which are added over the years) of IIT Indore. Focusing on the prevention of mental health issues- prevention of suicide and chronic mental health problems, the counselling cell works for early identification and early intervention for various mental health issues in students.



Professor Aruna Tiwari
Head, Counselling Services

Faculty Counselling Coordinators

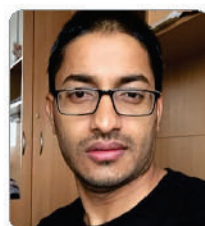
Faculty members from each department are nominated as faculty counselling coordinators yearly.



Professor Trapti Jain
Electrical Engineering



Dr. S Janakiraman
Mechanical Engineering



Dr. Chandresh Kumar Maurya
Computer Science and Engineering



Dr. Mayur Shirish Jain
Civil Engineering



Dr. Mrigendra Dubey
Metallurgy Engineering and Material Science



Dr. Narendra Nath Patra
Astronomy, Astrophysics & Space Engineering



Dr. Sharad Gupta
Biosciences and Biomedical Engineering



Dr. Debajyoti Sarkar
Physics



Dr. Umesh A. Kshirsagar
Chemistry



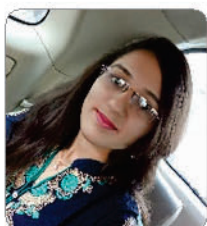
Professor Swadesh Kumar Sahoo
Mathematics



Dr. Kedarmal Verma
School of Humanities
and Social Science

Student Counselling Coordinators (SCC) & Student Gymkhana Representative

Students from UG, PG and Ph.D are selected as student counselling coordinators yearly.



Ms. Purna Kukadiya
Student Counselling
Coordinator for Ph.D.



Ms. Samiksha Rele
Student Counselling
Coordinator for PG



Ms. Bhavya Gupta
Student Counselling
Coordinator for UG



Mr. S. Shrevesh
GS - COA,
Student Gymkhana

Counselors



Ms. Monika Gupta
Senior Counselor



Mr. Shubham Mandsaurkar
Counselor



Ms. Harshita Murai
Counselor

Office Staff



Mr. Tanmay Harsh Vaishnav
Section Officer

Counselling Cell undertakes the following activities:

Individual counselling sessions (In-person, Online/Tele counselling)- are carried out by the cell to assist the students in dealing with a wide range of concerns, be it academic, personal, emotional, family, or peer-related, as well as a wide range of psychological concerns including clinical depression, anxiety spectrum difficulties, suicidal tendencies, and complex personality traits.

Parents counselling sessions- Meetings with parents of students having concerns with academics or psychological concerns are conducted.

Regular follow up- Follow-up counselling sessions with students, and their parents are held to ensure effective interventions.

Student Mentorship Programme- With the aim to foster a healthy, stress-free environment for the student community, the Counselling Cell, with the support of gymkhana general secretary counselling and outreach, oversees a student mentorship programme. The student mentors help freshers in terms of both academic and non-academic concerns.

Faculty Advisor Programme- The counselling cell assigns faculty advisors for the new UG and PG students at the time of joining the Institute in consultation with the Dean of Student Affairs and Academic Affairs. The faculty advisors regularly interact with the delegated students and guide them with academic concerns. The students are further referred to the student counselor in case the student shows any signs of distress.

Orientation to Counselling Cell- A session for introduction to counselling cell is organized for the fresher students in which information regarding counselling services in IIT Indore is shared.

Crises Intervention- The counselor also sees the students at health center or hall of residence for any urgent and immediate concerns.

To create a strong referral system as a basis for enhancing mental health services, where students are being referred by officials, academic office, health center, faculty advisors, parents, and friends, apart from walk-in students who approach the counselling cell on their own.

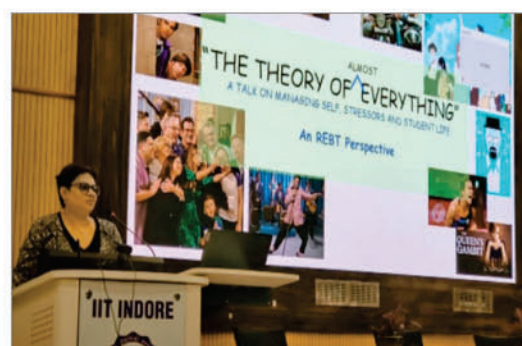
Webinars and Expert Talks are organized to create awareness of mental health issues and positive well-being.

Events organized by the Counselling Cell during 2022-23

1. Managing Self, Stressors and Student Life- The Theory of Almost Everything

Date: August 6, 2022

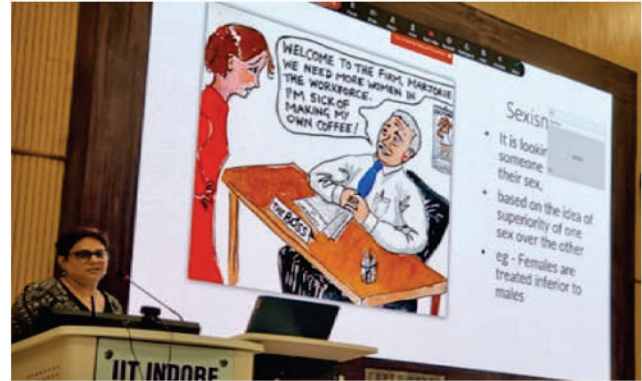
As the student moves forward in their life, challenges such as competition, difficulty in social interaction, and development take place. Along the same lines, the expert talk was organized by the counselling cell of IIT Indore. Mumbai-based psychotherapist Ms. Shashi Rekha was invited to deliver the expert talk titled "Managing self, stressors, and student life- The Theory of Almost Everything" for undergraduate students.



2. Mind Matter and Me

Date: August 7, 2022

A Seminar was held for the Postgraduate students of IIT Indore by Ms. Shashi Rekha on the topic “Mind Matter and Me”. During this talk, an Attention Retention Exercise was conducted by the expert, and it was explained to the students how Thoughts turn into Emotions – which turns into Behavior. She also shared how to change our goals into Real / Implied / Imagery to understand the possibility and required efforts to achieve that.



3. How to drive productivity under tough circumstances?

Date: August 29, 2022

This topic was deliberated upon by Dr. Meghna Verma, Associate Professor, Ramaiah Institute of Management Bengaluru. During the seminar, Dr. Verma shared the strategies to keep ourselves motivated in tough situations and able to be productive in various areas of life. The seminar was followed by the plantation in the campus area by the guest speaker and dignitaries of IIT Indore.



4. Interactive Meeting with Faculty Advisor and Student Mentor

Dates:

1st Interactive Meeting: October 27, 2022

2nd Interactive Meeting: December 1, 2022

3rd Interactive Meeting: February 17, 2023

Interactive meetings with new students, their faculty advisors, and student mentors were held three times a semester for PG and UG batch of 2022. The Director of IIT Indore, Professor Suhas S. Joshi, addressed the students, and it was followed by a QA session along with the Dean of Faculty Affairs, Dean of Student Affairs, and Head of Counseling Services.



5. World Mental Health Day Program

Date: October 13 & 14, 2022

On the occasion of the World Mental Health Day, the counselling cell at IIT Indore organized a two-day event on October 13 and 14. On October 13, a logo-making for counselling cell and art competition was organized titled "Paint Your Perspective". The esteemed guest speakers of the day included Dr. Vijender Singh, HOD Psychiatry Department, AIIMS Bhopal; Lilavati Krishnan, Retired Professor of Humanities & Social Sciences, IIT Kanpur and Dr. Ashutosh Singh, Visiting Psychiatrist at IIT Indore, who shared their views on the following: -

1. Understanding the Mental Health Issues in Professionals and Management Strategies
2. Self-esteem and Resilience in Mental Health: Making Life Personally Meaningful
3. Mental Health issue: why can't we still identify it in time?



6. Time Management Workshop

Date: December 13, 2022, to December 16, 2022

The counseling cell organized a workshop on Time Management for students of B.Tech 1st year, 2022. It was an activities-based workshop where various practical tips for effective time management were shared with the students. The workshop was conducted in small groups to make it more interactive.



7. How much is Too much Screen Use? a Psychological Insight

Date: February 10, 2023

Dr. Manoj Kumar Sharma, heads SHUT Clinic (India's first tech de-addiction facility), Professor of Clinical Psychology, NIMHANS, Bengaluru, was invited to deliver a talk on "How much is Too much Screen Use? A Psychological Insight". During his talk, Dr. Sharma spoke about digital addiction and other related problems like Zero inbox syndrome, and acute social withdrawal. Dr. Sharma also shared tips to manage excessive screen use.



Major Achievements and Collaborations

With the addition of counselors to the counselling team, the crucial challenge of post-pandemic increase in counseling concerns of the students could be effectively handled. This further facilitated the prevention of suicide and improvement in the overall positive well-being of the IIT Indore student community. Timely intervention could be executed in crises with the support of the Institute health center and in close coordination with the Dean of Student Affairs and the Chief Warden's Office. The adjunct online and tele-counseling services with Ms. Sashi Rekha, a Mumbai-based Psychotherapist and Life Skills Coach, proved very helpful.



A series of interactive meetings organized by the counselling cell with faculty advisors, student mentors, and the Director's interaction with first-year students inspired the students to feel they belonged to the Institute. On the day of Orientation, the concerns of the parents were addressed by the Director of IIT Indore and Institute functionaries in an interactive session which led to a strong foundation of connect of the parents with Institute authorities and enhanced the approachability.

Outreach & Public Lectures

During the year, the Institute Seminar and Outreach Committee conducted a series of Public Lectures by eminent speakers as outlined below:



*Prof. Subhasis Chaudhuri, Director, IIT Bombay
Students' interaction with an eminent researcher*

Prof. Chaudhuri is the Kamalnayan Bajaj Chair Professor of the Electrical Engineering at IIT Bombay. He is known for his pioneering studies on computer vision. He is an elected fellow of all the four major Indian academies of engineering and sciences viz; the Indian National Academy of Engineering, the National Academy of Sciences, Indian Academy of Sciences, Indian National Science Academy. The Council of Scientific and Industrial Research, the apex agency of the Govt. of India, awarded him the Shanti Swarup Bhatnagar Prize, one of the highest Indian Science awards, in 2004 for his contributions to Engineering Sciences. He has been the Director of IIT Bombay since 2019.

During the event Prof. Chaudhuri interacted with research scholars and highlighted the importance of education in science and technology in the global context.



*USIEF: Fulbright outreach webinar held on
18th of April at IIT Indore*

Miss. Suranjana Das, Program & Alumni Manager, United States-India Educational Foundation (USIEF) Fulbright Commission in India visited IIT Indore on 18th April 2022 to conduct an outreach webinar. It was an interactive session organized for IIT Indore students and Faculty members to entail about the Fulbright-Nehru, and other Fulbright opportunities for study, research, teaching, and professional development in the U.S.

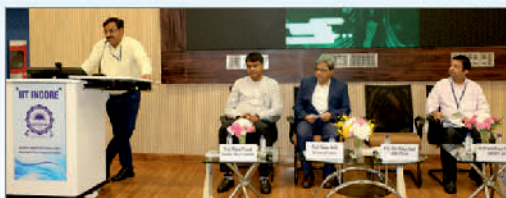


*Prof. Sundararajan (Retd.)
Nanyang Technological University,
Singapore visited IIT Indore*

Prof. Narasimhan Sundararajan visited IIT Indore as the speaker of the workshop on "How to Improve Your Research Skills" from the 8th of September to the 10th of September 2022. The workshop was attended by 100+ research scholars and faculties from the IIT Indore campus in person, along with 200+ participants from other IITs, NIT, and IIITs virtually on the WebEx platform.

Brief about the speaker: Prof. N. Sundararajan has worked in ISRO, Trivandrum, India as a Control System Designer to Director, Launch Vehicle Design Group contributing to the design and development of the Indian satellite launch vehicles SLV3, ASLV, PSLV and GSLV. His major achievements include

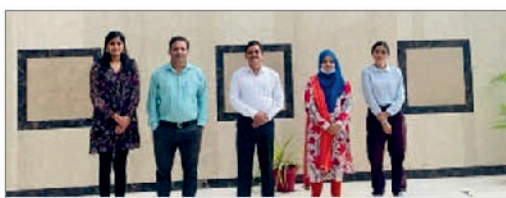
working as the Project Engineer (Mission) for the first Indian Satellite Launch Vehicle project SLV3 team working directly under Dr. A. P. J. Abdul Kalam. After that, he worked in the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore, as a professor and retired from that position.



First Group Monitoring Workshop of SERB Start-up Research Grant - Life Sciences (SRG-LS) from July 4-5, 2022

IIT Indore hosted the first Group Monitoring Workshop of SERB Start-up Research Grant - Life Sciences (SRG-LS) from the 4th to the 5th July of 2022. Prof. Suhas S. Joshi, Director, IIT Indore delivered the inaugural address and welcomed all the dignitaries and Principal Investigators. The inaugural session was graced by Prof. Shiv Mohan Singh (Scientist G), SRG Programme Advisor, SERB-DST, Govt. of India, Prof. Manoj Prasad from National Institute of Plant Genome Research, New Delhi, Chairman of the SRG-LS Committee, and Dr Pramod Kumar Prasad, Programme Officer, SRG-Life Sciences, SERB-DST. The event was coordinated

by the International Relations (IR) office under the leadership of Prof. Avinash Sonawane, Dean of International Relations. 23 Expert Committee Members and 85 Principal Investigators from various Institutions attended the workshop. During the workshop, SERB monitored and evaluated the progress of approximately 85 ongoing projects in Life Sciences submitted under the Start-up Research grant program. The Start-up Research Grant (SRG) is meant to enable researchers working in frontier areas of science and engineering to establish themselves and move on to the mainstream core research grant. Prof. Suhas S. Joshi briefed about the course planned for start-up and said, "The Institute has around 75 technologies, which have emerged from the research of Professors and students at the Institute. We have documented them and made a brochure of these technologies, and one of the technologies is up for commercialisation. Apart from this, 17 patents have been filed out of these technologies and several patents are in the pipeline. We are very progressive not only in research but also in terms of technology development, its nurturing and licensing. I hope this workshop conducted by SERB will be very fruitful to the budding researchers as it will enable the technology developed to not remain confined to the laboratories but move to an advanced form."



"Study in France" Seminar held on 5th of August 2022

Miss. Divya Saxena, head of the Bhopal office for Campus France Madhya Pradesh, Chhattisgarh and Nagpur division - The Embassy of France in India visited IIT Indore to deliver a short presentation. It was an interactive session organized for IIT Indore students to entail about the "Higher Education, Research, Internships and Scholarship Opportunities in France". A strength of 100+ students joined the same in person.



Public Lecture by Ambassador Manjeet Singh Puri (Retd.) at IIT Indore on 19th Sept 2022

Ambassador Manjeet Singh Puri (retd) delivered a public lecture under "India @75: Videsh Niti Distinguished Lecture Series" on 19th of September 2022 on the title, "Tryst with Global Destiny" under the aegis of Ministry of External Affairs, Govt. of India. This lecture was organized under a commemorative lecture series entitled, "India@75: Videsh Niti Distinguished Lecture Series", as a part of the celebrations of 75 years of India's Independence. Under this initiative, lectures on India's foreign policy by distinguished Retired Ambassadors of India are being organized in various institutions across the nation.

Ambassador Puri is a retired Indian diplomat and has served as Ambassador of India to the European Union, Belgium,

Luxembourg, Nepal and as Ambassador/Deputy Permanent Representative of India to the UN. In addition, he has served twice in Germany (in Bonn and Berlin), in Cape Town, Muscat, Bangkok and Caracas. From 2005 to 2009, he headed the UN-Economic & Social Affairs- Division in the Ministry of External Affairs of India and led the Indian delegation for the first meeting of the Global Forum on Migration and Development in Brussels in July 2007 and the presentation of various reports by India at the Human Rights Council. During 2011-2012, when India served on the Security Council, he was a senior member of its delegation. The session concluded with the presentation of a memento to the Distinguished Guest Speaker by Prof. Suhas S. Joshi, Director IIT Indore. Shri Siba Prasad Hota, Registrar In charge, IIT Indore conveyed vote of thanks to the visiting dignitary and the audience for their participation in online and offline modes.

Ek Bharat Shresth Bharat



एक भारत श्रेष्ठ भारत

भारतीय प्रौद्योगिकी संस्थान इंदौर

Webpage: <http://ebsb.iiti.ac.in/>



The “Ek Bharat Shreshtha Bharat” programme, an idea of a continual and intended cultural linkage between residents of different regions, was introduced by Prime Minister Shri Narendra Modi during the Rashtriya Ekta Diwas held on 31st October 2015, to venerate the birth anniversary of Sardar Vallabhbhai Patel. This program was initiated to celebrate cultural diversity through mutual interaction and exchange between people of different states and union territories so that a common spirit of understanding reverberates throughout the country.

Ek Bharat Shreshtha Bharat (EBSB) team of IIT Indore is actively conducting various activities under the leadership of its Convener, Dr. Niraj Kumar Shukla (Associate Professor, Department of Mathematics) to promote various campaigns of the Government of India, such as Ek Bharat Shreshtha Bharat, Rashtriya Aaviskar Abhiyan, Unnat Bharat Abhiyan, Swachh Bharat Abhiyan, RuTAG, etc.



Dr. Niraj Kumar Shukla

Convener



Dr. Ashisha Kumar

Coordinator
Rashtriya Aaviskar
Abhiyan
(RAA)



Dr. Mrigendra Dubey

Coordinator
Unnat Bharat
Abhiyaa
(UBA)



Dr. Aruna Tiwari

Coordinator
Rural Technology
Action Group
(RuTAG)



Dr. Ananya Ghoshal

Coordinator
Swachh Bharat
Abhiyan
(SBA)

To promote Ek Bharat Shreshtha Bharat Abhiyan, the EBSB team of IIT Indore organized the “North East Connect Programme: Yuva Sangam Program Phase-I (2023)”. Yuva Sangam, an initiative of the Government of India, is mooted to strengthen people-to-people connect and build empathy between the youth of North-Eastern states and the rest of India. This program was conducted under the ambit of Ek Bharat Shreshtha Bharat, and 11 Higher Education Institutions from North-East (NE) and 14 from the rest of the country were paired for mutual visits.

It is a matter of great pride that IIT Indore was nominated as the nodal Institute for the state of Madhya Pradesh and was paired with Manipur, with NIT Manipur as the nodal Institute. In this program, the youth of Manipur visited various significant places of Madhya Pradesh like Mahakal Corridor, Maheshwar Fort, Rajwada, IIM Indore and were acquainted with the cleanliness and management system of the Indore city, and the folk music and dance of Madhya Pradesh during March 20-26, 2023. During this visit, the youth of Manipur also had a unique opportunity to meet the Chief Minister of Madhya Pradesh, Shri Shivraj Singh Chouhan.



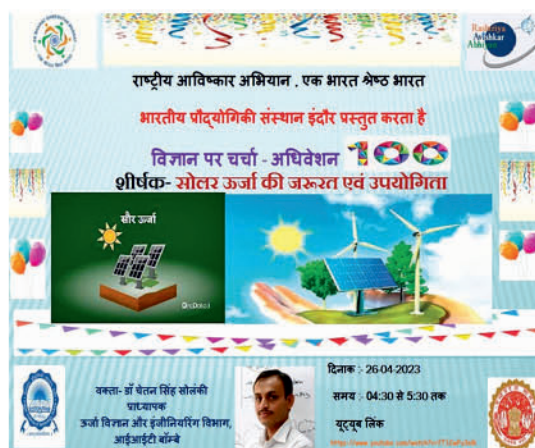
This program also brought a team of 49 students from 25 districts of Madhya Pradesh to Manipur and introduced them to various places in Manipur for cultural and educational activities. The Director of IIT Indore, Suhas S. Joshi, graced the flag-off ceremony. At Imphal, the youth of Madhya Pradesh interacted with the Governor of Manipur, Honourable Sushri Anusuiya Uikey, at Raj Bhavan. From IIT Indore, Dr. Niraj Kumar Shukla, Dr. Mrigenra Dubey, Dr. Ananya Ghoshal, Mr. Neeraj Kumar, Mr. Lalit Jain, and Mr. Santosh K. Sharma led the group.





The Sarpanch, members of staff, and Gram Panchayat Simrol were later commended with an official citation from IIT Indore Administration and Ek Bharat Shreshtha Bharat Team for hosting the 35 youth representatives of Manipur on 26th March 2023 and organizing for them a felicitation ceremony to make them aware of the various aspects of the Simrol village life.

To promote the **Rashtriya Aviskar Abhiyan**, the EBSB team of IIT Indore conducted more than 107 online sessions on "विज्ञान पर चर्चा-कार्यक्रम की श्रृंखला", for Hindi Medium school students (Class 6-8) of Madhya Pradesh, in association with Rajya Shiksha Kendra, M.P. Govt. In this series, experienced experts/Professors/Scientists explained the concepts of Mathematics, Science, and Technology in Hindi, which enhances the knowledge of Govt Schools teachers and students of Madhya Pradesh. The EBSB team also conducted workshops related to Mathematics, Science, and Technology in Hindi for the primary school teachers of Madhya Pradesh State Government. Many training workshops are also planned for Schools teachers.



The EBSB team of IIT Indore is frequently conducting activities in nearby adopted villages, namely Bai Gram, Indra Aawas, Jagjivan Gram, Mirzapur, and Nayagoan, and in their schools to achieve the noble objective of UBA. Faculty members and students of IIT Indore, in association with the EBSB team, are also continuously working on various projects under RAA, UBA, RuTAG, and SBA related to the upliftment of society.



IIT Indore in Media

IIT-I inks MoU with ICAR-CIAE to work in agriculture sector

TIMES NEWS NETWORK

Indore: The Indian Institute of Technology Indore (IIT-I), has signed a memorandum of understanding (MoU) with ICAR-CIAE (Central Institute of Agricultural Engineering), Bhopal to extend expertise in farming and agriculture sector by collaborative research work and programmes.

The institutes have signed a long-term collaboration to work in broad domains of agriculture engineering, rural development, corporate social responsibility and other allied areas.

IIT-I, in a statement issued on Monday said, both the institutes will collaborate on academic programmes, research projects, training, capacity building and consultancy.



mic programmes, research projects, training, capacity building and consultancy.

The MoU was signed by IIT-I director professor Suhas Joshi and ICAR-CIAE director Dr CR Moha.

Joshi said, "This MoU is a step towards the vision of IIT-I to contribute to farming and agriculture sector through its expertise in different domains of engineering, science and humanities."

The institutes are working on different domains of agriculture like development of bioplastics, farm mechanization techniques, real-time detection of diseases in paddy, assessment of acrylamide-based probiotics, development of superabsorbent azir-gel, accurate estimation of above-ground biomass, mobile apps for farmers, efficient removal of pesticides from contaminated groundwater and sustainable management of organic wastes.

"The complementary expertise of IIT-Indore and CIAE is expected to result in some path-breaking and ready-to-implement technologies for society and farmers in particular," said Joshi.

Learn to start your own venture with IIT-I startup coaching

TIMES NEWS NETWORK

Indore: The Advanced Centre for Entrepreneurship at the Indian Institute of Technology Indore, in coordination with IIT Startup Centre is coaching startups to help them develop business ideas, explore funding avenues and make them aware of basics of internet protocol (IP) for entrepreneurs.

To enhance the entrepreneurship skills among students and young entrepreneurs, the institute is also conducting a mock pitching session for participants helping them put their ideas in front of experts.



IIT Indore director professor Suhas Joshi said "This is one of the biggest outreach activities we have organised in recent times in terms of number of student participants and number of hours engaged".

A total of around 525 students have so far been coached in four boot camps conducted at Modi-Caps University, Indore, IPS Academy Indore, Government Madhav Science College, Ujjain and Rewa Engineering College.

To enhance the entrepreneurship skills among students and young entrepreneurs, the institute is also conducting a mock pitching session for participants helping them put their ideas in front of experts

The technical sessions of the boot camps covered various aspects of startup and entrepreneurship such as picking a startup idea, developing the idea into a minimum viable product, creating a successful startup, key terms

and jargons in startup, basics of valuation, funding avenues and basics of IP for entrepreneurs among others. IIT Indore professors, including Ruchi Sharma, Dr Ananya Ghoshal, Dr Shomik Dasgupta and Dr Swaminathan R, were part of the team coaching students and entrepreneurs to start their own ventures.

KV IIT Indore starts Balvatika for tiny-tots

OUR STAFF REPORTER
city.indore@tj.co.in

Balvatika, a pilot project of Kendriya Vidyalaya Sangathan for tiny-tots, was started at KV IIT Indore on Monday. KV IIT Indore has been selected amongst the 50 KVs wherein Kendriya Vidyalaya Sangathan is introducing Balvatika classes in a pilot mode.

Children from the age of 3 years can be admitted to the Balvatika I and subsequently would be promoted to Balvatika 2 & 3 before seeking admission in Class 1.

The inauguration ceremony of Balvatika was conducted on Monday. The inauguration was done by Kendriya Vidyalaya Sangathan commissioner Nidhi

Pandey, who had visited the school for inspection.

IIT Indore director Prof Suhas S Joshi was also present during the occasion.

At the event, principal JP Bohre spoke about ongoing activities in the school. Pandey said that children of all classes should first try to keep their peers happy. She wished the children to move ahead by studying while being happy in the positive and green environment of IIT.

The commissioner awarded the talented children of the school including K Arini Mishra, K Mahi Kaushal and K Kinjal Rai. School's music teacher Pandit Sudhanshu Mahant and Yoga teacher Anil Chaudhary were also felicitated on their achievement.

IIT-I TEAM SENSITISES BAIGAON VILLAGERS TO SWACHHTA



As part of the activities under Ek Bharat Shreshtha Bharat (EBSB), IIT Indore team visited a village hospital and school of Baigaon on September 6 to spread awareness on cleanliness and the precautions to contain spreading of diseases. Team comprising of Dr Niraj Kumar Shukla, Dr Shilpa Raut, Suresh Chandra Thakur and Meenaxi Sen interacted with patients and villagers. They were made aware on importance of Indian culture of swachhta with respect to current scenario and were also informed on many government schemes for medical facilities. Sarpanch of Baigaon v Jyoti Lovelesh Meena was also present. During the visit to the school, the students, teachers and staff were apprised on proper utilization of dustbins and first-aid kit. Oximeter, writing material, sports gears and stationeries were also distributed by IIT Indore.

IIT-I signs MoU with Ethiopia

TIMES NEWS NETWORK

Indore: The Indian Institute of Technology (IIT) Indore has signed a Memorandum of Understanding (MoU) with the Ministry of Education and Ministry of Innovation and Technology, Ethiopia to promote bilateral cooperation with Ethiopian Universities.

As part of the MoU, 46 universities of Ethiopia will become partner institutes and work together to promote various academic and research programs. A joint multidisciplinary international quality improvement PhD program will also be designed under the MoU.

The MoU was signed by Professor Suhas S. Joshi, Director, IIT Indore and Dr

COOPERATION AMONG VARSITIES

Bayissa Badada Badassa, state minister, Ministry of Innovation and Technology, Ethiopia.

IIT-I said students and faculty exchange programmes will be conducted under the joint multidisciplinary international quality improvement PhD programme.

Professor Suhas S. Joshi, Director, IIT Indore said, "The collaboration with the Ethiopian universities under Ministry of Education and Ministry of Innovation and Technology will help in collaborative research."

Joshi also emphasized the importance of successful collaboration with the Ethiopian universities and briefed about the academic programs, research areas, facilities and vision for the internationalization of the IIT Indore.

Dr Leta Teafaye Jule, Member of Parliament, president of Dambi Dollo University, Professor Krishnaraj Ramaswamy, principal scientific advisor, Ministry of innovation and technology, Ethiopia and Professor Avinash Sonawane, Dean, International Relations at IIT Indore were present on the occasion.

IIT-Indore Organises Corporate & Industry Connect Programme

IIT Indore, in one of its own kind of initiative, organised a programme --Corporate and Industry Connect (CIC)-- on August 20. Around 36 participants from 15 major industries of Indore, Pithampur and nearby areas were invited for the event. The aim of the programme was to find common areas of research, discuss problem statements, finding economical and viable solutions and long-term association. Director Suhas S Joshi, alumni and corporate relations dean Anand Parey and research and development dean IA Palani were also present during the sessions. The invitees were briefed on the R and D activities of the institute.



IIT Indore's 'TITLI' set to change tribals' life

Orientation programme for new PG & PhD students held

OUR STAFF REPORTER
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Keeping tribal people in mind, Indian Institute of Technology Indore has started a programme named as Technological Innovations for Tribal Livelihood (TITLI). "Under this programme, two new courses have been introduced titled as 'Immersion for Rural Technology Development' and 'Design Thinking for Rural Applications'. Both these courses involve field visits to understand the needs of the rural population," said Prof. Suhas S Joshi while addressing orientation programme of new PG & PhD students on Tuesday.

It was the first offline orientation programme after the spread of pandemic. A total of 424 students in various programmes including 188 in PhD, 104 in MSc, 41 in MTech, 41 in MS (Research), have been offered admission at IIT Indore for academic year 2022-23 (Autumn Semester).

Joshi said, "Research has been one of the brightest highlights of IIT Indore.



IIT Indore director Suhas S Joshi addresses newly admitted students during an orientation programme on Tuesday

Besides having over 4,500 publications in high impact factor journals, teams of students and professors have developed over 60 technologies that are at various stages of evolution. He added, "We are planning to establish a Translational Research Ecosystem in the institute, where several of the in-house developed technologies can be translated to useful products for the benefit of industry and society. On the societal level, we at IIT Indore would like our students to provide technological solutions to the problems faced by the people at the bottom of the pyramid."

Joshi asked all the students to resolve to contribute to good quality research that is meaningful to someone in the society. He advised all to work together to make IIT Indore an institution that cares for all.

The students were also oriented on the academic, research & development, student affairs, training & placement, innovation & incubation, international outreach, safety & security, health and medical facilities, library and minority cell by the respective heads of the sections.

IIT-I inks MoU with Germany varsity to expand academic cooperation

TIMES NEWS NETWORK

Indore: Indian Institute of Technology Indore (IIT-I) has signed a memorandum of understanding (MoU) with Julius-Maximilians University Wurzburg (JMU) to establish and expand academic cooperation between the institutes.

The MoU will promote bilateral research and academic cooperation, joint programmes and student and faculty exchange, an official release said on Saturday.



The two institutes will have common areas of cooperation

The two institutes will have common areas of cooperation which include student training by coordinated training courses, exchange of students, exchange of academic staff, exchange of scientific, edu-

cational and scholarly material, exchange of information in substantive educational and research programmes, conferences and seminars and collaborate to develop special projects, including joint research and training activities.

The MoU was signed by IIT Indore director Prof Subhas S Joshi and JMU president Prof Paul Pauli in Wurzburg, Germany.

JMU is one of the oldest and largest universities in Germany, which hosts over 28,000 students.

AIIMS, IIT-I sign MoU for research

Bhopal: A memorandum of understanding to increase academic and research cooperation in biomedical engineering was inked between AIIMS Bhopal and IIT Indore here on Thursday, according to a press release.

AIIMS Bhopal director Dr Ajai Singh and IIT Indore director, Subhas S Joshi signed the MOU to stimulate research in the field of biomedical engineering and its application in health care system. MOU focuses on increasing collaborative research and conducting joint academic activities in healthcare engineering & technology. **TNN**

IIT-I to extend tech support to industries

Times News Network

Indore: The Indian Institute of Technology (IIT) Indore plans to extend technical support to industries and help them overcome bottlenecks through smart solutions and research work.

IIT officials said the institute is working on multiple projects based on the

CORPORATE AND INDUSTRY CONNECT

requirements of the industries, which have been implemented in the past and are in the pipeline.

The institute plans to connect with industries across sectors through its Initiative Corporate and Industry Connect (ICIC). Under the industry and academia consortium, the institute held discussions with industry players from the pharmaceutical and information technology domain.

IIT-I officials said the institute is working on multiple projects based on the requirements of the industries of which around 10 projects have been implemented in the past and are in the pipeline.

It also aims to figure out the trouble areas and how the institute can help in to extend support.

IIT director professor Subhas S Joshi said, "IIT-I is taking various initiatives to connect with industries to help them overcome the technological challenges. The institute is planning to conduct ICIC programs periodically with industries belonging to different domains in the coming time."

The institute is also conducting various industry set-up their own research and development in the research park for which the institute has sent a proposal

to the central government.

Speaking about the proposed research park, Prof Joshi said that industries may be able to set up their R&D facilities in the several IIT areas and 30 industry players from the pharmaceutical and IT sector attended the event and two parallel discussions were conducted to discuss and the trouble areas in industries.

The chief guest, vice-chancellor, Professor Subhas Chandra, Director, IIT Indore said, "The industry-academia consortium plays an important role in the growth of GDP and nation-building. IIT Indore is the pioneer of efforts to develop the traditional research ecosystem for innovation and development of cutting-edge technologies."

A follow-up and review meeting of the special time-conference (SITC) will be held for the first IIT meeting in August last year with 1600 participants from the IT sector was held, he said.

IIT Indore granted one more patent, tally reaches 20

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Indian Institute of Technology Indore has been granted one more patent, this time on "Read Recharge (RR) based process variation tolerant 1T1 SRAM Cell". This takes the tally of total number of patents to 20.

The inventors, Dr Nandakishor Yadav and Prof Santosh Kumar Vishwakarma have proposed a new memory technology for reliable electronic system design.

Inventors developed a Static Random Access Memory (SRAM) bit cell, which can tolerate the fabrication process related

variation for modern thin-film and nanoscale technologies. It will increase the life of electronic systems such as mobile phones and laptops.

Additionally, it will also improve the production yield of the mobile and laptop industries.

It is based on dual-gate FinFET technology, which helps find new devices with properties that fit current and future requirements, among the many proposed multi-gate transistors. As this memory technology will increase the life of the electric product, it can also be used for most reliable aerospace applications.

AI-based method to improve lungs CT scan reading

Indore: The Indian Institute of Technology (IIT) Indore has collaborated with an Indore-based hospital and a medical college in Odisha to develop an Artificial Intelligence (AI)-based method to read lung CT scans with greater accuracy with more than 90 per cent accuracy.

IIT-I in association with the Kalings Institute of Medical Sciences, Odisha and Chitwan Hospital and Research Center, Indore has used deep learning to improve the accuracy of lung CT scan reading that was not in early detection of lung involvement in inflammation-mediated disease.

The method developed using deep learning gives the accuracy of CT scans in decimal points improving accuracy of

Tarunvir at IIT Indore, Dr Nirmal Kumar Mishra, professor at the Kalings Institute of Medical Sciences and Dr Sachin Jain from Chitwan Hospital and Research Center.

Researchers have studied over 100 CT scans of Covid-19 positive patients to carry the research and claim that the AI-based method will overcome the limitations of manual methods of reading the CT scan.

It said "The effect of inflammation-mediated disease may start initially from the right lobe region of the lungs and subsequently affect the rest of the lungs. Our AI-based method can be helpful in early detection of lung involvement and also increase accuracy."

It said that samples from

IIT-I collaborates with NASA to develop low cost camera setup

Indore: Indian Institute of Technology (IIT) Indore has collaborated with National Aeronautics and Space Administration (NASA), Caltech, USA and University of Gothenburg, Sweden to develop a low cost camera setup "CL-FRAME", an economical set up that can be used in research in laboratories

EUREKA MOMENT

lacking high end equipment and camera systems.

The low cost camera setup will provide snapshot multispectral imaging of four chemical species in a flame using a single DSLR camera, an official release said.

The project was supervised by Yagneshwar Nath Mishra, NASA Caltech and University of Gothenburg and Professor Devendra Deshmukh, IIT Indore, Devdesh Chatterjee, Ph.D. scholar at IIT Indore was the lead author of the study.

The low-cost camera setup will provide snapshot multispectral imaging of four chemical species in a flame using a single DSLR camera, an official release said

of the combustion process CH⁺ and C₂⁺ and the temperature of the flame."

On the other side of the research, authors said the ever-increasing demands for resources for scientific investigations such as techniques and approaches are essential for a developing country like India to compete on the global stage with lower resources.

Professor Deshmukh said "We have used the method of Structured Illumination (SI), which allows for simultaneous imaging of multiple species. Structure illumination enables us to image low-intensity species such as CH⁺ using a DSLR camera which usually requires intensified CCD camera. We are planning to explore the applications of the approach in biomedical imaging, ultrafast imaging, multi-dimensional, and other advanced studies in our lab."

Institute Events and Functions

Orientation Program on 'Safety of Women at Workplace' held on 13th April 2022

Indian Institute of Technology Indore, being an Institute of National Importance, is home to a very heterogeneous population inclusive of all genders at all three layers, i.e., Students, Faculty, and Non-Faculty members. As such, and as mandated by law and various guidelines, the Institute must provide a safe workplace for women. A congenial work environment is always a significant factor in boosting performance.

As an initiative to achieve this, Adv. Bhavna Tripathi, an expert in this domain, was invited to the Institute to conduct an orientation program on 13th April 2022. Adv. Tripathi is a member of the Internal Complaints Committee in various State Government Departments, NID Bhopal, TCS, and many more. The target audience was members of the Internal Complaints Committee, Women Cell, and Officers, and staff members of concerned departments.



IIT Indore hosts a Brainstorming Session on the Promotion of Indian Languages

IIT Indore hosted a brainstorming session on the promotion of Indian languages on May 3, 2022. The session was inaugurated by Shri Dharmendra Pradhan, Hon'ble Education Minister, Government of India, and Shri Suresh Soni. Shri Dharmendra Pradhan was on a 2-day visit to Indore and was welcomed by Prof. Suhas S. Joshi, Director, IIT Indore. This brainstorming session was attended by quite a few eminent personalities from academia.

The brainstorming session explored the way forward for the promotion of Indian languages. The latter half of the day was spent discussing the role of language institutions in implementing NEP 2020.

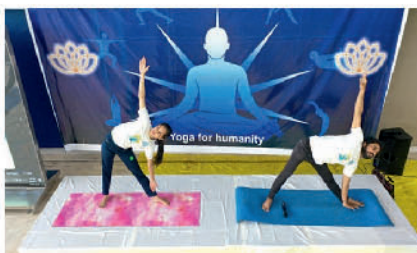
The Hon'ble Minister inaugurated the Indoor Sports Complex of IIT Indore. Built up at an area of 4,257 sq. mtr., it houses 06 Badminton Courts, 02 Basketball Courts, an Indoor Gallery with a capacity of 580, a gym, 03 Squash Courts, and a Swimming pool of Olympics size (50 x 25 sq. mtrs) with a viewing gallery of 288 capacity.



International Day of Yoga: On June 21, 2022, following the mantra of “Yog se Sahyog,” IIT Indore celebrated the 8th International Day of Yoga. The event was conducted by Dr. Omanand Guruji. Dr. Omanand has been a merit holder throughout their education and has been honored with various awards. He served as the President of the Hindu University of America, Florida, USA. Currently, he is serving as the Honorary Patron of Paramanand University Trust and Paramanand Institute of Yoga Sciences & Research. His students came to the Institute and demonstrated various Asanas to the community. The event saw a large participation of students, faculty members, staff, and families.

Under the initiative of Abhyudaya, IIT Indore also celebrated International Day of Yoga Month from May 20 to June 20, 2022. It included the conduct of the Yoga Quiz and Yoga Essay Competition.

1. June 13 - Essay Contest (Pre-International Yoga Day Event)
2. June 19 - Quiz on Yoga
3. June 19 - Yoga Competition
4. June 21 - Celebration of 8th International Yoga Day - 2022
5. Yoga Session under the guidance of Dr. Omanand Guruji, a well-known yoga expert.
6. Shramdaan (voluntary contribution to the excavation of the Amrit Sarovar site at the IITI Campus)
7. Plantation Drive saplings at the IITI Campus.



Orientation Program for new PG & Ph.D students at IIT Indore

IIT Indore conducted the Orientation Program for new PG & PhD students on July 26, 2022. This was the first offline, in-person orientation program after the spread of the COVID pandemic. Around 424 students across various programs, i.e., 198 in PhD, 104 in MSc, 81 in MTech, and 41 in MS (Research), have been admitted at IIT Indore for the academic year 2022-23 (Autumn Semester). Prof. Suhas S. Joshi, the Director, congratulated all newly joined students and addressed the community.





Visit of International Students to IIT Indore campus

IIT Indore hosted a group of 32 International students from 10 different countries, including USA, UK, Germany, Brazil, Belgium, Mexico, Egypt, Trinidad & Tobago, Azerbaijan, and South Africa, on 4th August 2022 under the Global BP STEM Academic program in association with American Field Service (AFS), India. The visit was coordinated by Emerald Heights International School, Indore, which has been an active member of AFS since 2012 under the Indore chapter (MP) India. AFS is an international, voluntary, non-governmental, non-profit organization that provides intercultural learning opportunities to help people develop the knowledge, skills, and understanding required to create a more just and peaceful world.

Prof. Suhas S. Joshi, the Director, IIT Indore, delivered the welcome address and highlighted the importance of technology and its application for humanity. He also informed the visiting students about the past glory and heritage of the Indian education system imparted at Nalanda and Takshashila universities which were renowned seats of learning during ancient times. He also urged the students to pay equal attention to humanities and social sciences for the overall development of a nation.



भारतीय प्रौद्योगिकी संस्थान इंदौर में 14-28 सितम्बर के दौरान हिंदी पखवाड़ा मनाया गया

भारतीय प्रौद्योगिकी संस्थान इंदौर में दिनांक 14 से 28 सितम्बर, 2022 के दौरान हिंदी पखवाड़ा - 2022 का आयोजन किया गया। हिंदी दिवस के अवसर पर 14 सितम्बर को संस्थान के निदेशक प्रोफेसर सुहास एस. जोशी के द्वारा दीप प्रज्वलन के साथ हिंदी पखवाड़ा - 2022 का शुभारंभ हुआ। उद्घाटन समारोह में अधिष्ठाता (प्रशासन) प्रोफेसर प्रीति शर्मा, राजभाषा समिति के संयोजक प्रोफेसर राजेश कुमार, कुलसचिव श्री एस पी होता, संयुक्त कुलसचिव श्री प्रदीप अग्रवाल, सहायक कुलसचिव (प्रशासन) श्री सुरेशचंद्र ठाकुर एवं अन्य अधिकारीगण के साथ-साथ बड़ी संख्या में छात्रगण, संकाय सदस्य तथा कर्मचारीगण उपस्थित रहे। इस अवसर पर निदेशक महोदय ने अपने संबोधन में हिंदी के महत्व को रेखांकित किया। कुलसचिव महोदय द्वारा हिंदी भाषा की उपयोगिता एवं प्रचार पर प्रकाश डाला गया। हिंदी पखवाड़ा - 2022 के अंतर्गत संस्थान में विभिन्न प्रतियोगिताओं का आयोजन किया गया, जिसमें मुख्य रूप से स्वरचित कविता पाठ प्रतियोगिता, निबंध लेखन प्रतियोगिता, आशुभाषण प्रतियोगिता तथा वस्तुनिष्ठ प्रश्नों की लिखित परीक्षा करवाई गई। सभी प्रतियोगिताओं में संस्थान के छात्रगण, संकाय सदस्य तथा कर्मचारियों की उत्कृष्ट सहभागिता रही तथा चयनित प्रतिभागियों को पुरस्कृत किया गया। अंततः हिंदी पखवाड़ा कार्यक्रम का समापन दिनांक 28 सितंबर को हुआ।

भारतीय प्रौद्योगिकी संस्थान इंदौर में 10 जनवरी को विश्व हिंदी दिवस मनाया गया

संस्थान की राजभाषा समिति द्वारा दिनांक 10 जनवरी, 2023 को विश्व हिंदी दिवस कार्यक्रम का आयोजन किया गया। इस कार्यक्रम का आयोजन संस्थान के पुस्तकालय (विद्यार्जन संसाधन केंद्र) में हुआ। इस अवसर पर संस्थान के कुलसचिव श्री एस पी होता, राजभाषा समिति के संयोजक प्रोफेसर राजेश कुमार, डॉ. शरद गुप्ता, संयुक्त कुलसचिव श्री प्रदीप अग्रवाल, सहायक कुलसचिव (प्रशासन) श्री सुरेशचंद्र ठाकुर एवं अन्य अधिकारीगण, छात्रगण, संकाय सदस्य तथा कर्मचारियों की उपस्थिति में कार्यक्रम का शुभारंभ हुआ। इस मौके पर हिंदी की महत्ता पर ध्यान आकर्षित करते हुए नववर्ष 2023 के हिंदी संस्करण वाले कैलेंडर का विमोचन किया गया। साथ ही, विश्व भर में हिंदी भाषा का प्रचार-प्रसार हो सके, इसलिए संस्थान के कई संकाय सदस्यों, छात्र/छात्राओं एवं कर्मचारियों ने कविता, भाषण आदि की प्रस्तुति दी। अंत में, इस कार्यक्रम का समापन लोगों के बीच भेंट के रूप में नववर्ष - 2023 के कैलेंडर का वितरण करके किया गया।



IIT Indore organized Free Health Checkup Camp

On Children's Day and Diabetes Day on Nov 14, 2022, the team of Ek Bharat Shreshtha Bharat (EBSB), IIT Indore, organised a free health checkup camp in Govt. School, Simrol, for students and villagers. The camp focused on the eyes, bones and spine check-ups of the community. More than 200 people came for the check-ups and availed of the camp facilities. The team informed the community about many government-run medical schemes and encouraged them to contact the Government affiliated hospital for any treatment.

Dr. Niraj Kumar Shukla, Convener, EBSB, said, "IIT Indore has been continuously conducting many awareness activities for our five adopted villages under Unnat Bharat Abhiyan. This time, we organized a free health checkup camp, under the supervision of Dr. D. K. Sharma, Dr. Teen Gupta, and Dr. Rishi Gupta, from the School of Excellence for Eye, Mahatma Gandhi Medical College, Indore."



Celebration of 76th Independence Day: IIT Indore celebrated 76th Independence Day with great zeal and fervor. The occasion was marked by the hoisting of the national tricolor by Professor Suhas S. Joshi, Director of IIT Indore.



Celebration of Teachers' Day 2022: IIT Indore celebrated Teachers' Day on September 5, 2022. Prof. Deepak B. Phatak, Chairperson, BoG was invited as Chief Guest and joined online for the event followed by the distribution of Institute Awards.



IIT Indore celebrated Mahatma Gandhi and Lal Bahadur Shastri Jayanti: IIT Indore celebrated the birth anniversary of Mahatma Gandhi and Lal Bahadur Shastri in the Institute. The program was organized under the banner of CRDT, IIT Indore, and was an attempt in the direction of the Institute's rural outreach activities to offer a platform to local and rural folk to come and display their products, skill, and creativity.

The program was graced by the Director, Suhas S. Joshi, and more than ten stalls for the display and sale of rural products have been arranged. It also included food stalls, stalls for cotton cloths, handicrafts, toys, earthen items, organic products, etc. There was also a display of books on Gandhian thoughts and Green and sustainable initiatives. The students of CRDT also arranged stalls featuring the activities conducted by the Centre.



The 10th Convocation of the Institute: IIT Indore conducted its 10th convocation on August 13, 2022, with Dr. Anil Kakdolkar, Padma Vibhushan, Former Chairman of Atomic Energy Commission of India, and Former Secretary to the Government of India, gracing the occasion as the Chief Guest. Prof. Deepak B. Phatak, Chairperson, BoG, presided over the ceremony. Prof. Suhas S. Joshi, the Director, and other Senate members were present during the convocation. In this convocation, a total of 490 students received their degrees, which included 269 B.Tech, 61 PhD, 88 MSc, 65 MTech, and 07 MS (Research) students.



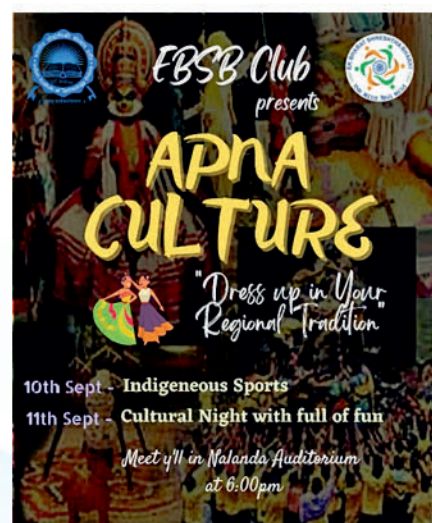
Visit of students from Medi-Caps International school at IIT Indore: 16th September, 2022



IIT Indore team visited gramin hospital & school to teach swachhata lesson on 6th September 2022



IIT Indore celebrated "Apna Culture-Unity in Diversity" during 10 & 11th of September, 2022





Under EBSB activities of IIT Indore, more than 300 students from 30 Govt Schools of Indore's district visited the campus of IIT Indore on November 04, 2022



Republic Day 2023: IIT Indore celebrated the 74th Republic Day with great enthusiasm and many faculty members, staff and students participated. The occasion was marked by hoisting of the national tricolor by Professor Suhas S. Joshi, the Director, IIT Indore.



Celebration of 14th Foundation Day of IIT Indore: IIT Indore celebrated its 14th Foundation Day of IIT Indore on February 17, 2023 with Professor Deepak Bhaskar Phatak, Chairperson BOG, as the Chief Guest. Professor Suhas S. Joshi, Director, IIT Indore, welcomed the IIT community with a motivational speech.

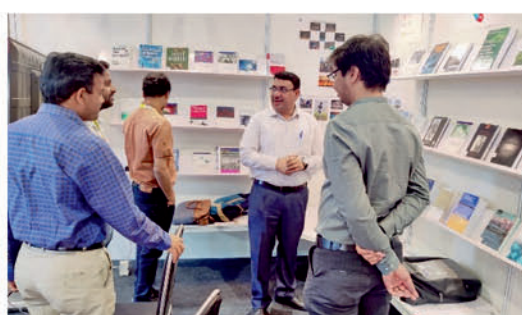
Prof. Joshi emphasized the joint efforts of Faculty Members, Research Scholars, and Staff Members to develop IIT Indore. He also explained the importance of Research in the growth of GDP and nation-building. He appreciated the efforts put in by IIT Indore to develop the translational research ecosystem for innovation and the development of cutting-edge technologies.

Institute Awards for Faculty Members, Research Scholars, and Staff Members were distributed by the Chief Guest, Chairperson Board of Governors, Professor Deepak Bhaskar Phatak, with a motivational Foundation Day Speech.



Participation of IIT Indore in the NEP Pavilion at the World Book Fair 2023:

IIT Indore participated in the NBT World Book Fair 2023 at Pragati Maidan, New Delhi, held from 25th February 2023 to 05th March 2023. A stall was allotted to the Institute to showcase the books authored by faculty members and to display the posters on the academic programs, research activities, technologies, patents, awards and achievements, and outreach activities in various fields.



National Science Day Celebrated at IIT Indore on 28th February 2023

The Outreach teams of the Department of Physics and Chemistry organized the National Science Day at IIT Indore on 28th February. The event began with lamp lighting by Professor Suhas S. Joshi, Director, IIT Indore, who graced the occasion as the Chief Guest. Professor Sarita Vig (IIST) was the Guest Speaker on the occasion. The event was attended by several faculty members, research scholars, PG Students, staff members, school children, and special guests from Uchhatar Madhyamik Vidyalaya, Simrol. During his address, Prof. Joshi inspired the students and school kids to develop a keen interest in science. He exhorted the school kids to study the contributions of eminent Indian Scientists like Sir C. V Raman, Dr. APJ Abdul Kalam, Dr. Homi Jahangir Bhabha, and Dr. Jagadish Chandra Bose and emulate their life and research acumen. It was followed by words of inspiration from Professor Raghunath Sahoo, Convener, Institute Seminar & Outreach Committee; Dr. Pankaj Sagdeo, Head of the Department of Physics; Professor Bishwarup Pathak, Head of the Department, Chemistry.



Visits of youth delegates of Manipur from March 20 to 26, 2023, under the Ek Bharat Shreshtha Bharat-Yuva Sangam program: Under Yuva Sangam, an initiative of Government of India, mooted with an aim to strengthen people to people connect and build empathy between youth of North-Eastern states and the rest of India, IIT Indore hosted around 35 youth delegates of Manipur from March 20 to 26, 2023. The entire tour of these delegates was meticulously planned, and the itinerary was designed to provide them with multi-dimensional exposure of Paryatan (Tourism), Parampara (Traditions), Pragati (Development), Prodyogik (Technology) and Paraspar Sampark (People-to-people connect).



International Women's Day celebrated at IIT Indore on 17th March 2023



At IIT Indore, International Women's Day was celebrated on the 17th of March 2023, in association with the Women Cell and Indian National Young Academy of Sciences (INAYAS) on the theme of "DigitALL: Innovation and technology for gender equality," decided by the United Nations Observance of International Women's Day 2023. This theme was aligned with the need for inclusive and transformative technology and digital education for women and girls to achieve gender equality. Attendees of the event were Dean of Administration Prof. Sandeep Chaudhary, IIT Indore students, staff, faculty, and children from the Simrol school. Inaugurating the event, Director, Prof. Suhas S. Joshi, provided statistics on women students and staff of IIT Indore and motivated the school students to continue their education and attain the height of excellence in their chosen field by giving them the example of Devi Ahilya Bai Holkar. Prof. Sandeep Chaudhary motivated the students to be courageous.



Director Prof. Suhas S. Joshi along with the other institute dignitaries.

Subsequent to the Institute's dignitaries' speech, invited speakers from academia, industry, UN women, and women and the child department sector delivered a series of talks to motivate and provide awareness over several topics. Among the speakers were Mr. Gaurav Sharma, the founder and Director of "Camp India Adventures" who shared his experience of climbing the Mount Everest, and Dr. Nishima Wangoo, Assistant Professor at Punjab University, who spoke about Indian women scientists and their remarkable contribution towards the development of science and technology.



Figure 3. Mr. Gaurav Sharma (left) and Dr. Nishima Wangoo (right)

Dr. Savita Jain, from the department of Women and Child Development in Madhya Pradesh, spoke on women's empowerment and provided critical information about various efforts and initiatives taken by the Government of India to provide parity among the genders.

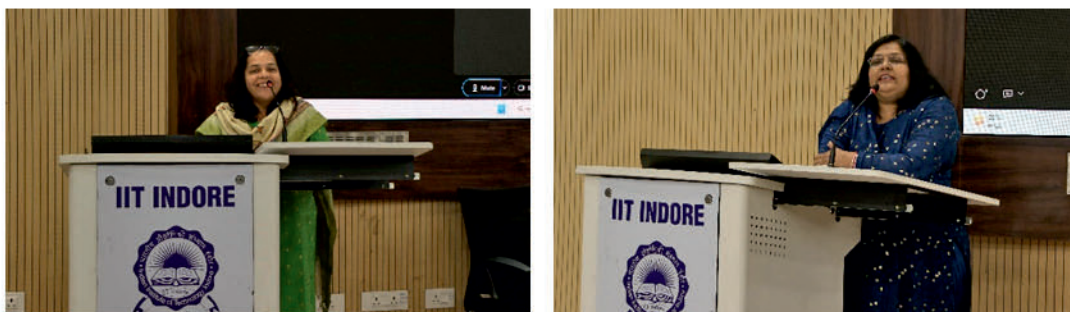


Figure 4. Dr. Savita Jain (left) and Dr. Vanchana Singh Parihar (right)

Dr. Vanchana Singh Parihar, from the Safe City Program in the Women and Child Development Department of Madhya Pradesh conducted an interactive session on violence, safety, rights and laws to provide awareness and capacity building in the community for crime against women and their safety. Prior to this event, the Women Cell organized several events and competitions starting from the 7th March in which faculty, staff and frontline workers were honoured. Sun-coats were distributed to the frontline workers and awareness of personal hygiene was spread through a dance performance. A mobile toilet was also inaugurated near the IIT Indore gate towards the Swachh Bharat initiative. In tandem with the techno-cultural fest, "Fluxus", the Women Cell with INYAS conducted poster and essay competitions on the theme of women empowerment. These competitions allowed the participants to reflect on the role of women in society, science, their struggles, and achievements.



Figure 5. Poster making competition and posters created by participants in Fluxus.

To contribute to the Institute's outreach activities and support the local community, the Women Cell of IIT Indore conducted a poster-making competition in a school nearby IIT Indore in Simrol village on 16th March. Around 55 Students of the 9th standard from the school participated in the competition.

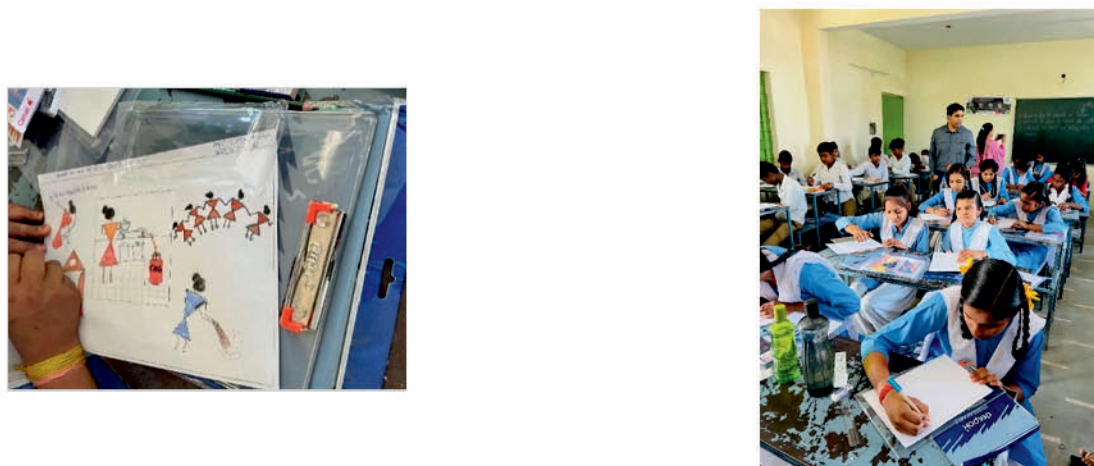


Figure 6. Poster making competition at Simrol village school.



Figure 7. A group picture of the school participants with experts and event organizers.

Institute Facilities

Learning Resource Center

The Learning Resource Center (LRC) has been providing essential support to the Institute's teaching, learning, research and other scholarly activity on the campus. Using appropriate technology, the library delivers resources to satisfy information needs, promote lifelong learning and create productive environments for the scholarly community.



Figure 1. The Learning Resource Center (LRC) Building

Library Collection

The library continues to build and extend its collection in print and digital formats. These include books on all relevant subjects for teaching and research. The LRC also boasts of a fine collection of fiction, literature, and general interest books such as current events, sports, etc., to take care of the users' leisure and recreational reading needs. Special Collections such as the Gandhian Studies Collection, Hindi Collection, Children's Books Collection, and Matrubhasha Collection take pride of place in the LRC. The total collection of print books is 39,960+, and E-Books are 8,050+ as on 20th June 2023.

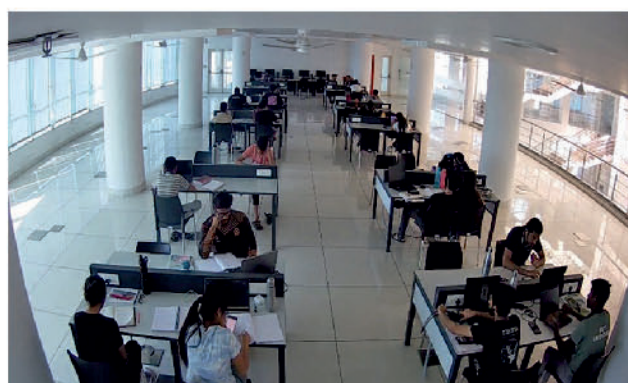
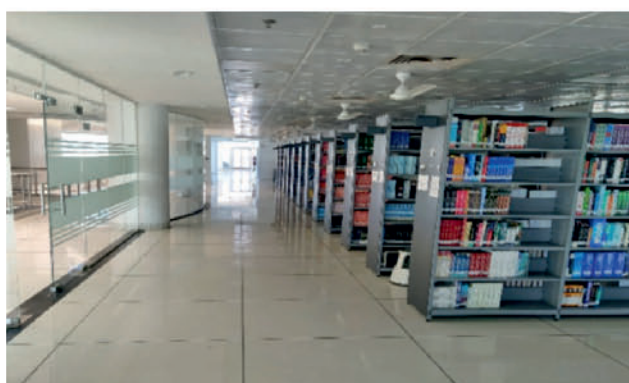


Figure 2. Main Stack Area and Reading Hall

Electronic Resources

In today's world of Information explosion, access to electronic information resources is essential, particularly in an academic environment. During the year 2023, the LRC has subscribed and provided access to more than 2,760+ e-Journals and 08 databases. Some of the major subscribed e-resources are Science Direct (5 subject collection), Taylor & Francis (Science and Technology package), American Chemical Society, ASCE, Royal Society of Chemistry, IEEE/IET Electronic Library, SIAM, SciFinder -n,

Scopus, Indiatat, CMIE Prowess, CSD Enterprise Campus, Grammarly, Turnitin Feedback Studio, etc.

Further, as a member of the E-Shodhsindhu Consortium, IITI academic community is getting access to more than 5,230+ e-Journals and some databases.

The complete list of e-resources with hyperlinks is available on the LRC website for users' convenience.

Institutional Repository

The library has created an Institutional Digital Repository (<http://dspace.iiti.ac.in:8080/jspui/>) using a widely used open source DSpace software to collect, preserve, organize and provide access to the creative and scholarly works and research of IIT Indore's faculty, students, and staff. This repository contains more than 10,690+ items in the following collections: IITI Scholarly Publications (Research articles and books), Theses & Dissertations, B.Tech Projects, Digital Humanities Lab, Newspaper Clippings, Resources for Visually Impaired Persons (Audio lectures), Annual Reports, Convocation Reports, etc.

Circulation And Reference Service

The library circulation service is automated using Koha-ILMS (open-source software) and integrated with the RFID system. Users can get issued and return the loan item through an RFID self-service kiosk. From July 2022 to June 2023, 25,063 documents were issued/renewed to all categories of users for home study. User category-wise circulation data is presented in the table below:

	B.Tech.	M.Tech.	M.Sc.	MS Research	Ph.D. & RA	Faculty	Others
Documents circulated for home study	14431	1155	3550	254	3002	1826	845

The library also provides user services like references, the new addition of books, orientation programs for new students, inter-library loans, subject guides, training session programs for e-resources, QR codes for various library services, and faculty profile management through the IRINS portal, etc.

Document Delivery Service Portal

The LRC arranges to procure research articles not held in its collection from different sources. This service is being provided for academic and research purposes to the faculty, research scholars, students and staff within the limit of copyright laws. To streamline this service, the LRC has developed a "Document Delivery Service" portal by using open-source software. This can be accessed at http://library.iiti.ac.in/?page_id=2988 on the library website. There is a total of 790+ research articles arranged from other institutions' libraries and provided to IITI users during the period July 2022 to June 2023.

Matrubhasha Collection

This Matrubhasha Collection section of the library was dedicated to the community by Prof. Suhas S. Joshi, Director, IIT Indore. More than 800 books in 8 Indian languages (viz. Sanskrit, Telugu, Kannada, Odia, Marathi, Bengali, Gujarati, and Hindi) have been donated by IIT Indore faculty and staff members.

Swadhyay

The creation and development of different reading spaces and other facilities are under process for the new LRC building. The Swadhyay (Self Study Space) was dedicated to its users to provide a conducive environment for self-study. This space is independent of the main LRC building and is open 24x7.

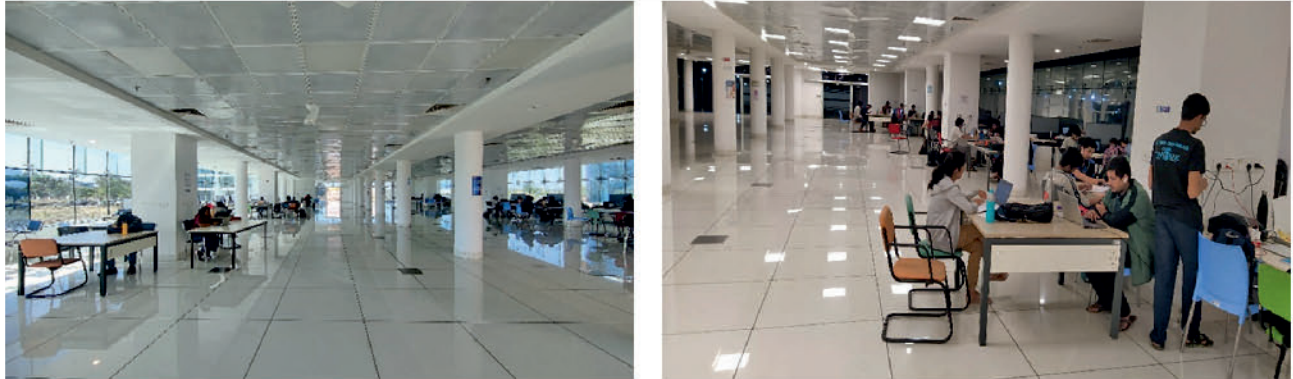


Figure 3. Swadhyay (Self-study Space)

Health Centre



The Health Centre provides dedicated services to the Institute community comprising students, research staff, employees, and their dependents. It has outpatient, daycare, and in-patient facilities for minor ailments. Emergency services are available 24 X 7. It facilitates well-equipped physiotherapy services. Diagnostic services - In-house Diagnostic laboratory and X-Ray facilities help in comprehensive care. Pediatric immunization is carried out on a weekly basis. The Health Centre team provides essential investigation facilities, including ECG and Rapid investigations such as GRBS.

Specialist Consultation Facilities-Specialist consultation services are available for Dental, ENT, Medicine, Obstetrics and Gynecology, Psychiatry, Ophthalmology, Orthopedics, and Cardiology cases. Further facilities such as minor dental procedures, Antenatal follow-up, and minor ENT procedures are also made available to community members.

Cases requiring higher investigations and management are referred to empaneled hospitals.

Numerical data of the Health Centre for the year 2022-2023

Total OPD	- 13,917
Total Day care and IPD	- 722
Emergency And trauma	- 348
In-house investigations such as ECG, GRBS	- 723
Minor emergencies after OPD hours	- 2974
Total Physiotherapy	- 1983

Other activities-

- 1) A session on women's health and wellness was organized on September 10, 2022.
- 2) A blood donation camp was organized on February 17, 2023.
- 3) A basic life support training session was held for B.Tech students during their 3-day orientation session 'Genesis.'
- 4) Oral Polio vaccination was organized on May 30, 2023.
- 5) Routine health checks for KV students were carried out twice a year in Health Centre for Nursery to the 12th class.



Central Workshop



The Central Workshop, IIT Indore, was established during AY 2011-2012 and spared over 10000 square feet of area. It is equipped with modern state-of-the-art facilities for laboratory classes to support fabrication works of research projects and other fabrication works of the Institute. Besides, the state-of-the-art facilities developed under the roof of the Central Workshop are also extended for research scholars to perform novel and cutting-edge research. It has seven shops, Machining, Welding, Forming, Foundry, Injection Molding, Fitting, and Carpentry, with a team of efficient and highly

skilled operating staff. The workshop has more than 54 machines/ instruments for undertaking turning, milling, drilling, surface grinding, injection moulding, sheet shearing, bending, drawing, wire drawing, nibbling, arc welding, MIG/MAG welding, TIG welding, gas welding, plasma air cutting, induction heating, metal casting, fitting and carpentry related fabrication works.

The workshop also has a facility for cutting force dynamometers and surface roughness measurements. It was established to provide hands-on experience to students in the Production and Fabrication of simple mechanical components. This is a small, effective, and successful working model using machine tools and computers at the workbench. Students are exposed to different manufacturing methods, materials and components, procedures, and software programs currently used in commercial manufacturing and assembly processes. This is of immense help in transforming students into engineers. Besides, the state-of-the-art facilities developed under the roof of the Central Workshop are also extended for research scholars to perform novel and cutting-edge research.

The Central Workshop undertakes practical classes in the Basic Manufacturing Techniques Laboratory (IC-156), Manufacturing Processes Laboratory (ME-258), and Machining Science and Metrology Laboratory (ME-355). During COVID-19 pandemic, all the laboratory experiments were conducted in online mode by following safety protocol.

Faculty In charge, Central Workshop- Dr. Dan Sathiaraj

Assistant Professor, workshopincharge@iiti.ac.in

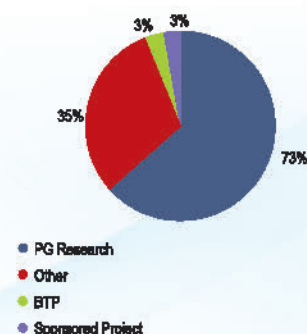
Research Interests:

- Medium to High entropy alloys
- Recrystallization and grain growth study
- Surface modification Engineering (SMAT, Laser Shot-peening, etc.)
- Severe plastic deformation (SPD)
- Micro, Nanomachining of MEAs and HEAs
- Mechanical and functional property study

Activities during the year 2021-2022

This year, the Central workshop introduced a muffle furnace facility and handheld surface roughness evaluation facility for practical classes and to support research work. Service-related works of lathe machines and TIG welding machines were also completed during the year.

During 2021-2022, the central workshop received 114 Nos. of work requests for various purposes, including PG Research, BTP, Sponsored projects, and other fabrication works. The distribution of work requests for various categories is shown in Figure.



The photographs of some work requests are as follows



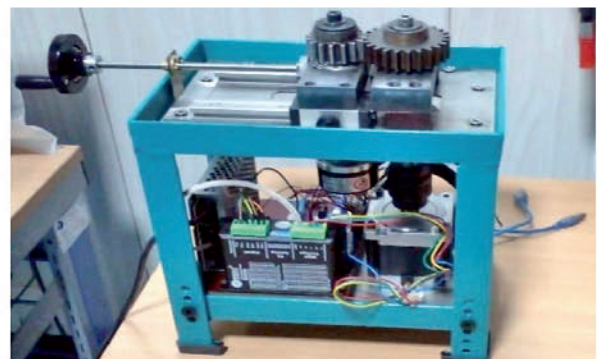
Fabricated 30 ft length Wooden Wind Tunnel



Fabricated Water Channel



Fixture for Jominy Quench Setup



Fabricated structure for Single Gear Flank Roll Tester



Fabricated Nursing Stations for the Health Center



Fabricated Emergency Pole for Safety and Security Department



Fabricated components for Mufflers



Fabricated Tables by utilizing scrapped materials

Department Profiles

Department of Astronomy, Astrophysics and Space Engineering

The Discipline of Astronomy, Astrophysics and Space Engineering (DAASE) has expanded significantly from 2015 and in the last academic year. I am happy to report that our strength has grown to nine regular faculty members, one Ramanujan Faculty Fellow, one INAE Distinguished Professor, 34 PhD research scholars, and 40 PG students.

DAASE is a unique department in the IIT system in the field of Space research and Astronomy cultivating research with a unique blend of science and engineering. We collaborate with other departments within IIT Indore and outside to work on novel projects. Students graduating at PG or PhD level are well placed in their respective career endeavors mostly abroad but also in reputed institutes in India.

DAASE has major involvement in the outreach. We have developed a concept Tinkering Lab in Astronomy and Space mainly in the line of the New Education Policy. Our outreach events are well attended by school and college students of Indore and across Central India on both offline and online modes.

With the above vision in mind, DAASE is starting a unique interdisciplinary BTech programme in Space Science and Engineering (SSE) in July 2023, which envisions developing skilled human resources to meet the demand of the booming space and allied sectors of India and the world. Students of this programme can specialize in one of the following domains with curated elective courses and a semester-long research project - Space Instrumentation: Detectors & Payloads,

Imaging & Data Analytics, Remote Sensing & Atmospheric Engineering, Astronomy & Astrophysics.

Academic Programs

- 1) PhD Program (since 2016)
- 2) BTech program in Space Science and Engineering (starting 2023)
- 3) MTech program in Space Engineering (since 2021)
- 4) MS (by research) program in Space Sciences and Engineering (since 2021)
- 5) MSc program in Astronomy (since 2018)

Number of Faculty Members	
Professor	1
Associate Professor	4
Assistant Professor Grade II	2
Assistant Professor Grade I	2
Visiting Professor/Inae Fellow	1

Programs	Student Intake	Degree Awarded
BTech	20*	-
MTech	9	-
MSc	40	16
MS (by research)	8	-
PhD	34	11

R&D Activities

DAASE faculty members work on several projects in the following areas:

- 1) **Astronomy and Astrophysics** – Connected to three Mega Science Projects of India – Square Kilometer Array (SKA), Thirty Meter Telescope (TMT) and LIGO India (Gravitational Wave Observatory) – Funding comes from DST, DAE, CSIR, MoE (Ministry of Education)
- 2) **Space Technology** - Connected to a few Mega Science projects and space missions with ISRO – funding comes from ISRO, MoE, DST
- 3) **Earth and Atmospheric Sciences** - Connected to remote sensing applications and climate/weather studies – funding comes from DST, ISRO, MoES, etc.

Notable Activities in the Department

- 1) International Linkages: 3 SPARC projects, 2 DST-SIRE projects, 1 Max Planck Partner Grant.
- 2) DAASE has been awarded the DST-FIST grant at level 2 (Rs. 3.2 crore)
- 3) Prof. Hari Hablani received the prestigious INAE Distinguished Professor Award
- 4) Several high -impact publications, including 2 publications in Nature Journal
- 5) Organized two international conferences: URSI-RCRS Conference December 2022, ASI Annual Meeting, March 2023

Project

Project	Sponsored	Consultancy
New Projects	7	
Ongoing Projects	17	
Completed	8	1

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	1	4	15	72

Department of Biosciences and Biomedical Engineering



About the Department

Department of Biosciences and Biomedical Engineering (BSBE) at the Indian Institute of Technology Indore was founded in July 2012 with a vision of establishing a Center of Excellence that will focus on human resource development and research in Biosciences, Bioengineering, and Biomedical Engineering. The Department of BSBE aims to be internationally recognized in Bio-related areas and produce the leaders of tomorrow in the field, with the integrated use of training and career development efforts to improve individual, group, and organizational effectiveness.

Academic Programs

The academic programs consist of MSc (Biotechnology), MTech (Biomedical Engineering) and the PhD. In the MSc (Biotechnology) program, students are admitted through JAM & GAT-B. The department also offers a minor degree for BTech students in Biomedical Engineering. In the coming years, the department intends to start BTech Program.

Our vibrant group of faculty members aspire to create an ambience for the smooth pursuit of scholarly activities in research as well as training on the study of life and living organisms, ranging from simple bacteriophage to complex multicellular organisms such as humans; with the focus being on structure, function, growth, origin, evolution, distribution, and taxonomy. In addition to basic biology research, the BSBE department seeks to contribute to applied research on practical problems in the country.

Number of Faculty Members		11
Professor		04
Associate Professor		06
Assistant Professor Grade I		01
Assistant Professor Grade II		Nil
No. of Post Doctoral Fellows		07

Programs	Student Intake	Degree Awarded
MSc	17	9
PhD	13	11

Notable R&D Activities

- Organized six days of hands-on training Karyashala by Dr. Hem Chandra Jha titled “Isolation and characterization of DNA/RNA/Protein from various infected samples” in July 2022.
- Organized six days of training Karyashala by Dr. Kiran Bala titled “Microbial Biomass and Bio products characterization using high end instruments” in December 2022.
- Organized VRITIKA, 4 weeks training and skill internship (from 14.11.2022 to 11.12.2022) by Dr. H C Jha titled “Virus cell culture and Quantification through quantitative real- time PCR.”
- Organized VRITIKA, one month training and skill internship (from 01.06.2023 to 30.06.2023) by Dr. Kiran Bala.
- Organized seven days (from 26.06.2023 to 02.07.2023) of hands-on training Karyashala by Dr. Hem Chandra Jha titled “Genomics and proteomics analysis of DNA and RNA virus-induced disease progression”.
- In house Symposium organized by Dr. Parimal Kar titled “Recent Advances in Biosciences and Bioengineering” on December 7, 2022.
- Laboratory Safety Management program organized by Dr. Prashant Kodgire on October 12, 2022. Dr. G S Grover, an expert in Lab Safety Management visited BSBE Lab.

Projects: Year 2022

Project	Sponsored	Consultancy
New Projects	6	Nil
Ongoing Projects	20	01
Completed	5	Nil

Publications: Year 2022

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	NA	4	4	104

Department of Civil Engineering



The Department of Civil Engineering has been functioning since 2016 with a focus on basic and applied research to solve real world problems. The Department offers a four-year course leading to a bachelor's degree in civil engineering and PhD in civil engineering. The faculty of civil engineering and students are actively involved in sponsored research projects funded by various organizations of the Government of India as well as industries/consultancy projects throughout the country and abroad. The Department has an active and dynamic faculty member team with international exposure having expertise in diverse fields of civil engineering like Structural, Geotechnical, Transportation, Water resource and Environmental engineering. The CE faculty has been recognized on different platforms across the world as committee chairs/members, outstanding reviewers, and editorial board members. The Department of civil engineering looks forward to establishing itself, nationally and globally, as a premier academic Center with active industry interaction and national/international collaborations.

Academic Programs

The Department runs BTech and PhD Programs in Civil Engineering. The Department also hosts Postdoctoral Fellows in various specializations, sponsored by the Institute, sponsored research projects and other agencies.

Number of Faculty Members: (Assistant/Associate/Full Professors)		13
Professor		03
Associate Professor		02
Assistant Professor Grade II		02
Assistant Professor Grade I		06
No. of Post Doc Fellows		01

Programs	Student Intake	Degree Awarded
BTech	53	43
MTech	-	-
MSc	-	-
PhD	-	04

Notable Activities in the Department

The Department has been awarded several research and industrial consultancy projects (around 76 projects) and the value of Rs. 4.86 crores. Our dynamic faculty and students are recognized on various platforms; some of our key achievements are as following:

- Prof. Sandeep Chaudhary has received Eminent Engineer Award from The Institution of Engineers (India) during the 37th National Convention in 2022 and Best Research Paper award by IIT Indore.
- Prof. Neelima Satyam has been received the JSPS BRIDGE Fellowship (2023) by Japan Society for the Promotion of Science (JSPS) and SERB - POWER Fellowship (2022) by Science and Engineering Research Board, GoI.
- Prof. Manish Kuma Goyal ranked in the Top 2% scientists in a list prepared by Stanford University in the sub-area "Environmental Engineering (Meteorology and Atmospheric Sciences)- 2022 and Associate Editor: Nature Scientific Reports.
- Dr. Lalit Borana was appointed as Guest Editor for a Special issue on Smart Sensors and Data Analytics for Geotechnical Monitoring in the Journal "Sensors", MDPI and delivered a Keynote in "BRI Forum on Safety & Protection of Civil Infrastructures" in November 2022, at Wuhan University of Technology, China.
- Dr. Mohd. Farooq Azam received Early Career Scientist Award from the International Union of Geodesy and Geophysics (IUGG, 2023) for taking Indian Glaciology at global recognition.
- Dr. Guru Prakash visited as a Visiting faculty at the University of Waterloo during 1 December 2022 – 31 December 2022.
- Dr. Priyank J Sharma Contributed as 'Editor' of two book volumes on 'Climate Change Impact on Water Resources' and 'Hydrology and Hydrologic Modelling' as a part of Lecture Notes in Civil Engineering by Springer and Convener of a special session on "Trends and Variations in Hydroclimatic Variables: Links to Climate Variability and Change" at EGU General Assembly 2023 in Vienna, Austria during April 23-28, 2023.
- Dr. Ashootosh Mandpe developed a low-cost adsorbent using corn-cob for fluoride removal from drinking water and developing a novel approach to harness energy/fuel from organic solid

R&D Activities

The Department has expertise in various sub streams of civil engineering like Structural, Geotechnical, Transportation, Water resource and Environmental engineering.

Projects:

Project	Sponsored	Consultancy
New Projects	12	33
Ongoing Projects	21	23
Completed	8	21

Publications:

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	06	20	50	49

Department of Computer Science and Engineering



About the Department

The Department of Computer Science and Engineering (CSE) was set up in July 2009. The department offers Bachelor of Technology (B. Tech.), Master of Science (M. S.) Research and Doctor of Philosophy (Ph.D.) programs. From 2023 onwards, the department offers a Master of Technology (M. Tech.) program. The department adopts a modern approach to teaching wherein students are rendered adequate academic freedom to innovate and learn in the process. The state-of-the-art facilities including the latest software and advanced hardware are available in various laboratories for use in both teaching and research. This facilitates adequate implementation of major B.Tech., MS (Research) and Ph.D. projects and for verification and validation of research results.

The department benefits from the location of the Institute. Indore is fast developing into a major IT hub in central India. Organizations like CSC and Impetus have a strong presence in the city and major players like TCS, Infosys, and other major IT organizations have set up their offices here. For the Department of CSE, this provides an excellent opportunity to foster industry-academia partnerships.

Academic Programs

The Department of CSE offers Bachelor of Technology (BTech), Master of Science by Research (MS by Research), and Doctor of Philosophy (PhD) programs. A total of 38 PhD, 20 MS by Research and 532 BTech students have graduated from the Department of CSE until July 2023. Currently, the department has 42 PhD, 16 MS by Research and 256 BTech students.

Number of Faculty Members		19
Professor		04
Associate Professor		07
Assistant Professor Grade I		04
Assistant Professor Grade II		03
Visiting Professor		01
No. of Post Doctoral Fellows		Nil

Programs	Student Intake	Degree Awarded
B.Tech	84	532
MS Research	15	20
PhD	NA	38

Notable R&D Activities

Prof. Aruna Tiwari

1. Initiated Collaboration with ICAR- Central Institute of Agriculture Engineering Bhopal: Dr. Shashi Rawat, Principal Scientist in the department of Agricultural Mechanization Division for Development of Mobile app for farmers to help them in Agricultural activities: Krishi Sewa, April 2023.
2. The Ground Water Management App developed by IIT Indore under the supervision of Prof. Aruna Tiwari in collaboration with RuTAG IIT Delhi has been copyrighted jointly with IIT Delhi, and then an MoU is signed between RuTAG IIT Delhi (via Innovation Technology Transfer Office i-TTO) and RuTAG, EBSB IIT Indore, and the app is given to an NGO, Ramkrishna Jaidayal Dalmia Seva Sansthan, Block-Chirawa, Dist- Jhunjhunu, Rajasthan (Bhupendra Paliwal, Project Manager). The complete unit (Groundwater level measuring device and Groundwater Management app) is presented to African Asian Rural Development Organization (AARDO) member countries (Sudan, Namibia, Zambia, and Ghana) in a technology awareness and outreach event, a joint initiative of AARDO & office of PSA to the Government of India (on Sept. 28, 2022).

Dr. Anirban Sengupta

1. Ranked in Stanford Universities' top 2 % scientist globally across all domains including in THE top 10 Indian scientist in Computer Hardware area and top 16 Indian scientist in IT/Networking area
2. Fellow of IET (UK), Fellow of British Computer Society (BCS) and Fellow of IETE, Distinguished Visitor & Gold Medalist of IEEE Computer Society and Distinguished Lecturer of IEEE Consumer Technology Society

Dr. Surya Prakash

1. Best Research Paper Award 2023 of IIT Indore: Research paper titled "Adaptation of Pair-Polar Structures to Compute a Secure and Alignment-Free Fingerprint Template" and authored by Vivek Singh Baghel, Syed Sadaf Ali, and Surya Prakash received the Best Research Paper Award 2023 of IIT Indore. The paper is being published in IEEE Transactions on Industrial Informatics. DOI: <https://doi.org/10.1109/TII.2022.3195938>
2. The survey work titled "A Survey of 3D Ear Recognition Techniques" got accepted in ACM Computing Surveys in August 2022. The 2022-2023 Journal's Impact factor of ACM Computing Surveys is 14.324. DOI: <https://doi.org/10.1145/3560884>

Prof. Kapil Ahuja

1. On Council of Scientific & Industrial Research (CSIR) – India Committee to Monitor AI projects with Industrial/ Societal Impact (Aug 2022 – July 2025).
2. Editor, IETE Journal of Research (Taylor & Francis) (Feb 2021 – Jan 2024).

Dr. Gourinath Banda

1. Two articles are published in the Industry Consortium Object Management Group's prestigious Journal of Innovation.
2. One bachelor dissertation project is bestowed with Gold Award at the International flagship event of Global M-Awards at the World Government Summit 2023.

Dr. Puneet Gupta

1. Promoted to Associate Professor in October 2022
2. Received TDP research project grant from IIT Indore Drishti.

Dr. Nagendra Kumar

1. Developed CovilS: A Real-Time Covid Help Information System using Digital Media
2. Organized AICTE Sponsored Indian Workshop on Artificial Intelligence

Dr. Chandresh Kumar Maurya

1. Prime Minister Fellowship
2. Young Scientist fellowship

Dr. Ayan Mondal

1. Received the IEEE TCSC Outstanding Ph.D. Dissertation Award, 2022
2. S. Maiti, S. Misra, and A. Mondal, "CBP: Coalitional Game-based Broadcast Proxy Re-encryption in IoT," IEEE Internet of Things Journal, Early Access, pp. 1-10, April 2023. DOI:10.1109/JIOT.2023.3265028

Projects

Project	Sponsored	Consultancy
New Projects	14	-
Ongoing Projects	25	01
Completed	4	-

Publications

	Patent	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	02	02	13	30	50

Department of Electrical Engineering



Department of Electrical Engineering at the Indian Institute of Technology Indore, established in 2009, envisions providing the guidance and conducive learning environment necessary to mold young minds to become technology experts, leaders, and high-quality professionals. The department endeavors to send forth talented individuals having the highest professional competence who can contribute to technological advancements. The department faculty members strive to create synergy between teaching and research activities and provide students with the most recent and relevant domain knowledge aided by high-quality research. The faculty members aim to stimulate students intellectually and create an atmosphere of inquiry and innovation. We endeavor to provide research programs in cutting-edge technologies and create skilled researchers who are passionate and equipped to work in a rapidly evolving technological landscape. Currently, the department faculty members and students are actively engaged in research in Communications, Signal Processing, Image Processing, VLSI, Nanoelectronics, Semiconductor Devices, RF and Microwave, Photonics, Power Engineering, and Biophotonics Instrumentation.

Academic Programs

The vision of the department is to impart quality education and promote inter-disciplinary, industry-oriented advanced scientific research to address the challenges and develop future technologies having relevance to industrial and societal requirements. The department offers undergraduate (B.Tech.), postgraduate (M.Tech. in Communication and Signal Processing, M.Tech. in VLSI Design and Nanoelectronics, and M.S. by Research), and doctoral (Ph.D.) programs. The department's first international student graduated this year.

Number of Faculty Members	19
Professor	12
Assistant Professor Grade II	5
Assistant Professor Grade I	2

Programs	Student Intake	Degree Awarded
BTech	81	69
M. Tech. CSP	6	9
M. Tech. VDN	9	11
MS(Res)	6	7
Ph.D.	25	12

Projects

Project	Sponsored	Consultancy
New Projects	22	4
Ongoing Projects	46	2
Completed	23	5

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	07	10	80	120

Department of Mechanical Engineering

About the Department

The Department of Mechanical Engineering holds a prestigious position as one of the oldest and largest departments in our Institute, boasting a team of 26 dedicated full-time faculty members and over 10 skilled administrative and technical staff members. Our curriculum focuses on science, engineering, and technology, with a strong emphasis on imparting technical skills, problem-solving abilities, and fostering innovation in new technologies. To support our academic and research programs, we offer state-of-the-art research facilities. Our primary objective is to provide high-quality engineering education, equipping students with a comprehensive foundation and specialized training to meet the present and future demands of the field. With unwavering commitment, we strive to shape capable engineers who can contribute to advancements in the mechanical engineering domain.

Academic Programs

The Department of Mechanical Engineering offers a comprehensive range of programs, including BTech, MTech, MS (Research), and PhD, along with dual degree options, in Mechanical Engineering. With a current student enrollment of over 244 UG, 32 PG, and 56 PhD students, the department provides a vibrant academic environment. It also hosts postdoctoral fellows and welcomes personnel from organizations like DRDO, armed forces, and government/private sectors. The department's MTech programs cover Advanced Manufacturing, Mechanical System Design, and Thermal and Energy Systems. Furthermore, it embraces international students, including those from Nepal and Nigeria, fostering a global learning atmosphere. The Department of Mechanical Engineering is committed to nurturing academic excellence, research innovation, and the development of well-rounded engineers who will make significant contributions to the field.

Number of Faculty Members	26
Professor	9
Associate Professor	5
Assistant Professor Grade II	2
Assistant Professor Grade I	10
No. of Post Doc Fellows	06

Programs	Student Intake	Degree Awarded
BTech	70	70
MTech	28	21
MS Research	7	5
PhD	10	8

Notable R&D Activities

The Department of Mechanical Engineering has undertaken numerous sponsored and consultancy research projects for esteemed organizations such as DRDO, ISRO, John Deere (India), and Simple Energy Private Limited. With state-of-the-art research facilities in place, the department has conducted various academic activities including Short-Term Programs (STPs) and Faculty Development Programs (FDPs) for industry professionals and academic personnel. Some notable research endeavors include the development of micro-plasma transferred arc (μ -PTA) wire and powder deposition processes for meso-sized additive manufacturing, advancements in biocompatible knee implants and functionally graded materials, the creation of fault detection algorithms for wind turbine gearboxes, and the exploration of lead-free triboelectric nanogenerators for energy harvesting. The department has also made significant contributions in fields such as soft robotics, thermal management using phase change materials, ceramic coatings for various applications, reliability testing of shape memory alloy springs, nanoglass research, and biomechanical analysis of root canal preparation.

Projects

Project	Sponsored	Consultancy
New Projects	13	13
Ongoing Projects	36	10
Completed	10	10

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	1	23	50	117

Department of Metallurgical Engineering and Materials Science



The department was started as the Center of Materials Science and Engineering in 2013 and then established as the Department of Metallurgical Engineering and Materials Science (MEMS) in 2016. The department focuses on carrying out interdisciplinary research in Material Science and Metallurgy, to find solutions for intricate real-world problems that benefit society. Presently the department has 18 core faculty members along with 6 supporting staff. Our collective goal is to understand the synthesis, processing, and characterization of several classes of materials; and then correlate the properties towards enhancing their performance. MEMS faculty members are working in research areas ranging from conventional metallurgy to modern materials science.

Number of Faculty	18
Professor	01
Associate Professor	09
Assistant Professor	08

Academic Programs

The department offers various programs at UG and PG levels. It offers B. Tech in Metallurgical Engineering and Materials Science, M. Tech in both (i) Materials Science and Engineering, (ii) Metallurgical Engineering and PhD Program. The department covers a variety of courses, including basic science and engineering along with advanced level elective courses.

Programs	Student Intake (2022)	Degree Awarded (2022)
B. Tech	55	42
M.Tech	12	14
Ph.D.	12	12

R&D and other activities

1. Organized 1st International Conference on Frontiers in Materials Engineering' (ICFME-2022), 14-16 December 2022, at IIT Indore.
2. Organized DHARA event on Dhatushastra (Metallurgy) at IIT Indore during March 20-21, 2023.
3. Organized Indo-Slovenia Joint workshop at IIT Indore on Feb 20, 2023.
4. Organized Satellite Event of National Conference on the contribution of Dr. Homi Jehangir Bhabha to the National Building, Nov 03, 2022, IIT Indore Campus.

5. Organized SERB Vidyan Karyashala, July 4-8 2023 and "Recent Development in Energy Materials for Sustainable Future" November 21 to December 3, 2022.
6. 6-Days short-term course on 'Materials Engineering from Synthesis to Applications' (AICTE-QIP sponsored) 21st -26th Mar. 2022.

Awards and other Achievements

- Best Teacher Award from Indian Institute of Technology Indore, received by Prof Sunil Kumar.
- Best Oral Presentation Award, received by Prof. Ajay Kumar Kushwaha at the 11th Asia Conference on Mechanical and Materials Engineering (ACMME-2023) which was held during 8th to 11th June, 2023 at Sapporo Japan.
- Prof. Parasharam M. Shirage received Fellow of Maharashtra Academy of Science

International visit of Faculty/Students and Visitors to MEMS Department

- Dr. Ajay Kumar Kushwaha visited Taiwan (13-20th May 2023) and Japan (7-14th June 2023)
- Dr. Hemant Borkar visited Japan during 8-11 June 2023.
- Dr. Ram Sajeevan Maurya visited Japan during 8-11 June 2023.
- Dr. Vinod Kumar visited South Korea, April 2023
- Dr. Dharendra Rai, visiting Canada during June-July 2023.
- Dr. Eswar Prasad Visited Singapore, 2023
- Department Adjunct Faculty Prof Vilas Pol, Purdue University, USA visited the Institute in January 2023
- Visit of Mr. Devendra Vishwakarma (CTO and Vice President of Technology CTO and Vice President of Technology Larsen & Toubro, USA, 21 June 2023
- Prof Vivek Bajpai (Mechanical Engineering, IIT ISM DHANBAD) visited during 18-22 June ,2023

Notable activities in the Department

- Outstanding Researcher in Materials Science by Venus International Foundation, India.
- Covered in PV Magazine International for contribution in all oxide solar cells.
- Keynote Lecture on "Effect of Severe Surface Deformation on Plasma-Nitriding and Oxidation Behaviour of Austenitic Stainless Steel" at the International Conference & Exhibition on Materials, Engineering, Technology and Advances in Heat Treatment ASM International, India Chapter, Mumbai
- Keynote Lecture on "Surface Engineering of Stainless Steel: Severe Surface Deformation & Surface Alloying" International Conference on "Advances in Steel, Power and Construction Technology" (ICASPCT).
- Received "Outstanding Reviewer" appreciation award by International Journal "Transactions of Indian Institute of Metals".
- Dr. Ajay K. Kushwaha delivered an invited talk on "Graphene" at CSJMU Kanpur.
- Dr. Siddharath Suman, Scholar under Dr. Ajay Kumar Kushwaha joined as Postdoc Fellow at IIT Bombay
- Collaborating with TCS Researc, Pune, India by Dr. Venkata Vamsi Koruprolu .
- Dr. Ajay Kushwaha, Dr. Hemant Borkar, Dr. Ram Sajeevan Maurya and Dr. Nisheeth Prasad have visited a foundry at Pithampur.

- Dr. Vinod Kumar visited Rajratan Industries, Eicher motors, and other industries.
- 'Recent development in energy materials for sustainable future', (AICTE-QIP sponsored Faculty development program (FDP) was held by the Department of Metallurgy Engineering and Materials Science at the Indian Institute of Technology Indore from 21st Nov. 03rd Dec. 2022.
- Prof. Parasharam M. Shirage was Co-Ordinator, SERB Vidyan Karyashala, July 4-8 2023 and Co-Ordinator for Faculty Development Programme (FDP) at IIT Indore on, "Recent Development in Energy Materials for Sustainable Future" from November 21 to December 3, 2022.
- Prof. Parasharam M. Shirage delivered the Planetary Lecture at the Indore Institute of Science and Technology Indore on February 28, 2023 -National Science Day, and at the 6th International Conference on Microactuators, Microsensors, and Micromechanisms (MAMM) at IIT Hyderabad, 3-5 December 2022.
- Prof. Parasharam M. Shirage was invited at the International Conference on Advanced Materials Synthesis, Characterization and Applications (AMSCA-2022) during October 18-20, 2022, at Savitribai Phule University, Pune. 2022. The short-term course under the AICTE-QIP scheme on 'Materials Engineering from synthesis to application' ran from 21st to 26th February 2022, IIT Indore. 2022
- Dr. Hosmani was Technical Committee Member (Advances in Heat Treatment), at the International Conference & Exhibition on Materials, Engineering, Technology and Advances in Heat Treatment, organized by ASM International, India Chapter, Mumbai. (November 2-4, 2022).
- Two Keynote Lectures were given by Dr. Hosmani during June 2022 - June 2023 (one was organized by ASM International, India Chapter, Mumbai (November 3, 2022) and the other was organized by OP Jindal University, Raigarh (CG), India (June 17, 2022)). He also gave invited talks at the International Conference on Frontiers in Materials Engineering (ICFME-2022) organized by Dept. MEMS, IIT Indore, India (December 14, 2022).
- Dr. Ram Sajeevan Maurya was invited to chair a session in ACMME 2023 conference - Japan, and delivered a talk as well.
- Dr. Rupesh S. Devan delivered a talk on "Nano-architectures for battery-supercapacitor hybrid: the way ahead in the era of battery technology" at the Online Short-Term Course on 'Renewable Energy and Green Technology, UGC HRDC Mumbai, 26th Dec. 2022 to 1st Jan. 2023
- Dr. Rupesh S. Devan delivered a talk on "Understanding the Optical and chemical properties of nanomaterials using UV-VIS spectroscopy and XPS" at DST-STUTI program on Advances in Characterization of Materials, M.S. University of Baroda, Vadodara and IIT Gandhinagar, during 12th to 18th September 2022.
- Dr. Rupesh S. Devan delivered a talk on "Nano-hetero-architectures for energy application", one day National Conference on Advances in Functional and Sustainable Materials, SGM College Karad and KRP Kanya Mahavidyalaya Islampur, 8th April 2022. He also spoke on "1D nano-hetero-architectures: synthesis to application" at the AICTE-ATAL FDP on Molecular Manufacturing, Department of Chemistry, Central University of Punjab, Bathinda, 3rd to 7th January 2022.
- Dr. Vinod Kumar delivered a talk on the eve of their 50th Anniversary of Ajou University, South Korea.
- Keynote Lectures were given by Dr. Hosmani during June 2022 - June 2023 (one was organized by ASM International, India Chapter, Mumbai (November 3, 2022) and the other was organized by OP Jindal University, Raigarh (CG), India (June 17, 2022). He also gave an invited talk at the International Conference on Frontiers in Materials Engineering (ICFME-2022) organized by Dept. MEMS, IIT Indore, India (December 14, 2022).
- Prof. N.B. Ballal has joined as Visiting Distinguished Professor in the department in May 2023.

Projects

Project	Sponsored	Consultancy
New Projects	11	03
Ongoing Projects	11	04
Completed	Nil	Nil

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	Nil	01	02	71

Department of Physics



About the Department

The Department of Physics has been a vibrant and flourishing department since the inception of the Institute in 2009. With a current faculty strength of 17, our faculty possess expertise in diverse fields such as condensed matter physics, high energy physics, black-hole physics, gauge/gravity duality and complex networks. Our state-of-the-art facilities, including computer labs and well-equipped condensed matter experimental setups, have grown and evolved over the years to support cutting-edge research and innovative teaching methods in line with the new education policy of the Government of India.

Academic Programs

We offer a range of academic programs, including M.Sc. and Ph.D. in Physics, and have proudly graduated over 50 PhD students and 125 MSc students who have gone on to join prestigious institutes worldwide. The Department is also in the process of launching new programs, such as a 2-year MTech in Synchrotron Science and Technology and a 4-year BTech in Engineering Physics (approved by the Senate), to provide students with more opportunities to excel. The Department prides itself on fostering a highly collaborative environment, facilitating close interaction between different research groups within the department, across IIT Indore, and with renowned national and international institutions. Our commitment to providing students with practical research experience extends across all levels of education, from undergraduate to postgraduate and Ph.D. programs. To this end, the Department of Physics at IIT Indore has established more than 15 advanced research laboratories, each focusing on different branches of physics, to provide our students with unique research opportunities and an exceptional learning experience.

Number of Faculty Members		17
Professor		10
Associate Professor		01
Assistant Professor Grade I		06

Programs	Student Intake	Degree Awarded
MSc	25	26
PhD	13	06

Notable Physics Departments Activities

Presently we have established collaborations with several national institutes, including IISc, IITs (Bombay, Delhi, Madras, Kanpur, Ropar, Hyderabad etc.), RRCAT, BARC, IISERs (Kolkata, Pune, Behrampur etc), HRI, Several Universities (Pune, Mumbai, Allahabad, Calcutta), SNB-NCBS and SNIP - Kolkata,

Our international collaborations include the University of Cambridge, University of Oxford, Stanford University, Michigan State University-USA, Penn State University-USA, CUNY-USA, LUH Hannover-Germany, Rutherford Appleton Laboratory and ISIS Facilities - UK, TU Berlin - Germany, TU Dortmund - Germany, Queens Marry University London-UK, LMU-Munich, Germany, Bern University-Switzerland, Osaka University- Japan, NTU - Singapore, Complexity Science Institute - CNRS Italy, Instituto Superior Tecnico, Lisbon, Portugal.

We further plan to collaborate in Energy generation and storage, Quantum Materials and technology, Soft Matter and Biological Physics, 2D Materials, Machine Learning and Artificial Intelligence etc, through bilateral projects. As the next step further, we also look forward to starting student exchange programs for study and research with these international partners.

Projects

Project	Sponsored	Consultancy
New Projects	05	Nil
Ongoing Projects	28	Nil
Completed	24	Nil

Publications

	Chapters in Books	Papers in Conference	Papers in Journals
Total	02	02	54

Department of Chemistry



About the Department

The Department of Chemistry at IIT Indore, established in August 2009, is rapidly growing, with research diversity, external funding, and several publications. We have 20 faculty members with research interests ranging from traditional areas (organic, inorganic, physical, and theoretical/computational) to highly interdisciplinary research areas such as nanotechnology, catalysis, energy, machine learning, biochemical, analytical, and materials. The department's faculty is exceptionally well qualified and motivated, with a solid commitment to teaching and research. Our department has state-of-the-art sophisticated instrumentation facilities to facilitate research in several chemistry and interdisciplinary research areas.

Academic Programs

The academic programs at the Department of Chemistry consist of courses for Ph.D., M.Sc., and B.Tech. undergraduate students. Research work in a plethora of fields ranging from coordination chemistry, theoretical chemistry, synthetic organic chemistry, supramolecular chemistry, solid-state chemistry, and other Interdisciplinary fields make this department a significant center for cutting-edge research. The Department of Chemistry at IIT Indore is the only 2nd generation IIT built in India to introduce a two-year master's program in Chemistry (MSc Chemistry) wherein an entire year, especially the 2nd year of the program, is dedicated to laboratory research in the field of the student's choice. Since 2013, this unique program has devoted a whole year to solving fundamental research problems in the laboratory and giving exposure to students to decide if they would like to proceed with a doctoral program in their higher studies. This ensures that only qualified and motivated students pursue the doctoral program and contribute to the welfare of society. Additionally, students decide on their journey to a doctoral program or look for a lucrative job after completing a master's program at IIT Indore.

Number of Faculty Members		20
Professor		09
Associate Professor		05
Assistant Professor Grade I		05
Assistant Professor Grade II		01
No. of Post-Doctoral Fellows		07

Programs	Student Intake	Degree Awarded
MSc	25	30
PhD	6	8

Notable R&D Activities

- Royal Society of Chemistry and IIT Indore Symposium on Materials Science Towards New Horizons 2023 January 12-13, 2023,
- Sustainable Chemistry – 2023 Under INDO-GERMAN Higher Education Partnerships 22nd -23rd February 2023 Funded by UGC and DAAD



- The Chemistry Day & In-House Chemistry Symposium (CHEM 2023), March 6, 2023.
- Prof. Suman Mukhopadhyay's research group developed a functional polymer for absorbing hazardous waste.
- Prof. Sanjay Kumar Singh's research group developed protocols for the production of purified hydrogen gas, for which one Indian Patent has been granted this year (patent No. 422056).
- Prof. Apurba Das's research group developed benzoselenadiazole-capped tripeptides with inherent vitro anti-cancer and anti-inflammatory activity.
- Prof. Tushar Kanti Mukherjee's research group developed urine glucose sensor strip.
- Dr. Debayan Sarkar's research group developed the transformation of plastics to chemicals employing visible light catalysed dearomatisation.

Projects

Project	Sponsored	Consultancy
New Projects	11	1
Ongoing Projects	19	Nil
Completed	13	Nil

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	-	03	15	108

Department of Mathematics



The Department of Mathematics at IIT Indore has been a major center for academic and research programs in various branches of Mathematics. The Department has constantly been engaging in frontier research areas and been encouraging collaborative research with the other Science and Engineering Departments.

Number of Faculty Members	
Professor	02
Associate Professor	04
Assistant Professor Grade I	12

Academic Programs

The Department currently offers PHD and MSc programs in Mathematics and envisages other master programs in allied fields, such as statistics and applied computing. Starting from the academic year 2023, the department is going to start a BTech program in Mathematics and Computing.

Programs	Student Intake	Degree Awarded
MSc (Mathematics)	20	17
PhD	37	01

Notable R&D Activities

- 29th International Conference on Neural Information Processing (ICONIP2022) from Nov. 22-26, 2022, New Delhi, India (M. Tanveer as General Chair).
- 2022 IEEE CIS Summer School on Deep Learning and Computational Intelligence: Theory and Applications from Dec. 12-16, 2022, IIT Indore, India (M. Tanveer as General Chair).
- 2023 International Joint Conference on Neural Networks (IJCNN 2023) (Core Rank A) from June 18-23, 2023, Australia (M. Tanveer as Competition Co-Chair).
- Special Session on Randomization-Based Deep and Shallow Learning Algorithms at IJCNN 2023, Australia from June 18-23, 2023 (M. Tanveer as Organizer).
- One day EEG Training Workshop on May 05, 2023 (M. Tanveer as Organizer)
- Organized a Lecture Series on Nonlinear Dynamics and Applications, Department of Mathematics, IIT Indore, February 13-16, 2023
- Organized a workshop on One-day workshop on "Hands-on Training using MATLAB", Bhaskaracharya Mathematics Laboratory, Dept. of Mathematics, IIT Indore, October-06, 2022
- Organized 10th Indian Conference on Logic and its Applications (ICLA 2023), March 3 - 5, 2023

Projects

Project	Sponsored
New Projects	06
Ongoing Projects	16
Completed	16

DST-FIST support

Bhaskaracharya Mathematics Laboratory
Brahmagupta Mathematics Library

**Publications**

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	02	09	16	84

Further, the department is also engaged in promoting Mathematics among college teachers, postgraduate & undergraduate students in India through various outreach activities, like short-term courses, Webinars, Student seminar Series, etc. The department regularly organizes lectures by eminent mathematicians from reputed institutes around the world.

For more details please visit <http://math.iiti.ac.in>.

School of Humanities and Social Sciences



About the School

The School of Humanities and Social Sciences at IIT Indore is an exciting and vibrant place for research and pedagogy. The faculty members of the school are an eclectic mix of researchers from the varied disciplines of Economics, English, History, Philosophy, Psychology and Sociology. We have 19 faculty members including one Honorary Professor and one Distinguished Visiting Professor. More than 60 PhD students are currently working on exciting projects and research problems. The research collaborations of the faculty members, whether within the school, or across the Sciences and Engineering disciplines at the Institute, or those with colleagues both nationally and internationally, demonstrate the truly interdisciplinary nature of the research conducted at the school.

Academic Programs

The School of Humanities and Social Sciences has two main academic Programs: First, a PhD Program that comprises course work and a rigorous dissertation work. Our students have won prestigious national and international scholarships, fellowships, and awards. The graduated students have gone on to excel in their chosen careers. Second, an MS (Research) Program. The first batch of this Program commenced in Autumn 2021.

Number of Faculty Members		17
Professor		3
Associate Professor		3
Assistant Professor Grade II		6
Assistant Professor Grade I		5
No. of Post Doc Fellows		0

Programs	Student Intake	Degree Awarded
MS (Research)	2	0
PhD	24	2

Notable R&D Activities

Prof. Nirmala Menon and Prof. Pritee Sharma received a grant from MoE for establishing J P Narayan National Centre for Excellence in the Humanities, 2022: 9.68 crores.

Prof. Manish Goyal (from CE Dept.) and Prof. Ruchi Sharma received grant from DST for establishing Centre for Policy Research on Technological Innovation and IPRs Ecosystem, 2023: 50 lakhs.

Dr. Ashok Kumar Mocherla was a Yang Scholar in World Christianity (2022-2023) at Harvard University, USA.

Dr. Sanjram and his teams' idea secured a place in the top 75 in the global competition, "LiFE Global Call for Ideas and Paper" organized by NITI Aayog (Behavioural Insights Unit) and the MOEFCC, in partnership with the United Nations, World Resources Institute, Centre for Social and Behaviour Change (CSBC) and Bill and Melinda Gates Foundation (BMGF).

Dr. Ananya Ghoshal received Best Teacher Award from IIT Indore (2022).

Dr. Shomik Dasgupta was elected as a Fellow of the Royal Historical Society, FRHistS, London, UK (2022).

The Discipline of Economics, with Prof. Ruchi Sharma as Secretary, organized the IndiaLICS Conference 2022, India's Innovation System @ 75 Achievements, Limits and Way organized virtually from 21-23 December 2022.

Dr. J Thapasya's paper co-authored with her student Mr Dibya Prakash Panda won the Prof. Vennelakanti Prakasam Award 2023 for the Best Paper on Systematic Functional Linguistics in the 50th All India Conference of Dravidian Linguistics organised by Dravidian Linguistics Association.

Projects

Project	Sponsored	Consultancy
New Projects	8	1
Ongoing Projects	11	0
Completed	1	0

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	2	16	8	21

Center Profiles

Centre for Entrepreneurship Education and Development (CEED)

About CEED

Centre for Entrepreneurship Education and Development (CEED) is one of the recently established Centres of IIT Indore for teaching courses related to innovation and entrepreneurship to students of IIT Indore as well as offering short-term courses and faculty development programs for outside community members.

Objectives

- To train aspiring entrepreneurs through courses related to innovation and entrepreneurship
- To develop innovation & entrepreneurship skills among students and motivate them towards choosing entrepreneurial career option

People

- Dr. Swaminathan R (Professor In-charge)
- Dr. Shomik Dasgupta
- Dr. Mohanasundari Thangavel
- Ms. Sonal Rai (Junior Assistant)
- Dr. Ananya Ghoshal
- Dr. Ashootosh Mandpe
- Prof. Ruchi Sharma

Academic Programs

CEED offers an open elective course on Foundation for Entrepreneurship for all bachelors/ masters/ PhD students since Autumn 2022. The main scope of this course is to develop innovation and entrepreneurship skills among the students through experiential learning. In the Autumn 2022 course, invited lectures on different topics were given by domain experts, startup founders, faculties from IIM Ahmadabad and IIT Bombay.

Major Achievements

- CEED, IIT Indore in association with IITI Advanced Centre for Entrepreneurship (ACE) Foundation organized Startup Bootcamps at four higher educational institutions of Madhya Pradesh (MP). These bootcamps were financially supported by MP Startup Centre. A total of around 529 student participants including startups from three different parts of MP (Indore, Ujjain and Rewa) attended these bootcamps, where our experts engaged in delivering 8 technical sessions for 2 days (around 6 hours per day) related to various aspects of Startup and Entrepreneurship such as choosing a startup idea, developing the idea into an MVP, creating a successful startup, key terms and jargons in startup, valuation basics, funding avenues, basics of IP for entrepreneurs, etc. The technical session also included one mock pitching session exclusively for student participants to pitch their ideas in front of experts.
- CEED, IIT Indore in association with IITI ACE Foundation and MSME DFO Indore organized two Awareness programmes on Design scheme of Ministry of MSME for which IIT Indore is serving as an implementing agency. It was attended by 91 MSMEs of MP. The objective of the design scheme is to provide expert advice and cost-effective solutions on real time design problems for new product development.
- CEED in association with IITI ACE Foundation organized a two-week faculty development programme (FDP) on Entrepreneurship and Leadership Management funded by AICTE Teaching and Learning (ATAL) academy. Around 50 faculty members from various institutions of MP participated and successfully completed the programme.
- CEED in association with IITI ACE Foundation organized a two-week FDP on Foundation for Entrepreneurship. More than 50 faculty members/staff from various higher educational institutions and incubation centers of MP participated in this programme.

Glimpse of the Outreach Activities



Startup Bootcamp at Medi-Caps University, Indore
(Jan 31 and Feb 1, 2023)



Startup Bootcamp at IPS Academy Indore
(Feb 16 and 17, 2023)



Startup Bootcamp at Govt Madhav Science College, Ujjain
(March 1 and 2, 2023)



Startup Bootcamp at Rewa Engineering College, Rewa
(March 16 and 17, 2023)



MSME Design Scheme Awareness Programme
(31/03/2023)



MSME Design Scheme Awareness Programme
(18/01/2023)



ATAL FDP on Entrepreneurship and Leadership Management
(Aug 1 to 12, 2023)



Online FDP on Foundation for Entrepreneurs
(June 12 to 24, 2023)

Sophisticated Instrumentation Center (SIC)

Sophisticated Instrumentation Centre (SIC) was established in September 2011 with Institute funding to expedite the research program at IIT Indore. The mission of SIC is to support and foster the research initiatives at IIT Indore, by providing a state-of-the-art instrumentation facility and its use and application in cutting-edge research. The high-value instruments are accommodated under one umbrella to provide the highest quality of data analysis to its stakeholders. SIC offers analytical services across the Institute's departments and external academic/industry users. SIC is constantly working on its mission to support and foster research in all branches of science and engineering at IIT Indore.

SIC is now working towards being a self-sustained center by generating funds from services provided to external users. A significant advantage of the SIC facility is its easy accessibility to the students, and faculties with a very healthy ratio of students vs. instrument availability.

The following departments in the Institute have been actively using the SIC instruments to strengthen their research and development activities: Biosciences and Biomedical Engineering, Chemistry, Civil Engineering, Electrical Engineering, Mechanical Engineering, Metallurgical Engineering and Materials Science, and Physics.

Vision/Mission and Objectives

1. To provide facilities of SIC to professors, scientists, and students of IIT Indore as well as various academic institutes and industries to carry out sample analysis for research and development work.
2. To organize workshops on the use and application of various SIC Instruments for students, teachers from universities, and industries.
3. To develop new analytical techniques/methods to fully utilize the instruments and provide them to explore new research horizons in various areas of science and technology.
4. To ensure easy data collection for advanced research with nominal charges.



Prof. Apurba K. Das
Professor In-Charge SIC



Mr. Ghanashyam Bhavsar
Technical
Superintendent



Mr. Kinny Pandey
Technical
Superintendent



Dr. Ravinder
Junior Technical
Superintendent



Mr. Atul Singh
Junior Technical
Assistant



Mr. Ranjeet Raghuvanshi
Administrative
Staff

Facilities available with SIC

SIC includes various instruments which can be categorized such as:

X-Ray Diffractometers

Single Crystal XRD (SCXRD)

Energy Dispersive X-Ray Spectroscopy (EDS/EDX)

Wavelength Dispersive Spectroscopy (WDS/WDX)

Powder XRD (PXRD)

X-ray Absorption Fine Structure (XAFS)

Spectrometers

Fourier Transform Infrared Spectrometer (FT-IR)

Time-Correlated Single Photon Counting (TCSPC)

Polarimeter

UV-VIS-NIR Spectrometer

Photoluminescence (PL)

Spectrofluorometer

Circular Dichroism (CD)

NMR 400 MHz

UV-Visible Spectrometer

Microscopy

Field-Emission Scanning Electron Microscopy (FE-SEM)

Total Internal Reflection Fluorescence Microscopy (TIRFM)

Atomic Force Microscopy (AFM)

Confocal Laser Scanning Microscopy (CLSM)

Chromatography

High Resolution Mass Spectrometry (HR-MS)

High-Performance Liquid Chromatography

Gas Chromatography-Mass Spectrometer (GC-MS)

Analyzer

CHNSO Analyzer

Surface Area Analyzer (BET)

Rheometer

Electro-Analytical

Cyclic Voltammetry (CV)

Spectro Electro-Chemical Cell (SEC)

Thermal Analysis

Thermogravimetric Analyzer (TGA)

Differential Scanning Calorimetry (DSC)

Sample Preparation

Lyophilizer

Dual Ion Beam Sputtering Deposition System (DIBSD)

Microwave Synthesizer



Glimpses of Major Facilities in SIC

Industries	Academics
1. Navin Fluorine, Dewas	1. DAVV, Indore
2. Sarna Chemical, Gujrat	2. VNIT Nagpur
3. Prism Johnson, Dewas	3. Vikram University, Ujjain
4. Hetero Drugs, Hyderabad	4. SGSITS, Indore
5. Medilux Laboratories, Pithampur	5. IIT Kanpur
6. Symbiotec Pharmalab, Indore	6. IIT Gandhinagar
7. Trio Tech Chemical, Indore	7. NIT Patna
8. Angeel Oak, Indore	8. Manipur University, Imphal
9. Shrinivas Pharmachem, Ujjain	9. IGNTU, Amarkantak
10. Macsen Drug, Udaipur	10. NIT Silchar
11. SSC Industries, Indore	11. Sage University, Indore
12. Kriti Nutrients, Indore	12. PMB Gujarati Science College, Indore
13. Knovea Pharmaceutical, Indore	13. Sardar Patel University, Gujrat
14. Rajratan Wires, Indore	14. Dr. Harisingh Gour University, Sagar

Role of SIC in Institute Research Activity

- With providing support to more than 2500 publications SIC has been catering the research needs of institutional faculties & research scholars.
- 23 patents are registered using SIC data
- SIC so far supported various projects funded by external agencies total valued above INR 50 crores.

Center for Advanced Electronics (CAE)



The Center for Advanced Electronics (CAE) has been established in June 2020 at IIT Indore as an interdisciplinary research center that aims to develop materials, devices & technologies for multidisciplinary applications including computing, communication, medicine, and energy. The Center is headed by Prof. Mukesh Kumar with a prominent team of other faculty members from across the Institute and administrative staff.

The CAE is honoured to have on board some of the renowned academicians, working in electronics and its allied areas, under one technical roof to enable high-quality applied research for the benefit of mankind. We focus on building a platform for applied research, device development, and skill & manpower development in the nationally important area of electronics.

Academic Programs

The Center for Advanced Electronics (CAE) has launched a Ph.D. program exclusively in Advanced Electronics, which comprises research areas such as Nanoelectronics/Microelectronics, Integrated Silicon Photonics/Optoelectronics, Advanced Materials and Devices, Advanced Memory Technology, Electronic Waste Utilization, Computational Electronics and Materials, and 2D Electronic Materials, Biochemical Sensors, Signal Processing, VLSI Circuit and System Design, Photovoltaics, Wireless & Optical Communication and AI and Machine Learning.

The Center is also in process of proposing a PG program, MS Research in Advanced Electronics with a vision to cater to national semiconductor needs, specifically to generate manpower and to technically contribute towards India Semiconductor Mission.

Number of Faculty Members	11
Professor	08
Associate Professor	01
Assistant Professor Grade	02
Ramanujan Fellowship	01

Programs	Student Intake	Degree Awarded
BTech	NA	-
MTech	NA	-
MSc	NA	-
PhD	04	-

R&D Activities

The Center is focused on applied research in multidisciplinary fields. There are some state-of-the-art facilities for research and development in advanced semiconductor technology and material science.

Research laboratories under CAE

1. Optoelectronic Nanodevice Research Lab
2. Non-equilibrium Advanced Engineering Lab
3. Hybrid Nanodevice Research Group (HNRG) Nanoscale Devices
4. VLSI Circuit & System Design Research and Development Lab
5. Supramolecular Chemical Nanoscience Group
6. Materials & Device Research Group
7. Signals & Software Group (Sasg)
8. Theoretical Condensed Matter Physics & Advanced Computational Materials Science Lab
9. Signal Processing Research Group
10. Nano and Energy Materials Laboratory
11. Optoelectronic and functional oxides lab
12. SMN Group lab

Research Outcomes

- a. Fabricated chemiresistive sensor for the detection of ethanol using organic-inorganic nanohybrid.
- b. Electronic Structure of Point Defects, Surfaces, and Interfaces in Compound Semiconductors and their Impact on the Electrical and Magnetic Properties using First-Principles Calculations.
- c. Nanomaterial Science and Engineering, Defects in Materials, Single Wall and Multi Wall Carbon Nanotubes (CNT), Multi-layers Graphene and 2D and 3D Materials Engineering.
- d. Transition Metal Dichalcogenides (TMDs), Novel Perovskite, Topological Insulators, Porous Materials for Hydrogen and Fuel Cell, Alkali-ion Battery and Energy Storage, Solar cell, Renewable Energy Technology, CO₂ and CO Capture and H₂ storage.

The Center has conducted and organized various short courses/webinars/FDPs covering various advanced technologies as a part of outreach activities. CAE has contributed notably with its high-quality research publications and patents and provided training to a good number of external UG students.

Notable activities in the department

In CAE we have signed a non-disclosure agreement with Bharat Electronics Ltd. for joint research work in the area of Radar Technology and Photonics. We are pushing our outreach activities very strongly by conducting FDPs and other courses to benefit internal and external students and faculty members. The Hybrid Nanodevice Research Group (HNRG) led by Prof. Shaibal Mukherjee in Electrical Engineering at IIT Indore explores new physics of micro- and nano-structured materials, and to apply this knowledge in realizing advanced tools and devices for chemical, biological, optical, electronic and energy applications. HNRG has been actively involved in diverse research domains including design, fabrication, testing, and packaging of high-performance devices in: (a) RRAM/Artificial Neurons, (b) Photovoltaic, (c) Biochemical sensors to detect toxic gases and chemicals in the environment, (d) HFETs/HEMTs for high-power and high-frequency systems, (e) LED/Photodetectors.

We are proud to file and publish the following patent with CAE affiliation:

1. M. Kumar, S. Rajput, V. Kaushik, P. Babu, S. K. Pandey, "All optical modulation in engineered indium tin oxide based vertically coupled ring resonator employing epsilon near zero state", Indian patent, No. 202321010734; Filed in February 2023

Projects

Project	Sponsored	Consultancy
New Projects	04	-
Ongoing Projects	02	-

Sponsored projects

1. Development of Porous Metal-Organic Frameworks and Covalent Organic Frameworks and Their Potential Applications in Hydrogen Storage, DST-SERB, Govt. of India. (Project Value: 36 Lakhs INR), PI-Dr. Srimanta Pakhira (Duration: 2022 - 2025).
2. Implantable Pacemaker Chip (iPACE-CHIP) Duration: 5 Years (June 2023 - May 2028)
3. Design and Fabrication of Energy Efficient In-Memory Computing Design Framework for Analog Neural Processor with Improved Linearity for Neuromorphic Computing Applications Duration: 3 Years (2023-2026).
4. Impact of spacer layer in ZnO-based MOSHFET, DST SERB, INR 57,31,264, February 2022 – February 2025, Role: PI
5. Power Monitor and Control using HEMT based Power Converters in IoT Nodes, TIH IoT CHANAKYA GROUP (PhD, PG, UG) FELLOWSHIP PROGRAM 2022-23, INR 19,69,760, March 2023 – February 2027, Role: PI
6. Implementation of IoT enabled MCA based Image Processing for Early Identification of Diseases in Crops, TIH IoT CHANAKYA GROUP (PhD, PG, UG) FELLOWSHIP PROGRAM 2022-23, INR 11,64,600, March 2023 – October 2024, Role: PI
7. IoT-enabled 2D TMD based Hybrid Photodetector for Wearable Electronics, TIH IoT CHANAKYA GROUP (PhD, PG, UG) FELLOWSHIP PROGRAM 2022-23, INR 11,29,400, March 2023 – July 2024, Role: PI

Outreach Activities

1. Workshop on Advanced Photonics the inaugural event of IEEE Photonics Society Chapter of Madhya Pradesh in association with IIT Indore student chapter of Photonics Society, November 30 2022 and December 1, 2022 (Organized by Prof. Mukesh Kumar)
2. IEEE Electron Devices Society (EDS) Upskilling Course on the theme "Electric Vehicle (EV) mobility and solutions", Student Chapter, March 10-11, 2023 (Organized by Prof. Shaibal Mukherjee)

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	1+1 (a book proposal contract from IoP is signed)	-	17	51

Books Published

1. Dixit, Sudhir & Bhatia, Vimal & Khandanba, Sanjram & Agrawal, Anuj. (2022). 6G: Sustainable Development for Rural and Remote Communities, Springer, Singapore, <https://doi.org/10.1007/978-981-19-0339-7>.

Computer and Information Technology Center (CITC)



This center provides various services to the members of the IITI community. The services include:

Network Connectivity: CITC provides 2 Gbps network connectivity to the entire campus. The entire campus is covered by more than 1200 latest wireless access points. All the buildings, departments, hostels, learning resource center, administrative department, lecture hall complex, health center and faculty residence are connected with 10 Gbps 144 core fiber backbone. IIT Indore is also a part of the global EDUROAM network.

High Performance Computing (HPC): CITC is hosting servers, storage, and a high-performance computing facility. The data center developed at the CITC building is equipped with redundant UPS and 320 KV DG facility. There are 5 InfiniBand Linux clusters hosted in CITC, a total of more than 1900 CPU cores and 100 TB of storage.

Essential IT services: CITC is running all the essential services in-house like maintenance and development of the Institute Website, internal/external DNS servers, web-based automation, centralized authentication using LDAP/Radius, DHCP-based dynamic IP allocation services for each building, campus Wi-Fi, storage, campus telephone services, online automation services, virtual resource allotment, internal cloud storage for a different level of users, personal homepage hosting services and open-VPN for each user. CITC has a ticket-based online service request system; the user can file online service requests and complaints and subsequently track their status.

Technical Support: CITC provides support for the installation and maintenance of IT equipment and application software in all the departments, LHC, hostels, residential areas, and administrative sections. We also provide technical support for the establishment and maintenance of smart classes, conference rooms and board rooms.

Our Team Members:

1. Dr. Neminath Hubballi, Head CITC
2. Yogendra Singh, Deputy System Manager
3. Jitendra Gupta, Technical Superintend
4. Dhiraj Vijayavargia, Junior Technical Superintend
5. Subhash Soni, Junior Technical Superintend
6. Ms. Preeti Sharma, Junior Technical Superintend
7. Pralhad Singh Panwar, System Analyst
8. Shailesh Kaushal, Superintend
9. Subha Jana, Superintend
10. Ms. Princy Awadhiya, Programmer

Center for Electric Vehicle & Intelligent Transport Systems (CEVITS)

Vision/Mission of The Center

CEVITS was established in April 2021. It has three key objectives:

- i) Developing skills and talent in the field of electric vehicle technology;
- ii) Creating a world class ecosystem for Research and Innovation in Transformative Mobility; and
- iii) To produce entrepreneurs in the field of EV technologies.

CEVITS started academic programs related to Electric Mobility with the objective of providing comprehensive knowledge of electric mobility to students and professionals across the country.

It has started MTech programs in Electric Vehicle Technology (EVT) since the academic year 2021-22. The courses in these programs cover all the essential aspects of EV. Further, MTech+PhD dual degree program has also been started. The center will focus on three types of research and development projects: a) Research, Development & Engineering (R,D&E) leading to production capability (needs Industry Support); b) Application oriented Research, Design and Development (R,D&D) having production potential; and c) Basic R&D.

Team Members

Number of Faculty Members Associated with the Center: 21

Name of Faculty or Fellow	Area of contribution to CEVITS
Dr. Gourab Sil (CE)	Traffic Engineering, Traffic Flow Theory
Dr. Amod C. Umarikar (EE)	Power Electronics for Electric Vehicles
Dr. Anand Parey (ME)	Noise and Vibrations of Electric Vehicles
Dr. Devendra Deshmukh (ME)	Hybrid Vehicles, Dynamics and Simulation of Electric Vehicles
Dr. I.A. Palani (ME)	Autotronics System Design
Dr. S.L. Kundalwal (ME)	Vehicle Dynamics, Composite Materials for Electric Vehicle Applications
Dr. K. Eswara Prasad (MEMS)	Materials and Crashworthiness for Electric Vehicles
Dr. Rupesh S. Devan (MEMS)	Electrochemical Energy Storage for Electric Vehicles
Dr. Sunil Kumar (MEMS)	Electrochemical Energy Storage for Electric Vehicles
Dr. Pankaj R. Sagdeo (Physics)	Triboelectric and Nano-generator
Dr. P.K. Sanjram (HSS)	Human Factors in Automobiles
Dr. Vijay A. S. (EE)	Power Electronics and Drives
Dr. Sumit Gautam (EE)	Vehicular Communications
Dr. Bodhisatwa Majumdar (CSE)	Network Security
Dr. Sanjay Kr. Singh (Chemistry)	Fuel Cells
Dr. Krishna Mohan Kumar (ME)	Vehicle Dynamics
Dr. Trapti Jain (EE)	Electric Vehicles in Power Systems
Dr. Subhadeep Paladhi (EE)	Electric Drives
Dr. Janakiraman (ME)	Battery Modelling and Management
Dr. Vipul Singh	Autotronic Systems

Academic Programs

CEVITS started academic programs related to Electric Mobility with the objective of providing comprehensive knowledge of electric mobility to students and professionals across the country. CEVITS has started an MTech program in Electric Vehicle Technology (EVT) from the academic year 2021-22. A MTech+ PhD dual degree program has also been started in the center.

Programs	Student Intake	Degree Awarded
MTech in Electric Vehicle Technology	10-15	MTech

R&D Activities

Current research areas in CEVITS are:

Energy Storage, Power Electronics and Drives, Vehicular Communication Systems, Vehicle Dynamics, Traffic Engineering, Advanced Materials for EV

Notable Activities at the Center

- 1) DST SERB Karyashala on 'Vehicular Communications for Next Generation Intelligent Transportation Systems' Conducted between 12-19 July 2022.
- 2) Courses planned for Professionals in VECV Pithampur: Thermal Management, Networking and Security Aspects of Connected Vehicles, Battery Cell and Battery Chemistry, Radar and Lidar Technology.
- 3) First Batch of MTech. in Electric Vehicle Technology is passing out in July 2023.

Center for Indian Scientific Knowledge Systems (CISKS)

The center focuses on understanding, preserving, teaching, and adapting the science and technology heritage of India. The center focuses exclusively on the scientific and technology heritage of India and its relevance to the modern world. The focus is on hard sciences such as mathematics, astronomy, metallurgy, biology, agriculture, engineering and medicine among others. This center is not focused on the language studies or humanities or social science aspects of Indian knowledge systems.

Vision: The grand vision of the Center for Indian Scientific Knowledge Systems is to train generations of scholars who will show the 'Indian way' to the world.

Objective of Center

The objectives of the Center for Indian Scientific Knowledge Systems (CISKS) are to:

1. research classic scientific texts of India
2. educate students about the scientific texts of India
3. nurture scholarship in Indian scientific Knowledge Systems
4. preserve classic scientific texts of India
5. collaborate with other HEIs of India in the field of Indian Scientific Knowledge Systems

Teaching

The CISKS houses the Non-Formal Sanskrit Education (NFSE) centre of the Central Sanskrit University. The centre conducts the certificate and diploma courses as part of the NFSE center. The centre is conducting a spoken Sanskrit course for beginners.

The process of signing an MoU with Maharshi Sandipani Rashtriya Veda Vidya Prathisthan (MSRVVP), Ujjain is in advanced stages of implementation. Once signed, the MoU will enable IIT Indore to offer short courses and teacher training for faculty and students of MSRVVP.

Research

The CISKS research is focused on five strategic areas:

1. Knowledge Paradigms;
2. Sustainable Agriculture;
3. Novel Materials;
4. Holistic Medicine;
5. Preserving Traditional knowledge

Over the last two years of its existence, the CISKS has funded eight internal research projects. Faculty have been successful in obtaining three external grants funded from the IKS Division of Ministry of Education (Table 1). A third call for proposals to encourage collaboration with MSRVVP and Maharshi Panini Sanskrit Vidyalaya, Ujjain are underway. We expect to fund another 6-12 projects in the third call for proposals.

Table 1. List of projects currently being implemented in CISKS.

S.No.	Project Title
Extramural projects (funded by the IKS Division of the Ministry of Education)	
1	Development and characterization of novel metallic Vajra Lep coating (Dr. Vinod Kumar; Rs. 19.7 Lakhs)
2	Development of Fe-based composite materials mimicking Delhi iron pillar's structure (Dr. Santosh Hosmani; Rs. 17.5 Lakhs)
3	Investigation of traditional iron monuments in the central India and understanding their metallurgical origins (Dr. Easwar Prasad Korimilli; Rs. 17.3 Lakhs)

The significant events in the past one year

Two significant events were organized by the CISKS in collaboration with the Indian Knowledge System (IKS) Division. These events aimed to promote awareness and engagement with Indian knowledge systems, contributing to the preservation and dissemination of our rich cultural heritage.

A workshop on Bhāratiya Game: Awareness and Play in a Lifestyle of Joy

The workshop "Bhāratiya Game: Awareness and Play in a Lifestyle of Joy" was conducted on January 20, 2023, at IIT Indore. The workshop aimed to provide participants with a unique platform to explore Indian knowledge systems through Bhāratiya Games. During this workshop, participants engaged with ancient Indian board games, which were thoughtfully designed to incorporate elements of design, infographics, statistics, mindfulness, empathy, and joy, allowing them to experience and imagine the cultural richness inherent in these games. By combining education and entertainment, this innovative approach sought to make learning more engaging and enjoyable.

The event witnessed the participation of two representatives from the IKS Division, Prof. Ganti S. Murthy and Shri. Somnath Danayak. Shri Aman Gopal was the resource person who shared his expertise and active involvement to ensure a very successful workshop. Approximately 100 participants, comprising students, faculty members, researchers and experts attended the workshop, demonstrating the growing interest and enthusiasm for such initiatives within the IIT Indore community.



Conference on Dhārā Bhāratiya Dhātudhāstra

The conference "Dhārā Bhāratiya Dhātudhāstra" took place from March 20 to March 21, 2023, at IIT Indore. The conference aimed to provide a platform for experts, scholars, and enthusiasts to discuss and delve into the intricacies of Bhāratiya Dhātudhāstra, an ancient Indian science of metallurgy. The event facilitated knowledge exchange, research presentations, and discussions to promote a deeper understanding of this significant branch of Indian knowledge systems.



This conference focussed on the key contributions of Bhāratiya Dhātudhāstra which include extracting copper from copper ores, shaping it into beads and tools, refining high-quality zinc through distillation, producing superior copper alloys (brasses and bronzes), creating intricately shaped objects through lost wax casting, extracting gold using ancient ant digging technology, preparing a□□adhātu alloy, producing high strength and toughness steel (wootz steel), making crucible steel with high hardness and wear resistance, developing corrosion-resistant iron, fabricating precision instruments for surgical applications, manufacturing long pillars through forge weld technology, and purifying heavy metals for medicinal use.

Three distinguished representatives from the IKS Division, namely Prof. Ganti S. Murthy, Dr. Anuradha Choudry, and Shri. Pijus Kanti Pal actively participated in the conference. Their active participation enriched the discussions and established valuable connections with fellow experts in the field. The conference attracted a significant audience, with approximately 300 participants from various academic and research institutions across the country, showcasing the growing interest and relevance of Dhātudhāstra.

Center of Futuristic Defence and Space Technology (CFDST)

This center is committed to providing a platform to the students and researchers for their contribution in “Nation-Building” through developing various forefront and futuristic technologies for Defense and Space Sectors towards “Aatmanirbhar Bharat”. The center is contributing to providing technological solutions to some of the research problems of the premier laboratories of defense institutions of country such as the Defense Research and Development Organization (DRDO). The center is also planning to offer specialized and dedicated M.Tech/MS (research) and Ph.D. programs in the broad area of defence and space in near future.

Dr. Indrasen Singh (Head CFDST), Ms. Kavita Enamdar, are handing Center of futuristic defense and space technology.

Members in CFDST

• Prof. Neelesh Kumar Jain	• Dr. Ram Sajeewan Maurya
• Prof. Rajneesh Misra	• Prof. Sanjay Kumar Singh
• Prof. Ram Bilas Pachori	• Dr. Saurabh Das
• Prof. Vimal Bhatia	• Prof. Shaibal Mukherjee
• Dr. Abhinoy Kumar Singh	• Dr. Vinod Kumar
• Prof. Abhirup Datta	• Dr. Vivek Kanhangad
• Dr. Abhishek Rajput	• Dr. Hem Chandra Jha
• Prof. Avinash Sonawane	• Dr. Jayaprakash Murugesan
• Dr. Ajay Kumar Kushwaha	• Dr. Mukesh Kumar
• Prof. I A Palani	• Prof. Nirmala Menon
• Dr. Lalit Borana	• Prof. Ruchi Sharma
• Dr. Mrigendra Dubey	• Dr. Somaditya Sen
• Prof. Neelima Satyam	• Dr. Sumanta Samal
• Dr. Pankaj Sagdeo	• Dr. Surya Prakash
• Dr. Puneet Gupta	• Dr. Swaminathan Ramabadran

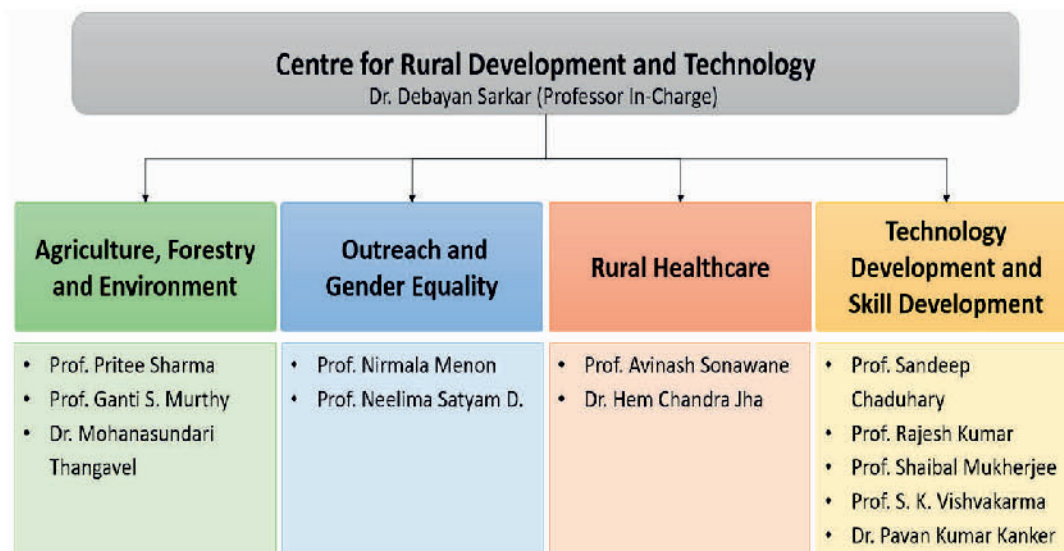
Notable Achievements: Webinar Organized During COVID 19 Pandemic

- Expert Talk by Dr. Ajay Kumar IAS Defence Secretary Ministry of Defence, Govt. of India webinar on Indian Defence Industry, The Sunrise Sector.
- Expert Talk by Maj Gen A K. Channan, PVSM, SM Additional Director General Army Design Bureau webinar on Technology as a disruptive influence on military warfare.
- Expert Talk by Lt. Gen VG Khandare PVSM, AVSM, SM (Retd.) Military Adviser, National Security Council Secretariat webinar on Role of technology in national security and comprehensive national power.
- One day Workshop on Opportunities in Research and Developments in Armament Establishments (ARMREB-2020) on 26th August 2020.

Center for Rural Development (CRDT)

The Institute has established the Center for Rural Development and Technology (CRDT) as a nodal hub for researchers, volunteers, practitioners, educators, and others to collaborate and facilitate rural empowerment and progress solutions. CRDT shall strive to facilitate empowering and enabling the rural population to improve their living conditions by development and application of appropriate and people-friendly technologies adopting participatory, sustainable, democratic, transparent and gender-sensitive processes. We aim to work into the following broad areas:

- Skill development and training programs for various trades
- Small scale entrepreneurship, sustainable cottage industries, development of value-added products
- Access and Opportunities for Gender justice
- Developing user-friendly interfaces for launching e-platforms for various rural activities that require outreach to larger communities.
- Evaluation and policy recommendations for government welfare schemes.
- Harnessing Forest products and helping rural entrepreneurs to develop and sell their products with easy access to technology.
- Identifying gaps between skills and outreach and facilitating in filling that gap
- Outreach to NGOs, Govt organizations, international bodies such as UNICEF to have a broad-based approach.
- Right to Education (RTE) Act- Efficacy and Outcomes.
- Technology Development in Food Processing, Food Packaging and Food Storage.



Academic Programs

Center for Rural Development and Technology (CRDT) has launched a Ph.D. program exclusively in Rural Development and Technology, which comprises research areas such as Agricultural and Environmental Economics, Sustainability Studies, Impacts of Climate Change, Food Security Water Energy Food Nexus. / Application of Artificial Intelligence Techniques in Agriculture problems. / Building Products for Rural Areas. / Development and evaluation of sustainable materials for soil stabilization in rural infrastructure. / Disaster risk reduction in rural areas. / Early disease detection in crops for sustainable ecosystem. / Evaluation of the socioeconomic impact of rural infrastructure development on local communities. / Food and bioprocessing equipment design and scaleup. / Integration of traditional knowledge and practices

with modern technologies for sustainable rural development. / Natural Resource and Environmental Economics, Climate change impact on Agriculture, Tribal Studies, Policy Analysis, Rural Development. / Noise, Vibration, and Harshness in Agriculture Machinery and Automobiles. / Nutrient energy water nexus. / Optimization of construction techniques and materials for cost effective and sustainable rural housing. / Resilience of Agro ecological Systems. / Sensors for agriculture. / Sustainable Construction. / Sustainable rural healthcare. / Sustainable Techniques for Food Storage. / VLSI Circuit and System Design.

Elective courses are being conducted by the Centre and the Center is also in the process of proposing new courses from the next session.

R&D Activities: The Center is focused on applied research in multidisciplinary fields. It is also working on developing appropriate technologies for the rural community.

Internal Sponsored Project: Eleven centre funded projects are underway under the aegis of CRDT in collaboration with CIAE Bhopal, and two projects are ready for approval.

S.No.	Project Title
1	Development of bioplastic utilizing cellulose extracted from corn-stalk
2	Sustainable management of organic waste stream comprising fecal, municipal, and agro wastes employing resource recovery approach
3	Assessing the Farm Mechanization and its impacts on farmers' Economic
4	Real-time detection of diseases in paddy/ Soyabean using via memristive crossbar array-based image
5	Assessment of Soyabean based probiotics to combat antimicrobial resistance <i>Helicobacter pylori</i> growth and disease pathogenesis
6	Development of economic super absorbent Agri-gel for studying and soil, water and nutrients retention properties
7	Deep CNN-based estimation of Above-Ground Biomass of corn crop using variable magnification UAV images.
8	Design and development of cost-effective manually operated rice transplanter
9	Development of Cost-Effective Photo Active Soft Materials for Efficient Removal and Degradation of Pesticides from Contaminated Ground Water
10	Development of Mobile app for farmers to help them in Agricultural activities: Krishi Sewa
11	Sustainable Production of Polylactic Acid (PLA) using Agro-Industrial Waste for PLA based bioplastic Formulation.

External Sponsored Project

- IoT-enabled Resistance Readout Circuit for Water and Gas Sensor, 'AYANSH'-TIH-IoT Start-ups and Spin-offs Program' 2022, IIT Bombay, INR 10,00,000, 2023-2025; Role: PI (NOTE: This is an Industry Project through our Startup QuanTechL2M Innovations Pvt. Ltd.).
- Implementation of IoT enabled MCA based Image Processing for Early Identification of Diseases in Crops, TIH IoT CHANAKYA GROUP (PhD, PG, UG) FELLOWSHIP PROGRAM 2022-23, INR 11,64,600, March 2023 – October 2024; Role: PI.
- Professor Pritee Sharma, Co-PI Economic Loss and Damage Assessment due to Forest Fires in Hoshangabad Forest Division, MP, ICIMOD-South Asian Network for Development and Environmental Economics (SANDEE)

Research Outcome

- Developed a low-cost adsorbent using corn-cob for fluoride removal from drinking water.
- Developing a novel approach to harness energy/fuel from organic solid wastes.
- Assessing the Farm Mechanization and Its Impacts on farmers' Economic
- A mobile app developed for Disease & Insect Identification in Potato Crop: Krishi-Seva.
- Things (IoT) / Artificial Intelligence (AI) / Machine Learning (ML) algorithms plugged through a portable, handheld sensor network system to perform real-time analysis of soil fertility conditions to prevent various crop diseases.
- Development of Portable kit for visible light Photo dynamic inactivation microbes on food surfaces- An alternative to Cold Storages

Outreach Activities

- Field visit to Golabadi and Sad villages of Jhabua, Madhya Pradesh (India) as part of academic course Design Thinking for Rural Application (RDT 301/401/601).
- Gandhi Jayanti Celebration on October 02, 2022
- Exhibition by local Artisans on October 02, 2022
- CIAE Bhopal Scientist Visit to IIT Indore for Collaborative Projects.
- Director, CIAE Bhopal Visit to IIT Indore for Collaborative Research Program
- Expert Talk on October 14, 2022, by Prof. Pascal Maussion from Toulouse INP and Researcher with CNRS Lab. LAPLACE, Laboratory for Plasma and Conversion of Energy, France and the Vice President of International Affairs on Frugal Innovations for Rural Electrification.
- Multistakeholder Roundtable on Friday, 25th November 2022,
- MoU between CRDT, IIT Indore and JSV Innovations Pvt Ltd.
- Sathiya Welfare Society (SWS) Bhopal Visit to IIT Indore for Collaborative Research.
- Expert Talk on February 03, 2023, by Prof. S.K. Saha, Professor, IHFC Chair Professor & Project Director, I-Hub Foundation for Robotics (IHFC) Dept. of Mech. Engineering, IIT Delhi on Multibody Dynamics for Rural Applications (MuDRA)—An Innovative Research by Connecting Engineering Minds with the Society.
- Expert Talk on February 09, 2023, by Mr. Arpit Maheshwari, Professor, Co-Founder of Jeevantika on A journey into Sustainable Living.
- Expert Talk on February 13, 2023, by Dr. Rajesh Seth, Professor, Department of Civil & Environmental Engineering at the University of Windsor, Ontario, Canada on Protecting Our Freshwater Resources: Thinking Outside The Box.
- MoU between CRDT, IIT Indore and Central Institute of Agricultural Engineering (CIAE) Bhopal.
- Field visit to Nimar Abhyudaya Rural Management and Development Association (N.A.R.M.A.D.A.), Tehsil - Kasrawad, District - Khargone, Madhya Pradesh (India) as part of academic course under the Centre for Rural Development and Technology (CRDT), IIT Indore

Patent

- Shaibal Mukherjee, Chandrabhan Patel, Vikash Kumar, Sumit Chaudhary, Ranjan Kumar, A wide range variable resistance readout circuit, Patent Application No. 202221061451, FILED on October 28, 2022.

IITI Drishti CPS Foundation (Section 8 company)

IITI DRISHTI CPS Foundation, a Technology Innovation Hub was set up at IIT Indore with an overarching objective of becoming a one-stop solution provider for CPS technologies with a specific focus on system simulation, modeling, and visualization. The hub has created an ecosystem which works as a focal point for the convergence of the efforts of academia, industry and government agencies for technology development and commercialization. It is currently working to support breakthrough technologies in the area of CPS through translational research, product commercialization, startup incubation, and skill enhancement, catering to the country's growing demand in this field.

Programme Updates

Affiliate Programme	Total Affiliate Members: 151
Fellowships Programme	Undergraduate Fellowships: 35 Postgraduate Fellowships: 3 Doctoral Fellowships: 10 Faculty Fellowships: 2 Chair Professors: 2 Total Fellowships Amount Approved/Sanctioned: INR 2.33 Cr
Technology Development Programme	Lab to Market (L2M) Scheme: • Number of projects Approved: 15 • Number of proposals under review: 4 Increase in CPS Base: 66
Start-up Programme	Scheme announced: CPS-Seed Support, CPS-PRAYAS, CPS-EIR CPS-Seed Support Number of Startups Onboarded: 5 CPS-PRAYAS Number of Startups Onboarded: 9 • Tie-up with Indore Smart City Incubator to promote entrepreneurship in the country with a focus on Madhya Pradesh. • Tie-up with MathWorks for startups. They will have one-year free access to MATLAB, Simulink and 100+ companion products. Startups will also access value-added benefits such as online training, support from MathWorks engineers. • MoU with Zoho for Startup associated with us to provide them Zoho Wallet credits for a period of 360 days. These credits can be used to explore individual Zoho applications as well as for bundles like Zoho One, Remotely, Workplace, etc. They can also be used for renewals, upgrades and add-ons during the validity period. • Tie-up with AWS to their Activate Program for startups.

Skill Development Programme	Course(s) announced: 13 Course Name: Cloud, Industrial Simulation and Automation, IoT Simulation and Hardware Total no. of persons trained-578 The Skill Center of IITI DRISHTI CPS Foundation was selected for an NVIDIA academic hardware grant. The training program on Cloud Computing has attracted the Mahindra Group who will be upskilling their employees and vendors through our future programs.
International Collaboration	• In the process of finalizing an international collaboration with Belgium's UCLouvain in association with the NGO Louvain Cooperation for their Ingenieux Sud project. • Supporting 4 Entrepreneurs in the first cohort working in areas like Agriculture and Smart Cities (EV) under Business Ideas for Development Program, Germany (BID-GIZ).
	MoU with a media partner was signed on November 23, 2021. Two Issues of Outreach Bulletin viz. DRISHTIKON has been released.

Research Highlights

A brief overview of some of the Foundation's supported projects is provided below.

Name of the Technology: Hardware Software Co design for a Low-Cost Egg Quality Prediction and Anomaly Detection

TRL Stage: TRL 5, The product is under validation currently at Regional Thatchery Ernakulam Kerala

Description: A low-cost mini egg grading machine that can be used to select eggs suitable for hatching at home or small poultry farms, especially useful for organic and open range poultry farms is being developed. The system will extract spectral information, such as the absorption and reflectance of light at different wavelengths. This spectral information can be used to identify and quantify the chemical composition of the egg, including proteins, lipids, and pigments.

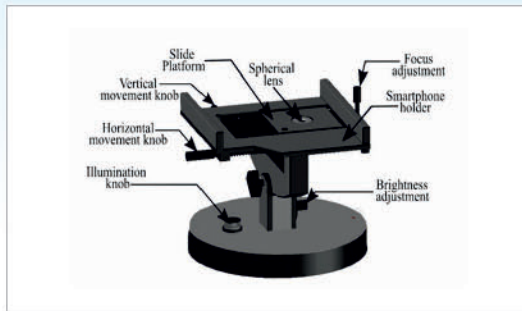


Final Product for Egg Quality Prediction and Anomaly Detection

Name of the Technology: Microscopic Image Based Vegetable/Fruit Quality Assessment

TRL Stage: TRL 5, The developed technology has been applied for Indian patent and first examination report has already been submitted in January 2023

Description: A microscopic image capturing system has been developed using Foldscope on a mobile App on Android to analyze the quality of vegetable quality using deep learning (CNN). This technology provides quantitative assessment in real time and prediction of vegetable quality in terms of nutrients, freshness index and shelf life. Useful primarily for export crops to reduce rejection and quality related issues.



Designed microscopy image generation module and its different parts



A prototype of microscopic image based vegetable quality assessment system

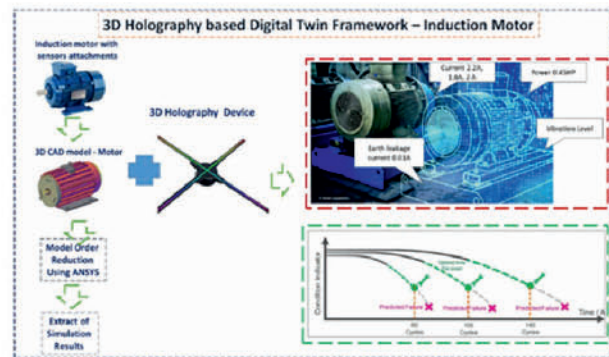
Name of the Technology: 3D holography based digital twin technology for an induction motor for predictive maintenance.

TRL Stage: TRL 5, The technology has received support from M/s. T.V. Super Filters Industries, Jammu for this proposed project.

Electric motor/pump manufacturing companies in Jammu as well as around Chandigarh are being approached for the adoption of the proposed research prototype for on-site validation.

Description:

- This technology assesses and offers real-time inputs and suggestions for improvement, monitor experiments, analyze health, and predict repair and maintenance of the electrical/mechanical systems.
- The key data/content from the system under consideration is updated dynamically with the support of artificial intelligence (AI), big data and other technologies. Machine learning supports the renewal and improvement of mathematical models, refines the evaluation dimension and strengthens holographic digital twin through the calculation and analysis of the algorithm.



3D Holography based Digital Twin Framework- Induction Motor

Name of the Technology: Multistrategy Shop Floor Job Scheduling software tool

TRL Stage: TRL 5, Lab testing of semi-integrated system

Description: A software tool based on Modeling an Automated Production environment and simulating production scheduling in a job shop has been developed. The tool offers a thorough, adaptable, and practical answer for a variety of Job Shop circumstances. It uses a variety of heuristics and metaheuristics to solve problems while taking into account multiple performance measurements in various industrial contexts. The tool was demonstrated in IMTEX 2023 with our industrial partner. The technology was developed by a cohort of experts from multiple organizations including IIT Indore, IIT Bombay, AmiT and DRISHTI CPS Foundation.



Demonstration of Software Tool at IMTEX 2023

Startup Highlights

A brief overview of some of the Foundation's supported startups is provided below.

Arficus Private Limited: Arficus offers a highly advanced AI-based SaaS Medical platform that has reduced disease diagnosis time to just 53 seconds. It diagnoses over 53 highly infectious diseases, cancers, and chronic diseases with a 99.3% accuracy level. The product called “Medhini” emphasizes on improving the efficiency of radiologists & pathologists, Reducing Multiple tests, Reducing Diagnosing time & cost, Disease Prognosis with four verticals: -

- MedhX Symptom Checker
- MedhX Clinical Diagnosing
- MedhX Health Future Prediction Mapping
- MedhX New Drug Discovery & Support

Website: www.arficus.com

Domain: HealthTech

Product Name: Medhini

TRL and deployment status: TRL 7, Ready for deployment

Product Features:

- Decreased Disease Diagnosing time to less than 1 minute
- Providing Accurate Lesion and Anomaly areas
- Networks, Patient Future Health Mapping and New Drug- Discovery Support



User Interface of the software

GV Black DenTech Private Limited: GV Black DenTech Private Limited is developing XClick3D which is a 3D image reconstruction software that turns 2D Dental X-ray images into more intuitive 3D volumes, using algorithms of the normal and diseased tooth anatomy.

Domain: 3D image reconstruction software for tooth anatomy

Product Name: Xclick3d

TRL and deployment status of product: TRL 9

Product key features: XClick3D is a cloud-based software service that will make use of 2D dental X-ray images to generate 3D volumetric images. It will utilize advanced generative deep-learning methods in combination with statistical shape models to do so.

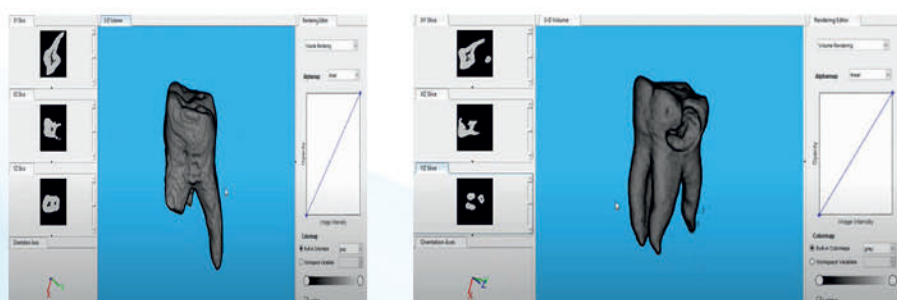


Image-1

Image-2

From 2D images to 3D Projection & Analysis of the Tooth for Better Inspections and Medication

MLworkX: MLworkX offers an online cloud electronics manufacturing platform that is a one-stop solution for complete electronics manufacturing requirements making market journey of product faster and cheaper from prototype to mass manufacturing.

Website: <http://www.mlworkx.com/>

Domain: Cloud manufacturing platform

Product Name: Manutrax Cloud manufacturing

TRL and deployment status of product: TRL 9

Product key features:

- One-stop-shop electronics manufacturing platform for organizations to develop, prototype and bulk manufacture their product from ideation phase to mass production phase.



EV Charging Unit



Quality Inspection Machine

Events & Programmes

IITI DRISHTI CPS Foundation organized a Roundtable on Digital Transformation for MSMEs focusing on Industry 4.0 on February 3, 2023 at IIT Indore. More than 80 participants including Senior MSME Personnel, Representatives from Original Equipment Manufacturers (OEMs), Professors from IITs, NITs, etc, startup founders, and Ph.D. Scholars joined the program.

The program led to an understanding between academia and Industry where DRISHTI CPS can act as a bridge for technology development and transfer, Skilling and Connecting startups to promote the digitalization of MSMEs and make India industry 4.0 ready. More than 50 problem statements were identified and IITI DRISHTI CPS Foundation is now striving to establish a cohort of interested entities including academicians, startups, industries etc to solve these problems.



A Roundtable discussion among participants



Identification of problems of MSMEs during the event

Two-day residential workshop on Establishment and Implementation of Incubation Centers and Startups

- Supported by Higher Education Department, Government of Madhya Pradesh.
- The event successfully sensitized 30 higher education faculty members belonging to various institutes from MP to entrepreneurship, role of academia in fostering an entrepreneurial ecosystem and the role and establishment of incubation centers.



Technology Startups Demo and Mentoring BootCamp

IITI DRISHTI CPS Foundation hosted a two-day startup boot camp at IIT Indore Campus on May 8th and 9th, 2023. The event was aimed to provide a platform for tech-based startups funded by DRISHTI CPS, to showcase their products, connect with industry leaders, and obtain expert guidance to enhance the growth and scalability of their businesses.



IITI DRISHTI CPS Foundation partnered with ProMFG to organize the 8th Annual Aditya Birla Group Manufacturing Summit at IIT Indore campus on May 18, 2023. It brought together over 100 leading manufacturing companies who presented compelling case studies showcasing their innovations for cost optimization, quality improvement, and supply chain best practices. By evaluating these case studies based on impact, innovation, and complexity, the event facilitated a gathering of industry problems and potential solutions.

This event paved the way for several future partnerships with the larger corporations towards innovative solutions through researchers and startups of DRISHTI CPS.



A presentation of case study by industry representatives

DST-Centre for Policy Research

Project Title: Technological Innovation and IPRs Ecosystem

About the Centre: The Centre has twin goals that are to focus on technological and policy dimensions for an integrated management of water resources and water governance and to understand different facets of Science, Technology, and Innovation policy. We plan to use big data applications and harness data in different intellectual property rights documents along with traditional field surveys. The aim is to deliver industry relevant model outputs and policy notes for the State. The Center's activities would largely address strengthening localizing water & climate, DRR and resilience agenda by enabling effective policy-planning-practice interface with S&T and innovation potentials. The Centre is established in the year 2023.

Vision/Mission and Objectives: It is essential to develop rigorous research that blends scientific evidence-based knowledge and approaches with public participation and practitioner's viewpoint in ways that yield practical solutions for instance for major water and climate change challenges facing the world today with focus on resilience, DRR and sustainability. This proposal also includes establishing a working group with a focus to harness data in different IPRs documents to understand patterns of innovation and various facets of inventions.

Team Members

Sl No.	Name	Designation	Department	Area of Expertise
1	Manish Kumar Goyal	Professor	Dept of Civil Engineering, IIT Indore	Climate Change and Water
2	Ruchi Sharma	Professor	School of Humanities and Social Sciences	Economics of Innovation
3	Santosh Kumar Vishvakarma	Professor	Dept of Electrical Engineering, IIT Indore	VLSI Circuit and System Design
4	Kiran Bala	Associate Professor	Department of Biosciences and Biomedical Engg, IIT Indore	Ecology of Water and wastewater, Bioremediation
5	Mayur Shirish Jain	Assistant Professor	Dept of Civil Engineering, IIT Indore	Solid Waste Management, Waste & Water interactions
6.	Nirmala Menon	Professor	School of Humanities and Social Sciences, IIT Indore	Digital Humanities, Open Access and Scholarly Publishing ecosystem, Bibliometric analysis
7.	Biswarup Pathak	Professor	Department of Chemistry	Clean Energy and Health
8.	Lalit Borana	Associate Professor	Department of Civil Engineering	Geotechnical and Geoenvironmental Engineering
9.	Puneet Gupta	Associate Professor	Department of Computer Science Engineering	Computer Vision, Deep Learning, and Image Processing
10.	Priyank J. Sharma	Assistant Professor	Department of Civil Engineering	Hydrology and Climate Change

11	G S Murthy	Professor	Department of Biosciences and Biomedical Engg, IIT Indore	Agriculture and wastewater
12	Abhishek Srivastava	Professor	Department of Computer Science Engineering	Service-Oriented Systems, Dynamic Systems, Geographically Distributed Development Environments
13	Neeraj Mishra	Associate Professor	School of Humanities and Social Sciences, IIT Indore	Water Governance, Political Sociology of River Basin Management
14	Preeti Sharma	Professor	School of Humanities and Social Sciences, IIT Indore	Agricultural Economics (Economics of Land, Water and Forests), Development Economics (Rural Poverty and Trade Concerns of Developing Countries)
15	I A Palani	Professor	Dept of Mechanical Engineering	Development of multi-functional products and instruments with modern interdisciplinary technologies



Learning Resource Centre



Computer & IT Centre



Abhinandan Bhavan



Sports Complex



Health Centre



Hostel Accommodation



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Indian Institute of Technology Indore

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Website: www.iiti.ac.in





एकादश दीक्षांत समारोह रिपोर्ट

11th Convocation Report

❧ 2022-23 ❧



भारतीय प्रौद्योगिकी संस्थान इन्दौर
Indian Institute of Technology Indore





एकादश दीक्षांत समारोह रिपोर्ट

11th Convocation Report

❧ 2022-23 ❧

Volume-II: Faculty Profiles



भारतीय प्रौद्योगिकी संस्थान इन्दौर
Indian Institute of Technology Indore



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Faculty Profiles

Department of Astronomy, Astrophysics and Space Engineering

Dr. Abhirup Datta

Professor and Head of Department

abhirup.datta@iiti.ac.in

PhD, New Mexico Institute of Mining and Technology (NMIMT)/

National Radio Astronomy Observatory (NRAO), USA



Details of Research Highlights:

- 1) Observational Cosmology - Study of the Early Universe in the Dark Ages, Cosmic Dawn, and Epoch of Reionization – HI 21cm Cosmology – Simulation, Modeling, Observations, and Data Analysis;
- 2) Large Scale Structures: Radio and X-ray Observations of Clusters of Galaxies;
- 3) Techniques: Aperture synthesis, Calibration Effects, and Imaging in Radio Interferometry;
- 4) Space Weather and Ionosphere: Using GNSS, NaVIC and low-frequency radio astronomy;
- 5) Multi-wavelength observations of the Radio Deep-fields, Multi-messenger Astronomy AstroStatistics;
- 6) Machine Learning and Big Data; Sustainability Research.

Dr. Siddharth Savyasachi Malu, FRAS.

Associate Professor

siddharth@iiti.ac.in

PhD, University of Wisconsin-Madison



Details of Research Area:

Radio Astronomy Instrumentation

Details of Research Highlights: Completed work on the IIT Indore Radio Interferometer (IIRI)

Any other Achievements, Awards and Recognitions: Elected Fellow of the Royal Astronomical Society

Dr. Bhargav Vaidya

Assistant Professor Grade-I

bvaidya@iiti.ac.in

PhD, Max Planck Institute for Astronomy, Heidelberg, Germany



Details of Research Area:

The research emphasis during the aforementioned time period can be divided into two distinct categories:

- A) The group has been engaged in the development of numerical frameworks capable of bridging the gap between microphysical processes and large-scale dynamics in astrophysical and space plasma environments. In this regard, we have simulated and quantified the effect of particle acceleration at sub-parsec and parsec scales in AGN jets and within the inner heliosphere as a result of CME-generated shocks.
- B) The second objective was to adopt a General Relativistic Magneto-hydrodynamics code in order to comprehend the complex dynamics of accretion flow in the vicinity of a super-massive Black Hole.

Dr. Suman Majumdar

Assistant Professor Grade-I

suman.majumdar@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Details of Research Area:

Cosmology with Statistical Inference, Cosmic Dawn and Epoch of Reionization, Cosmology with Line Intensity Mapping, 21-cm Cosmology, Square Kilometre Array, Simulations of CD-EoR and Large Scale Structures, N-body Simulations, Statistical Inference, Low Frequency Radio Interferometry.

Details of Research Highlights:

1. We have demonstrated that it is possible to distinguish the dominant physical process in the IGM during cosmic dawn using the 21-cm bispectrum through the future observations of this era by the SKA.
2. We have shown that one can use the topology of the 21-cm maps (estimated through the largest cluster statistics) during the reionization to distinguish the inside-out or outside-in reionization scenarios.
3. We have also demonstrated that one can improve the constraints on the reionization parameter using the 21-cm bispectrum compared to the power spectrum statistics.
4. We have developed an emulator for the 21-cm bispectrum using an Artificial Neural Network. This has helped us in the faster estimation of this statistic which is further used in an MCMC pipeline for parameter estimation.
5. We have developed simulations to test the feasibility of cross-correlation between the CII and 21-cm line observations of the CD-EoR. We have demonstrated that it is probably possible to recover the reionization history from this cross-correlation.

Dr. Saurabh Das

Assistant Professor Grade-I

saurabh.das@iiti.ac.in

PhD, University of Calcutta



Details of Research Area:

My research interests include precipitation and climate change, atmospheric remote sensing and wave propagation in the atmosphere and ionosphere. My current research involves an understanding of precipitation microphysics in tropical and arctic regions. In collaboration with ISRO, Ka band signal propagation under rainy conditions and prediction of extreme weather conditions using GNSS/NavIC signals are other important areas of my research.

Details of Research Highlights:

We have demonstrated the impact of rain drop speed variations in radar retrieval of rainfall. We also demonstrated the generation of gravity waves due to thunderstorms and its propagation in the ionosphere affecting GNSS applications. A deep learning based algorithms for solar wind forecasting is also developed.

Dr. Manoneeta Chakraborty

Assistant Professor Grade-I

manoneeta@iiti.ac.in

PhD, Tata Institute of Fundamental Research (TIFR)



Details of Research Area:

Compact Objects, Neutron stars, Black holes, Pulsars, Magnetars, X-ray binaries, ULXs, EM counterparts of Gravitational waves, Transients, Fast Radio Bursts, Multi-wavelength high time-resolution Astronomy, High-energy Astronomy, Radio Astronomy

Dr. Amit Shukla

Assistant Professor Grade-I

amit.shukla@iiti.ac.in

PhD, Indian Institute of Astrophysics, Bangalore



Details of Research Area:

My primary research interest is to study gamma-ray Astronomy, Active galactic nuclei, Blazars, High Energy Astrophysics using Multi-wavelength & multi-messenger observations. In particular, my research interests include the study of astrophysical jets of Active Galactic Nuclei (AGN), GRBs.

Dr. Narendra Nath Patra

Assistant Professor Grade-I

naren@iiti.ac.in

PhD, National Centre for Radio Astrophysics,
Tata Institute of Fundamental Research



Details of Research Highlights:

1. We have investigated the star forming regions in nearby galaxies and examined its connection to the ISM.
2. We have developed parallel algorithms to identify galaxies in a large HI spectral cube.
3. We have conducted an HI GMRT archival survey to form a large sample to investigate key sciences related to galaxy formation and evolution.

Details of Projects active:

1. Investigating galaxy formation and Evolution process using observation of nearby galaxies.
2. Developing digital backend for IIT Indore Radio Interferometer

Dr. Unmesh Khati

Assistant Professor Grade-II

unmesh.khati@iiti.ac.in

PhD, Indian Institute of Technology Bombay



Present academic association(s) with other Institution(s): UWG Member,
ESA NASA Multi-mission Analysis and Algorithm Platform (MAAP)

Details of Research Area: I am involved with the NASA-ISRO SAR (NISAR) mission Science Team for development of algorithms for dynamic monitoring of changes in the ecosystems and carbon content mapping. Further I am also working with our research group at IIT Indore for ecosystem studies, change detection, flood mapping, Interferometric analysis and 3-D mapping using tomographic techniques.

Details of Research Highlights: Developing algorithms using ALOS-PALSAR and NISAR simulated data. Using polarimetric and interferometric products for (a) forest above-ground biomass mapping, and (b) ecosystem change detection and monitoring. Combining multi-sensor data (SAR, lidar, optical and field instrumentation) using the ESA-NASA Multi-Mission Analysis and Algorithm Platform (MAAP) cloud computing environment for large-scale product generation using analysis ready data (ARD) in preparation for the upcoming NISAR mission.

Department of Biosciences and Biomedical Engineering

Dr. Amit Kumar

Professor and Head of Department
amitk@iiti.ac.in, hodbsbe@iiti.ac.in
PhD, IIT Roorkee

Research Area and Highlights: Drug Discovery, Target Identification for diseases



The main area of research of AK Lab (Prof. Amit Kumar) is focused on Drug Discovery and target Identification for various diseases including cancer, infectious and neurological disorders. His research group has identified several molecules and their molecular target in several pathogenic bacteria and viruses. His works quite often get highlighted by various news media (Republic News, The Science Wire, The Hindu BusinessLine, down to Earth, Biotechnika etc). He was honored by IIT Indore with “Best Research Paper Award”.

Dr. Sharad Gupta

Associate Professor
shgupta@iiti.ac.in
PhD, IIT Kanpur



Research Area and Highlights: Non-invasive/minimally invasive disease diagnosis, NIR Imaging, Biomaterials, Bionanotechnology for theranostics, and regenerative medicine

The BioPhysics and Bioengineering Research Group, led by Dr. Sharad Gupta, focuses on developing non-invasive tools for disease diagnosis and biological sample characterization. Specifically, his research group is working on a Bio-nanotechnology based approach for bio-fluid analysis, NIR imaging, biophotonics, and silk and other biomaterials based regenerative medicine.

Dr. Prashant Kodgire

Professor
pkodgire@iiti.ac.in
PhD, IIT Bombay



Research Area and Highlights: Molecular Immunology

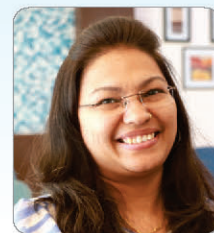
The “Molecular Immunology lab” led by Prof. Prashant Kodgire, focuses on research is broadly in Molecular Immunology and Molecular Biology, especially focusing on immunoglobulin gene regulation and understanding the molecular basis of somatic hypermutation (SHM) of immunoglobulin (Ig) genes. His group’s current efforts are on identifying the molecular mechanisms of action and targeting of activation-induced cytidine deaminase (AID) on the Ig genes. Additionally, the laboratory has focused on cloning, expression and purification of protein, biophysical characterization of outer membrane protein, understanding the role of OMPs in host-pathogen interaction, virulence, and pathogenesis of bacteria.

Dr. Kiran Bala

Associate Professor

kiranb@iiti.ac.in

PhD, GJUST Hisar

**Research Area and Highlights:** Environmental Microbiology

The “Algal Ecotechnology & Sustainability Group” led by Dr. Kiran Bala, focuses on various aspects of algal biotechnology, including wastewater treatment, bioremediation, and multifarious biorefinery approach. Her group is working on an integrative approach for the treatment of wastewater, sequestration of carbon-dioxide along with the production of biotechnologically important products such as biofuels and bioplastic. The lab is also working on exploring the bioremediation potential of biosynthesized algal nanoparticles. Additionally, the lab is focused on developing decentralized technology for the treatment of grey-water, sewage water, and industrial water.

Dr. Mirza S Baig

Associate Professor

msb.iit@iiti.ac.in

PhD, CSIR-CDRI Lucknow

**Research Area and Highlights:** Inflammation and Cancer

The “Molecular Cell Signaling Laboratory” led by Dr. Mirza S Baig, focuses on understanding the signaling in the macrophage mediating the phenotypic switch from M1 (pro-inflammatory state) to M2 (anti-inflammatory state) in various diseases such as sepsis, cancer, atherosclerosis, and fibrosis. His group’s aim is to identify the novel target molecules mediating the inflammatory signaling in various inflammatory diseases. Further, novel therapeutic molecules are identified against the target molecule, and in-vitro and in-vivo studies are conducted to limit the disease progression.

Dr. Hem Chandra Jha

Associate Professor

hemcjha@iiti.ac.in

Ph.D.- BITS Pilani

**Research Area and Highlights:** Infection Bioengineering

The “Infection Engineering Group” led by Dr. Hem Chandra Jha, investigates facets of Epstein Barr virus (EBV), an omnipresent virus responsible for the kissing disease in gastric cancer and neurological modalities like multiple sclerosis and Alzheimer’s disease. Apart from EBV, our research is focused on the role of Helicobacter pylori and kinases in gastric cancer. They have expanded our horizon by including an investigation of EBV reactivated malaria. They are using genomics, genetic, proteomic, biochemical, and in silico methods to understand the processes mentioned above. They have recently unraveled various mysteries related to SARS-CoV-2 infections, like its association with gastric infection, neurological alterations, and other comorbidities like hypertension diabetes, including a brief study of virus mutants and probable signaling induced by SARS-CoV-2 in a host cell.

Dr. Parimal Kar

Associate Professor

parimal@iiti.ac.in

Ph.D.- Michigan Technological University, USA

**Research Area and Highlights:** Theoretical and Computational Biophysics

The “Theoretical and Computational Biophysics Group” led by Dr. Parimal Kar research topic is highly interdisciplinary in nature, focusing on developing and applying physics-based new computational approaches for biomolecular simulations. His primary research goals are directed toward understanding the structure and thermodynamics of biomolecules and elucidating the molecular basis of ligand recognition by target proteins at the atomic level using computational methods. His research group is currently working on the following two broad areas: (1) Computational Structural Glycobiology (2) Computational Modeling of protein dynamics.

Dr. Abhijeet Joshi

Associate Professor

abhijeet.joshi@iiti.ac.in

Ph.D.- IIT Bombay

**Research Area and Highlights:** Pharmacy and Biomedical Engineering

The “TheraSens Lab” led by Dr. Abhijeet Joshi research lies at the intersection of Theranostic and Bio-sensing approaches. They harbour an inter-disciplinary research environment with a special focus on devising Biosensors for healthcare and environmental monitoring and point-of-care devices for analytes. They are also attempting to synthesize several novel nano-carriers for targeted drug delivery approaches to effectively target diseases like Cancer.

Dr. Avinash Sonawane

Professor

asonawane@iiti.ac.in

Ph.D.- University of Marburg, Germany

**Research Area and Highlights:** Molecular Microbiology and Cellular Immunology, Acute Lymphatic Leukaemia Therapy

The “Disease Biology and Cellular Immunology Research Group” led by Prof. Avinash Sonawane research is broadly focused on understanding the molecular mechanisms of Mycobacterium tuberculosis pathogenesis in bone marrow stem cells and lung macrophages, host immune evasion mechanisms, development of active small drug compounds and antimicrobial peptides, and targeted drug delivery systems to improve tuberculosis therapy. In addition to this they are also developing novel asparaginase enzyme-based therapy for the treatment of primary and relapsed acute lymphatic leukemia (ALL).

Dr. Ganti S Murthy

Professor

ganti.murthy@iiti.ac.in

Ph.D.- University of Illinois, USA



Research Area and Highlights: Sustainable Bioprocessing and Systems Analysis

The “Sustainable Technologies Laboratory” led by Prof. G S Murthy’s group broadly focuses on developing sustainable solutions for a resource-constrained world. Sustainable solutions are technically feasible, economically viable, resource sustainable, environmentally conscious, and socially acceptable. Dr. Murthy’s research is specifically focused on sustainable bioprocessing and engineered systems analysis. His group employs a combination of experimental and theoretical approaches to conduct multi-scale and systems level analyses. They study the nutrient-energy-water nexus with a particular focus on building the resilience of agro-ecological systems to pulse and pressure disturbances.

Dr. Sunil Kumar Boda

Assistant Professor (Grade-1)

sunilboda@iiti.ac.in

Ph.D.- IISc, Bangalore



Research Area and Highlights: Biomaterials and Tissue Engineering

The “Biomaterials and Tissue Engineering Lab” led by Dr. Sunil Kumar Boda pursues multidisciplinary research with the goal of developing biomedical implants for musculoskeletal tissue regeneration. Towards this end, they are developing novel cell instructive coatings and bio-inspired tissue sealants/ bio adhesives for soft tissue attachment to percutaneous Osseo integrated implants. In another context, they are fabricating anisotropic 3D nanofibrillar scaffolds for tissue engineering and healing of tendon, ligament and skeletal muscle tears via a combination of cellular contact guidance, extracellular matrix (ECM) coatings, biomechanical stimulation and biomimetic peptide/ growth factor delivery.

Department of Civil Engineering

Dr. Abhishek Rajput

Assistant Professor Grade-I and Head of Department
abhishekrjput@iiti.ac.in
PhD, IIT Roorkee



Research Area: Structural behavior of concrete and metals under projectile impact and blast loading, Finite element modelling and simulations, large deformations of concrete at low, medium and high strain rates, Structural crash-worthiness. An experimental and computational study is going on advanced stage where a finite element model has been developed to validate the experimental results and further cater to the mechanics of the behavior of concrete slabs and reinforcement under projectile impact loading.

Dr. Sandeep Chaudhary

Professor
schaudhary@iiti.ac.in
PhD, Indian Institute of Technology Delhi



Research Area: The primary domain of research activities in the academic year 2022-23 was Sustainable Construction Practices, focusing on waste upcycling, building product development, and construction practice optimization. As part of waste upcycling extensive work has been carried out on the valorization of waste tyre rubbering self-healing bacterial concrete. Other upcycled wastes include agricultural, industrial, and mining wastes. As an outcome of the research activities, three novel products were developed, i.e., bacterial self-healing rubberized concrete, slip and fall based accident preventing concrete pavement, and naturally colored bi-layered composites. In addition, several other research has been carried out on the rheology of concrete, geopolymer, and characterization studies.

Dr. Neelima Satyam

Professor
neelima.satyam@iiti.ac.in
Civil Engineering from Indian Institute of Technology Delhi, India



Research Area: Actively engaged in research in the field of Geotechnical engineering, particularly in Geotechnical Earthquake Engineering, Microzonation and Site Response studies, Landslide hazard and monitoring, Microseismic data processing and Rock engineering.

Dr. Manish Kumar Goyal

Professor

mkgoyal@iiti.ac.in

PhD, IIT Roorkee



- Climate change: Impact of climate change on water resources, Statistical Downscaling, Climate variability and change detection
- Hydrology and Glaciology: Hydro-Climatology, Hydrological Modeling and Flood Routing, Snow-melt Hydrology, Glacial Lake Changes, Remote Sensing Applications
- Irrigation: Crop modeling, Irrigation Water Management
- Carbon sequestration: Soil Carbon Sequestration
- Data Mining: Multivariate Statistical Analysis, Machine Learning Models -Neural Network, Fuzzy logic, clustering

Dr. Lalit Borana

Associate Professor

lalitborana@iiti.ac.in

PhD, The Hong Kong Polytechnic University



Research Area:

- Soft Soils and Creep
- Unsaturated soil mechanics
- Ground Improvement Techniques and Waste material utilization
- Fiber optic sensors in Geotechnical Engineering & Condition monitoring
- Physical and numerical modelling for ground engineering structures
- Machine Learning Modelling in Geotechnical Engineering

Dr. Mohd. Farooq Azam

Associate Professor & Inspire Faculty Fellow

farooqazam@iiti.ac.in

PhD, University of Grenoble, France



Research Area: Glacier dynamic studies, glacier surface energy balance modeling, energy balance of snow cover hydrological modeling, hydro-meteorological monitoring, runoff and mass balance modelling, climate change impacts on himalayan water resources, cryosphere changes under climate change and cryospheric hazards, black carbon impact on glacier mass budgets, AWS programming and installation, ground penetrating radar (GPR)..

Dr. Kaustav Bakshi

Assistant Professor Grade-I

kaustav.bakshi@iiti.ac.in

PhD, Jadavpur University, Kolkata



Research Area:

- Static and dynamic studies on laminated composite shell roofs
- First and progressive ply failure studies
- Finite element method; Geometric nonlinearity
- Hygrothermal analysis of laminated composites
- Shear deformations in laminated composites
- Nonlinear buckling analysis

Dr. Guru Prakash

Assistant Professor Grade-I

guruprakash@iiti.ac.in

PhD, University of Waterloo, ON, Canada (2013-2017)



Research Area:

- Structural Health Monitoring, Damage Detection, Reliability Assessment, Impact Loading, Dam Health Monitoring, Bayesian Approach, Machine Learning.
- Influence of crumb rubber on the response of concrete beams against low velocity impact.
- Damage detection and localization in bridge components using static and dynamic responses.
- Reliability assessment of bridges under fatigue loading.
- Ballistic performance of quasi-isotropic CFRP laminates under low velocity impact.

Dr. Priyansh Singh

Assistant Professor Grade-I

priyansh@iiti.ac.in

PhD, Indian Institute of Technology Delhi



Research Area: Pavement Materials Characterization and Modeling Behavior, Pavement Modeling, Design, Construction and Evaluation Innovative Materials and Technologies in Pavement Engineering Rheology Pavement Recycling, Maintenance and Rehabilitation of Pavements. Development of probabilistic approach to predict the rutting and fatigue performance of asphalt concrete. Pervious concrete characterization. Noise and reflectance characteristics of pervious concrete. Nano composite asphalt binder and mixture.

Dr. Gourab Sil

Assistant Professor Grade-I

gourabsil@iiti.ac.in

PhD, IIT Bombay

Research Area:

- Highway Consistency
- Performance Based Geometric Design
- Traffic Engineering
- Highway Safety and Design
- Driver Behavior Analysis and Modelling



Dr. Mayur Shirish Jain

Assistant Professor Grade-I

mayur.jain@iiti.ac.in

PhD, Indian Institute of Technology Guwahati



Research Area:

- Biological and thermal treatment of organic wastes
- Soil revitalization through nutrient amendments
- Kinetic modelling of waste degradation
- Techno Economic studies and impact assessments
- Fecal sludge management
- Water quality assessment and hazard indexing

Dr. Ashootosh Mandpe

Assistant Professor Grade-II

as_mandpe@iiti.ac.in

PhD, Academy of Scientific & Innovative Research (AcSIR),

CSIR - National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur



Research Area: Bio-valorization of solid wastes, Additive-aided-Thermophilic composting, Contaminants of emerging concern, Municipal landfills remediation through biomining approaches, Antibiotic resistant genes and bacteria, Circular economy, Lifecycle Assessment of solid waste management systems, Environmental policies and legislations.

Dr. Priyank J. Sharma

Assistant Professor Grade-II

priyanksharma@iiti.ac.in

PhD, Sardar Vallabhbhai National Institute of Technology (SVNIT) Surat



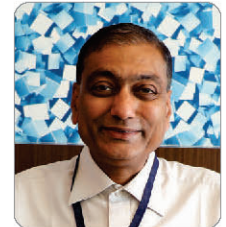
Research Area:

- Space-time variability of individual and joint climate extremes
- Improving hydrologic predictions using AI/ML approaches
- Basin-scale modelling of climate change impacts
- Water security under climate change and anthropogenic interventions

Department of Computer Science and Engineering

Dr. Narendra S. Chaudhari

Professor (HAG) and Vice Chancellor-Assam Science and Technology
University-ASTU (Government of Assam), Guwahati-On Deputation)
nsc@iiti.ac.in
PhD: IIT Bombay



Research Area and Highlights:

Algorithms, Theoretical Computer Science, Soft Computing,
Game Artificial Intelligence (AI).

Dr. Abhishek Srivastava

Professor and Dean, Faculty Affairs
Email Id: asrivastava@iiti.ac.in
Ph.D. (Computing Science) University of Alberta, Canada



Research Area and Highlights: The broad area of Abhishek Srivastava's research is service-oriented systems most commonly realised through web-services. More recently, his group has been interested in applying these ideas in the realm of the Internet of Things. The ideas explored include coming up with technology agnostic solutions for seamlessly linking heterogeneous IoT deployments across domains. Further, his group is also delving into utilising Machine Learning adapted for constrained environments to effectively make sense of the huge amounts of data that emanate from the vast network of IoT deployments.

Research Keywords: Ubiquitous Computing, Machine Learning, Internet of Things, Service-oriented Systems, Web-services

Dr. Aruna Tiwari

Professor
artiwari@iiti.ac.in
Ph.D: Computer science and engineering, RGPV, Bhopal



Research Area and Highlights: My research work is in the area of Computational Intelligence/AI/ML/Soft computing. My research groups are broadly involved in two kinds of sub paradigms: Design of scalable AI/ML algorithms for Big Data handling & Design of Advanced Deep Learning Algorithms. The first work is going on in collaboration with ICAR-Indian Institute of Soybean Research (IISR), Indore & CIAE Bhopal. We develop the scalable machine learning algorithm for handling huge genome data (Big-Data) of various crops such as soyabean, wheat, rice, potato. The second work involves development of novel deep learning algorithms based on Generative Adversarial Neural Network (GAN) for anomaly detection in videos in real time with minimum latency and are proposed to be utilized for monitoring Industrial Environment in real time.

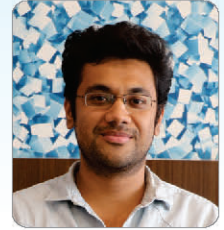
Dr. Anirban Sengupta

Associate Professor

asengupt@iiti.ac.in

PhD: Toronto Metropolitan University

<https://www.anirban-sengupta.com/>



Research Area and Highlights:

Hardware Security and Trust, High Level Synthesis, CAD for VLSI, IP Protection

More details, please visit: <https://www.anirban-sengupta.com/>

Dr. Surya Prakash

Associate Professor

surya@iiti.ac.in

PhD: IIT Kanpur



Research Area and Highlights: The research interest of Dr. Surya Prakash includes Machine Learning, Deep Learning, Pattern Recognition, Computer Vision, Image Processing, Big Data, and 3D Point Cloud Processing. Particularly, he focuses on development of techniques for biometric based human recognition and computer assisted medical diagnostics. He also works towards making use of modern technologies for the preservation of traditional Indian Heritage.

Dr. Somnath Dey

Associate Professor

somnath@iiti.ac.in

PhD: IIT Kharagpur



Research Area and Highlights: The research group of Somnath Dey's is working in the domain of biometrics security, image processing and pattern recognition. More recently, his group has been interested in applying machine learning techniques to these domains. The solutions explored by his research group are developing the methodology for cancelable biometrics, and techniques for preventing presentation attack for fingerprint and face biometrics. His team has also explored solutions for mitigating Master Print attack for fingerprint biometric. Further, his group has focused on developing real-time algorithms for traffic sign detection and recognition in Indian roads.

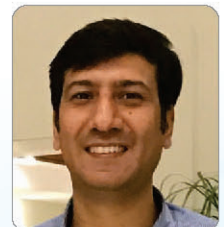
Research Keywords: Biometrics, Traffic Sign Detection, Image Processing, Pattern Recognition, Machine Learning, Deep Learning, Computer Vision

Dr. Kapil Ahuja

Professor

kahuja@iiti.ac.in

PhD: Virginia Tech, USA



Research Area and Highlights: I head the Mathematics of Data Science and Simulation (MODSS) research lab at IIT Indore, with research interests in Machine Learning, Network Science, Numerical Linear Algebra, and Optimization. This year's most important research breakthrough was development of multigoal-oriented a posteriori error control for stationary fluid-structure interaction (FSI). Highlight on teaching end was organization of Winter school on Math of Data Science at LU Hannover (Germany).

Dr. Gourinath Banda

Associate Professor

gourinath@iiti.ac.in

PhD: Roskilde University, Denmark



Research Area and Highlights: Gourinath Banda works in the highly interdisciplinary realm of Cyber Physical Systems (CPS) which includes: Hard-real time kernels for safety critical CPS, CPS Formal verification frameworks, IoT based CPS Contributions, Autonomous car protocols with formally proved correctness, Robotics systems, Cyber security vulnerabilities analysis, PAV and UAV research, etc. Two of his inventions are granted a patent at USPTO and India office, several others have been published. Got awarded with DST funding for "High Confidence CPS". He is a certified "Industry 4.0 Assessor" by TuV Syd in 2021. Several innovative products are developed in his group.

Research Keywords: Autonomous Cars, Blockchain, Cyber Physical Systems, Digital transformation, Embedded Systems, Formal Verification, Hard-realtime kernels, IoT, Model checking, Reachability Analysis, Static Analysis, Timed Automata, etc.

Dr. Neminath Hubballi

Associate Professor

neminath@iiti.ac.in

PhD: IIT Guwahati



Research Area and Highlights: Our work is focused on identifying exploitable vulnerabilities in Networks and Applications, Designing Detection Methods.

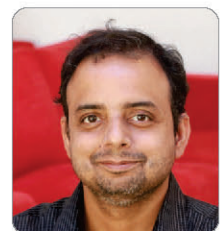
Research Keywords: Network Security, Named Data Networking, Fault Detection in Networks

Dr. Bodhisatwa Mazumdar

Associate Professor

bodhisatwa@iiti.ac.in

PhD: IIT Kharagpur



Research Area and Highlights: The large-scale usage of Internet-of-Things (IoT) devices along with emergence of advanced wireless technologies have promoted researchers and industrialists to adopt designs and devices for a sustainable environment. Our research has focused on multiple variants of side-channel attacks, which are caused due to information leakage from software or hardware implementations of lightweight cryptosystems. Fault analysis attacks are one of the strongest forms of side-channel analysis attacks. This class of attacks has been used to recover the secret key embedded in the electronic devices by perturbing the normal operation of the target system.

In most fault attacks, the injected fault is temporary, and once injected, the corresponding set of faulty ciphertexts are captured to recover the key from protected implementations of ciphers. As a future research goal, we aim to implement fault attack resilient cryptoprocessor based on lightweight cryptographic primitives, such as, GIFT family of lightweight ciphers. The implementation shall be based on RISC-V instruction set architecture (ISA). As a part of crypto-accelerator design, we plan to add a custom instruction for bit permutation operation in the ISA that will be specific to the GIFT-128 cryptographic primitive. We chose the RISC-V ISA as it is open source and has broad applicability. Many commercial SOC vendors plan to adopt RISC-V architecture in their products. We plan to implement various protection mechanisms against fault attacks that can be mounted at probable locations within the crypto-processor.

Research Keywords: Hardware Security, Fault Analysis, Countermeasures, Entropy reduction modelling of key in presence of transient and persistent faults, logic synthesis techniques for secure design approaches.

Dr. Puneet Gupta

Associate Professor

puneet@iiti.ac.in

PhD: IIT Kanpur



Research Area and Highlights: My broad research interests include Computer Vision, Deep Learning, and Image Processing. I work to make the current technology useful for human beings by analyzing their behavior. I have worked on analyzing facial expressions using deep learning; measuring the human-vitals (which are, heart rate, breathing rate and blood pressure) using unobtrusive and non-contact human videos; and cross-modal learning. These play indispensable roles in security; affective computing; ambient intelligence; and health-care.

Dr. Nagendra Kumar

Assistant Professor

nagendra@iiti.ac.in

PhD: IIT Hyderabad



Research Area and Highlights:

Broad research area:

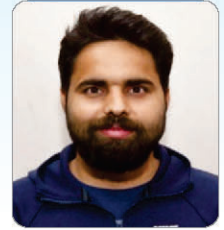
1. Natural Language Processing
2. Social Network Analysis
3. Machine Learning
4. Deep Learning
5. Data Mining

Research highlights:

1. Deep Neural Network for Personalized Hashtag Recommendation
2. Fake News Detection
3. Semantic Text Matching

Dr. Ranveer Singh

Assistant Professor
ranveer@iiti.ac.in
PhD: IIT Jodhpur



Research Area and Highlights: I worked on Algebraic graphs and bounds on NP-hard Problems

Research Area: Algorithmic Graph Theory and Construction of Ramanujan Graphs

Dr. Chandresh Kumar Maurya

Assistant Professor
chandresh@iiti.ac.in
PhD: IIT Roorkee



Research Area and Highlights: The AI Lab is dedicated to building state-of-the-art models, tools, and algorithms for next-generation technologies. The lab is spearheaded by Chandresh Kumar Maurya. Our main work revolves around using AI, ML, and NLP techniques to solve problems in text, vision, and speech domains.

Dr. Ayan Mondal

Assistant Professor
ayan@iiti.ac.in
PhD: IIT Kharagpur



Research Area and Highlights: The research group primarily focuses on research in intelligent systems enabling network technologies, services, and applications, including Internet of Things (IoT), Softwarized Networks, and Edge Intelligence.

Research Keywords: Internet of Things (IoT); Softwarized Networks; Edge Intelligence

Highlights:

- Workshop Chair, the Second Workshop on "A4E: AI/ML for Edge/Fog Networks" Workshop co-located with IEEE Global Communications Conference (GLOBECOM) 2023, Kuala Lumpur, Malaysia, December 4-8, 2023.
- Associate Editor, IoT Services and Applications (specialty section of Frontiers in the Internet of Things), September 2022 - Present.
- Workshop Chair, the Second Workshop on "SIGNIS: Softwarized Next Generation Networks for IoT Services" Workshop co-located with IEEE International Conference on Communications (ICC) 2023, Rome, Italy, May 28-June 1, 2023

Dr. Aniruddha Singh Kushwaha

Assistant Professor
 aniruddha@iiti.ac.in
 PhD: IIT Bombay



Research Area and Highlights: With the emergence of cloud computing, a large amount of workload has been migrated to the cloud platforms. These platforms are being used to store, process and act upon the data, primarily for big data analytics and AI/ML applications. The migration of workload and data makes the cloud platform a primary target for cyber-attacks. The introduction of Software Defined Networking (SDN) facilitated to have enough programmability in a network whereby the control plane and the data plane of a network are separated from each other. With SDN, the control plane of the network resides in a centralized controller that operates as software, running over a server. We exploit SDN and network programmability to offload the network functionality to the FPGA-based SmartNIC to achieve very high throughput. We also aim to develop a programmable hardware framework such that a wide range of stateful network functions can be directly mapped and deployed without causing changes in the underlying hardware.

Research Keywords: Network programmability, Software Defined Networking, Datacenter Architecture, High Speed Optical Network

Dr. Sidharth Sharma

Assistant Professor
 sidharth@iiti.ac.in
 PhD: IIT Bombay



Research Area and Highlights: My broad research area is communication networks. Currently, I am interested in problems related to network verification and network management and network modelling. We are working on various problems related to resource allocation in 5G and beyond networks using machine learning techniques.

Dr. Subhrangsu Mandal

Assistant Professor
 sidharth@iiti.ac.in
 PhD: IIT Kharagpur

**Research Area and Highlights:**

Algorithms, Temporal Graph Algorithms, Distributed Algorithms

Dr. Soumi Chattopadhyay

Assistant Professor

soumi@iiti.ac.in

PhD: Indian Statistical Institute



Research Area and Highlights: My research interest includes Services Computing, Artificial Intelligence, Machine Learning, Logic, Automated Reasoning, Formal Methods, and related fields. I have recently started exploring the application of reinforcement learning in recommender systems and latency optimization in edge computing within 5G/6G networks.

Prof. Yann Busnel (Visiting)

Assistant Professor

soumi@iiti.ac.in

PhD: University of Rennes (France)



Research Area and Highlights: Models for large-scale distributed systems and networks and Data stream analysis over massive data

Department of Electrical Engineering

Dr. Vivek Kanhangad

Professor and Head of Department

kvivek@iiti.ac.in

PhD, The Hong Kong Polytechnic University



Details of Research Area & Highlights: Image and signal analysis, machine learning with a focus on biometrics and medical diagnostics.

Pattern Recognition and Image Analysis (PRIA) research group at IIT Indore is primarily engaged in addressing various research problems related to biometric recognition. Recently, we developed a deep learning model for weakly-supervised crowd counting. Our end-to-end crowd counting pipeline– CrowdFormer utilizes a pyramid-structured vision transformer to extract multi-scale features. An effective feature aggregation module combines features from different stages of the transformer, and a simple regression head estimates the crowd counts.

Dr. Abhinav Kranti

Professor

akranti@iiti.ac.in

PhD, University of Delhi



Details of Research Area & Highlights: Capacitorless DRAM, steep switching devices, vertically stacked transistors, material-device-circuit co-design showcased memory feasibility (for standalone and embedded applications) through reconfigurable transistors. Development of an analytical modeling framework for ultralow power logic design with MFMIS transistors.

Dr. Amod C. Umarikar

Professor

amodu@iiti.ac.in

PhD, Indian Institute of Science



Details of Research Area & Highlights: Applications of Power Electronics in Renewable Energy Systems, Power Quality Monitoring, Study of Grid Connected PV Inverters controlled as Grid Forming Converters. Study of Standalone Photovoltaic Systems

Dr. Appina Balasubramanyam

Assistant Professor

appina@iiti.ac.in

PhD, Indian Institute of Technology Hyderabad



Details of Research Area & Highlights: Image and video processing, Multimedia quality assessment, Display technology, Subjective analysis on image and video content. Objective analysis. Mathematical modeling based on statistical analysis and machine learning methods.

Dr. Mukesh Kumar

Professor

mukesh.kr@iiti.ac.in

PhD, Tokyo Institute of Technology



Details of Research Area & Highlights: Dr. Mukesh Kumar is leading the Optoelectronic Nanodevice Research Laboratory (ONRL). His research interests include Optoelectronic Devices, VLSI Technology, Microwave Photonics, Nanoelectronics, Integrated Photonics and Device Fabrication. He is a Fellow of the Japan Society for the Promotion of Science (JSPS). He is also serving as an adjunct-faculty at Purdue School of Engineering & Technology, IUPUI, USA and serving as an Associate Editor in the IEEE Photonics Journal. ONRL has ongoing-research-collaborations with leading-scientists in India, USA, France, South Korea and Germany.

Dr. Prabhat Kumar Upadhyay

Professor

pkupadhyay@iiti.ac.in

PhD, Indian Institute of Technology Delhi



Details of Research Area & Highlights: Main research interests include Wireless and Mobile Communication, Cognitive Radio and Spectrum Sharing Techniques, Hybrid Satellite-Terrestrial Relay Systems, Physical Layer Security, Wireless Body Area Networks, Internet-of-Things (IoT) Networks, Molecular Communications and Nanonetworking.

He was awarded Nokia Foundation Visiting Professor Fellowship at the University of Oulu, Finland in 2022. He is leading a Wireless Communication (WiCom) Research Group, which is actively involved in cutting-edge research and development to cater to the emerging needs of the next generation wireless systems. He has been supervising many research projects and dissertations toward PhD (10 completed & 4 ongoing), MTech/MS(R) (10 completed & 3 ongoing), and BTech (26 completed & 3 ongoing) degrees. The research work has contributed more than 100 publications in peer-reviewed journals and conferences. He is currently serving as an Editor for IEEE Transactions on Vehicular Technology and IEEE Communications Letters.

Dr. Ram Bilas Pachori

Professor

pachori@iiti.ac.in

PhD, Indian Institute of Technology Kanpur



Details of Research Area & Highlights: His research interests include Signal Processing, Biomedical Signal Processing, Non-stationary Signal Processing, Speech Signal Processing, Brain-Computer Interfacing, and Machine Learning. He has 294 publications which include journal papers (181), conference papers (78), books (10), and book chapters (25). He has also eight patents: 01 Australian patent (granted), 02 Indian patents (Published), and 05 Indian patents (filed). His publications have been cited approximately 14000 times with h-index of 64 according to Google Scholar.

Dr. Rinkee Chopra

Assistant Professor

rinkee@iiti.ac.in

PhD, Indian Institute of Technology Bombay



Details of Research Area & Highlights: Filtering Antenna and Arrays, High gain and broadband 5G antennas and arrays, Multiband, broadband, Endfire and circularly polarized antennas, RF transceiver components- filters, couplers, oscillator etc.

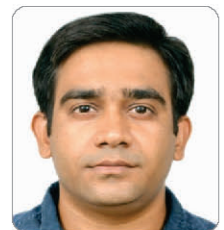
Dr. Chopra's research work focused on high gain directional antennas, broadband antennas, filtering antennas for different applications. Conformal linear and planar microstrip arrays are designed with high gain and extremely low side lobe level for surveillance applications. A uniplanar MSA is designed with compact size and ease in integration with PCB. For sub-6GHz broadband services, several compact and broadband antennas are designed with broadside and endfire coverage. A broadband and high gain filtering antenna is designed to replace the filter and antenna in RF transceivers. A broadband quasi-isotropic antenna is to meet the requirement of IoT, 5G and other communication services.

Dr. Saptarshi Ghosh

Assistant Professor

sghosh@iiti.ac.in

PhD, Indian Institute of Technology Kanpur



Details of Research Area & Highlights: (1) Electromagnetics, (2) Frequency selective surfaces, (3) Metamaterials, (4) Microwave absorbers, (5) Microwave antennas

Dr. Saptarshi Ghosh is leading the research group in Applied Electromagnetics Laboratory at Department of Electrical Engineering, IIT Indore, India. His research group is working on diverse research domains including (i) microwave and millimeter-wave 5G antennas, (ii) reconfigurable intelligent surfaces, (iii) frequency selective surfaces, (iv) 3-D printing technology, and (iv) other state-of-the-art microwave devices. The group has strong collaboration with different institutes across the world, through various international funding supports, student exchange programs, and industry-academia collaboration. Several accolades have been received by the group members, from various Government and international organizations.

Dr. Santosh Kumar Vishvakarma

Professor

skvishvakarma@iiti.ac.in

PhD, Indian Institute of Technology Roorkee



Details of Research Area & Highlights: Energy-Efficient and Reliable SRAM Memory Design, Hardware-Efficient Architecture for DNN Accelerators, SRAM-based In-Memory Computing Architecture for Edge AI, Reliable, Secure Design for IoT Application, Design for Reliability.

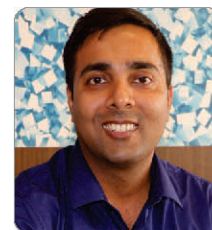
Nanoscale Devices, VLSI Circuit and System Design (NSDCS) Research Group, led by Dr. Santosh Kumar Vishvakarma, is actively involved in cutting-edge research and development to in-memory computing for edge AI applications, efficient and reliable memory chip design, efficient and configurable hardware accelerator for DNN accelerators. It has developed and analyzed various efficient and reconfigurable architectures for hardware accelerator algorithms. Various activation functions are developed for DNN applications. He has been supervising many research projects and dissertations toward PhD (17 completed, 1 thesis under review & 5 ongoing), MTech (21 completed & 2 ongoing), and BTech (39 completed & 4 ongoing) degrees. The research work has contributed to a significant number of publications in IEEE journals and conferences.

Dr. Shaibal Mukherjee

Professor

shaibal@iiti.ac.in

PhD, University of Oklahoma



Details of Research Area & Highlights: The Hybrid Nanodevice Research Group (HNRC) led by Shaibal at IIT Indore explores new physics of micro- and nano-structured materials, and to apply this knowledge in realizing advanced tools and devices for chemical, biological, optical, electronic and energy applications. He has published 120+ research articles in peer-reviewed journals, 105+ international conference proceedings, 11 book/book chapters and 9 patents (granted: 2 and published: 7). He is the recipient of various prestigious awards such as “2023 Japan Society for the Promotion of Science (JSPS) Invitational Fellowship Award”, “2022 IETE Fellow”, “2021 JSPS Invitational Fellowship Award”, “2020 DUO-India Professor Fellowship Award”, “2019 DAAD Fellowship Award”, “2018 Materials Research Society of India (MRSI) Medal”, “2016 Young Faculty Research Fellowship (YFRF) under Visvesvaraya PhD Scheme for Electronics and IT”. He is an Adjunct Faculty at RMIT University, Melbourne, Australia. He is an Associate Editor for IEEE Sensors Journal, a senior member of IEEE, a regular member of Optical Society of America and Life Fellow of MRSI and Optical Society of India. He is the founding Chair of IEEE Madhya Pradesh (MP) Section Electron Devices Society (EDS) chapter.

His research interests include (a) Low-cost HEMTs for DC-to-DC converters for Evs; (b) Novel 2D RRAMs for image processing, AI/ML and brain-computer interface; (c) Ultrathin and low-cost photovoltaic; (d) IoT-enabled and portable agricultural, environmental and water sensors; (e) UV photodetectors

Dr. Srivathsan Vasudevan

Professor

svasudevan@iiti.ac.in

PhD, Nanyang Technological University



Details of Research Area & Highlights: Srivathsan is working on building photoacoustic imaging for biomedical applications like cancer diagnosis. His lab works to get the research from bench to bed side.

Biophotonics lab headed by Srivathsan has built a cost-effective compact instrument for thyroid cancer diagnosis. Some clinical trials in collaboration with Christian Medical College Vellore (CMC) have been carried out.

Dr. Subhadeep Paladhi

Assistant Professor

spaladhi@iiti.ac.in

Ph. D.: Indian Institute of Technology Kharagpur



Details of Research Area & Highlights: My research area is 'Power System Protection'. With technology advancing, new protection schemes are being incorporated into the systems. Renewable sources being integrated into the grid massively available protection schemes are under scrutiny. My research objective is to revisit different aspects related to power system protection in the presence of renewable energy sources and assist the power sectors in finding out the proper protection approaches required for the smooth transition toward decarbonization.

Developed different unit and non-unit protection schemes for lines connecting converter-interfaced renewable sources. Currently working towards developing resilient protection schemes for the survival of renewable source-dominated power systems during extreme events.

Dr. Sumit Gautam

Assistant Professor

sumit.gautam@iiti.ac.in

PhD, University of Luxembourg



Details of Research Area & Highlights: Simultaneous Wireless Information and Power Transfer, Caching, Optimization Methods, Hybrid Active-and-Passive Cooperative Communications, and Precoding for Multi-group Multicast systems.

Dr. Sumit is leading the Wi-STAR group, which is focused on Future Wireless Communications, Wireless Energy Harvesting, and Quantum-based Communications. He is currently the CI (appointed) for the Institute level project: SwaYaan (Drone Electronics). Recent research articles have been published in eminent journals such as: IEEE Access, IEEE Open Journal of the Communications Society (OJ-COMs), and MDPI Sensors (invited paper); and prestigious conferences like: IEEE ICC and IEEE VTC. Two project proposals have been submitted to SERB (SRG as PI, and SUPRA as Co-PI, respectively). He has also been supervising dissertations toward Ph.D. (02 ongoing), M. Tech. (01 ongoing), and B. Tech. (01 completed & 08 ongoing) degrees.

Dr. Swaminathan R

Assistant Professor
swamiramabadran@iiti.ac.in
PhD, IIT Kharagpur



Details of Research Area & Highlights: Current research areas include 6G Wireless Technologies and Intelligent Receiver Design.

In the AY 2022-23, our research group has published 7 SCI/SCI-E indexed Journal articles including 4 IEEE Journals/Transactions and 4 IEEE National/International conference articles. As of now, 2 sponsored research projects (both as PI) are ongoing, 1 sponsored research project and 2 consultancy projects were completed. Mr. Narendra Vishwakarma, the first PhD Student under the PMRF fellowship from our group, has successfully submitted his PhD thesis. Swaminathan has been recently honored as Exemplary Reviewer for IEEE Communications Letters and elevated to IEEE Senior Member.

Dr. Trapti Jain

Professor
traptij@iiti.ac.in
PhD, IIT Kanpur

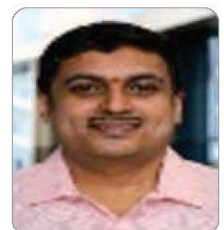


Details of Research Area & Highlights: Her research interests include synchrophasor applications in power systems, stability and control of microgrid, artificial intelligence applications to power systems, data analytics and cyber security in smart grid.

Our research group is working towards development of power system monitoring tools utilizing time synchronized data obtained from Phasor Measurement Units (PMUs). PMU data has also been used to study the impact of cyber-attack on the performance of state estimation techniques and suggesting the improvement for reducing the impact of the attack.

Dr. Vijay A. S.

Assistant Professor
vijay_as@iiti.ac.in
PhD, IIT Bombay



Details of Research Area & Highlights: His research interests include Microgrids and Distributed generation. Design and Control of AC, DC and Hybrid Microgrids. Power electronic Emulation, Real-time simulations. Power Quality, Power electronic converter control.

The research is focused on addressing the aspects of proportional load power sharing between distributed generators in islanded AC microgrids and new control strategies for the same have been worked upon. Another issue is the suppression of circulating currents and the aspects of power quality issues like unbalanced and non-linear loads.

Dr. Vimal Bhatia

Professor

vbhatia@iiti.ac.in

PhD, The University of Edinburgh (QS-15), UK



Details of Research Area & Highlights: Research interests are in the broader areas of Communications, Signal Processing, Machine/deep learning with applications to 6G, Quantum Communications, Image Processing, IoT, Agriculture, and Photonics.

The research group has over 360 peer reviewed publications with more than 90+ IEEE Journals with 30+ IEEE Transactions, and the highest IEEE publication having IF 12.7. Group has been granted 5-patents have been granted. DST Observer for Entrepreneurship courses in MP. Coordinator for 4-international MoUs. He has been listed in the world's top 2% scientists in the study carried out at Stanford University, USA.

Dr. Vipul Singh

Professor

vipul@iiti.ac.in

PhD, Kyushu Institute of Technology, Japan



Details of Research Area & Highlights: Organic electronics, optoelectronics, oxide semiconductors, device fabrication and characterization

We have successfully demonstrated OTFTs having high photosensitivity and responsivity. The selective control of morphology of the organic thin films was utilized for improved photo response of these OFETs. Additionally utilizing the relatively low bandgap conducting polymers we successfully demonstrated NIR sensitive OTFTs typically suited for biomedical applications.

Department of Mechanical Engineering

Prof. Suhas S. Joshi

Professor and Director, IIT Indore

ssjoshi@iiti.ac.in

PhD, Indian Institute of Technology Bombay



Research area and highlights: Modeling machining of 'difficult-to-machine' materials (MMCs, Inconel, Titanium) Modeling and development of micro-machining processes. Laser micro-machining, LIGA and Nano-polishing.

Prof. Suhas S. Joshi, currently the Professor and Director of IIT Indore, has a distinguished career. With a PhD from IIT Bombay, he previously held positions at Tata Motors, Georgia Institute of Technology, and the University of Illinois. At IIT Bombay, he served as the Head of Mechanical Engineering Department, Dean of Alumni and Corporate Relations, and the 'Rahul Bajaj' Chair Professor. His research expertise lies in modeling challenging material machining, micro-machining processes, and laser micro-machining. Prof. Joshi has filed and received multiple patents in electric discharge machining.

Dr. Anand Parey

Professor

anandp@iiti.ac.in

PhD, Indian Institute of Technology Delhi



Research area and highlights: Condition monitoring Noise and vibration isolation Signal Processing of Mechanical Systems

Prof. Anand Parey is an academic and researcher specializing in Design Engineering. His research focuses on condition monitoring, with particular expertise in noise and vibration isolation as well as signal processing of mechanical systems. With a strong foundation in Design Engineering, Prof. Parey has made significant contributions to the field. He has supervised several Ph.D. students, with a focus on various aspects of gear fault diagnosis, vibration analysis, and noise control.

Dr. Santosh Kumar Sahu

Professor

sksahu@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research area and highlights: Thermal Engineering Thermal hydraulics Multiphase flows.

Dr. Sahu's research group is actively engaged in the development of cutting edge research to cater the cooling needs of next generation high performance thermal systems. His research group works on various areas including quenching of hot stationary and moving surfaces, heat transfer enhancement with nanofluids, pool boiling heat transfer, impinging jets, synthetic jets, heat exchanging equipment, phase change materials and thermal management of electronics and electric vehicle battery modules.

Dr. Satyajit Chatterjee

Associate Professor

satyajit@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research Area and Highlight: Surface Technology Coatings Tribology Solid Lubrication

Dr. Satyajit Chatterjee, Associate Professor, received Ph.D. in Mechanical Engineering from IIT Kharagpur and joined IIT Indore in 2010. His research endeavors include Coatings' Tribology, Solid Lubrication and Surface Technologies. He has published his research works in reputed journals like Ceramics International, Journal of Tribology, Materials Characterization, Surface and Coatings Technology etc. The workspace of his Coatings Tribology Group, The Metallography and Tribology Laboratory is a well-established and one of the most used laboratories of the institute.

**Dr. Neelesh Kumar Jain**

Professor (HAG)

nkjain@iiti.ac.in

PhD, Indian Institute of Technology Kanpur

Research area and highlights: Additive Manufacturing of High Melting Point Materials, Surface Modification and Joining of Thin Sheets by μ -PTA Process High Quality Gear Finishing by Advanced ECH, PECH, AFF Sustainable and Green Manufacturing of Gears. Near Net-shape Manufacturing of Meso-sized Gears Advanced and Hybrid Machining Processes, Micromachining and Nano-finishing Processes Process Selection, Modeling and Optimization of the Manufacturing Processes

My research group since last 13 years has been working in the area in micro-plasma based additive manufacturing of high melting point materials (i.e., Ti-6Al-4V, Ti-6Al-4V-Ni, Ti-6Al-4V-Cr and Ti-6Al-4V-Ni-Cr alloys, Inconel 625, Stellite, P20, Co-Cr-Mo-Ti alloys, Ti-Ta-Nb-Mo-Zr high entropy alloy) using them in the form of powder, wire, and combined powder and wire forms and development of metallic biocompatible materials for implants, high/medium entropy alloys, composites, functionally graded materials (FGM), Shape memory materials (SMM) using this process. For the last five years, my research group has been working on friction stir based additive manufacturing of Al and Mg based alloys and MMCs which are difficult to additively manufacture by the DED processes.

Dr. Kazi Sabiruddin

Associate Professor

skazi@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research Area and Highlights: Surface Engineering, Wear resistant coatings, Thermal barrier coatings, Bio-active coatings, Synthesis of HA from natural resources The Surface Coatings for Engineering Application research group is led by Dr. Kazi Sabiruddin focuses on deposition of various coating materials by advanced technologies on different substrate materials and characterization of the same for tribo-mechanical and thermal barrier applications. He also continues research on Hydroxyapatite (HA) based coatings developed from synthesized HA powders.

Dr. I.A. Palani

Professor

palaniia@iiti.ac.in

PhD, Indian Institute of Technology Madras



Research Areas and Highlights: Laser Assisted Micro Manufacturing, 3d Printing, Smart Materials and structures, Opto-Mechatronics systems

The Mechatronics and Instrumentation Research Group Led by Prof.I.A.Palani focus on the development of Smart systems and Devices. The group has developed a SMA actuated Turtle type soft Robot called Kachuva, Which has been recently transferred to DYSL DRDO.A micro 3d Printing developed in-house at IIT Indore has been selected as one of the best 75 Technologies among all IIT's.

Dr. Bhupesh Kumar Lad

Professor

bklad@iiti.ac.in

PhD, Indian Institute of Technology Delhi



Research Area and Highlight: Modelling and simulation for Cyber Physical Systems, Digital twin development for smart manufacturing, Reliability engineering

The Industrial and Systems Engineering (ISE) research group led by Dr. Bhupesh Kumar Lad focuses on the development of various Cyber Physical Systems (CPS)-related technologies. In particular, his team is engaged in the development of digital twin solutions for manufacturing and healthcare applications. Dr. Lad is actively engaged in assisting India's Micro, Small, and Medium-sized Enterprises (MSMEs) with digitalization and bringing them into the mainstream of the fourth industrial revolution.

Dr. Dhinakaran Shanmugam

Professor

sdhina@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research area and highlights: Experimental and Computational Fluid Dynamics, Flow through porous media, Mass transfer in tissues, Energy storage systems.

Prof. Dhinakaran's research group focuses on various areas of fluid dynamics and heat transfer. Their research spans bluff body flows, heat and mass transfer in porous media, nanofluids, and drug diffusion in skin tissues. With a diverse range of investigations, including analyzing flow and heat transfer from different geometries, enhancing solar collector performance, and studying nanofluid behavior, Prof. Dhinakaran's group makes significant contributions to advancing knowledge in these fields. Their work showcases a deep understanding of fluid dynamics and heat transfer processes.

Dr. Devendra Deshmukh

Professor

dldeshmukh@iiti.ac.in

PhD, Indian Institute of Science, Bangalore



Research Areas and Highlights: Internal combustion engines Biofuels Spray and combustion diagnostics

Multiphase flow diagnostic, Spray measurement, Combustion Species Measurement, Low Temperature Combustion Engine Development, Biodiesel and Biofuel combustion. Spray and Combustion Research group led by Prof. Devendra Deshmukh works on spray and combustion diagnostics for engines and gas turbines. The research group also focuses on different biofuels for advanced engines.

Dr. Shailesh I. Kundalwal

Associate Professor

skundalwal@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research area and highlights: Computational Nanomechanics of Solids Finite Element Analysis of Composites Nanomechanics & Micromechanics of Composites Nanotechnology in Engineering Smart Materials and Structures.

Energy and Hydrogen Storage, Composite Materials and Structures, Flexoelectricity and Piezoelectricity, Nanomechanics & Micromechanics, and Smart Material and Structures. The Applied and Theoretical Mechanics (ATOM) Lab founded by Dr. SI Kundalwal undertakes research primarily in the above areas. The lab's mission is to lead the advancement and application of multifunctional nano- and micro-structures addressing the challenges associated with their multifaceted aspects via numerous experimental, nanomechanical and micromechanical techniques.

Dr. Pavan Kumar Kankar

Associate Professor

pkankar@iiti.ac.in

PhD, Indian Institute of Technology Roorkee



Research area and highlights: Fault Diagnosis of Mechanical Components Condition Based Maintenance Machine Learning Signal Processing.

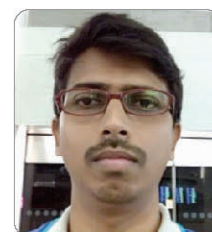
The research group is focusing on using model based and data driven methods to forecast the functioning behavior of mechanical systems like bearing, hydraulics etc. In another work, force and vibration analysis in biomechanical preparation of root canals using a reciprocating endodontic file system is carried out.

Dr. Indrasen Singh

Assistant Professor

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PhD, Indian Institute of Science Bangalore



Research Area and Highlights: Computational solid mechanics Metallic glass, Nanoglass Frature mechanics Mechanical behaviour of materials Finite element methods.

Dr. Indrasen Singh's research focus lies in Computational Mechanics, and he has supervised numerous scholars and students in their projects related to deformation behavior, fracture, indentation, and simulations of various materials and structures. His group focuses on finite element and experimental studies of deformation behavior in nanoglass and metallic glass structures, as well as investigating the role of ferroelectric domain configurations on the indentation behavior of piezoceramics.

Dr. Satyanarayan Patel

Assistant Professor

spatel@iiti.ac.in

PhD, Indian Institute of Technology Mandi



Research area and highlights: Energy conversion, storage and harvesting materials Solid State Refrigeration Piezoelectric, Pyroelectric and ferroelectric materials Energy Engineering.

Dr. Satyanarayan Patel work focuses on bulk lead-free ceramics (piezoelectric and ferroelectric) for energy storage, conversion and caloric effects for solid state refrigeration. He demonstrated experimentally the elastocaloric and barocaloric effect in bulk ferroelectric ceramics using indirect measurements for solid-state refrigeration. The current research is focused on pyroelectric energy harvesting and the flexocaloric effect in ferroelectric materials.

Dr. Harekrishna Yadav

Assistant Professor

krishnpme@iiti.ac.in

PhD, Indian Institute of Technology Bombay



Research area and highlights: Fluid-Structure Interaction, Shear Flow, Flow and Turbulence Measurement using Optical Techniques, Heat Transfer Enhancement, Supersonic Flow, Renewable and Sustainable Energy.

My current research focuses on understanding the physics of steady, synthetic, and pulsating jets. We experimentally explored the effect of frequency and amplitude on the flow and showed the existence of an optimal frequency that provides the highest mixing and entrainment. Further, we are working with the application of the jet in solar drying and thermal management of electronics.

Dr. Krishna Kumar Mohan

Assistant Professor

kmkumar@iiti.ac.in

PhD, Indian Institute of Science, Bangalore



Research Areas and Highlights: Acoustics of Ducts and Mufflers; Noise Control of Home appliances; Industrial Noise and Vibration Control; and Designing for Quietness.

The Theoretical and Applied Acoustics research group led by Dr. K. M. Kumar focuses on providing novel solutions for automotive and industrial noise and vibration control. Currently, his research group is working on the development of novel mufflers for range extended hybrid electric vehicles and noise control solutions for kitchen mixer/grinder.

Dr. Dan Sathiaraj

Assistant Professor

dansathiaraj@iiti.ac.in

PhD, Indian Institute of Technology Hyderabad



Research Areas and Highlights: Medium to High entropy alloys Severe plastic deformation (SPD), Recrystallization and grain growth study Micro, Nano- machining of MEAs and HEAs Surface modification Engineering (SMAT, Laser Shot-peening, etc) Mechanical and functional property study.

Additive Manufacturing, Thermo-mechanical processing, Surface Modification Engineering, Nano mechanical study. The Advanced forming laboratory research group, led by Dr Dan Sathiaraj, focuses on developing New Hybrid Additive Manufacturing for new material developments. Specially his group is working on a development of high temperature structural materials, light weight alloys, shape memory alloy based on multi-component.

Dr, Ashish Rajak

Assitant Professor

a.rajak@iiti.ac.in

PhD, Indian Institute of Technology Guwahati



Research Area and Highlight: High strain rate material processing, electromagnetic: forming, welding, crimping, cladding, hemming, powder compaction, explosive welding, vaporizing foil actuator.

Dr Ashish Rajak, focuses on developing new non contact processes for metal forming and welding. His research group is currently working on joining carbon fiber to metal using a high strain rate process using electromagnetic equipment. Some known processes like metal clinching, hemming and crimping are part of metal forming by joining. Further he is also working on developing cheap and effective medical stretchers, wheelchairs and many more medical solutions.

Dr. Sandeep Singh

Assitant Professor

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PhD, Indian Institute of Technology Delhi



Research Area and Highlight: Solid Mechanics and Design, Computational Mechanics, Composite Materials and Structures, Multiscale Modelling, Atomistic Simulation, Nonlinear Dynamics, Theory of Plates and Shells

Dr. Yuvraj Madhukar

Assistant Professor

yuvrajmadhukar@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research Area and Highlights: Wire arc / laser additive manufacturing, Laser Material Processing process monitoring and control.

Dr. Yuvraj Madhukar is specialized in Laser Material Processing, Water Assisted Laser Material Processing, Wire Arc Additive Manufacturing, Wire Laser Additive Manufacturing, and Automation and Control. Some notable projects include the design and development of adaptive path followers for wire-based additive manufacturing, design and analysis of additive manufacturing of metals, development and control of wire arc additive manufacturing of complex parts, and in-house design and fabrication of CNC milling machines.

Dr. Girish Chandra Verma

Assistant Professor

girish.verma@iiti.ac.in

PhD, Indian Institute of Technology Delhi



Research Area and Highlights: Machining processes, Abrasive based finishing process, Ultrasonic-assisted machining process and Additive manufacturing

Experimental investigation into tribological properties of DMLS produced Ti6Al4V- In this work tribology properties of DMLS produced Ti6Al4V was evaluated in different biofluids. Additionally the effect orientation was also observed. Influence of laser nitriding of mechanical and wear properties of high speed steel- in this work laser nitriding was performed on high speed material in open atmosphere and its effect on mechanical and wear properties was measured. Additionally the effect laser nitriding parameters was also evaluated.

Dr. Ankur Miglani

Assistant Professor

amiglani@iiti.ac.in

PhD, Indian Institute of Science, Bangalore



Research Area and Highlights: Combustion of next-generation fuels: Gel fuels and nanoparticle laden fuels Thermal management of power-dense electronics: Flow boiling in microchannels Microfluidics: Flow freezing in microchannels Soft-matter: Instabilities in drying colloidal droplets

The Microfluidics and Droplet Dynamics lab, led by Dr. Ankur Miglani focuses on vaporization and combustion of both Newtonian and Non-Newtonian functional droplets

Dr. Janakiraman

Assistant Professor

sjanakiraman@iiti.ac.in

PhD, Indian Institute of Technology Kharagpur



Research area and highlights: Energy Storage, energy Storage Materials, Lithium & Sodium-ion Batteries, Polymer Electrolytes, Composites & Thin Film Batteries.

The energy storage materials group is led by Dr S Janakiraman, focuses on fabrication and testing of cathode, anode and separators materials for lithium, sodium, and magnesium ion rechargeable batteries. He also works in a variety of polymer electrolytes and electrodes for supercapacitors. The overall goal of his group is to explore fundamental problems concerning the conduction and interfacial phenomena of rechargeable batteries.

Dr. Vijai Laxmi

Assistant Professor

vijai.laxmi@iiti.ac.in

PhD, Indian Institute of Technology Bombay



Research Areas and Highlights: Microfluidics Fluid mechanics Development of lab-on-a-chip / organ-on-a-chip models for healthcare purposes

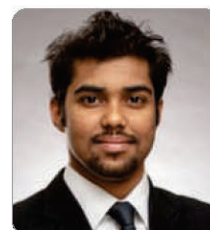
Fluid Mechanics, development of microfluidics devices for biological/chemical research, development of Organ-on-Chip Models for healthcare applications, and liquid energy harvesting. Dr. Vijai Laxmi has been recently selected as the prestigious INSA Visiting Scientist-2023 by Indian National Science Academy and her research work has been appreciated by the Naik and Rastogi Award for Excellence in PhD research-2022 by Indian Institute of Technology Bombay.

Dr. Vibhor Pandhare

Assistant Professor

vibhorpandhare@iiti.ac.in

PhD, University of Cincinnati



Research area and highlights: Core Research Interest: Artificial Intelligence Probability and Statistics Applied Research Interest: Smart Manufacturing Cyber-Physical Systems Prognostics and Health Management Reliability Engineering.

My research focuses on developing distributed and collaborative decision-making models across digital twins with applications in smart manufacturing. The broader research theme includes cyber physical systems development, data privacy protection, and federated learning. I also work towards developing automatic asset state detection systems that address the lack of systematic and sufficient labeled data availability for training machine learning models in real-life manufacturing problems.

Professor Pramod S. Mehta

Distinguished Visiting Professor in the Department of Mechanical Engineering and in the School of Humanities and Social Sciences, IIT Indore

PhD: Loughborough University of Technology (U.K.)



Research Area and Highlights: Energy, Combustion, Biofuels, Engine Emission Technology

In his prolific academic career of over 45 years, Professor Pramod Mehta has served in leading engineering institutions in the country in different capacities and actively participated in professional activities. He has more than 130 publications in international journals and Conferences and has guided many PhD and Research students. He was the Director of the National Institute of Technology, Jalandhar, from 2003 to 2005 on deputation from IITM, steering the transformation of the erstwhile REC to the NIT system. He was also the Chairman of the Committee of the NIT Directors constituted by the MHRD to prepare the Road Map of the NIT System. As the co-founder of the Teaching-Learning Center at IIT Madras, he encourages efficient and enjoyable educational interaction among teachers and students through exposure to research-based, scientifically proven, and innovative teaching-learning methodologies and toward a new and sustainable paradigm of higher technical education.

Department of Metallurgical Engineering and Materials Science

Dr. Ajay Kumar Kushwaha

HoD & Associate Professor
akk@iiti.ac.in
PhD, IIT Bombay



Research Area and Highlights: 1. Nanomaterials & Thin Film, Metal oxides, Metals, Chalcogenides and Graphene & Mxenes Defects, Surface modification, & Opto-electronic Properties; 2. Electrocatalysis-Green Hydrogen Production-Electrochemical Sensors, Electrochemical Corrosion; 3. Electron Devices

Dr. Abhijit Ghosh

Assistant Professor
aghosh@iiti.ac.in
PhD, Indian Institute of Technology Kharagpur



Research Area and Highlights: (a) Crystallographic texture and grain boundary. (b) Physical Metallurgy of Steel. (c) Fracture mechanics and Micro-mechanism, (d) Crystal plasticity (e) Martensitic transformation

Dr. Chandan Halder

Assistant Professor
chalder@iiti.ac.in
PhD, Indian Institute of Technology Kharagpur



Research Area and Highlights: Computational Materials Science, Microstructure Modeling and Simulation, Alloy design

Dr. Dharendra Kumar Rai

Assistant Professor
dkrai@iiti.ac.in
PhD, Indian Institute of Technology Bombay



Research Area and Highlights: Since its inception in the year 2018, the SEEM lab has actively been engaged in developing new materials in the following field of applications: i) Energy storage (Batteries and supercapacitors), ii) Hydrogen and oxygen evolution reactions, iii) CO₂ capture and utilization, iv) Desalination membrane.

Dr. Dudekula Althaf Basha

Assistant Professor

bashada@iiti.ac.in

PhD, Indian Institute of Science, Bangalore.



Research Area and Highlights:

1) Deformation behaviour of magnesium alloys. 2) Phase transformation behaviour of alloy nanoparticles. 3) Crack propagation behaviour study through in-situ microscopy techniques.

Dr. Eswara Prasad Korimilli

Associate Professor

eswar@iiti.ac.in

PhD, IISc Bangalore



Research Area and Highlights: The work domain of the MoM group is in the area of mechanical behavior of materials primarily to understand the role of various microstructural length scales and experimental time scales on the deformation behavior of materials. Our group uses several mechanical and microstructural characterization tools to unravel the influence of micro-structure, primarily, on the mechanical properties. We resort to both experimental and computational techniques to develop a holistic understanding of the role of various micro-structural features on the deformation and failure of various materials.

Dr. Hemant Borkar

Assistant Professor

h.borkar@iiti.ac.in

PhD, McGill University, Canada



Research Area and Highlights: The research work focuses on advances in lightweight alloys and metal matrix composites and their deformation behavior. Understanding the relationships in process-structure-property of materials and study of advanced manufacturing techniques are the areas of interest.

Dr. Jayaprakash Murugesan

Associate Professor

jayaprakash@iiti.ac.in

PhD, Nagaoka University of Technology, Japan



Research Area and Highlights: Our research area includes joining of dissimilar materials through fusion welding technique and solid-state welding technique. Study on mechanical behavior of welding joints. Fabrication of metal matrix composites through friction based solid state additive manufacturing route. Fatigue and fretting fatigue behavior of high strength materials.

Dr. Mrigendra Dubey

Associate Professor

mdubey@iiti.ac.in

PhD, Indian Institute of Technology Guwahati



Research Area and Highlights: Soft Materials particularly Metallogels with an objective to achieve conductance, catalysis, superabsorbent, morphology, rheological and optical (luminescent) properties for various kinds of applications. Also, our research interest includes synthesis for luminescent carbon dots for anti-counterfeiting application.

Dr. Nisheeth Kumar Prasad

Assistant Professor

nisheeth@iiti.ac.in

PhD, IIT Kanpur



Research Area and Highlights: Processing-structure-corrosion property correlation of metals and alloys, Anode design for cathodic protection: sacrificial and ICCP, Concrete corrosion and prevention, Corrosion resistant alloy development for harsh environment.

Dr. Parasharam M. Shirage

Professor

pmshirage@iiti.ac.in

PhD, Shivaji University Kolhapur



Research Area and Highlights: The research work of Dr. Parasharam Shirage focuses on Materials for Sustainable Energy and Environment addressing: (i) Technology Development: Batteries, Supercapacitors, Solar cells, Sensors; (ii) Materials Development: Thin films and herero-nanostructures for batteries, Supercapacitors, Solar cells, Sensors and Single Crystal Growth of Superconductors for exotic phenomena/ vortex dynamics ; and (iii) Processes: Process to grow large single crystals of Superconductors, Controlled growth of Nanostructures for Multifunctional applications.

Dr. Ram Sajeewan Maurya

Assistant Professor

ramsajeewan@iiti.ac.in

PhD, Indian Institute of Technology (IIT) Kharagpur



Research Area and Highlights: Our research group extensively works on Oxide Dispersion Strengthened (ODS) alloys, Oxide Dispersion Strengthened High Entropy Alloys (ODS-HEAs), Bulk metallic glasses and High entropy alloys. Currently, our research group performs extensive investigation and exploration of structure-property relationships in a variety of metallic alloys which includes BMGs and its composite, HEAs and ODS alloys.

Dr. Rupesh Shivaji Devan

Associate Professor

rupesh@iiti.ac.in

PhD, Shivaji University Kolhapur



Research Area and Highlights: Advanced and sustainable energy storage and conversation technologies with tailorable electrochemically active materials are the present research dominancy towards an urgent global need for electric vehicles and portable electronics. Therefore, our group mainly focuses on materials for energy storage and conversation applications. Particularly, on developing nano-hetero- architectures for applications in hybrid supercapacitors, water remediation, green hydrogen generation and solar cells.

Dr. Santosh Sattappa Hosmani

Associate Professor

sshosmani@iiti.ac.in

PhD, Max-Planck Institute for Metals Research, Stuttgart, and University of Stuttgart, Germany



Research Area and Highlights: The SEHt Group, headed by Dr. Hosmani, is dedicated to understanding the severe surface deformation and surface alloying of various ferrous and nonferrous alloys. Our group attempts to study the effect of surface engineering on the microstructures and properties (mechanical, tribological, and corrosion) of the alloys. For such a study, our group frequently uses characterization tools like SEM, EBSD, XRD, GDOES, EPMA, Raman spectroscopy, microhardness, nanoindentation, pin-on-disk tribometer (dry, lubricated, and high temperature), etc. Our group also focuses on coatings to enhance the tribological properties of alloys.

Dr. Sumanta Samal

Associate Professor

sumanta@iiti.ac.in

PhD, Indian Institute of Technology Kanpur



Research Area and Highlights: Research interests include solidification, physical metallurgy, phase transformations and phase equilibria in materials, hot deformation behaviour in multicomponent/high entropy alloys, Phase selection kinetics in deeply undercooled metallic melts, phase field simulation for microstructural evolution.

Dr. Sunil Kumar

Associate Professor

sunil@iiti.ac.in

PhD, Indian Institute of Science



Research Area and Highlights: The Solid-State Ionics Lab is involved in experimental research and primarily focuses on the design and development of functional materials for energy storage and piezoelectric applications. Briefly, we aim to develop solid electrolytes as a means to have safer, cheaper, and better-performing electrochemical energy storage systems. The overarching goal of our group is to systematically investigate and address the fundamental questions related to Li-ion conduction and interfacial phenomenon and associated impact on the charge/discharge capacities, columbic efficiency, electrochemical stability, and cyclability of rechargeable lithium batteries. Various dopants and processing parameters on the microstructure (especially domains), crystal structure, and physical properties of lead-free piezoceramics. Further, our group synthesizes novel pseudo-binary solid solutions and explores in-depth the compositions near the morphotropic phase boundary to understand the extrinsic contribution to the electromechanical properties of identified systems.

Dr. Venkata Vamsi Koruprolu (Vamsi)

Assistant Professor

kvvamsi@iiti.ac.in

PhD, Indian Institute of Science, Bangalore



Research Area and Highlights: Atomistic simulations based on density functional theory, Computational thermodynamics, Integrated Computational Materials Engineering (ICME), Alloy design, Structure-property correlations, High-throughput methods, Planar fault energies, Deformation pathways, High temperature deformation, Superalloys, Multi-principal element alloys (MPEAs), Intermetallics.

Dr. Vinod Kumar

Associate Professor

vkt@iiti.ac.in

PhD, IIT Kanpur



Research Area and Highlights: Our research group uses experiments and analytical theory to explore the materials-processing-structure-property relationships in structural metallic materials and energy materials and their development for required engineering application, with particular emphasis on the role of structural disorder and its effect on environmental degradation and mechanical properties. Our research also involves non-equilibrium processing for development of energy materials and high entropy alloys of industrial relevance using variety of tools as well as in developing new metal-matrix composites.

Department of Physics

Dr. Pankaj R Sagdeo

Professor and Head of Department

prs@iiti.ac.in, hodphysics@iiti.ac.in

PhD, UGC-DAE Consortium for Scientific Research,
DAVV Indore



Research Area and Highlights: Condensed matter physics, strongly correlated materials, Ferroelectric materials, Multiferroics, Electron-phonon interactions, spin-phonon coupling, Solid state ionic conductors. Dr. Sagdeo demonstrated the importance of local strain on the various electronic and magnetic phases and their coexistence observed in Perovskite Oxides. During post-doctoral work Dr. Sagdeo designed the XMCD beamline for INDUS-2 Synchrotron x-raysource and studied the electronic structure of Ca-doped LaMnO₃ using PES beamline (BL-2) on INDUS-1 Synchrotron x-ray source.

Omkar V. Rambadey, Minal Gupta, and P. R. Sagdeo, "Phonon-mode-specific lattice dynamical coupling of carriers in semiconductors using Raman and optical spectroscopic techniques", Phys. Rev. B, 2022, 106, 075204.

Dr. Subhendu Rakshit

Professor

rakshit@iiti.ac.in

PhD, University of Calcutta



Research Area and Highlights: Physics beyond the standard model of particle physics, implications in astrophysical and cosmological observations, Higgs and neutrino physics. Currently he is interested in the physics studies related to the IceCube experiment located at the Antarctica measuring high-energy neutrinos coming from extra-galactic sources and explorations of physics beyond the standard model of particle physics.

Dr. Sarika Jalan

Professor

sarika@iiti.ac.in

PhD, Physical Research Laboratory Ahmedabad



Research Area and Highlights: Non-linear Dynamics and Complex Networks

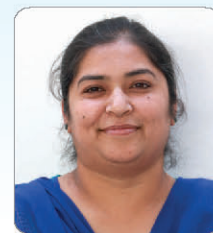
Prof. Sarika Jalan has done her PhD in non-linear dynamics and Complex Systems from Physical research laboratory and was a Senior research fellow at the National University of Singapore, Singapore and a guest Scientist and Post doctorate fellow, respectively, at Max Planck Institute for the Physics of Complex Systems, Dresden, and Max-Planck. Recently demonstrated occurrence of explosive synchronization in multilayer and hypergraph systems, a landmark discovery in the field of complex systems with immense applications in real-world systems. The work was invited to be presented at international conferences (Ddays Europe 2022 UK, Netsci 2022 Sanghai, CCS 2019 Singapore) as a keynote speaker.

Dr. Krushna R Mavani

Professor

Krushna@iiti.ac.in

PhD, Saurashtra University

**Research Area and Highlights:** Experimental Condensed Matter Physics

Dr. Krushna R Mavani was awarded by 'Wakastayoshiki' research fund as Principal Investigator for her project at Kyoto University. Before this, she worked as a Research Fellow at the Tata Institute of Fundamental Research (TIFR), Mumbai. She worked as Junior Research Fellow in a collaborative project of Saurashtra University and the Inter-University Centre for Acceleration (Former) Nuclear Science Centre), New Delhi, on High Temperature Superconductor Thin Films.

Recognitions (Awards and Honours):

1. Editorial Board Member of 'PRAMANA: Journal of Physics' published by Indian Academy of Science, since Jan. 2022.
2. Member, Expert committee in PHYSICS for selection 'Woman Scientist Scheme-A' of Department of Science and Technology, New Delhi, Since Jan. 2022.

Dr. Preeti Anand Bhohe

Professor

pbhohe@iiti.ac.in

PhD, Goa University

**Research Area and Highlights:** Quantum Materials & Magnetism, Magneto-transport in Heuslers, Spintronics, X-ray Absorption Spectroscopy

Dr. Bhohe's research group carries out study of the magnetic and structural properties of various intermetallics with an aim of finding its application into spintronic technology and demonstration of its half-metallic ground state. Besides, her group indulges in engineering the electronic structure of materials with a purpose of widening its applications such as, thermoelectricity in Chalcogenides, optoelectronic properties of Halide perovskites, oxygen storage capacity of catalytic oxides and resistive memory in Heuslers.

Dr. Rajesh Kumar

Professor

rajeshkumar@iiti.ac.in

PhD, IIT Delhi

**Research Area and Highlights:** Experimental Condensed Matter Physics, Nanomaterials, Device Physics, Raman Spectroscopy

His approach towards research is twofold where he not only investigates the basic physical phenomena taking place at microscopic level but also designs materials for real applications like field emission and electrochromic displays, sensors and energy storage. Inspired by nature, recently his group has synthesized different organic, inorganic, hybrid as well as Herbal nanomaterials for such applications. His group has discovered a new method for quantification of short-range order in amorphous materials by simply utilizing Raman spectroscopy.

Dr. Sudeshna Chattopadhyay

Professor

sudeshna@iiti.ac.in

PhD, Saha Institute of Nuclear Physics, India

**Research Area and Highlights:** Experimental Condensed Matter Physics

1. Selected as one of the organizers of the 2023 Materials Research Society (MRS) Fall Meeting, held in Boston, Massachusetts on November 26 – December 1, 2023. Selection was made by Materials Research Society®, based on the competitive proposal acceptance all over the world. Approval received on Dec 7, 2022.
2. One of the Investigators, as selected by the German team members on their own accord, to establish the collaborative research project under “A New Passage to India scheme” of DAAD (Germany). Approved and funded proposal from 2019-2023.

Dr. Manavendra Mahato

Associate Professor

manav@iiti.ac.in

PhD, University of Michigan, Ann Arbor, USA

**Research Area and Highlights:** Theoretical High energy physics, Gauge/ gravity correspondence, Black hole physics

The main area of research of MN Mahato's lab is gauge/gravity correspondence. It uses the relation between certain theories of gravity and quantum field theories to solve various problems by reinterpretation. We investigated certain properties of entropy current like vector fields in black hole backgrounds. We also investigated a massive fermionic theory in 1+1 dimensions for phase transitions and other related properties.

Dr. Raghunath Sahoo

Professor

raghunath@iiti.ac.in

PhD, Institute of Physics, Bhubaneswar

**Research Area and Highlights:** Experimental high-energy nuclear physics

He is a Fellow of the Institute of Physics, United Kingdom and currently, he is a CERN scientific associate at CERN, Geneva, Switzerland. He is shouldering the responsibility of Deputy Spokesperson of ALICE-India Collaboration, a high-energy physics collaboration of 14-Indian universities and intuitions comprising of almost 100 scientists and engineers.

Dr. Ankhi Roy

Professor

ankhi@iiti.ac.in

PhD, IIT Bombay

**Research Area and Highlights:** Experimental Hadron Physics, Experimental High Energy Physics

Research Highlights:

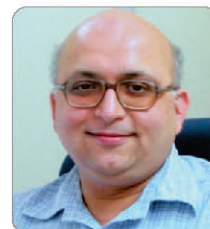
- Semi-leptonic decays of Heavy Flavour Hadrons using ALICE data.
- Electron-Hadron Correlation of Heavy Flavour hadrons study with ALICE data.
- Self-normalized yield of D0 meson with ALICE
- Development of Cooling system of Muon Chamber (MuCH) Detector of CBM experiment
- Simulation of Electromagnetic and Hadronic Calorimeters of Athena Experiment in EIC at BNL, USA
- Application of Classical and Quantum Machine Learning in the HEP data analysis

Dr. Somaditya Sen

Professor

sens@iiti.ac.in

PhD, Jadavpur University

**Research Area and Highlights:** Specialized on structure correlated physical properties analysis on some modified simple, as well as some complex oxide materials.

His research interest includes Ferroelectricity, Magnetism, Semiconductors and Nanomaterials. The research target of his group is to synthesize single phase oxide materials and chemically modify them to study the structure correlated opto-electronic, magnetic, dielectric and ferroelectric properties of the materials. The materials synthesized in the lab are subjected to various physical parameter studies e.g. electronic bandgap and defect studies, carrier concentration and type determination, mobility factor, light and gas sensing properties, dielectric resonator properties, pressure induced properties, electrochemical properties etc.

Dr. Srimanta Pakhira

Assistant Professor

spakhira@iiti.ac.in

PhD, IACS and Jadavpur University, Kolkata

**Research Area and Highlights:** The broad research works cover computational materials science, theoretical condensed matter physics, computational material science and materials design.

The Theoretical Condensed Matter Physics and Advanced Computational Materials Science Laboratory, led by Dr. Srimanta Pakhira, focuses on the study of CO₂ and CO capture, electrocatalysis in porous materials, 2D materials and perovskites, the study of H₂ storage in nano porous materials, the study of novel batteries technology using DFT, QM/MM and GCMC simulations, MD simulations.

Dr. Dipankar Das

Assistant Professor

d.das@iiti.ac.in

PhD, SINP, University of Calcutta

**Research Area and Highlights:** Theoretical Particle Physics

His current interests involve models of radiative neutrino mass and their impacts on lepton flavor violation. He is particularly interested in extending the simple Zee model with some additional flavor symmetries that can produce predictive textures for the neutrino Majorana mass matrix and thus can provide correlated LFV signals. Apart from this, he also works on the extensions of the Scotogenic model that can provide a coherent connection between the neutrino mass and Dark Matter.

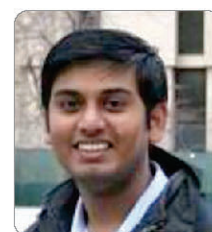
Funded Project(s): "Exploring flavor models in the light of the Higgs precision data" funded by DST SERB (Nov, 2020 to Oct, 2022).

Dr. Debajyoti Sarkar

Assistant Professor

dsarkar@iiti.ac.in

PhD, City University of New York



Research Area and Highlights: Dr. Debajyoti Sarkar's current research broadly includes string theory and its applications in gravity (general relativity) and quantum fields (quantum field theory). In particular, his group is interested in the framework of Anti de Sitter (AdS)/ Conformal Field Theory (CFT) correspondence within string theory and their inter-connections with black hole physics, condensed matter physics and quantum information theory.

Organization of ST4 student workshop 2022, organization of JulyPhy 2022 workshop on "Out of equilibrium Physics" at IIT Mandi. The organizer of the upcoming IIT Mandi JulyPhy 2023 workshop on "Observable algebras in field theory and gravity". National organizing committee member of upcoming Indian Strings Meeting (ISM 2023).

Dr. Onkar Game

Assistant Professor

ogame@iiti.ac.in

PhD, Savitribai Phule Pune University (SPPU) and
National Chemical Laboratory (NCL) - Pune



Research Area and Highlights: Experimental condensed matter physics, Solution processed photovoltaics (DSSC, Hybrid-halide perovskite solar cells, Organic Solar cells and Tandem solar cells), Solar Fuel applications (PEC water splitting, Direct Water-splitting, Photocatalysis), Optoelectronic devices and characterization (Photodetectors, Radiation detectors, Transistors)

At Brown University, USA (2025-17), Dr. Onkar developed a temperature dependent pulsed voltage-current technique to study ion migration in hybrid perovskites. This work helped to explain the anomalous JV curve behavior in simple metal-perovskite-metal architecture on basis of halide ion migration and accumulation at the electrode interfaces. This resulted in two high impact publications viz. Adv. Funct. Mater. 27, 2017, 1606584; J. Phys. Chem. C 123, 7, 2019, 4029.

Dr. Alestin Mawrie

Assistant Professor

amawrie@iiti.ac.in

PhD, IIT Kanpur

**Research Area and Highlights:** Theoretical Condensed Matter

Top Contributions:

1. Effect of electron-hole asymmetry on optical conductivity in 8-Pmmn borophene, S. Verma, A. Mawrie, T. K. Ghosh, Physical Review B, 96, 155418 (2017)
2. Direction-dependent giant optical conductivity in two-dimensional semi-Dirac materials, A. Mawrie, B. Muralidharan, Physical Review B, 99, 075415 (2019)
3. Quantum thermoelectrics based on two-dimensional semi-Dirac materials, A. Mawrie, B. Muralidharan, Physical Review B, 100, 081403 @ (2019)
4. Magnetotransport properties of 2D fermionic systems with k-cubic Rashba spin-orbit interaction, A. Mawrie, T. Biswas, T. K. Ghosh, Journal of Physics: Condensed Matter 26, 405301 (2014)
5. Optical conductivity of a 2DEG with anisotropic rashba interaction at the interface of LaAlO₃/SrTiO₃, A. Mawrie, T. K. Ghosh, Journal of Physics: Condensed Matter 28, 425302 (2017)

Dr. Naresh Kumar Kumawat

Assistant Professor

nkumawat@iiti.ac.in

PhD, IIT Bombay

**Research Area and Highlights:** Experimental Condensed Matter Physics

Top Five Recognitions:

1. Awarded VR Establishment Grant, Sweden (2023-2026)
2. Marie Skłodowska-Curie Actions-Individual Postdoctoral Fellowship, Sweden (2020-2022)

Administrative Responsibilities

1. BTech Physics Lab Coordinator (09/2022-Present)
2. Counseling Committee Member (12/2022-Present)
3. Academic & Research Advisory Committee Member for International Relations (05/2022-Present).

Department of Chemistry

Dr. Biswarup Pathak

Professor

biswarup@iiti.ac.in

Ph.D., University of Hyderabad



Research Area and Highlights: Density Functional Theory, Machine Learning, Artificial Intelligence, Nanocluster, Nanomaterials

The Computational Materials Research Group, led by Prof. Biswarup Pathak, focuses on understanding the properties of nanomaterials using computational techniques and machine learning-based tools, principally focusing on catalysis and energy generation. Prof. Pathak's group has investigated the structure-activity relationships of finite-size metal clusters/nanomaterials and demonstrated that atomicity, fluxionality, relativistic effects, metal-support interactions, and ligand effects play critical roles in the catalytic properties of clusters.

Dr. Tridib Kumar Sarma

Associate Professor

tridib@iiti.ac.in

Ph.D., Indian Institute of Technology Guwahati



Research Area and Highlights: Nanomaterials, molecular self-assembly, hydrogels, enzyme-mimetics, Aggregation induced emission, drug delivery, biomineralization.

Hydrogels represent a unique class of hierarchical self-assembled soft materials with broad applications in electronic devices, drug delivery, tissue engineering, catalysis, etc. We are developing nucleotide-based hydrogels through interaction with other organic molecules or coordination with metals for enzyme mimetics, drug delivery, antibacterial applications, etc.

Dr. Rajneesh Misra

Professor

rajneeshmisra@iiti.ac.in

Ph.D., IITK



Research Area and Highlights: Design and synthesize conjugated organic molecules for organic electronics and photonics, such as solar cells, field-effect transistors, light-emitting diodes, and multi-photon absorption.

The Organic Electronics and Photonics Laboratory, led by Prof. Rajneesh Misra, designs and synthesizes conjugated organic molecules for organic electronics and photonics, such as solar cells, field-effect transistors, light-emitting diodes, and multi-photon absorption. They also synthesize multi-stimuli responsive materials, which find applications in sensors, actuators, optoelectronic devices, information storage, and medical applications.

Dr. Anjan Chakraborty

Professor

anjanc@iiti.ac.in

Ph.D., IIT KHARAGPUR



Research Area and Highlights: Spectroscopy, self-assembly, dynamics, photo-physics

The Chemical Dynamics Lab, led by Prof. Anjan Chakraborty, explores the lipid corona formation around the nanoparticles. The formation of corona around nanoparticles has become of great interest because the corona can be used for preparing engineered which are distributed in biological systems. The impact of external influences such as pH, ionic strength etc., on the lipid corona is also under investigation.

Dr. Apurba Kumar Das

Professor

apurba.das@iiti.ac.in

Ph.D., Indian Association for the Cultivation of Science (Jadavpur University),
Kolkata, India



Research Area and Highlights: Bio-organic Chemistry, Supramolecular Chemistry

The interests of the Supramolecular Organic Chemistry Research Group, led by Prof. Apurba K. Das, are based on developing new approaches to functional organic molecule synthesis and the influence of non-covalent interactions on structure and function from biology to chemistry to nanoscience. The group is focused on multidisciplinary research involving techniques in chemistry, biology, and nanoscience and has a long-standing interest in medicinal chemistry and electrocatalytic applications of synthesized self-assembled molecular materials.

Dr. Suman Mukhopadhyay

Professor

suman@iiti.ac.in

Ph.D., Indian Association for the Cultivation of Science



Research Area and Highlights: Organometallic compounds in therapeutics and mechanism, molecular recognition, nanostructured metallogels, metalloenzyme and catalysis, and porous materials

Prof. Suman Mukhopadhyay's research group synthesizes and studies organometallic ruthenium complexes, their anticancer properties, and their mechanism. They are also synthesizing and studying catalytic properties of metalloenzyme mimics, metal-containing soft materials, porous organic polymers.

Dr. Sampak Samanta

Professor

sampaks@iiti.ac.in

Ph.D., Indian Association for the Cultivation of Science, Jadavpur, WB



Research Area and Highlights: Asymmetric synthesis, Heterocycles, Metal mediated synthetic transformation, green chemistry, Total synthesis of biologically active compounds, Medicinal Chemistry, Agrochemicals, Photocatalysts

Prof. Sampak Samanta's research group synthesizes complex heterocyclic molecules with high biological and medicinal activities. They are interested in pursuing research works on the following topics: (A) Development of organocatalytic, enantioselective organic reactions; (B) Visible-light induced organic transformations using photocatalysts; (C) Metal-free based one-pot techniques for complex heterocycles; (D) Medicinal Chemistry.

Dr. Tushar Kanti Mukherjee

Professor and Head

tusharm@iiti.ac.in

Ph.D., Indian Institute of Technology Bombay



Research Area and Highlights: Nanoparticle-Based Bio-imaging Assemblies, Fluorescence Imaging, Quantum Dots and Plasmonic Nanoparticles, Protein-Protein and Protein-NP Interaction, Fluorescence Spectroscopy and Sensing

Prof. Tushar K Mukherjee's research group is focused on the optoelectronic and photophysical properties of semiconductors and metal nanoparticles. They combine ensemble average fluorescence techniques with single-particle fluorescence microscopy to investigate their photoluminescence properties. The group's goal is to address various chemical and biological problems using these nanoparticles as fluorescent probes.

Dr. Shaikh M. Mobin

Professor

xray@iiti.ac.in

Ph.D., University of Mumbai



Research Area and Highlights: Inorganic Materials Chemistry (For Solid-state Structural Reactivity, MOFs / COFs, Energy Storage, Energy Conversion, Sensing, Biomaterials, catalysis)

Prof Shaik M. Mobin's research group is performing innovative research in the closed loop of Inorganic Chemistry, Organometallics, Nanomaterials, and Biomaterials. Complexes synthesized in the group are employed as single-source molecular precursors for synthesizing novel metal oxide nanoparticles in diverse areas ranging from catalysis for organic transformations, photocatalysts and constructing solar cell devices.

Dr. Satya S. Bulusu

Associate Professor

sbulusu@iiti.ac.in

Ph.D., University of Nebraska Lincoln



Research Area and Highlights: Development of orbital-free DFT methods using ML. Using GPU, and FPGA to parallelize the interatomic potential of nanoparticles.

The Theoretical and Computational Chemistry group, led by Prof. Satya S. Bulusu, is developing machine learning methods (Artificial neural networks) for chemical problems, modeling atomic environments, and developing sampling algorithms. They are also using hardware technologies to parallelize their programs which will help to extend the above methods to experimentally relevant sizes.

Dr. Sanjay Kumar Singh

Professor

sksingh@iiti.ac.in

Ph.D., A.P.S. University, Rewa



Research Area and Highlights: Catalysis; Hydrogen Production and Storage; CO₂ Capture and Conversion; Biomass Valorization; Inorganic and Organometallic complexes; Heterogenous Materials

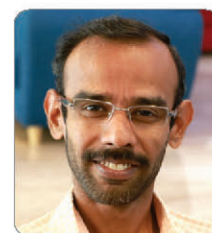
The research area of Prof. Sanjay K. Singh's interest broadly lies in the field of catalysis. They are interested in the development of catalysts, optimization of catalytic reactions, understanding the reaction mechanism, and the application of catalysts for essential reactions, such as hydrogen production and storage, biofuel, CO₂ capture and utilization, C-H bond activation, and small molecule activation.

Dr. Chelvam Venkatesh

Associate Professor

cvenkat@iiti.ac.in

Ph.D., Indian Institute of Technology Kanpur



Research Area and Highlights: Total synthesis of biologically significant natural products; Design and synthesis of heterocycles and carbocycles of biological importance; Developing new methodologies for the construction of C-C and C-X (X = N, O, S, P) bonds; Design, synthesis and diagnostic applications of new targeting ligands for cancers and inflammatory diseases; Drug delivery systems, near-infrared fluorescence, nuclear Imaging, and bio-conjugate chemistry; Synthesis of Inhibitors for drug targets.

Dr. Amrendra Kumar Singh

Associate Professor

aks@iiti.ac.in

Ph.D., IIT Bombay

**Research Area and Highlights:** Inorganic Synthesis and Catalysis

Dr. Amrendra K. Singh's group's research focuses on designing new pincer and N-heterocyclic carbene ligands and their transition metal complexes capable of the following type of reactivities- small molecule activation and C-H activation and functionalization. They also investigate fundamental aspects and mechanisms of different processes like CO₂ capture, H₂ production, development of liquid organic hydrogen carriers, catalytic systems for hydrogenation/dehydrogenation reactions, and catalytic systems for C-C, C-N, and C-O bond forming.

Dr. Abhinav Raghuvanshi

Assistant Professor Grade-I

r.abhinav@iiti.ac.in

Ph.D., IIT Bombay



Research Area and Highlights: Inorganic and organometallic functional materials, Luminescent complexes of late transition metals, thermally activated delayed fluorescent (TADF) materials.

The research of Dr. Abhinav Raghuvanshi's group involves a combination of Coordination and organometallic chemistry with various analytical techniques to address the following research objectives:

1. Development of low-cost emitters for energy-efficient visual display based on OLED and LEEC device architectures.
2. Development of sensing materials.

Dr. Dipak Kumar Roy

Assistant Professor Grade-I

dipak.roy@iiti.ac.in

Ph.D., Indian Institute of Technology Madras



Research Area and Highlights: Low-valent s- and p-block compounds and small molecule activation. Multiply bonded main group compounds. Organic-Inorganic hybrid polymers

The foremost objective of Dr. Dipak K. Roy's research group lies in developing unique and fundamentally important areas of chemistry, particularly the chemistry of deficient oxidation states and low coordination number s- and p-block compounds.

Dr. Selvakumar Sermadurai

Assistant Professor Grade-I

selva@iiti.ac.in

Ph.D., Indian Institute of Technology Kanpur



Research Area and Highlights: Photo-redox catalysis; Asymmetric synthesis; Synthesis of biologically active natural products; Green chemistry

Dr. Selvakumar Sermadurai's research group focuses on visible light photoredox catalysis and developing new methodologies using hypervalent iodine reagents. They also work in asymmetric catalysis, synthesis of biologically active natural products, continuous-flow chemistry and green chemistry.

Dr. Umesh Achyut Rao Kshirsagar

Assistant Professor Grade-I

uakshirsagar@iiti.ac.in

Ph.D., CSIR-National Chemical Laboratory Pune



Research Area and Highlights: Photo-redox Catalysis, C-H Bond Activation, Oxidative Coupling & Cross Dehydrogenative Coupling Reactions, Total Synthesis of Natural Products, Green Chemistry, and Heterocyclic Compounds.

The research of Dr. Umesh A. Kshirsagar's group focuses on developing metal-catalyzed and/or photo-redox catalyzed, C-H functionalization, Oxidative Coupling and, Cross Dehydrogenative Coupling (CDC) reactions to create new C-C and C-Heteroatom bonds that meet most of the demands of an ideal synthesis.

Dr. Debayan Sarkar

Associate Professor

sarkard@iiti.ac.in

Ph.D., Indian Association for The Cultivation of Science (IACS),

Degree awarded from Jadavpur University

Research Area and Highlights: Visible Light Catalyzed Reactions Electrocatalytic Organic Transformations Total Synthesis of Natural Products and necessary biomolecules Atom economic synthetic transformations Asymmetric Dearomatisation Reactions



In the last few decades dearomative transformations have grasped the immense attention of chemists. Dr. Debayan Sarkar's research group has been working on tribromide-mediated dearomative intra- or inter-molecular transformations for a long time. This process is robust, scalable, and straightforward. It has been a long-time challenge which has now been accomplished.

Dr. Pravarthana Dhanapal

Assistant Professor Grade-I

dpravarthana@iiti.ac.in

Ph.D., CRISMAT Laboratory, CNRS, Caen, France



Research Area and Highlights: All-Solid-State-Ionics Controlled Functional Devices; High-Throughput Synthesis; Flexible Functional Materials and Devices.

The research of Dr. Pravarthana Dhanapal's group focuses on two research areas. The first one is ionics-based control of functional properties of transition metal oxide thin films. The second one is to utilize high throughput synthesis and characterization of metal oxide-based battery cathode thin films.

Dr. Soumen Ghosh

Assistant Professor Grade-II

soumeng@iiti.ac.in

Ph.D., University of Minnesota, USA



Research Area and Highlights: Quantum mechanical, electronic structure methods, theoretical spectroscopy, non-covalent interactions, electron transfer

Dr. Soumen Ghosh's research group develops, implements, and applies novel quantum mechanical and classical methods to study complex chemical problems. Methods developed in the group are applied to study spectroscopy, photochemistry, noncovalent interactions, and electron transfer processes in functional materials.

Department of Mathematics

Dr. Niraj Kumar Shukla

Associate Professor and Head of Department

nirajshukla@iiti.ac.in

D. Phil., University of Allahabad



Research Area and Highlights: The research group “Wavelet, Frame and Harmonic Analysis”, led by Dr. Shukla, focuses on developing the theory of dual frames. Due to the redundancy property of frames, the stable decomposition of a vector in the separable Hilbert space allows the flexibility of choosing different types of duals for a frame. For a second countable locally compact group (not necessarily abelian) and a closed abelian subgroup Γ , Dr. Shukla’s research group studies the properties of oblique Γ -translation generated (Γ -TG) duals for a continuous frame. Two types of oblique Γ -TG duals viz., type-I and type-II are characterized in terms of the Zak transform. Outside the group setup, first, they discuss such duals for the multiplication generated systems on the measure-theoretic abstraction in using the range function corresponding to the point-wise conditions. Their results present a unified theory connecting discrete problems with a continuous setup. Besides, they characterize these duals’ uniqueness using the Gramian/dual Gramian operators, which become a discrete frame/Riesz basis for the associated range space.

In the context of a connected, simply connected nilpotent Lie group, whose representations are square-integrable modulo the center, his group finds characterization results of extra-invariant spaces under the left translations associated with the range functions. Consequently, the theory is valid for the Heisenberg group, a 2-step nilpotent Lie group.

Dr. Sk. Safique Ahmad

Professor

safique@iiti.ac.in

PhD, IIT Guwahati



Research Area and Highlights: Perturbation theory plays a crucial role in sensitivity analysis, which is extensively used to assess the robustness of numerical techniques. To quantify the relative sensitivity of any problem, it becomes essential to investigate structured condition numbers via perturbation theory. This address and analyze structured condition numbers for the Moore-Penrose (M-P) inverse and the minimum norm least squares (LS) solution involving rank-structured matrices, which include the Cauchy-Vandermonde (CV) matrices and quasi-separable matrices (QS). A general framework can be developed to compute the upper bounds for mixed and component-wise condition numbers of rank deficient parameterized matrices. This framework will lead to faster computation of upper bounds of structured condition numbers for CV and {quasi-separable matrices. Furthermore, comparisons of obtained upper bounds will be investigated theoretically and experimentally. In addition, the structured effective condition numbers for the M-P inverse and the minimum norm LS solution of QS matrices are presented. Numerical tests reveal the reliability of the proposed upper bounds as well as demonstrating that the effective condition numbers are computationally less expensive and can be substantially smaller compared to the unstructured condition numbers.

For the M-P inverse and the minimum norm LS solution, we investigated structured mixed and componentwise condition numbers corresponding to a class of matrices, with each entry as a differentiable function of some real parameters. This framework has been used to derive upper bounds of structured condition numbers to CV and $\{1, 1\}$ -QS matrices. QS representation and the GVR through tangent are considered for $\{1, 1\}$ -QS matrices to investigate its condition numbers. It is proved that upper bounds for condition numbers for GVR through tangent are always smaller than the QS representation. Numerical examples demonstrate that the proposed effective condition number is significantly smaller in most cases. Our methodology can be applied to investigate condition numbers involving other rank-structured matrices. It would be interesting to generalize our findings to the weighted M-P inverse and weighted LS problems, as well as linear LS problems having multiple right-hand sides.

Dr. Swadesh Kumar Sahoo

Professor

swadesh.sahoo@iiti.ac.in

PhD, Indian Institute of Technology Madras



Research Area and Highlights:

Specialization: Complex Analysis

Research Interests: Geometric Function Theory (Univalent functions, Harmonic mappings, Hyperbolic-type metrics, Special functions)

- We work on problems in the theory of univalent functions, special functions, quasiconformal mappings, and hyperbolic-type geometries. In particular, we aim to extend the theory of hyperbolic-type geometries associated with quasiconformal mappings and domains having geometric characterizations;
- to analyze geometrical and topological aspects of hyperbolic-type metric balls;
- to investigate properties of conformal mappings associated with metrics bilipschitz equivalent to the hyperbolic metric;
- to find necessary and sufficient conditions for certain analytic functions in terms of coefficient estimates, pre-Schwarzian and Schwarzian derivatives;
- to obtain certain necessary and sufficient conditions for harmonic univalent mappings using shear construction;
- to study analytic and geometric properties of partial sums, arc length, area, and radius problems for univalent functions;
- to know spectral, boundedness, and compactness of complex integral operators;
- to visualize mapping properties of (basic) hypergeometric functions and other related special functions using techniques from geometric function theory.

Research Projects/Grants:

- The Hurwitz metric and univalent functions (funded by Mathematical Research Impact Centric Support (MATRICS), Science and Engineering Research Board (SERB) Duration: February 19, 2020 - February 18, 2023).
- Geometry of hyperbolic type metrics and their applications in analytic function theory (funded by NBHM, DAE; Duration: October 14, 2016 - October 13, 2019).

Total number of PhD student(s) guided: 06

Dr. V. Antony Vijesh

Associate Professor

vijesh@iiti.ac.in

PhD, Indian Institute of Technology Madras



My research interest is developing iterative methods to approximate the solution of nonlinear equations and studying the convergence behavior and the error estimate in the iterative methods. In this direction, recently, we successfully developed an efficient third-order iterative method to find the inverse of the cumulative central beta distribution numerically. Sufficient conditions are obtained theoretically to show that this iterative method converges monotonically to the solution. In addition, we also developed an interesting monotone iterative method based on the finite difference method to solve a coupled partial differential equation arising from a catalytic converter model.

Dr. Anand Parkash

Assistant Professor Grade-I

anandparkash@iiti.ac.in

PhD, Indian Institute of Technology Kanpur



Research Area and Highlights: Broad area of my research is Commutative Rings and Modules. My research group works on simple derivations in two variables over a field of characteristic zero. Simple derivations are significant in several areas such as constructing nonholonomic irreducible modules over Weyl algebra, finding examples of noncommutative simple rings, simple lie rings and in proving simplicity of Ore extensions. Therefore, it is natural and interesting to find examples of simple derivations of commutative rings.

Dr. Mohammad Aquil Khan

Associate Professor

aquilk@iiti.ac.in

PhD, Indian Institute of Technology Kanpur



Research Area and Highlights: Modal Logic, Rough Set Theory

Abstraction, analysis, reasoning and computing are the main aspects of any study of a broadly understood information or information processing system theory. My research group works on realisations of these aspects concerning the study of the incompleteness of information. Our approach is based on the models inspired by a rough set approach to data analysis. We study modal logic with semantics based on rough set theory (RST). Our study focuses on the essential aspects of logic, viz. axiomatisation, decidability, complexity, and expressibility. On the other front, we also work on various generalisations of RST to expand the domain of applications of the theory. Algebraic aspects of RST are another speciality of our research group.

Dr. Ashisha Kumar

Assistant Professor Grade-I

akumar@iiti.ac.in

PhD, IIT Kanpur



Research Area and Highlights: Harmonic Analysis / k-plane transform (generalization of Radon transform and X-ray transform, used in medical imaging)

Radon transform exists for L^p functions, $1 \leq p < n/n-1$. We proved the end point boundedness of the k-plane transform for the class of radial functions in Lorentz spaces on some constant curvature spaces like Hyperbolic spaces and the sphere. Group is working on unifying the proof of end point estimates on constant curvature spaces for radial functions and certain weighted L^p estimates on Hyperbolic spaces and the sphere.

Dr. Vijay Kumar Sohani

Assistant Professor Grade-I

vsohani@iiti.ac.in

PhD, Harish-Chandra Research Institute Allahabad



Research Area and Highlights: We obtain the $l^1(\infty)$ estimate of the kernel $a_{n,m}(t)$ for $m=0,1$, $m=n$ and $t \in [1, \infty)$ for the propagator e^{-itH_d} of one dimensional difference operator associated with the Hermite functions. We conjecture that this estimate holds true for any positive integer m and in that case, we obtain better decay for $\|e^{-itH_d}\|_{l^1 \rightarrow l^1(\infty)}$ and $\|e^{-itH_d}\|_{l^2(\sigma)^2 \rightarrow l^2(\sigma)^2} \rightarrow l^2(\sigma)^2$ for large $|t|$ compared to the Euclidean case, (see I. Egorova, E. Kopylova, and G. Teschl, Dispersion estimates for one-dimensional discrete Schrödinger and wave equations, J. Spectr. Theory 5, 663-696 (2015)). These estimates are useful in the analysis of one-dimensional discrete Schrödinger equation associated with the operator H_d . We are working on proving the conjecture that the estimate of the kernel $a_{n,m}(t)$ holds true for general m .

Dr. Sanjeev Singh

Assistant Professor Grade-I

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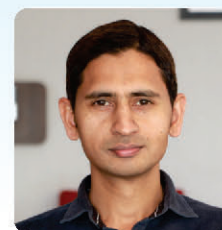
PhD, IIT Madras



Research Area and Highlights: Broad research areas are Special Functions, Differential Equations, and Geometric Function Theory. I am studying special functions and geometric function theory, focusing on investigating the generalized Marcum function of the second kind. This research has been motivated by the widespread use of the generalized Marcum Q-function in the electrical engineering literature. We examine the function's properties, including monotonicity, convexity, recurrence relation, closed-form expression, and tight bounds. Recently, I have started working on problems to find some efficient numerical techniques to evaluate special functions. We propose an efficient method to numerically invert the cumulative central beta distribution using a third-order iterative method.

Dr. M. Tanveer

Associate Professor
mtanveer@iiti.ac.in
PhD, JNU New Delhi



Research Area and Highlights: Keywords: MACHINE LEARNING, DEEP LEARNING, Applications to Alzheimer's Disease and Dementias

The OPTIMAL research group led by M. Tanveer focuses on the following research problems:

- Optimization methods and models for non-parallel support vector machines.
- Detection of human brain disorders using machine learning approaches.
- On classification and prediction of Alzheimer's disease using machine learning techniques.
- Novel machine learning algorithms for automated detection of seizure using EEG signals.
- Randomization-based deep and shallow learning algorithms.
- Novel large-scale machine learning algorithms and their applications.

Research Grants supported by DST, SERB, CSIR, MoE, ICMR: Completed (07), Ongoing (5)

PhD Thesis Guidance: Completed (03), Ongoing (05)

Editorial Board in 10 Journals including IEEE Transactions on Neural Networks and Learning Syst. (IF: 14.25), Pattern Recognition, Elsevier (IF: 8.52), Neural Networks, Elsevier (IF: 9.65), Applied Soft Computing, Elsevier (IF: 8.26).

Dr. Bapan Ghosh

Assistant Professor Grade-I
keshab.bapan@iiti.ac.in
PhD, IEST, Shibpur, West Bengal



Research Area and Highlights: Applied Nonlinear Dynamics, Delay Differential Equations, and Theoretical Ecology.

We develop differential equations models and study the stability and bifurcation analysis. In particular, we detect quasi-periodic and chaotic motion of discrete dynamical systems. We generate well organized structures such Arnold Tongue and Shrimp structure originated from dynamical systems. We establish several new harvesting principles in ecological systems using model based investigation. Nowadays we are involved in developing dimensionally homogeneous population models.

Dr. Vinay Kumar Gupta

Assistant Professor Grade-I
vkg@iiti.ac.in
PhD, RWTH Aachen University, Germany



Research Area and Highlights: Mathematical modeling and numerical simulations of rarefied gas flows, Kinetic theory, Granular flows

The research group, led by Dr. Vinay Kumar Gupta, focuses on developing mathematical models for non-equilibrium rarefied noble and granular gases through kinetic theory. The group also focuses on developing mesh-free numerical techniques for simulating rarefied gas flows.

Dr. Santanu Manna

Assistant Professor Grade-I

santanu@iiti.ac.in

PhD, IIT (ISM) Dhanbad



Research Area and Highlights: Wave Propagation Aspects, Solid Mechanics, Elasticity, Applied PDE, Plate Theory

The name of the research group is the "Applied Mathematics and Geomechanics" group led by Dr. Santanu Manna. This group focuses on developing mathematical models for Geomechanics including asymptotic analysis, modelling of physical systems, wavelets transfer, wave propagation, plate theory, nonlocal elasticity, thermoelasticity, porous media and theoretical seismology. This team is working on the development, numerical and analytical study for solving large-scale scientific and engineering problems using advanced methods. Moreover, our team is working on earthquake source parameters and earthquake statistical analysis of the extensive earthquake data in order to get the most efficient earthquake forecasting analysis.

Dr. Bibekananda Maji

Assistant Professor Grade-I

bibekanandamaji@gmail.com

PhD, Harish-Chandra Research Institute, Allahabad



Research Areas and Highlights: My research works broadly lie in Number Theory. However, my primary interests are in the intersection of Analytic Number Theory, Partition Theory, Modular Forms, and Special Values of L-functions. I also enjoy working in various research fields developed by Srinivasa Ramanujan.

Dr. Charitha Cherugondi

Assistant Professor Grade-I

charithac@iiti.ac.in

PhD, IIT Kanpur



Research Area and Highlights: Continuous optimization and Variational analysis.

My research focuses on development, analysis and application of optimization strategies (through construction of gap functions) for convex continuous optimization problems and generalized problems like, variational inequalities, equilibrium problems. Also includes devising algorithms for the generalized mathematical programming problems based on solving equivalent minimization problems.

Dr. Mohd. Arshad

Assistant Professor Grade-I

arshad@iiti.ac.in

PhD, IIT Kanpur



Research Area and Highlights : Ranking and Selection, Copula Modelling, Estimation Theory, Records and Generalized Order Statistics, Statistical Decision Theory.

The Statistical Modelling & Simulation (SMS) Research Group, led by Dr. Mohd. Arshad, focuses on developing the ranking and selection procedures for selecting the best treatment, and constructing new copula models for capturing the dependency structure in the bivariate/multivariate datasets. This group also develops statistical simulation algorithms for modelling bivariate/multivariate datasets. The estimation theory and statistical decision-theoretic techniques are instrumental in the modelling and analysing of real datasets.

Dr. Sourav Mitra

Assistant professor, Grade-I,

souravmitra@iiti.ac.in

PhD (2018), Institute of Mathematics, University Paul Sabatier, Toulouse, France.



Research Area and Highlights: Partial differential equations, Cauchy theory and controllability issues, optimal control problems, Navier-Stokes equations (both compressible and incompressible), fluid-structure interaction problems.

The research area of Dr. Sourav focuses mainly on the mathematical theory of partial differential equations arising in physics and engineering, more specifically on fluid flow problems and fluid-structure interaction models. He deals with fluids which are compressible or incompressible in nature. He is interested both in the control properties and existence-uniqueness issues of the PDE system concerned.

Dr. Debopriya Mukherjee

Assistant Professor Grade-I

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PhD, IISER Thiruvananthapuram



Research Area and Highlights: Stochastic Analysis, Stochastic (Partial) Differential Equations, Mathematical Fluid Dynamics, Mathematical Aspects of Pattern Formation in Biological Systems, Study of Ferro-magnetism, Shape calculus approach for solving exterior boundary value problems.

The research area of Dr. Debopriya is at the interface of stochastic partial differential equations, time-dependent systems, and mathematical biological systems arising from Turing Patterns with some numerical implementations. The principal strength of her research is its broad focus and the crossover between stochastic analysis, analysis of PDEs, and mathematical biological models.

School of Humanities and Social Sciences

Dr. Ruchi Sharma

Professor, and Head of the School

ruchi@iiti.ac.in

PhD, IIT Kanpur

Research Area and Highlights: Economics of Innovation, International Economics.



Ruchi Sharma leads the Innovation Studies group that focuses on R&D, Patents, and Innovation. She has published research papers in international journals of repute like Research Policy among others. She has received grants from agencies like ICSSR, DST, Ministry of Finance, and Ministry of Education for research projects, GIAN courses, and organizing workshops. She is an Associate Editor of Technology Analysis and Strategic Management and has been a member of national level committees concerning Science, Technology, and Innovation.

Dr. Nirmala Menon

Professor

nmenon@iiti.ac.in

PhD, The George Washington University, USA

Research Area and Highlights: Digital Humanities, Postcolonial Studies



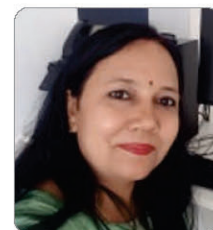
Nirmala Menon is a Professor and leads the Digital Humanities Research Group with her PhD students. She also directs research projects with grants from national and international funding agencies. She speaks, writes, and publishes on Multilingual Digital Humanities and Postcolonial Studies. She has published books, given keynotes and talks on her areas of research. She is General Editor, Digital Humanities Quarterly (DHQ) since Jan 2022 and is an Advisory Board member for many DH related organisations.

Dr. Pritee Sharma

Professor

psharma@iiti.ac.in

PhD, Indian Institute of Technology Bombay



Research Area and Highlights: Sustainability Studies, Natural Resource Allocation, Food Security and Agricultural Policy.

Professor Pritee Sharma directs the Sustainability Studies Research Group at the institute which works on various socio-economic aspects of targeting sustainable development concerns in India. She is Co-Convener of the JP Narayan National Centre of Excellence in the Humanities, funded by the Ministry of Education, Govt. of India. She has been leading member and team member in various studies funded by the ICIMOD-Sandee, Rockefeller Foundation, UNICEF, MPRRA, Ministry of Env and Forests, Ministry of Agriculture, Govt. of India.

Ambassador Gurjit Singh

Honorary Professor of International Relations Studies
Masters in international studies from the School of International Studies,
Jawaharlal Nehru University, New Delhi.



Research Area and Highlights: Issues of sustainable development, India's foreign policy, on Japan, ASEAN and the Indo-Pacific, on Africa and Europe.

Ambassador Gurjit Singh is a former Indian diplomat and the Honorary Professor of International Relations Studies at the School of Humanities and Social Sciences. He has been the Ambassador of India to Germany, Indonesia, ASEAN, Ethiopia and the African Union besides having been in Japan, Sri Lanka, Kenya and Italy on assignment. He has authored five books the latest of which is 'The Harambee Factor: India-Africa Economic and Development Partnership'. Prior to that was 'Opportunity Beckons: Adding Momentum to the Indo-German partnership', 'Masala Bumbu: Enhancing the India-Indonesia Partnership' and a comic book 'Travels through Time: The story of India and Indonesia'. He is associated with the social impact investment movement and is working on expanding it in Africa along with other trilateral initiatives, including with Japan, for B2B engagement. He is an independent director of companies achieving social impact. He is also associated with civil society efforts through the Aavishkar Foundation, and the Advisory Council of Nobel Peace Laureate, Kailash Satyarthi.

Professor Pramod S. Mehta

Distinguished Visiting Professor in the Department of Mechanical Engineering
and in the School of Humanities and Social Sciences, IIT Indore



PhD: Loughborough University of Technology (U.K.)

Research Area and Highlights: Energy, Combustion, Biofuels, Engine Emission Technology

In his prolific academic career of over 45 years, Professor Pramod Mehta has served in leading engineering institutions in the country in different capacities and actively participated in professional activities. He has more than 130 publications in international journals and conferences and has guided many PhD and Research students. He was the Director of the National Institute of Technology, Jalandhar, from 2003 to 2005 on deputation from IITM, steering the transformation of the erstwhile REC to the NIT system. He was also the Chairman of the Committee of the NIT Directors constituted by the MHRD to prepare the Road Map of the NIT System. As the co-founder of the Teaching-Learning Center at IIT Madras, he encourages efficient and enjoyable educational interaction among teachers and students through exposure to research-based, scientifically proven, and innovative teaching-learning methodologies and toward a new and sustainable paradigm of higher technical education.

Dr. C. Upendra

Associate Professor [Philosophy]

cupendra@iiti.ac.in

PhD, IIT Bombay



Research Area and Highlights:

Moral Philosophy, Political Philosophy, History of Ideas

Dr. Upendra's research reflects a deeper and honest concern for radical social transformations seen through the ages. He particularly focuses on the adverse effects of utopian imagination in the twentieth century that witnessed extraordinary violence both in systemic form and in the form of normalized violence of everyday life. The principal question that runs through all the three research areas mentioned above is, "Are morality and politics devoid of ideology?"

Dr. Sanjram Premjit Khangana

Associate Professor

sanjrampk@iiti.ac.in

PhD, IIT Bombay



Research Area and Highlights: Human-System Interaction & Cognition.

Dr. Sanjram Premjit Khangana works as a human factors research practitioner. He leads a highly motivated interdisciplinary team of volunteers, U.G. students, and P.G. students with diverse academic backgrounds under the aegis of Focused Research Group in Human Factors. He employs experimental investigation in the laboratory as well as field-testing involving analysis of gaze and electrophysiological data.

Dr. Neeraj Mishra

Associate Professor

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PhD, Univ. of Bonn, Germany



Research Area and Highlights: Sociology of Water; River Basin Governance

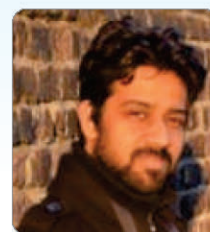
Dr. Neeraj Mishra works in the area of urban and rural water governance and politics of water governance. His current research includes the study of Narmada Basin in the Malwa region, tribal development issues in India, and democratic transformations in contemporary India.

Dr. Akshaya Kumar

Assistant Professor Grade-I

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PhD, University of Glasgow



Research Area and Highlights: Comparative Media Studies, Cultural Studies, Indian Cinema Studies.

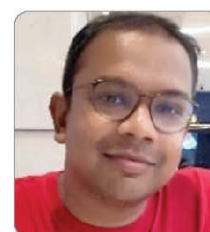
Dr. Akshaya Kumar leads the Film, Media and Cultural Studies research group which primarily focuses on the intersections of media platforms and devices with the cultural politics of thematic and stylistic genres. He has published a monograph titled *Provincializing Bollywood* (OUP, 2021) and journal articles in many reputed journals like *Social Text* and *Postmodern Culture*. His work has also received support from ICSSR towards a research project.

Dr. Shomik Dasgupta

Assistant Professor, Grade-I

shomikdasgupta@iiti.ac.in

PhD, King's College London, University of London



Research Area and Highlights: Intellectual History, Governance, Local Administration and State in Modern India, Economic, Social, and Business History

Dr. Shomik Dasgupta leads the History of Modern India Research group. He is the author of the book, *Ethics, Distance and Accountability: The political thought and intellectual context of Rammohun Roy, c.1772-1833* (Oxford University Press Delhi: 2021). His courses focus on Political, Economic, and Business History. He is an affiliate faculty at the Centre for Entrepreneurship Education and Development (CEED) at IIT Indore. He was elected as a Fellow of the Royal Historical Society, UK (FRHistS) in December 2022.

Dr. Ashok Kumar Mocherla

Assistant Professor

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PhD, IIT Bombay



Research Area and Highlights: Sociology of Religion, Caste, Social Stratification, Faith Healing, Public Health and Minority Studies.

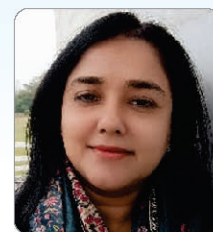
He is the author of *'Dalit Christians in South India: Caste, Ideology, and Lived Religion'* (Routledge: 2020); editor of *'Democratization of Indian Christianity: Hegemony, Accessibility and Resistance'* (Routledge: forthcoming). He has held visiting positions at Harvard University, USA (2022-23); Drexel University College of Medicine, Philadelphia USA (2013); TU Dresden, Germany (2013); Bielefeld University, Germany (2010). His research has been funded by scientific bodies such as ICSSR (Indian Council of Social Science Research); INSA (Indian National Science Academy); AHRC (Arts and Humanities Research Council), UK..

Dr. Ananya Ghoshal

Assistant Professor Grade-I

aghoshal@iiti.ac.in

PhD, The English and Foreign Languages University, Hyderabad



Research Area and Highlights: Literature and the Other Arts, The Anthropocene, Modernism and Music, Disability Studies, Visual Culture

Dr. Ananya Ghoshal guides the 'Literature, Performance and Other Arts' research group and teaches in three academic disciplines: Literature, Communication and Entrepreneurship Education. She is a Fulbright-Nehru Doctoral Research Scholar and completed her Fellowship on Musicality in American Literature at the University of California, Berkeley. Her research examines the meaning, form, and style of literary works while exploring their imaginative and creative potential on performance stage and screen. She is affiliate faculty at the Centre for Entrepreneurship Education and Development (CEED) and the co-author of An Anthropocene Primer (IUPUI, Indianapolis). In 2022, Ananya received the IIT Indore Best Teacher Award for the large class category (of students' strength greater than 120).

Dr. Kalandi C. Pradhan

Assistant Professor

kcpradhan@iiti.ac.in

PhD, IIT Bombay



Research Area and Highlights: Development Economics, Sustainable Development, Economics of Labour Migration and Socioeconomic Impacts of Climate Change.

Dr. Kalandi C. Pradhan leads the Climate Change and Development group, which focuses on interdisciplinary research that broadly includes interaction of issues of climate change/ weather variability and development. Specifically, this group works on labour migration; groundwater exploitation and agricultural practices; financial inclusion and its dynamic impacts; economics of ageing; role of remittances in reducing inequality and poverty; female labour force participation, etc.

Dr. Mohanasundari Thangavel

Assistant Professor

mohana@iiti.ac.in

PhD in Agricultural Economics, Tamil Nadu Agricultural University (TNAU), Coimbatore.



Research Area and Highlights: Natural Resource and Environmental Economics

Dr. Mohanasundari focuses on Natural Resource Management, Climate Change Adaptation and Impact Studies and Food Policy. Her research group named "Agricultural Resource Policy Studies" are working on various issues related to Agricultural Economics. She has published more than 15 research papers as journals articles and as book chapters. She is doing project on Economic Estimation of Loss and Damage of NTFP due to Forest Fire which is funded by ICIMOD Nepal.

Dr. Thapasya J

Assistant Professor
thapasya@iiti.ac.in
PhD, IIT Madras

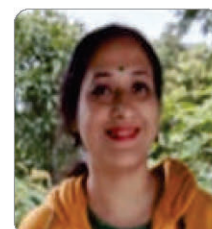


Research Area and Highlights: Linguistics, Cognitive Sociolinguistics, English Studies, Language Variation and Identity

Dr. Thapasya J leads the Language Variation and Cognition research lab that broadly focuses on documenting and explaining how language variation, society and cognition interact and co-occur. She has published research papers in reputed international journals and invited book chapters. She is a member of various international research bodies, such as the International Society for the Linguistics of English, Applied Linguistics and Language Teaching, the Dravidian Linguistics Association, and the Linguistics Society of India. Her recent project is Language Variation and Cognition: A Study on Indian Englishes Obtaining Young Faculty Research Seed Grant from IIT Indore.

Dr. Aratrika Das

Assistant Professor
aratrika@iiti.ac.in
PhD, University of Delhi



Research Area and Highlights: Medical Humanities, Nineteenth Century British Literature.

Dr. Aratrika Das leads the Medical Humanities group that tries to make sense of different discourses from the biological to the social, economic, political, and aesthetic, that influence health and shape our perceptions of physical and psychological wellbeing. Her doctoral thesis was awarded several international grants including Charles Wallace Fellowship, British Society for the History of Science, India-Edinburgh Research grant, and International Travel Grant from the University of Delhi. At present her research has received funding from Young Faculty Seed Grant Scheme 2022 IIT Indore, India Foundation for the Arts Research 2023-25, and JPN Center IIT Indore.

Dr. Kedarmal Verma

Assistant Professor
kverma@iiti.ac.in
PhD, IIT Guwahati



Research Area and Highlights: Cognitive Psychology, Experimental Psychology, Sleep-Cognition

Dr. Kedarmal Verma is the PI of the "Cognitive Experimental Laboratory (CEL)" which is focused on the understanding of various cognitive processes including memory, attention, decision-making, etc. He is engaged in studying different cognitive processes using a variety of experimental approaches where the human brain represents information and knowledge about external stimuli. He has published his research in international journals. He is a member of prestigious research societies (APA, NAO, ISSR).

Dr. Sansuma Brahma

Assistant Professor

sansuma@iiti.ac.in

PhD, Indian Institute of Technology Madras



Research Area and Highlights: Tibeto-Burman Languages,
Language Documentation, Language Description

Dr. Sansuma Brahma is an Assistant Professor at the Indian Institute of Technology Indore. He has a strong research background in Language Documentation and Syntax of the Tibeto-Burman Area. His primary research focuses on the Bodo-Garo Languages of the Bodo-Konyak-Jinghpaw group of the Tibeto-Burman family, spoken in Northeast India. He is also interested in the Documentation and Description of the Endangered Languages of India.

Dr. Dishari Chattaraj

Assistant Professor

dishari@iiti.ac.in

PhD, Jawaharlal Nehru University, New Delhi



Research Area and Highlights: English Language Education; Critical Food Studies.

Dr. Dishari Chattaraj works in the areas of Education and Critical Food Studies. Her doctoral dissertation focused on the development of a learner-centered learning model suitable for language learners in higher education spaces that she was able to develop further during her tenure as a Fulbright Fellow at Indiana University Bloomington in The United States of America. She has published more than 10 research articles in international and national journals of repute and has presented at various international conferences.



Learning Resource Centre



Computer & IT Centre



Abhinandan Bhavan



Sports Complex



Health Centre



Hostel Accommodation



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