द्वादश दीक्षांत समारोह प्रतिवेदन

12th Convocation Report

2023-24

Volume - I

Highlights of the Institute

भारतीय प्रौद्योगिकी संस्थान इन्दौर

Indian Institute of Technology Indore

Contents (Volume-I: Highlights of the Institute)

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
- Chemical Engineering
- 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
- MSDSM

Office of the Registrar Meetings of the Authorities held during the F.Y: 2023-2024		
Board of Governors	:	Three meetings held on
		14.07.2023, 20.11.2023 and 30.05.2024
Finance Committee	:	Three meetings held on
		14.07.2023, 20.11.2023 and 30.05.2024
Building and Works Committee	:	Three meetings held on
		30.10.2023, 30.01.2024 and 09.05.2024
Senate	:	Nine meetings held on
		07.07.2023, 30.11.2023, 12.12.2023, 19.12.2023, 15.01.2024, 25.01.2024, 28.3.2024, 17.04.2024 and 15.05.2024

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

At the outset, on behalf of the Institute, I would like to congratulate all 673 graduating students, their parents, mentors, and faculty members on this remarkable accomplishment. This convocation marks a significant milestone in your lives, representing the culmination of years of hard work, dedication, and unwavering commitment. You have learned to think critically, innovate, persevere in the face of adversity, and collaborate effectively.

Ranking

I am proud to highlight that IIT Indore, as one of the second-generation IITs, has emerged as a top-ranking institution in India. Currently, we hold the 14th position nationally among engineering universities and are ranked 11th among Indian Institutes in the QS ranking. As a relatively young institute, we are committed to improve both our national and international rankings in the coming years.

Academic

Since the inception of NEP 2020, IIT Indore has implemented several innovative academic programs and courses, embracing holistic education and new teaching methods. The Institute now offers 9 BTech programs and 15 MTech programs, including collaborative *MTech (Biomedical Engg.) and MTech (Laser and Optics)* with AIIMS Bhopal and RRCAT, respectively. Additionally, an Executive M.Tech program on Hybrid Vehicle Technology with Volvo-Eicher and a forthcoming Master's course on *'Cyber Security and Cyber Law'* with National Law Institute University, Bhopal, are some of the noteworthy additions. IIT Indore also offers 6 MS (Research) programs, including one with IIM Indore, 5 MSc programs, and PhDs in 19 disciplines. Faculty members have been pivotal in expanding programs to meet industry and societal needs. Undergraduate students have more elective options, with NEP 2023 curriculum allowing department electives from the 2nd semester. The introduction of Professional- and Societal- connect courses under NEP fosters a learner-centric approach and entrepreneurship. The Institute is planning to engage with industry professionals for practical insights and opening key BTech courses to them. Innovative learning methods, such as project-centric learning and Maker Space courses, have enhanced student participation and consequently their learning experience. The Institute also supports Govt. Engineering Colleges of Madhya Pradesh by hosting their meritorious students. The Life Skill Development workshop *'Genesis'* for new B.Tech students has been extended to six days, including a practical training session at MCTE Mhow.

Research

Research is a cornerstone of IIT Indore, with a focus on societal contributions, particularly for marginalized communities. In the past year, the Institute added 1000 international publications, totaling around 7500. IIT Indore has undertaken 617 R&D projects worth ` 450 crores, with 75 projects worth ` 25 crores in the last year. Additionally, there have been 423 consulting projects worth ` 24 crores, including 117 projects worth ` 9.6 crores last year. A notable project is the ` 9 crore ***'Narmada River Basin Management'*** from the Ministry of Jal Shakti. IIT Indore has filed 155 patents, with 66 granted, including 32 last year. The Institute promotes research through various schemes, including the Centre for Translation Research (CTR), which has licensed three technologies and incubated eight. IIT Indore released a ***'Handbook of Ideas, Innovations, and Technologies'*** and offers ` 5 lakhs under the Translational Research Up Scaling Scheme (TRUSS). Six ***'Dream Lab'*** projects and five ***'PRIUS'*** projects have been funded. The upcoming ***'Deep-Tech Research and Development Centre'*** (DRDC) in Ujjain will further scale up research and innovation. Selected by the Department of Telecommunication for 5G use case labs, IIT Indore also hosted the CSR & CIC Meet 2024 and inaugurated the Charak Center for Digital Healthcare.

Entrepreneurship

To facilitate entrepreneurial activities at IIT Indore, a Section 8 Company, ***'ACE Foundation'*** has been established. It provides incubation and funding opportunities to the budding entrepreneurs. We also have established the ***'Centre for Entrepreneurship Education and Development'*** (CEED). It offers entrepreneurship courses for all the students of the Institute. Out of 87 incubated start-ups, 29 have graduated, thus creating around 500 employments. From the 58 presently incubated start-ups, around 10 are in market validation stage. Till now, we have received more than ` 7 crores from various Govt. schemes which includes ` 5 crores through Startup India Seed Fund Scheme (SISFS). The Foundation has organized about 8 Boot-Camps for training on Entrepreneurial Skills so far which received huge response from students and teachers from all over the state of Madhya Pradesh.

Collaborations

IIT Indore is dedicated to broadening its horizons through collaborations with academia, industry, institutions, and society. We have partnered with the Centre for Development of Telematics, French National Institute for Sustainable Development, National Council of Science Museums, Royal Academy of Engineering, ICAR-Indian Institute of Soybean Research, IEEE, Western Railway, Larsen & Toubro Ltd, Simple Energy Private Limited, and Sant Shiromani Ravidas Global Skill Park, among others. We established the Rajratan Centre of Excellence (RCoE) for advanced research and analytical testing, our first CSR initiative with Rajratan Global Wire, the world's largest tire bead wire manufacturer. Additionally, we set up the CASE-Centre of Excellence in collaboration with CNH Internationals Ltd. Under the AICTE's Margdarshan scheme 2023, IIT Indore has been named a mentor Institute to guide local engineering colleges, including Sushila Devi Bansal College of Technology. As part of the PM School for Rising India (PM SHRI) scheme, we aim to enhance equity, access, and inclusion in school education. The State Bank of India supports our plantation drive under their CSR activities. To further strengthen our collaborations, we have signed 76 national (54 active) and 103 international (65 active) MoUs.

Sustainable Infrastructure

Institute is embarking on ambitious infrastructure development to elevate the institute's future. Following the completion of Phases 1 and 2, Phase III has begun, featuring a Heavy and Sophisticated Lab complex, Academic Pod, hostels, and housing for faculty and married students. Olympic-standard outdoor sports facilities, including a football ground, 400-meter synthetic athletic track, hockey ground, lawn tennis

courts, volleyball courts, and seating galleries, are nearing completion. Ongoing projects include a Laboratory Complex, Transit Lab Complex, hostel under the PMAY scheme, Animal House, Multi-Purpose Hall, and Multilevel Car Parking. Future constructions include two hostels, a residential complex, and a studio apartment. The campus will offer world-class facilities for students and staff.

In line with sustainability goals, IIT Indore maintains 200 acres of forest on its 500-acre campus, rejuvenated six natural water bodies, and developed "Amrit Sarovar," a large water body. The Institute is also developing eight check-dams for soil and water conservation and plans to plant over 5000 trees, including Peepal and Neem.

Placements and Alumni

I'm pleased to report that IIT Indore enjoyed a successful placement season this year, with around 125 companies visiting our campus and making 311 offers, including 7 international ones.

Our Alumni and Corporate Relations (ACR) Office has been actively fostering long-term relationships with both alumni and industries since last year. We have successfully held alumni meets in Hyderabad and Bangalore and plan to host the third chapter in Pune or Delhi soon. Additionally, we will soon introduce an Alumni Distinguished Award to honor notable alumni.

I'm delighted to announce that among the 682 graduating students are recipients of various prestigious medals, including the President of India Gold Medal, Institute Silver Medals, Best BTech Project Award, and the Buti Foundation Gold Medal for the best woman student with the highest CPI among all master's graduates.

The education you've received here will help you excel in your careers. Remember, hard work is essential—99% perspiration and 1% inspiration. As new alumni, you are ambassadors of the Institute, and its reputation rests in your hands. Keep expanding your knowledge and applying it for the betterment of society. The Institute will always welcome you, provide a lifelong email address to stay connected, and invite you to share your experiences with current students and faculty.

I wish all the graduates a bright future and success in their careers.

Thank you.

Professor Suhas S Joshi
Director IIT Indore

Board of Governors, IIT Indore

Chairperson

Dr. K. Sivan
Indian Institute of Technology Indore
(w.e.f August 22, 2023)

Professor Deepak B. Phatak
Indian Institute of Technology Indore

Members

Professor Suhas S. Joshi
Director,
Indian Institute of Technology Indore

Shri S.K. Barnwal
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
(July 11, 2028 to November 22, 2023)

Shri Manoj Kohli
Executive Chairman, SB Energy (Soft Bank Group) New Delhi
(July 11, 2028 to November 22, 2023)

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. Vipul Singh

Dean, Educational Outreach
Prof. Devendra L. Deshmukh

Dean, Administration
Prof. Sandeep Chaudhary

Dean, Student Affairs
Prof. Srivathsan Vasudevan

Dean, Infrastructure Development
Prof. Manish Kumar Goyal

Dean, Research & Development
Prof. I. A. Palani

Dean, International Relations
Prof. Avinash Sonawane

Dean, Alumni and Corporate Relations (ACR)
Prof. Suman Mukhopadhyay

Dean, Faculty Affairs
Prof. Abhishek Srivastava

Registrar, IIT Indore
Mr. S. P. Hota

Associate Deans

Academics (UG / PG / Ph.D Programs)	:	Prof. Ankhi Roy (w.e.f. July 20, 2023)
Academics (Infrastructure)	:	Prof. Rajesh Kumar
Academics (PG & Ph.D Programs)	:	Dr.Eswara Prasad Korimilli (up to September 30, 2023)
Faculty Affairs	:	Prof. Amod C. Umarikar
Research and Development- I	:	Prof. Trapti Jain
Research and Development- II	:	Dr. Bodhisatwa Mazumdar
Administration (HR & Policy)	:	Prof. Nirmala Menon
Administration (Finance & MMS)	:	Dr. Santosh Hosmani
Infrastructure Development-I	:	Dr. Guru Prakash (up to September 30, 2023)
Student Affairs	:	Dr. Sanjeev Singh
International Relations-I	:	Prof. Raghunath Sahoo (up to November 26, 2023)
International Relations-II	:	Prof. Sanjay Kumar Singh (up to February 21, 2024)

Heads of Departments

Humanities and Social Sciences	:	Prof. Ruchi Sharma
Computer Science & Engineering	:	Dr. Ranveer Singh (w.e. f. October 7, 2023) Dr. Somnath Dey (up to October 6, 2023)
Electrical Engineering	:	Prof. Vivek Kanhangad
Mechanical Engineering	:	Prof. Shanmugam Dhinakaran
Chemistry	:	Prof. Tushar Kanti Mukherjee
Mathematics	:	Dr. Niraj Kumar Shukla
Physics	:	Prof. Preeti A. Bhobe (w.e.f. November 23, 2023 Prof. Pankaj R Sagdeo (up to November 22, 2023)
Astronomy, Astrophysics and Space Engineering	:	Prof. Abhirup Datta
Biosciences and Biomedical Engineering	:	Prof. Amit Kumar
Metallurgical Engineering and Materials Science	:	Dr. Ajay Kumar Kushwaha
Civil Engineering	:	Dr. Abhishek Rajput

Professor In-charge of Centres

Center of Advanced Electronics	:	Dr. Vivek Kanhangad
Computer and Information Technology Center	:	Dr. Neminath Hubballi
Center of Futuristic Defense and Space Technology	:	Dr. Indrasen Singh
Centre for Entrepreneurship Education and Development:	:	Dr. Swaminathan R.
Center for Rural Development and Technology	:	Dr. Debayan Sarkar
DST-FIST Center of Excellence in Gear Engineering	:	Prof. Neelesh Kumar Jain
Sophisticated Instrument Center (SIC)	:	Prof. Apurba K. Das
Center for Indian Scientific Knowledge Systems	:	Prof. G. S. Murthy
Center for Electric Vehicle and Intelligent Transport Systems	:	Prof. Amod C. Umarikar
Counseling Services	:	Prof. Aruna Tiwari (up to March, 2024)
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	Director, IIM Indore
Shri Shankar V. Nakhe	Director, RRCAT
Professor Abhiram G. Ranade	Professor, IIT Bombay

Deans

Professor Vipul Singh	Dean, Academic Affairs
Professor Sandeep Chaudhary	Dean, Administration
Professor Avinash Sonawane	Dean, International Relations
Professor Manish Kumar Goyal	Dean of Infrastructure Development
Professor I.A. Palani	Dean, Research and Development
Professor Srivathsan Vasudevan	Dean, Student Affairs
Professor Suman Mukhopadhyay	Dean, Alumni and Corporate Relations
Professor Abhishek Srivastava	Dean, Faculty Affairs
Professor Devendra L. Deshmukh	Dean, Educational Outreach

Head of Departments

Dr. Abhishek Rajput	HOD, Civil Engineering
Dr. Ranveer Singh	HOD, Computer Science and Engineering
Professor Vivek Kanhangad	HOD, Electrical Engineering
Professor Shanmugam Dhinakaran	HOD, Mechanical Engineering
Dr. Ajay Kumar Kushwaha	HOD, Metallurgical Engineering and Materials Science
Professor Amit Kumar	HOD, Biosciences and Biomedical Engineering
Professor Abhirup Datta	HOD, Astronomy, Astrophysics and Space Engineering
Professor Tushar Kanti Mukherjee	HOD, Chemistry
Professor Niraj Kumar Shukla	HOD, Mathematics
Professor Preeti A. Bhobe	HOD, Physics
Professor Ruchi Sharma	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 Palani Iyamperumal Anand	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	Metallurgical 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
Professor Pankaj Ramesh Sagdeo	Physics
Professor Ankhi Roy	Physics
Professor Somaditya Sen	Physics
Professor Mobin Shaikh	Chemistry
Professor Tushar Kanti Mukherjee	Chemistry
Professor Anjan Chakraborty	Chemistry
Professor Satya Silendra Bulusu	Chemistry
Professor Chelvam Venkatesh	Chemistry
Professor Kiran Bala	Biosciences and Biomedical Engineering
Professor Mirza Saqib Baig	Biosciences and Biomedical Engineering
Professor Anirban Sengupta	Computer Science and Engineering
Professor Neminath Hubballi	Computer Science and Engineering
Professor Rupesh Shivaji Devan	Metallurgical Engineering and Materials Science
Professor Santosh Sattappa Hosmani	Metallurgical Engineering and Materials Science
Professor Antony Vijesh Villavarayan	Mathematics
Professor Niraj Kumar Shukla	Mathematics
Professor Satyajit Chatterjee	Mechanical Engineering
Professor Kazi Sabiruddin	Mechanical Engineering
Professor Pavan Kumar Kankar	Mechanical Engineering

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

Medal Winners and Graduating Students

Indian Institute of Technology Indore

12th Convocation 2024: Recipients of Medals and Awards

THE PRESIDENT OF INDIA GOLD MEDAL

For the best academic performance among all the UG graduating students

Mr. Mukul Jain
B.Tech. (CSE)
Roll No. 200001050

INSTITUTE SILVER MEDAL

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

Ms. Nitya Chourasiya
B.Tech. (CE)
Roll No. 200004033

Mr. Vankayalapati Sai Venkata Satwik
B.Tech. (CSE)
Roll No. 200001077

Mr. Daftari Dev Shimulbhai
B.Tech. (EE)
Roll No. 200002025

Mr. Amit Vikrant Dhavale
B.Tech. (ME)
Roll No. 200003011

Mr. Jitin Sathish Kumar
B.Tech. (MEMS)
Roll No. 200005018

INSTITUTE SILVER MEDAL

For the best overall performance among all the graduating PG students (M.Tech. and M.Sc. Programs)

Mr. Rishav Sharma
M.Tech. (MEMS)
Roll No. 2202105001

Ms. Krishangi Kashyap
M.Sc. (DAASE)
Roll No.2203121006

BUTI FOUNDATION GOLD MEDAL

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

Ms. Krishangi Kashyap
M.Sc. (DAASE)
Roll No. 2203121006

VPP MENON GOLD MEDAL

For the best PhD Dissertation work by a female student

Ms. Kanchan Samadhiya
PhD (Biosciences and Biomedical Engineering)
Roll No. 1701171015

Thesis Title: *"Indigenous Microbes for Sustainable Biopolymer Synthesis: A Comprehensive Optimization and Characterization Study"*

INSTITUTE GOLD MEDAL

For the best all round performance among all the graduating students

Mr. Abhinav Yadav
B.Tech (EE)
Roll No. 200004001

BEST B.TECH. PROJECT (BTP) AWARD

Amongst all the graduating UG students

Mr. Saurabh Kichouliya
BTech (EE)
Roll No. 200002069

Project Title: *"Conformal Microwave radome for shielding applications"*

MSDSM SILVER MEDAL

For the best overall performance among all the graduating students (MSDSM Program)

Mr. Sebastian P S
MSDSM (2021 Batch)
Roll No. 2104107031

Mr. Divyansh Dubey
MSDSM (2022 Batch)
Roll No. 2204107020

Graduating Students

S. No.	Roll No.	Student's Name	Program	Department
1	200004002	Akshat Nahata	B.Tech.	CE
2	200004003	Amol Aakarsh	B.Tech.	CE
3	200004004	Anil Yadav	B.Tech.	CE
4	200004005	Ayush	B.Tech.	CE
5	200004006	Ayush Maheshwari	B.Tech.	CE
6	200004007	Badal Ranjit Singh	B.Tech.	CE
7	200004008	Bhavya Gupta	B.Tech.	CE
8	200004009	Bhavya Singh Thakur	B.Tech.	CE
9	200004010	Bhom Singh	B.Tech.	CE
10	200004011	Boddu Sandeep	B.Tech.	CE
11	200004012	Chinmay	B.Tech.	CE
12	200004013	Galithoti Lakshmi Priya	B.Tech.	CE
13	200004014	Garvit Gupta	B.Tech.	CE
14	200004015	Guru Lava Kumar Yadav Ch	B.Tech.	CE
15	200004016	Harsh Jain	B.Tech.	CE
16	200004017	Harsh Jha	B.Tech.	CE
17	200004018	Himanshu Gupta	B.Tech.	CE
18	200004019	Isha Pankaj Pathak	B.Tech.	CE
19	200004020	Jawwad Umar	B.Tech.	CE
20	200004021	Kallepalli S V S Krishna Deepak	B.Tech.	CE
21	200004022	Karan Meena	B.Tech.	CE
22	200004023	Khuraijam Humendro Singh	B.Tech.	CE
23	200004024	Khushi Gupta	B.Tech.	CE
24	200004025	Kommini Madhumitha	B.Tech.	CE
25	200004026	Kunwar Zeeshan	B.Tech.	CE
26	200004027	Manav Kumar Sinha	B.Tech.	CE
27	200004029	Mukesh Kumar	B.Tech.	CE
28	200004030	Nachiket Salunke	B.Tech.	CE
29	200004031	Naman Agrawal	B.Tech.	CE
30	200004032	Namonarayan Meena	B.Tech.	CE
31	200004033	Nitya Chourasiya	B.Tech.	CE
32	200004034	Pankaj Kumar Meena	B.Tech.	CE
33	200004035	Paras Vyas	B.Tech.	CE
34	200004036	Parth Dwivedi	B.Tech.	CE
35	200004037	Piyush Yadav	B.Tech.	CE
36	200004038	Prahlad Pawar	B.Tech.	CE

S. No.	Roll No.	Student's Name	Program	Department
37	200004039	Prashant Rao	B.Tech.	CE
38	200004040	Priyanshu Verma	B.Tech.	CE
39	200004041	Rakesh Choudhary	B.Tech.	CE
40	200004042	Riya Meena	B.Tech.	CE
41	200004043	Sahil Singh Shekhawat	B.Tech.	CE
42	200004044	Sammeta Jhansi Maha Lakshmi	B.Tech.	CE
43	200004045	Samrat Telse	B.Tech.	CE
44	200004046	Sanskar Gupta	B.Tech.	CE
45	200004047	Sreyashi Choudhury	B.Tech.	CE
46	200004048	Suman Verma	B.Tech.	CE
47	200004049	Sunny Kumar	B.Tech.	CE
48	200004050	Varun Kumar	B.Tech.	CE
49	200004052	Yash Raj Solanki	B.Tech.	CE
50	200004053	Yogesh Mohan Dantare	B.Tech.	CE
51	200001001	Abhishek Jaiswal	B.Tech.	CSE
52	200001002	Allu Mrudula	B.Tech.	CSE
53	200001003	Amit Kumar Makkad	B.Tech.	CSE
54	200001004	Annavarapu Bhanu Teja	B.Tech.	CSE
55	200001005	Annem Shanmuga Venkata Sai Pradeep Reddy	B.Tech.	CSE
56	200001006	Anushka Suresh Nile	B.Tech.	CSE
57	200001007	Arjun Singh	B.Tech.	CSE
58	200001008	Arvind Tomar	B.Tech.	CSE
59	200001009	Arvind Yadav	B.Tech.	CSE
60	200001010	Aryan Yadav	B.Tech.	CSE
61	200001011	Atharv Bhagya	B.Tech.	CSE
62	200001012	Ayush Kumar Sinha	B.Tech.	CSE
63	200001013	Banala Tharun	B.Tech.	CSE
64	200001015	Bhore Parth Shirish	B.Tech.	CSE
65	200001016	Boddupalli Karthik	B.Tech.	CSE
66	200001017	Byri Sahas Reddy	B.Tech.	CSE
67	200001018	Contractor Bhavya Kaushal	B.Tech.	CSE
68	200001019	Deshmukh Aditya Sanjayrao	B.Tech.	CSE
69	200001020	Devesh Jindal	B.Tech.	CSE
70	200001021	Dhanorkar Chaitanya Vilas	B.Tech.	CSE
71	200001022	Dishesh Singh Chaudhary	B.Tech.	CSE
72	200001023	Gaurav Khushpat Jain	B.Tech.	CSE

S. No.	Roll No.	Student's Name	Program	Department
73	200001024	Gavhale Pranjali Arun	B.Tech.	CSE
74	200001025	Govind Kizhakke Mepad	B.Tech.	CSE
75	200001026	Harsh Wardhan Dohaiya	B.Tech.	CSE
76	200001027	Harshit Pachar	B.Tech.	CSE
77	200001028	Hendwe Ujjwal Siddharth	B.Tech.	CSE
78	200001029	Hritika	B.Tech.	CSE
79	200001030	Jaskaran Singh	B.Tech.	CSE
80	200001031	K Sreekara Madyastha	B.Tech.	CSE
81	200001032	Kanchi Pardhi	B.Tech.	CSE
82	200001033	Karri Trived	B.Tech.	CSE
83	200001034	Katta Jayanth Kumar	B.Tech.	CSE
84	200001035	Kayala Raana Pramodh	B.Tech.	CSE
85	200001036	Khushi Verma	B.Tech.	CSE
86	200001037	Koneti Anuhya	B.Tech.	CSE
87	200001038	Kothuru Sharvani	B.Tech.	CSE
88	200001039	Likhith Raj D V	B.Tech.	CSE
89	200001040	Maddaka Yashwanth	B.Tech.	CSE
90	200001041	Mahajan Sakshi Rajendra	B.Tech.	CSE
91	200001042	Maramreddy Krishna Ananda Reddy	B.Tech.	CSE
92	200001043	Mayank Tayal	B.Tech.	CSE
93	200001044	Mihir Kanchan Karandikar	B.Tech.	CSE
94	200001045	Mir Razee Mohideen	B.Tech.	CSE
95	200001046	Mitika Bhadada	B.Tech.	CSE
96	200001047	Modi Shruti Navin	B.Tech.	CSE
97	200001048	Mudavath Bhanu Prakash	B.Tech.	CSE
98	200001049	Mudhi Reddy Sai Akshay Reddy	B.Tech.	CSE
99	200001050	Mukul Jain	B.Tech.	CSE
100	200001051	Neha	B.Tech.	CSE
101	200001052	Nelavalli Sri Nikhitha	B.Tech.	CSE
102	200001053	Nilay Jayantibhai Ganvit	B.Tech.	CSE
103	200001055	Nishchay Shroff	B.Tech.	CSE
104	200001056	Nishit Sushil Singh	B.Tech.	CSE
105	200001057	Omkar Mangesh Shirgaonkar	B.Tech.	CSE
106	200001058	Padamata Kanishka Sai	B.Tech.	CSE
107	200001060	Patel Nilay Prakashbhai	B.Tech.	CSE
108	200001061	Patil Prathamesh	B.Tech.	CSE

S. No.	Roll No.	Student's Name	Program	Department
109	200001062	Prashant Kumar	B.Tech.	CSE
110	200001063	Priyansh Jaseja	B.Tech.	CSE
111	200001064	Rahul Raut	B.Tech.	CSE
112	200001065	Ramakrishna Raju Alluri	B.Tech.	CSE
113	200001066	Ramireddy Lohith Reddy	B.Tech.	CSE
114	200001067	Rishabh Sharma	B.Tech.	CSE
115	200001068	Rishi Parsai	B.Tech.	CSE
116	200001069	Sanskar Verma	B.Tech.	CSE
117	200001070	Saral Shikhar	B.Tech.	CSE
118	200001071	Saurabh Kumar Singh	B.Tech.	CSE
119	200001072	Shaik Wanhar Aziz	B.Tech.	CSE
120	200001073	Shubham Pratap Pednekar	B.Tech.	CSE
121	200001074	Subha V Gopal	B.Tech.	CSE
122	200001075	Tadi Dinesh Kumar Reddy	B.Tech.	CSE
123	200001076	Umang Jain	B.Tech.	CSE
124	200001077	Vankayalapati Sai Venkata Satwik	B.Tech.	CSE
125	200001078	Vansh Kathnawal	B.Tech.	CSE
126	200001079	Vihaan Thora	B.Tech.	CSE
127	200001080	Vipul Mahajan	B.Tech.	CSE
128	200002038	Harsh Verma	B.Tech.	CSE
129	200002070	Siddartha Chennareddy	B.Tech.	CSE
130	200003064	Rayala Navya Harshitha	B.Tech.	CSE
131	200005040	Sarvagya Kanungo	B.Tech.	CSE
132	170002057	Thugutla Venkata Siddartha Reddy	B.Tech.	EE
133	200002001	Aayushi Choubey	B.Tech.	EE
134	200002005	Akruti Taori	B.Tech.	EE
135	200002006	Akshit Khanna	B.Tech.	EE
136	200002007	Alakh Rathore	B.Tech.	EE
137	200002008	Alan Jose	B.Tech.	EE
138	200002009	Aniket Redasni	B.Tech.	EE
139	200002010	Anurag Agarwal	B.Tech.	EE
140	200002011	Arjun A	B.Tech.	EE
141	200002012	Aryan Modanwal	B.Tech.	EE
142	200002013	Ashish Agrawal	B.Tech.	EE
143	200002014	Ashutosh Nayak	B.Tech.	EE
144	200002015	Ashwin Jino V	B.Tech.	EE

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145	200002016	Atharva Chandrashekhar Tayshete	B.Tech.	EE
146	200002017	Avaneesh Pandey	B.Tech.	EE
147	200002018	Avinash Kumar Rao	B.Tech.	EE
148	200002019	Bellamkonda Avinash	B.Tech.	EE
149	200002020	Bellamkonda Jai Abhiram	B.Tech.	EE
150	200002021	Bhamidipati S V Shashanka	B.Tech.	EE
151	200002022	Budati Harshitha	B.Tech.	EE
152	200002023	Chinmayi Adoni	B.Tech.	EE
153	200002024	Chinta Snehith	B.Tech.	EE
154	200002025	Daftari Dev Shimulbhai	B.Tech.	EE
155	200002026	Darshan Yeshwant Mohekar	B.Tech.	EE
156	200002027	Dev Verma	B.Tech.	EE
157	200002028	Devansh Agrawal	B.Tech.	EE
158	200002029	Divnoor Kaur	B.Tech.	EE
159	200002030	Divya Dedeepya Ankam	B.Tech.	EE
160	200002031	Diwakar Soni	B.Tech.	EE
161	200002034	Gnana Swaroop Chintada	B.Tech.	EE
162	200002035	Gourav Karode	B.Tech.	EE
163	200002036	Govindu Sathvik Reddy	B.Tech.	EE
164	200002037	Harsh Bardhan	B.Tech.	EE
165	200002039	Harshwardhan Chaube	B.Tech.	EE
166	200002040	Hasnain Raza	B.Tech.	EE
167	200002041	K Sneha	B.Tech.	EE
168	200002042	Kamaraju Vishnu Vardhan	B.Tech.	EE
169	200002044	Khuman Karandevsinh Ketankumar	B.Tech.	EE
170	200002045	Khushi Panthi	B.Tech.	EE
171	200002046	Komal Kumari	B.Tech.	EE
172	200002047	Kuna Sai Varshith	B.Tech.	EE
173	200002048	Kushal Sahastrabuddhe	B.Tech.	EE
174	200002049	Lakkakula Sreenath	B.Tech.	EE
175	200002051	Lokesh Korsane	B.Tech.	EE
176	200002052	Manish Meena	B.Tech.	EE
177	200002053	Monika Meena	B.Tech.	EE
178	200002054	Mupparaju Sai Chaitanya	B.Tech.	EE
179	200002055	Nikhil Raizada	B.Tech.	EE
180	200002056	Omraj Suryakant Dhore	B.Tech.	EE

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181	200002057	Oruganti Pavani	B.Tech.	EE
182	200002058	Padma Harshith	B.Tech.	EE
183	200002060	Pranjal Sonkar	B.Tech.	EE
184	200002061	Prathmesh Verma	B.Tech.	EE
185	200002062	Rajaputhra Shivani	B.Tech.	EE
186	200002063	Rashi Motwani	B.Tech.	EE
187	200002064	Rohit Kumawat	B.Tech.	EE
188	200002065	Rushil V	B.Tech.	EE
189	200002066	Safdar Wahid Inamdar	B.Tech.	EE
190	200002068	Satuluri V S Rohini Vijaya Sarvani	B.Tech.	EE
191	200002069	Saurabh Kichouliya	B.Tech.	EE
192	200002071	Sneha Kanjickal James	B.Tech.	EE
193	200002072	Suman Kumar Jaiswal	B.Tech.	EE
194	200002073	Sumit Jatav	B.Tech.	EE
195	200002074	Thamke Mayuri Meghshyam	B.Tech.	EE
196	200002075	Udit Patel	B.Tech.	EE
197	200002076	Valsa Preetham	B.Tech.	EE
198	200002077	Vankudoth Prashanth	B.Tech.	EE
199	200002078	Vanshika Tibrewal	B.Tech.	EE
200	200002080	Vishal Chichani	B.Tech.	EE
201	200002081	Yash Mohan	B.Tech.	EE
202	200002082	Yeeshukant Singh	B.Tech.	EE
203	200002083	Yelagandula Rohan Sai	B.Tech.	EE
204	200002084	Yuvraj Singh	B.Tech.	EE
205	200002085	Zanzan Kirtika Shrikrishna	B.Tech.	EE
206	200003003	Abhijit Panda	B.Tech.	EE
207	200004001	Abhinav Yadav	B.Tech.	EE
208	160003021	Ingole Yash Pramod	B.Tech.	ME
209	200003001	Abhay Kumrawat	B.Tech.	ME
210	200003002	Abhijit Joshi	B.Tech.	ME
211	200003004	Abhinav Lade	B.Tech.	ME
212	200003005	Aditi T	B.Tech.	ME
213	200003006	Ajeet Kumar	B.Tech.	ME
214	200003007	Akshay Tak	B.Tech.	ME
215	200003008	Aman Mandawat	B.Tech.	ME
216	200003009	Amardeep Manohar Padalwar	B.Tech.	ME

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217	200003010	Amarnath K	B.Tech.	ME
218	200003011	Amit Vikrant Dhavale	B.Tech.	ME
219	200003012	Anshuman Das	B.Tech.	ME
220	200003013	Anshuman Gaurav	B.Tech.	ME
221	200003015	Arush Pradhan	B.Tech.	ME
222	200003016	Atharva Ajay Mohite	B.Tech.	ME
223	200003018	Ayushi Agrawal	B.Tech.	ME
224	200003019	Bhavishya Tiwari	B.Tech.	ME
225	200003020	Bhavya Dalal	B.Tech.	ME
226	200003021	Bhupesh Kumar	B.Tech.	ME
227	200003022	Buchammagari Raghavendra	B.Tech.	ME
228	200003023	Chirag Goel	B.Tech.	ME
229	200003025	Dhairya Jayeshkumar Mistry	B.Tech.	ME
230	200003027	Donga Yajna Madhuri	B.Tech.	ME
231	200003028	Gaveesh Garg	B.Tech.	ME
232	200003029	Guguloth Supraja	B.Tech.	ME
233	200003030	Gurrala Harshath	B.Tech.	ME
234	200003031	Harsh Parihar	B.Tech.	ME
235	200003032	Het Maheshkumar Sekhalia	B.Tech.	ME
236	200003033	Imon Jyoti Patar	B.Tech.	ME
237	200003034	Jai Surya Katla	B.Tech.	ME
238	200003035	Jay Deep Umarya	B.Tech.	ME
239	200003036	Jinesh Kumar	B.Tech.	ME
240	200003037	Jitendra Kumar Choudhary	B.Tech.	ME
241	200003038	Jyotirmay Mitra	B.Tech.	ME
242	200003039	K A Vyvaswath	B.Tech.	ME
243	200003040	Kailaash Pandiyan C	B.Tech.	ME
244	200003041	Kanishka Goyal	B.Tech.	ME
245	200003042	Kshitij M Bhat	B.Tech.	ME
246	200003044	Madishetty Karthikeya	B.Tech.	ME
247	200003045	Magha Ram	B.Tech.	ME
248	200003046	Manisha Devi	B.Tech.	ME
249	200003047	Monal Suresh Pawar	B.Tech.	ME
250	200003048	Mudenti Mrunalini	B.Tech.	ME
251	200003049	Nadeem Raza	B.Tech.	ME
252	200003050	Nakka Shankar	B.Tech.	ME

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253	200003051	Ogirala Srihasa	B.Tech.	ME
254	200003053	Padmanabh	B.Tech.	ME
255	200003054	Patil Pranav Sachin	B.Tech.	ME
256	200003055	Pativada Chandrateja	B.Tech.	ME
257	200003056	Poosarla Lahari	B.Tech.	ME
258	200003057	Pragya Singh	B.Tech.	ME
259	200003058	Prakhar Bharadwaj	B.Tech.	ME
260	200003059	Princy Singh	B.Tech.	ME
261	200003060	Puneet Gupta	B.Tech.	ME
262	200003061	R Harsh	B.Tech.	ME
263	200003062	Raghuvamsi Bokka	B.Tech.	ME
264	200003063	Rathod Viral Sanjaybhai	B.Tech.	ME
265	200003065	Ritik Raj Soni	B.Tech.	ME
266	200003066	Ritu	B.Tech.	ME
267	200003067	Rohit Singh	B.Tech.	ME
268	200003068	Sanjit Vyas	B.Tech.	ME
269	200003069	Sharvari Kulkarni	B.Tech.	ME
270	200003070	Sidharth	B.Tech.	ME
271	200003071	Soham Pravin Ghewari	B.Tech.	ME
272	200003072	Soham Roy	B.Tech.	ME
273	200003073	Srijan Parashar	B.Tech.	ME
274	200003074	Suraj Kumar Yadav	B.Tech.	ME
275	200003075	Suryansh Baloch	B.Tech.	ME
276	200003076	Tanishq Selot	B.Tech.	ME
277	200003078	Thangavel Sudeep	B.Tech.	ME
278	200003079	V Rajkumar Thomas	B.Tech.	ME
279	200003081	Vandana Jha	B.Tech.	ME
280	200003083	Vasamshetty Aishwarya	B.Tech.	ME
281	200003084	Veeramalla Varun	B.Tech.	ME
282	200003085	Viradiya Jay	B.Tech.	ME
283	200003086	Vivek Kumar	B.Tech.	ME
284	200003087	Yagneswar Naidu Kundrapu	B.Tech.	ME
285	180005035	Vivek Kumar	B.Tech.	MEMS
286	200005002	Abhishek K	B.Tech.	MEMS
287	200005003	Aditi Mishra	B.Tech.	MEMS
288	200005004	Aditya Handa	B.Tech.	MEMS

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289	200005005	Akshita Mittal	B.Tech.	MEMS
290	200005006	Anirudha Bhagwat	B.Tech.	MEMS
291	200005007	Anshika Verma	B.Tech.	MEMS
292	200005008	Aryan Gupta	B.Tech.	MEMS
293	200005009	Botkewar Siddhesh Manish	B.Tech.	MEMS
294	200005012	Daksh Goyal	B.Tech.	MEMS
295	200005013	Doddi Bhavana Devi	B.Tech.	MEMS
296	200005014	Dumpati Vasanth	B.Tech.	MEMS
297	200005015	Gaurav Gill	B.Tech.	MEMS
298	200005016	Gulshan Kumar	B.Tech.	MEMS
299	200005018	Jitin Sathish Kumar	B.Tech.	MEMS
300	200005019	Maniratnn Parakh	B.Tech.	MEMS
301	200005020	Manonit Sankhala	B.Tech.	MEMS
302	200005021	Merugu Yuvaraj	B.Tech.	MEMS
303	200005022	Mohammed Zaeem Raees Bichu	B.Tech.	MEMS
304	200005023	Mudit Mohan Ambed	B.Tech.	MEMS
305	200005024	Nain Gupta	B.Tech.	MEMS
306	200005025	Neyasha Sinha	B.Tech.	MEMS
307	200005026	Nikhil Kumar	B.Tech.	MEMS
308	200005027	Nikita Singh	B.Tech.	MEMS
309	200005028	Nilesh Chandel	B.Tech.	MEMS
310	200005029	Nitin Sathish Kumar	B.Tech.	MEMS
311	200005031	R. Gokul	B.Tech.	MEMS
312	200005032	Rapartiwar Sahil Saiprasad	B.Tech.	MEMS
313	200005033	Rounak Jain	B.Tech.	MEMS
314	200005035	S Shrevesh	B.Tech.	MEMS
315	200005036	Saad Ahmed	B.Tech.	MEMS
316	200005037	Sanidhya Kumar	B.Tech.	MEMS
317	200005038	Sanket Bhajgawali	B.Tech.	MEMS
318	200005039	Sanket Vinayak Muthal	B.Tech.	MEMS
319	200005041	Saurav Kumar Yadav	B.Tech.	MEMS
320	200005042	Sejal Kotian	B.Tech.	MEMS
321	200005043	Shivam Kumar Singh	B.Tech.	MEMS
322	200005044	Shreya Singh	B.Tech.	MEMS
323	200005045	Sneha Shrivastava	B.Tech.	MEMS
324	200005046	Sohail Shaikh	B.Tech.	MEMS

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325	200005047	Sujal Patel	B.Tech.	MEMS
326	200005048	Tatiya Vimalkumar Pramod	B.Tech.	MEMS
327	200005049	Vijay Muralidharan Rao	B.Tech.	MEMS
328	200005050	Yash Kumar	B.Tech.	MEMS
329	2102102011	Anubhi Singh	M.Tech.	EE
330	2202102002	Emani Naga Sesha Sai Anjana	M.Tech.	EE
331	2202102004	Chanda Sucharitha	M.Tech.	EE
332	2202102005	Egu Dheeraj Kumar	M.Tech.	EE
333	2202102008	Saim Rehan	M.Tech.	EE
334	2202102010	Prakhar Keshari	M.Tech.	EE
335	2202102016	Komal Gupta	M.Tech.	EE
336	2202102019	Sudhir	M.Tech.	EE
337	2202102020	Puranjeet Pahari	M.Tech.	EE
338	2202102021	Madhur Sachdev	M.Tech.	EE
339	2202102022	Sagar Patel	M.Tech.	EE
340	2202102024	Chandavath Suman	M.Tech.	EE
341	2202102027	Dharmendra Kartikey	M.Tech.	EE
342	2202103002	Sayan Doloi	M.Tech.	ME
343	2202103005	Rishabh Verma	M.Tech.	ME
344	2202103006	Ajinkya Nandkishor Kulkarni	M.Tech.	ME
345	2202103007	Siddhant S Barman	M.Tech.	ME
346	2202103008	Mohd Washique Ahemad	M.Tech.	ME
347	2202103010	Prasanna Santosh Bairagi	M.Tech.	ME
348	2202103012	Rishabh Kumar	M.Tech.	ME
349	2202103013	Thakkar Dhruvil Bhavinbhai	M.Tech.	ME
350	2202103014	Mahesh Malviy	M.Tech.	ME
351	2202103016	Arbaaz Hamid Shaikh	M.Tech.	ME
352	2202103019	Mahesh	M.Tech.	ME
353	2202103022	Sadanand Gautam	M.Tech.	ME
354	2202103023	Rohan Dewda	M.Tech.	ME
355	2202103024	Mahima Yadav	M.Tech.	ME
356	2202103025	Amarprakash Chandrakant Singh	M.Tech.	ME
357	2202103026	Sujoy Das	M.Tech.	ME
358	2202103027	Rajshree Singh	M.Tech.	ME
359	2202103028	Bimal Bashyal	M.Tech.	ME
360	2202103031	Gaurav Kumar	M.Tech.	ME

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361	2202103033	Dinesh	M.Tech.	ME
362	2202103034	Janupala Chakradhar Reddy	M.Tech.	ME
363	2202105001	Rishav Sharma	M.Tech.	MEMS
364	2202105002	Neha	M.Tech.	MEMS
365	2202105004	Shantanu Dilip Gagare	M.Tech.	MEMS
366	2202105005	Shaikh Azaharuddin Saleem	M.Tech.	MEMS
367	2202105006	Shubham Garg	M.Tech.	MEMS
368	2202105008	Prosenjit Mondal	M.Tech.	MEMS
369	2202105009	Shubham Jain	M.Tech.	MEMS
370	2202105020	M Sudharsana Raj	M.Tech.	MEMS
371	2202105021	Ramamoorthy V	M.Tech.	MEMS
372	2202105022	Mohammed Musaib Mohd Sohail	M.Tech.	MEMS
373	2202105024	Abhinav Singhal	M.Tech.	MEMS
374	2202105025	Kumar Aman	M.Tech.	MEMS
375	2202106002	Vignesh R	M.Tech.	CEVITS
376	2202106003	Hrishikesh Satish Meshram	M.Tech.	CEVITS
377	2202106005	Pavan Kumar Mangiri	M.Tech.	CEVITS
378	2202121001	Sudhanshu Gavade	M.Tech.	AASE
379	2202121003	Anjali Patel	M.Tech.	AASE
380	2202121004	Kundan Sahu	M.Tech.	AASE
381	2202121005	Gautam Arora	M.Tech.	AASE
382	2102103011	Tanuj Vishwakarma	M.Tech.	ME
383	2203121002	Sparsh Arya	M.Sc.	AASE
384	2203121003	A Aditya	M.Sc.	AASE
385	2203121004	Praneeth Avasarala	M.Sc.	AASE
386	2203121005	G Akash	M.Sc.	AASE
387	2203121006	Krishangi Kashyap	M.Sc.	AASE
388	2203121007	Sheetal	M.Sc.	AASE
389	2203121008	Sanjay Kumar Yadav	M.Sc.	AASE
390	2203121010	Ashad Ahmad	M.Sc.	AASE
391	2203121011	Hemanth Potluri	M.Sc.	AASE
392	2203121012	Tiasha Biswas	M.Sc.	AASE
393	2203131001	Chiranjeeb Kundu	M.Sc.	Chemistry
394	2203131002	Rahul Kumar Sharma	M.Sc.	Chemistry
395	2203131003	Sneha Niteshbhai Rathwa	M.Sc.	Chemistry
396	2203131004	Souptik Pandit	M.Sc.	Chemistry

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397	2203131005	Nabanita Dey	M.Sc.	Chemistry
398	2203131006	Manavi Rajan	M.Sc.	Chemistry
399	2203131008	Shishupal Kushwah	M.Sc.	Chemistry
400	2203131009	Sudipta Parua	M.Sc.	Chemistry
401	2203131010	Sachin Vishwakarma	M.Sc.	Chemistry
402	2203131011	Sourav Samanta	M.Sc.	Chemistry
403	2203131012	Trivedi Samarth Himanshu	M.Sc.	Chemistry
404	2203131013	Bhusan Jyoti Borah	M.Sc.	Chemistry
405	2203131014	Ashish Bora	M.Sc.	Chemistry
406	2203131016	Riya Sehrawat	M.Sc.	Chemistry
407	2203131017	Sudhanshu Sekhar Majhi	M.Sc.	Chemistry
408	2203131018	Ajay Kumar Meena	M.Sc.	Chemistry
409	2203131020	Supratim Ghosh	M.Sc.	Chemistry
410	2203131021	Aayushi Biyani	M.Sc.	Chemistry
411	2203131022	Abhradip Mallik	M.Sc.	Chemistry
412	2203131023	Sandeep Kumar Pandit	M.Sc.	Chemistry
413	2203131024	Prince Kumar	M.Sc.	Chemistry
414	2203131025	Shreya Tyagi	M.Sc.	Chemistry
415	2203131026	Raghunath Polai	M.Sc.	Chemistry
416	2203131027	Chandani Maurya	M.Sc.	Chemistry
417	2203131029	Khushwant Saini	M.Sc.	Chemistry
418	2203141001	Rahul Kumar Sharma	M.Sc.	Mathematics
419	2203141002	Vipin	M.Sc.	Mathematics
420	2203141003	Rinku Meena	M.Sc.	Mathematics
421	2203141004	Saumya Tripathi	M.Sc.	Mathematics
422	2203141005	Nishi Thakur	M.Sc.	Mathematics
423	2203141006	Pragya Singh	M.Sc.	Mathematics
424	2203141008	Yashovardhan Singh Gautam	M.Sc.	Mathematics
425	2203141009	Madhurima Das	M.Sc.	Mathematics
426	2203141010	Leela Krishna Prasad Annamreddi	M.Sc.	Mathematics
427	2203141012	Shubham Babasaheb Alte	M.Sc.	Mathematics
428	2203141013	Kanchan Singh	M.Sc.	Mathematics
429	2203141014	Ishita Agrawal	M.Sc.	Mathematics
430	2203141015	Uttam Kumar Dolai	M.Sc.	Mathematics
431	2203141016	Akash Bhople	M.Sc.	Mathematics
432	2203141017	Mohit Kumar Chaubey	M.Sc.	Mathematics

S. No.	Roll No.	Student's Name	Program	Department
433	2203141018	Suman Mondal	M.Sc.	Mathematics
434	2203141019	Madhu	M.Sc.	Mathematics
435	2203141020	Kevin Tirkey	M.Sc.	Mathematics
436	2103151019	Palzor Lepcha	M.Sc.	Physics
437	2203151001	Naveen Sharma	M.Sc.	Physics
438	2203151002	Partha Pratim Das	M.Sc.	Physics
439	2203151003	Vishal	M.Sc.	Physics
440	2203151004	Deepak Sain	M.Sc.	Physics
441	2203151006	Gowri Shanker M	M.Sc.	Physics
442	2203151008	Ajoy Dawn	M.Sc.	Physics
443	2203151009	Subhrojyoti Bhattacharya	M.Sc.	Physics
444	2203151010	Kashish	M.Sc.	Physics
445	2203151011	Prithwiraj Ganguly	M.Sc.	Physics
446	2203151012	Sunny Kumar Keshri	M.Sc.	Physics
447	2203151013	Kashika Khatri	M.Sc.	Physics
448	2203151014	Yukta Sharma	M.Sc.	Physics
449	2203151015	Sanju Kumari Nehra	M.Sc.	Physics
450	2203151016	Rohit Kaundal	M.Sc.	Physics
451	2203151017	Md Sahid Ahmed	M.Sc.	Physics
452	2203151018	Sahil Rawat	M.Sc.	Physics
453	2203151019	Santanu Pradhan	M.Sc.	Physics
454	2203151020	Shubhranshu Dwivedi	M.Sc.	Physics
455	2203151022	Manjeet Kumar	M.Sc.	Physics
456	2203151023	Shobhit Kushwaha	M.Sc.	Physics
457	2203151025	Bivek Ranjan Pahi	M.Sc.	Physics
458	2203151026	Praveen Kumar Kairamkonda	M.Sc.	Physics
459	2203151027	Shivansh Raj Pandey	M.Sc.	Physics
460	2203151030	Harshit Joshi	M.Sc.	Physics
461	2203171001	Harshita Samaur	M.Sc.	BSBE
462	2203171002	Simran	M.Sc.	BSBE
463	2203171004	Ritika Sharma	M.Sc.	BSBE
464	2203171005	Moumita Pal	M.Sc.	BSBE
465	2203171008	Bidisha Choudhury	M.Sc.	BSBE
466	2203171009	Kanav Gupta	M.Sc.	BSBE
467	2203171010	Trupti U Rathod	M.Sc.	BSBE
468	2203171011	Vaja Shivani Bharatbhai	M.Sc.	BSBE

S. No.	Roll No.	Student's Name	Program	Department
469	2203171012	Mohini	M.Sc.	BSBE
470	2203171015	Mallar Dasgupta	M.Sc.	BSBE
471	2203171016	Dhwani Thakkar	M.Sc.	BSBE
472	2203171017	Swagata Lakshmi Dhali	M.Sc.	BSBE
473	2203171019	Sukanya Samanta	M.Sc.	BSBE
474	2203171021	Vibha Choudhary	M.Sc.	BSBE
475	2203171022	Diksha Baldeo Madavi	M.Sc.	BSBE
476	2203171023	Shivmuni Sarup	M.Sc.	BSBE
477	2204103008	Rabadiya Ridhamkumar Ashvinbhai	MS (Research)	ME
478	2204161005	Nimisha Tiwari	MS (Research)	SHSS
479	2104101002	Deepak Prasad	MS (Research)	CSE
480	2104101011	Mithun Singh	MS (Research)	CSE
481	2104101013	Ananya Roy	MS (Research)	CSE
482	2104101014	Shibani Das	MS (Research)	CSE
483	2104102001	Deshpande Aakash Ashutosh	MS (Research)	EE
484	2104102002	Nisarg Hirens Purabiarao	MS (Research)	EE
485	2104102003	Vaibhav Mishra	MS (Research)	EE
486	2104102006	Nikhil Kaler	MS (Research)	EE
487	2104102007	Ratnesh Kumar	MS (Research)	EE
488	2104102009	Ashar Neha Sunil Sonal	MS (Research)	EE
489	2104103001	Pradunmya Pran Dutta	MS (Research)	ME
490	2104103003	Prakhar Dubey	MS (Research)	ME
491	2104103005	Rade Vedant Bhushan	MS (Research)	ME
492	2104103006	Savaniya Kaushikkumar Parsotambhai	MS (Research)	ME
493	2104121003	Nitig Singh	MS (Research)	SSE
494	2104121004	Manish Kumar Mawatwal	MS (Research)	SSE
495	2104121005	Chavakula Subhasri	MS (Research)	SSE
496	2104161003	Arpita Das	MS (Research)	SHSS
497	2104107004	Abhijeet Anand	MS-DSM	MS-DSM
498	2104107005	Abhisek Sahoo	MS-DSM	MS-DSM
499	2104107006	Abhishek Prakash	MS-DSM	MS-DSM
500	2104107007	Abhishek Sinha	MS-DSM	MS-DSM
501	2104107009	Ameya Deshpande	MS-DSM	MS-DSM
502	2104107010	Anish Nandi	MS-DSM	MS-DSM
503	2104107012	Arpit Patodi	MS-DSM	MS-DSM
504	2104107013	Aryaman Biswas	MS-DSM	MS-DSM

S. No.	Roll No.	Student's Name	Program	Department
505	2104107014	Ashish Ranjan	MS-DSM	MS-DSM
506	2104107015	Avik Majumdar	MS-DSM	MS-DSM
507	2104107016	Chaithanya Unnikrishnan	MS-DSM	MS-DSM
508	2104107017	Divyansh Gadwal	MS-DSM	MS-DSM
509	2104107020	Katuri Sriram	MS-DSM	MS-DSM
510	2104107022	Mary Seffy K S	MS-DSM	MS-DSM
511	2104107025	Nikita Misra	MS-DSM	MS-DSM
512	2104107026	Pankaj Kumar	MS-DSM	MS-DSM
513	2104107027	Peyush Gautam	MS-DSM	MS-DSM
514	2104107028	Prajna Paramita Dash	MS-DSM	MS-DSM
515	2104107029	Ramaswamy Gnaniar	MS-DSM	MS-DSM
516	2104107030	Risabh Mishra	MS-DSM	MS-DSM
517	2104107031	Sebastian P S	MS-DSM	MS-DSM
518	2104107033	Shourjya Bhattarcharjee	MS-DSM	MS-DSM
519	2104107034	Shubham Saxena	MS-DSM	MS-DSM
520	2104107036	Treasa Rejo	MS-DSM	MS-DSM
521	2104107037	V Anand Sai	MS-DSM	MS-DSM
522	2104107038	Vaibhav Sharma	MS-DSM	MS-DSM
523	2104107039	Veenus Yadav	MS-DSM	MS-DSM
524	2104107040	Vibhu Jindal	MS-DSM	MS-DSM
525	2104107041	Vishrut Kulkarni	MS-DSM	MS-DSM
526	2104107042	Kamal Hotwani	MS-DSM	MS-DSM
527	2104107043	Raveesh Pande	MS-DSM	MS-DSM
528	2104107044	Souvik Sahu	MS-DSM	MS-DSM
529	2104107001	Aakriti Sunderum	MS-DSM	MS-DSM
530	2104107024	Monika Petwal	MS-DSM	MS-DSM
531	2204107001	A. Visshal	MS-DSM	MS-DSM
532	2204107002	Aarohan Rawat	MS-DSM	MS-DSM
533	2204107003	Abhinav Bardiya	MS-DSM	MS-DSM
534	2204107004	Abhishek Dubey	MS-DSM	MS-DSM
535	2204107005	Adarsh Wase	MS-DSM	MS-DSM
536	2204107006	Adith Vairavan	MS-DSM	MS-DSM
537	2204107009	Amit A Bhalerao	MS-DSM	MS-DSM
538	2204107010	Amit Gupta	MS-DSM	MS-DSM
539	2204107011	Ankit Chopra	MS-DSM	MS-DSM
540	2204107012	Apeksha Rustagi	MS-DSM	MS-DSM

S. No.	Roll No.	Student's Name	Program	Department
541	2204107013	Arpit Patel	MS-DSM	MS-DSM
542	2204107014	Ashish Joshi	MS-DSM	MS-DSM
543	2204107015	Deep Samir Shah	MS-DSM	MS-DSM
544	2204107016	Deo Shankar	MS-DSM	MS-DSM
545	2204107017	Dev Nandan Sarkar	MS-DSM	MS-DSM
546	2204107018	Dhrubo Jyoti Ghosh	MS-DSM	MS-DSM
547	2204107020	Divyansh Dubey	MS-DSM	MS-DSM
548	2204107021	Gaurav Gayawar	MS-DSM	MS-DSM
549	2204107022	Ghanashyam B Chakravarthi	MS-DSM	MS-DSM
550	2204107023	Goutam Panigrahi	MS-DSM	MS-DSM
551	2204107024	Harsh Vaibhav	MS-DSM	MS-DSM
552	2204107025	Karthik Babu Nambiar	MS-DSM	MS-DSM
553	2204107026	Kashish Nigam	MS-DSM	MS-DSM
554	2204107027	Kategaru Sri Sai Krishna	MS-DSM	MS-DSM
555	2204107028	Kondagunta Srividya	MS-DSM	MS-DSM
556	2204107029	Manish Kunkana	MS-DSM	MS-DSM
557	2204107030	Mitra Roy	MS-DSM	MS-DSM
558	2204107031	Mohana Murali Y K	MS-DSM	MS-DSM
559	2204107032	Mrityunjoy Deka	MS-DSM	MS-DSM
560	2204107033	Mudit Shah	MS-DSM	MS-DSM
561	2204107034	Piyush Joshi	MS-DSM	MS-DSM
562	2204107035	Ravish Rohit	MS-DSM	MS-DSM
563	2204107036	Reetu Shrivastava	MS-DSM	MS-DSM
564	2204107037	Ritika	MS-DSM	MS-DSM
565	2204107038	Saheen V S	MS-DSM	MS-DSM
566	2204107039	Satyavolu I Srikanth Krishna Sameer	MS-DSM	MS-DSM
567	2204107040	Sanjeev Kumar Swarnkar	MS-DSM	MS-DSM
568	2204107041	Satya Subrahmanyam Ganti	MS-DSM	MS-DSM
569	2204107042	Shantanu Dubey	MS-DSM	MS-DSM
570	2204107043	Shivnandani Garg	MS-DSM	MS-DSM
571	2204107044	Shreeya Nagar	MS-DSM	MS-DSM
572	2204107045	Shreyash Nandkishor Shirbhate	MS-DSM	MS-DSM
573	2204107046	Siva Shankar Selvarajan	MS-DSM	MS-DSM
574	2204107047	Sudeep Nigam	MS-DSM	MS-DSM
575	2204107048	Suraj Shailendra Sugandhi	MS-DSM	MS-DSM
576	2204107049	Tejaswita Srivastava	MS-DSM	MS-DSM

S. No.	Roll No.	Student's Name	Program	Department
577	2204107050	Vaibhav Khanna	MS-DSM	MS-DSM
578	2204107051	Vidhi Vaish	MS-DSM	MS-DSM
579	2204107052	Sheldon Mascarenhas	MS-DSM	MS-DSM
580	2204107007	Akash Yadav	MS-DSM	MS-DSM
581	1901121006	Gourab Giri	PhD	AASE
582	1901121007	Arghyadeep Paul	PhD	AASE
583	1701121001	Naga Vijaya Deepthi A	PhD	AASE
584	1801121003	Sayan Kundu	PhD	AASE
585	1801121006	Sarvesh Mangla	PhD	AASE
586	1801121004	Parul Janagal	PhD	AASE
587	1801121007	Akriti Sinha	PhD	AASE
588	1501271009	Ankit Jaiswal	PhD	BSBE
589	1701171015	Kanchan Samadhiya	PhD	BSBE
590	1801271003	Budhadev Baral	PhD	BSBE
591	1801171001	Satyam Singh	PhD	BSBE
592	1801171004	Vasundhara Rathore	PhD	BSBE
593	1901204004	Anshul Kaushik	PhD	CE
594	1901204003	Gyanesh Patnaik	PhD	CE
595	1901204009	Shivam Singh	PhD	CE
596	1901204002	Mukul Saxena	PhD	CE
597	1901204010	Nikhil Kumar	PhD	CE
598	2001204003	Monika Dagliya	PhD	CE
599	1801204004	Sanchit Gupta	PhD	CE
600	1701131016	Manju	PhD	Chemistry
601	1801131008	Deepak Kumar Krishnan Kori	PhD	Chemistry
602	1801131013	Reena	PhD	Chemistry
603	1801131014	Bhawna	PhD	Chemistry
604	1801131004	Arunendu Das	PhD	Chemistry
605	1801131011	Meher Prakash	PhD	Chemistry
606	1801131007	Sandeep Das	PhD	Chemistry
607	1801131018	Neha Choudhary	PhD	Chemistry
608	1801131009	Pragti	PhD	Chemistry
609	1701131019	Indresh Singh Yadav	PhD	Chemistry
610	1801231003	Ankit Kumar	PhD	Chemistry
611	1801231006	Surya Sekhar Manna	PhD	Chemistry
612	1801231005	Bhanu Priya	PhD	Chemistry

S. No.	Roll No.	Student's Name	Program	Department
613	2001201005	Rahul Chaurasia	PhD	CSE
614	1801201003	Suchitra Agrawal	PhD	CSE
615	1701101005	Arun Kumar	PhD	CSE
616	1801201001	Priyanka Joshi	PhD	CSE
617	1901102004	Narendra Vishwakarma	PhD	EE
618	1901102018	Sandeep Semwal	PhD	EE
619	1701202006	Ruchi Singh	PhD	EE
620	1901102015	Sumanta Kumar Nanda	PhD	EE
621	1501102005	Ravi Kumar	PhD	EE
622	1901102003	Suhel Khan	PhD	EE
623	1901102013	Abhinav Singh Parihar	PhD	EE
624	1901102011	Singh Maharana Pratap	PhD	EE
625	1901102009	Chandrabhan Patel	PhD	EE
626	1901102017	Deepak Kumar	PhD	EE
627	1801241003	Ashwani Kumar Malik	PhD	Mathematics
628	2001141002	Dipendu Pramanik	PhD	Mathematics
629	1801103003	Pankaj Kumar	PhD	ME
630	1501103005	Deshmukh Suchit Ashokrao	PhD	ME
631	1701203007	Shahid Hussain	PhD	ME
632	2006103002	Janmejai Sharma	MTPhD	ME
633	1801103007	Anupam Kumar	PhD	ME
634	1601161003	Aparna Sharma	PhD	SHSS
635	1901203002	Anshu Sahu	PhD	ME
636	1806103001	Vivek Rana	MTPhD	ME
637	1601103002	Dada Saheb Ramteke	PhD	ME
638	1701203002	Subhash Keshav Nevhal	PhD	ME
639	1801103005	Anas Ullah Khan	PhD	ME
640	1701203009	Shruti Baghel	PhD	ME
641	1901203008	Pawan Sharma	PhD	ME
642	2001103005	Pradeep Kumar Singh	PhD	ME
643	1801205006	Yeeshu Kumar	PhD	MEMS
644	1701205012	Sarathkumar K	PhD	MEMS
645	1801205002	Mulani Sameena Rapphik	PhD	MEMS
646	1901105009	Shrish Nath Upadhyay	PhD	MEMS
647	1801205003	Nilima Sinha	PhD	MEMS
648	2006105002	Manish Badole	MTPhD	MEMS

S. No.	Roll No.	Student's Name	Program	Department
649	1906105001	Santosh Bimli	MTPhD	MEMS
650	1906105002	Vikesh Kumar	MTPhD	MEMS
651	1807151002	Ekta Yadav	MSCPhD	Physics
652	1901151013	Omkar Vishnu Rambadey	PhD	Physics
653	1901151022	Suchita Kandpal	PhD	Physics
654	1801251002	Tanu Raghav	PhD	Physics
655	1901151021	Dushmanta Sahu	PhD	Physics
656	1701161001	Salla Nithyanth Kumar	PhD	SHSS
657	1701161002	Alinda George	PhD	SHSS
658	1901261002	Prasanta Patri	PhD	SHSS
659	1901261006	Justy Joseph	PhD	SHSS
660	200001054	Nischit Hosamani	B.Tech.	CSE
661	200005011	Chetana Dharavathu	B.Tech.	CSE
662	200003017	Atram Bhanu Prakash	B.Tech.	ME
663	200003043	Lakshya Vedik	B.Tech.	ME
664	200003077	Telugumalla Hanok Stacy Herold	B.Tech.	ME
665	200005030	Prakhar Gautam	B.Tech.	MEMS
666	2203121009	Kunal Thapar	M.Sc.	AASE
667	2203141007	Chhavi Devi	M.Sc.	Mathematics
668	2203151029	Nilesh Tungaria	M.Sc.	Physics
669	2204101002	Drishti Sharma	MS (R)	CSE
670	2204103006	Kapadiya Zenkumar Ashvinbhai	MS (R)	ME
671	2204103009	Harsh Vardhan Singh	MS (R)	ME
672	1801241004	Pranav Kumar	Ph.D.	Mathematics
673	1501101003	Gyan Prakash Tiwary	PhD	CSE

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 raking 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 acdemics, 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 the growth of the Institute and pave the way for more global recognitions in future.

Faculty Affairs

The 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 Prof. Abhishek Srivastava, Dean of Faculty Affairs, assisted by Prof. Amod C. Umarikar - Associate Dean; Mr. Rajan Thomas - Assistant Registrar; Mr. Sunil Sawle – Section Officer; Mr. Shishir Kumar – Junior Hindi Translator, Mr. Sunny Namdev – Senior Assistant and Ms. Pinaz Daniel – PA to DOFA.

This office enables the following tasks:

a) Conduct of recruitment drive and appointment of permanent/contractual/ visiting/ distinguished/emeritus faculty members in various departments.
b) Joining formalities of newly joined faculty members.
c) Maintenance of Service Records and Personal Files of faculty members.
d) Processing of all service matters, including pay revision, upgradation, and conversion, leave, LTC, dependent list, deputation, annual increment, extension of tenure for contractual appointments, confirmation, NPS, etc.
e) Regular updation of service details.
f) Providing responses to MHRD / RTI Queries and Lok Sabha / Rajya Sabha questionnaires.

Some of the major works undertaken during the year 2023-24 are as follows:

a) Conduct of Special Recruitment Drives for Reserved category candidates.
b) Development of a Faculty Application Portal for New Recruitment.
c) Formulation of various policies for standardization of rules and procedures.
d) Streamlining the joining formalities to ensure minimal movement and faster adaptation of the newly joined member to the new environment.
f) Reduced paperwork and approval through emails.
g) Timely provision of LTC to faculty members.
h) Facilitating accommodation arrangements for new faculties outside the IITI Campus.

Faculty positions filled as of June 2024:

Designation	Strength
Professor	70
Associate Professor	41
Assistant Professor Grade-I	79
Assistant Professor Grade-II	22
Total	**212**

The number of faculty members who joined service at IIT Indore during the year 2023-24 is 29, and the details are as follows:

Designation	Strength
Assistant Professor Grade I	09
Assistant Professor Grade II	20
Total	**29**

A total of 23 faculty members were upgraded to Professor (13) and Associate Professor (10), and 14 APG II converted to APG I.

1. Dr Neeraj Mishra, Associate Professor, Department of Humanities & Social Sciences, was relieved on 15th July 2023.

2. Dr. Soumen Ghosh, Assistant Professor, Department of Chemistry, was relieved on 27th Oct 2023.
3. Dr. Subhrangsu Mandal, Assistant Professor, Department of Computer Science & Engineering, was relieved on 29th Dec 2023.

Recognition and Awards

Best Research Paper Award 2024

The details are as follows:

Title of the Research Paper	Author(s)
Sustainable organic photocatalysis for Site-Selective hydrazo coupling of Electron-Rich arenes	Das, B., Sahoo, S. K., Das, A., Pathak, B., & Sarkar, D. (the groups of Prof. Biswarup Pathak and Dr. Debayan Sarkar)
Sulfonamide as photoinduced hydrogen atom transfer catalyst for organophotoredox hydrosilylation and hydrogermylation of activated alkenes.	Bajya, K. R., Kumar, M., Ansari, A., & Selvakumar, S. (the group of Dr. S. Selvakumar)
Safety assessment of underground steel pipelines with CFRP protection against subsurface blast loading.	Patnaik, G., & Rajput, A. (the group of Dr. Abhishek Rajput)
UNFOLD: 3-D U-Net, 3-D CNN, and 3-D Transformer-Based Hyperspectral Image Denoising	Dixit, A. K. Gupta, P. Gupta, S. Srivastava and A. Garg (the group of Dr. Puneet Gupta)
Development of a Compact, Cost- Ecective Photoacoustic Spectral Response measurement system for Biomedical Applications.	Khan, S., Vasudevan, S., Maurya, M. K., & Al-Ansari, A. M. (the group of Prof. S. Vasudevan)
AFIBRI-NET: a lightweight convolution neural network based atrial fibrillation detector	Phukan, N., Manikandan, M. S., & Pachori, R. B. (the group of Prof. R. B. Pachori)
Digital Cartography and Feminist Geocriticism: A case study of the Marichjhapi massacre.	Justin, J., & Menon, N. (2023). (the group of Prof. Nirmala Menon)
On starlikeness of regular Coulomb wave functions.	Baricz, Á., Kumar, P., & Singh, S. (the group of Dr. Sanjeev Singh)
Parametric Investigation on laser annealing of polyimide on improving the characteristics of NiTi SMA-based bimorph towards the development of microactuators.	Gangwar, K., Gupta, D., & Anand, P. I. (the group of Prof. I. A. Palani)
Platinum-adsorbed defective 2D monolayer boron nitride: a promising electrocatalyst for O2 reduction reaction.	Yadav, L., & Pakhira, S. (2023). (the group of Dr. Srimanta Pakhira)
Energy flow in ultra-high energy cosmic ray interactions as a probe of thermalization: A potential solution to the muon puzzle.	Scaria, R., Deb, S., Singh, C. R., & Sahoo, R. (the group of Prof. Raghunath Sahoo)










Administration Section and Recruitment Cell

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

The office administers the responsibilities as outlined below.

a) Conduct the recruitment process and appointment of permanent / contractual / Outsourced staff members.

b) Joining formalities for staff members.

c) Maintenance of service records and staff members' personal files.

d) Processing of all service matters, including pay, promotion, leave, LTC, dependent list, deputation, annual increment, extension of tenure for contractual appointments, confirmation, etc.

e) Submission of responses to MoE / RTI Queries and Lok Sabha / Rajya Sabha questionnaires.

f) Monitoring and redressal of grievances received on CPGRAMS and at the Institute Grievance Cell.

g) Coordination for the functioning of KV IIT Indore and the Institute Creche Facility.

Non-Teaching Staff positions as of June 30, 2024:

Group 'A'	32
Group 'B'	54
Group 'C'	89

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

Sl. No.	Title of Awareness Session	Trainer/ Instructor	Date / Period of Training	Participants	Session Objectives
1	Cyber Security	Shri Jitendra Singh, Superintendent of Police, Cyber Security Cell, Indore	06-11-2023	All non-teaching staff members	Cyber Security and Vigilance Awareness
2	FLY Training Program by CMI (USA), Mumbai Branch	Ms. Uma Oza, Dr Viraz Vora and Mr Sourabh Banerjee	02-12-2023 to 05-12-2023	Non-Teaching Staff member (68 members)	Training program for non-teaching staff members for the development of leadership and soft skills
3	Gender Sensitization	Advocate Kirti Patwardhan	31-01-2024	All non-teaching staff members	Awareness regarding Gender Sensitization and desirable behavioral traits at workplaces

4	Canara Payroll Package and Insurance Schemes	Canara Payroll Package and Insurance Schemes	15-04-2024	All non-teaching staff members	Awareness Session on Canara Payroll Package with embedded features of Accidental and Health Insurance Schemes for Social Security cover
5	Sustainable living	Dr. Janak Palta Mc Gilligan and Dr. Ajay Chandak	16-04-2024	All employees, students, and family members, including KV Students	To create awareness about sustainable living and the preservation of the environment and natural resources

Highlights/ Achievements of the Administration Section and Recruitment Cell

1. The Recruitment and Promotion Policy (2018) has been in operation for five years; hence, a need was felt to review the different aspects of the existing RPN commensurate with the Institute's growth across various academic and research paradigms. A committee was constituted to review the existing RPN and prepare an updated and comprehensive Recruitment and Promotion Policy 2024 that can serve the interests of the non-teaching staff members and contribute to the holistic excellence of IIT Indore. Accordingly, the draft RPP-2024 was prepared and was recommended by the BoG in its meeting held on May 30, 2024, for approval by the MoE.
2. During the year, under mission mode recruitment, the Institute recruited 71 employees through direct recruitment, and 12 employees were promoted through the Departmental Promotion Committee (DPC).
3. The recruitment portal was automated with upgraded features to facilitate a faster recruitment process at the Institute.
4. The processing and submission of Land Acquisition documents for the proposed Deep-Tech Research and Development Centre (DRDC) at Ujjain was defined.
5. The coordination with District Administration, Indore, for the adoption of Govt. Middle School Gajinda was established to extend academic and infrastructure support for societal transformation under the Educational Outreach Program.
6. The empanelment of 9 reputed hospitals and diagnostic centers of Indore for two years at CGHS Rates to provide the best healthcare facilities to the IIT Indore community was complete. More reputed Hospitals will soon be empaneled.
7. A total of 24 Junior Attendants (Multi-Skilled) have been covered with the Health Plus Accidental Insurance of Indian Post Payments Bank (IPPB) for one year with the voluntary contribution of the premium amount by the senior members.
8. The Automation of Leave and Leave Travel Concession (LTC) through the HRMS portal is now in place. Regular non-teaching staff members can apply for leave, joining, and LTC online.

EXCELLENCE AWARDS FOR NON-TEACHING STAFF MEMBERS - 2024

S. No.	Institute Awards 2024 (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)	Mr. Neeraj Kumar, Assistant Registrar
2	Outstanding Performance by Junior Non-Teaching Staff Member (Group B and C)	1. Mr. Nitin Parashar, Senior Assistant 2. Mr. Harshraj Singh Chouhan, Junior Assistant 3. Mr. Amit Kumar, Junior Assistant
3	Outstanding Performance by Technical Staff Member	1. Mr. Pranjal Shrimali, Junior Lab Assistant 2. Mr. Arif Patel, Junior Lab Assistant
4	Outstanding Performance by Supporting Staff Member	1. Mr. Luwkush Yadav, Attendant 2. Mr. Bhupendra Kher, HVAC Technician








Finance and Accounts

2.1 The year 2023-24 is characterized by the following Income and Expenditure:

(` in crores)

S. No.	Particulars	2023-2024 Current Year
1	**INCOME**	
1.1.	Grants	162.30
1.2.	Academic Receipts	44.17
1.3.	Income from Investment	0.00
1.4.	Interest Earned	17.47
1.5.	Other Income	2.48
1.6.	**Total of 1**	**226.42**
2	**EXPENDITURE**	
2.1.	Staff Payments & Benefits	90.71
2.2.	Academic Expenses	30.28
2.3.	Administrative & General Expenses	30.41
2.4.	Transportation Expenses	0.79
2.5.	Repairs and Maintenance	10.12
2.6.	Depreciation	45.47
2.7.	Other Expenses	8.45
2.8.	**Total of 2**	**216.23**
3	**Balance being excess of Income over Expenditure**	**10.19**

2.2 The position relating to the creation of capital assets is as follows:

(` in crores)

S. No.	Particulars	2023-2024		
		HEFA	Other Purpose	Total
2.1	Opening Balance of Grant-in-Aid Plan	25.73	3.33	29.06
2.2	Grant received during the year	40.57	182.77	223.34
2.3	Deficit under OH-35 / OH-31 / OH-36 being added from IRG	0.00	9.27	9.27
2.4	Total funds available at the disposal of the Institute	66.30	195.37	261.67
2.5	Grant utilized for Revenue Expenditure	0.00	154.69	154.69
2.5.1	Interest on Term Loan for HEFA	7.61	0.00	7.61
2.5.2	Repayment of HEFA Loan (75%)	47.12	0.00	47.12
2.6	Plan Grant after adjusting utilization for Income & Expenditure	11.57	40.68	52.25

2.7	Utilized for developing infrastructure, buildings, and works and for equipment and other assets	0.00	40.62	40.62
2.8	Unspent balance as of 31.03.2023	11.57	0.06	11.63

2.3 Funds availability and status of utilization thereof:

During financial year 2023-24, against sanction of Revised Detailed Project Report (DPR) of ` 1,911.12 crores, a sum of ` 223.34 crores (For Recurring & non-recurring Purpose ` 182.77 crores + For HEFA Purpose ` 40.57 crores) were released by the Ministry of Education and Deficit under OH-35/OH-31 are being added from IRG credited to Grant-in-Air ` 9.27 crores. The Internal income of the Institute reckoned during the year was ` 39.14 crores, after adjusting payment of 25% HEFA principal loan from IRG (Institute share) ` 15.71 cores and after considering the unspent balance as of 01.04.24 of ` 11.63 crores.

A sum of ` 40.62 crores has been utilized for the creation of Capital assets and a sum of ` 209.42 cores (For Recurring purpose ` 154.69 crores + For HEFA purpose ` 54.73 crores) (which excludes Depreciation of ` 45.47 crores) was incurred on recurring expenditure out of the grant at the disposal with the Institute. Further Internal Revenue Generation for the year amounting to ` 39.14 crores transferred to Corpus Fund after adjusting repayment of HEFA loan principal amount (25% institute share) and deficit under OH-35/OH-31.

2.4 Reforms, measures, and initiatives undertaken during the year:

During the year under review, the following reforms, measures, and initiatives were initiated by Finance & Accounts:

2.4.1 The Public Finance Management System (PFMS) is a platform for all DBT payments.

2.4.2 The Institute has developed a payment gateway on the IIT Indore website with State Bank of India, Canara Bank, and HDFC Bank Ltd as channel partner banks for the facility.

2.5. Educational assistance for children:

During the financial year 2023-2024, the Institute reimbursed a sum of ` 80,09,684/- to 213 faculty and staff members for educational assistance according to the Government of India norms.

2.6. Transport facilities for staff members:

Transport facilities for students, faculty members, and staff members have been provided for the benefit of the movement of staff from the Institute campus to Indore city at subsidized rates as the IITI Campus is located far away from Indore city.

2.7. Advances:

During the reporting year, a total sum of ` 61.86 lakhs was sanctioned as personal advances for the following:

S. No.	Nature of Advance	No. of Beneficiaries	Amount Sanctioned (in `)	Amount outstanding as of 31.03.2024 (in `)
1	House Building Advance	03	61,86,000	1,44,13,781
2	Car Advance	-	-	54,000
3	Personal computer advance	-	-	2,04,086
		Total	**61,86,000**	**1,46,71,867**

2.8 Insurance:

Group Medical Insurance cover of ` 2.50 lakhs is provided for In-Patient treatment, and Group Personal Accident cover of ` 5.00 lakhs is provided to all students of the Institute. Expenses towards insurance are ` 30,61,824/- during the financial year 2023-24. Outpatient treatment is mainly taken care of internally by the Health Center.

2.09 Fellowships/Scholarships:

2.09.1. To Research Students:

During the financial year 2023-24, the Institute has disbursed Fellowships for the following category of students:

S. No.	Category of Students	No. of Student	Fellowship (Per Month)
01.	Institute Funded through MOE grant-PhD	216	JRF- ` 35,000/- SRF- ` 42,000/-
02.	DST Funded (PhD)	49	
03.	CSIR Funded (PhD)	72	
04.	UGC Funded (PhD)	163	
05.	Institute Funded through MOE grant – MTech	183	` 12,400/-
06.	Institute Funded through MOE grant – MS Research	47	` 12,400/-
07.	DBT – NCCS Pune	5	` 35,000/-

Merit cum Means Scholarship:

The Institute has disbursed ` 5,92,498/- as Merit cum Means Scholarships to BTech & MSc Students who meet the eligibility criteria set by the Institute under various categories.

Remission of Tuition Fees of Socially and Economically Backward Students:

The Institute has Remitted/disbursed ` 7,22,24,292/- as Remission of Tuition fees of undergraduate students of socially and economically backward students admitted in Academic Session 2023-24 as per Ministry of Education letter F. No. 24-2/2016 TS 1 dated April 08, 2016.

Research and Development (R&D)

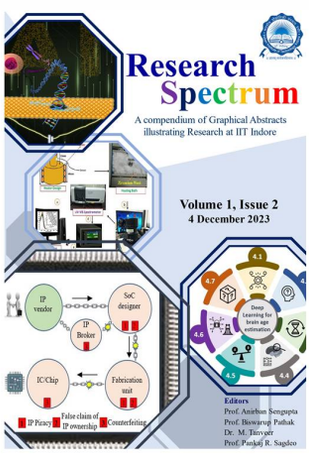
IIT Indore envisages promoting inter-disciplinary research focusing on basic and applied research, technology development, and innovation. This vision has helped the institute excel in all spheres of science, engineering, humanities, and social sciences. A key competence of IIT Indore is in the research-driven academic Program, 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 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 key international projects and joint collaborations with research organizations in Japan, South Korea, the Russian Federation, Portugal, France, Germany, the UK, the USA, and many others.

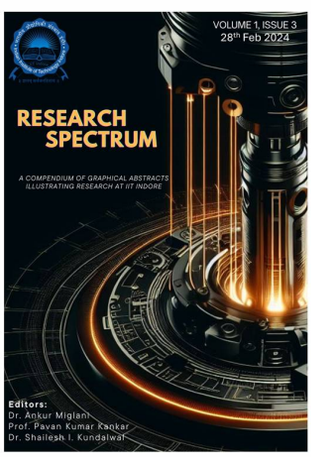
Key Achievements of Research & Development at IIT Indore

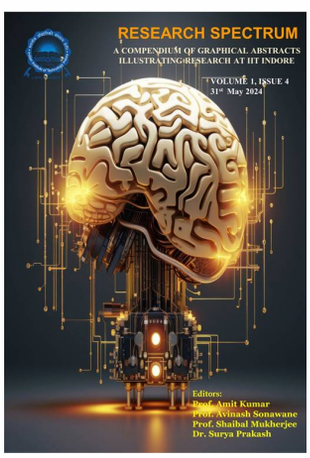
- 617 R&D projects from different funding agencies.
- 423 consulting projects to date.
- Over 7488 reputed publications.
- A high-impact project worth Rs. 6 Cr was sanctioned to the Institute for the Narmada River Basin Management from the Ministry of Jal Shakti.
- 26 national and international conferences and workshops were conducted by the Institute.
- 51 YFRSG (Young Faculty Research Seed Grant) was provided to young faculties of IIT Indore worth Rs. 5 Cr as bridge funding by the institute before the first regular grant from the external funding agencies.
- 6 Dream Lab projects and 5 PRIUS projects provided to young faculties of IIT Indore worth Rs. 50 Lakh by the institute aims to impart high-end research training in cutting-edge research and to work closely with undergraduate students enrolled at IIT Indore.
- 5 international fellows were facilitated by the Institute under different schemes executed by the Federation of Indian Chambers of Commerce and Industry (FICCI) and the Indian National Science Academy (INSA).
- 7 Best Technology & 10 Best Research Paper Awards were provided by the institute to the students

and faculty members with a contingency amount of Rs. 2 Lakh for each award.

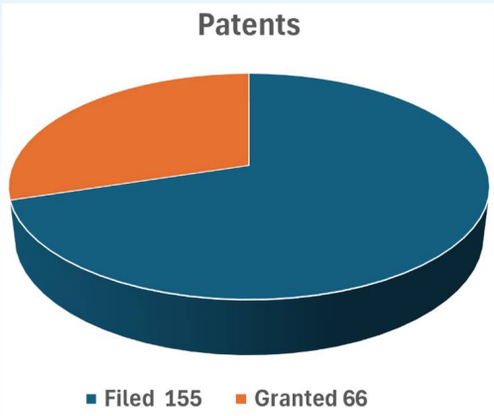
- 6 SPARC projects worth of Rs. 3.6 Cr is being executed by the Institute.
- IIT Indore is selected by the Department of Telecommunication (DoT) to set up one hundred 5G Use case labs to facilitate the development, and experimentation of 5G applications in various socioeconomic verticals.
- The Charak Center for Digital Healthcare is established at IIT Indore to promote translational research in the domain of digital healthcare for India.
- Capacity building programs were conducted by IIT Indore in collaboration with different institutes to facilitate intense hands-on training sessions for preparing candidates for industry-ready technological aspects in Unmanned Aircraft Systems (UAS) SwaYaan (Drone and related Technology) and related areas.
- The IPR Awareness workshop on Research Protection and Dissemination: IPR Fundamentals and Management in Academia was conducted by the Institute.
- The Institute signed an MOU with Larsen & Toubro Limited for the establishment of L&T's smart grid solution center of Excellence, which aims to prepare an Energy Master Plan for IIT Indore and to design graduate-level courses for smart grid.
- The institute secured International funding from the Royal Academy of Engineering, Bright Ice Initiatives (BII) and Healthy Climate Initiatives (HCI), International Society for Neurochemistry (ISN), and International Society for Pediatric and Adolescent Diabetes (ISPAD).
- A quarterly research magazine of IIT Indore, Volume 1 (containing four issues) of Research Spectrum, was released last year. Research Spectrum is a compilation of graphical abstracts of selected research work by the faculty and students of IIT Indore.







- 66 patents have been granted against 155 Filed patents so far, wherein 32 were granted in the financial year 2023-2024.
- 52 IDF applications have been approved 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 up to 25,000/- INR for filing Indian Patent.
- BIS Chair Professor: Prof. Manish Kumar Goyal, Department of Civil Engineering, is appointed as BIS Chair Professor for the Bureau of Indian Standards to develop collaborative activities in the field of Standardization and Conformity Assessment on the basis of equality and reciprocity.
- IPR Chair Professor: Prof. Ruchi Sharma, Professor, School of Humanities and Social Sciences, is appointed as IPR Chair Professor under the Scheme for Pedagogy & Research in IPRs for Holistic Education and Academia (SPRIHA), formulated by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India.



- The Centre for Translation Research (CTR) was established to formalise the translation research ecosystem and extend the commercialization of technology from research to product stage. Given are the achievements of CTR (R&D):
  - 3 technologies have been licensed to industries, 8 technologies are being incubated at IITI-ACE Foundations.
  - 10-15 positions to leverage the TRL of technologies with an annual ceiling of Rs. 01 Crore is sanctioned by the institute for Translation Research Fellowship.
  - 8 Translational Research Fellowships have been awarded to encourage Lab to Land ecosystem.

S. No.	Name of the Inventors/Mentor	Title of the Technology	Domain	Current TRL
1	Mr. Rahul Chaurasia/ Prof. Anirban Sengupta	Design space exploration of secure optimal K-cycle fault tolerant data path processor with embedded encrypted protein molecular biometric during high level synthesis of integrated circuits (ICs)	Hardware Security	05
2	Mr. Gyanesh Patnaik/ Dr. Abhishek Rajput	Multilayer Hybrid Composite Armor System	Material for Defense	03
3	Mr. Chandrabhan Patel/ Prof. Shaibal Mukherjee	IoT enabled Ultrasensitive and Selective Gas Sensor	Smart sensors & Environmental Sustainability	06
4	Mr. Anikeit Sethi/ Prof. Aruna Tiwari	Intelligent surveillance system for Highway using novel deep-learning method	Smart City Infrastructure	04
5	Mr. Sanchit Gupta/ Prof. Sandeep Chaudhary	GOBAiR – a novel cow dung based foaming agent for developing sustainable light weight construction materials	Smart City Infrastructure & Environmental Sustainability	04
6	Mr. Mayank Kumar Singh/ Dr. Dhirendra K. Rai	Design and Development of Hybrid Sodium-Ion Capacitor for Electrochemical Energy Storage Applications	Battery, Energy Storage	03

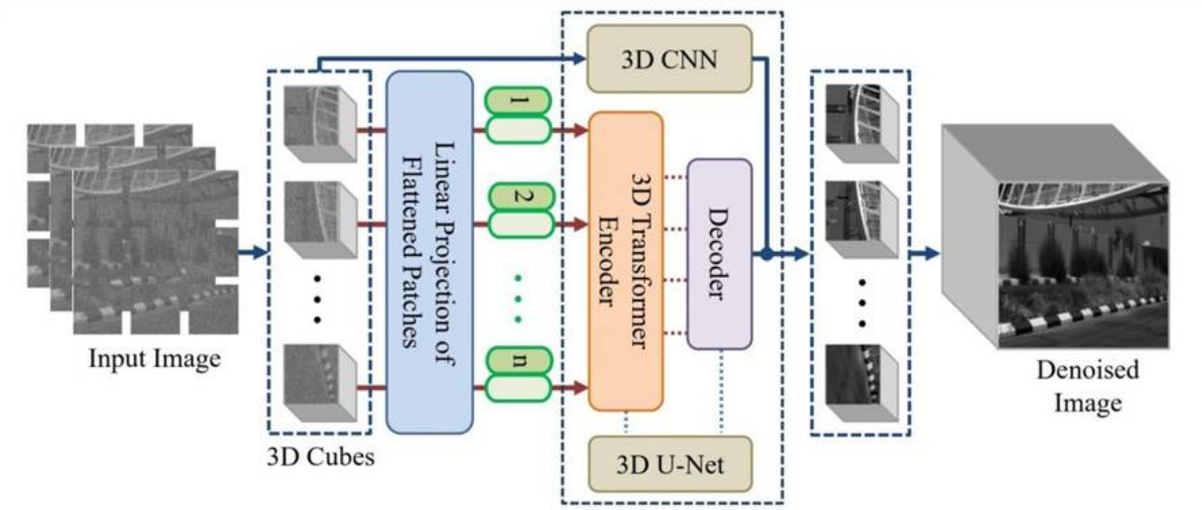
7	Mr. Rahul Dev Mishra / Prof. Mukesh Kumar	Nanophotonic Devices for Switching and Sensing Applications	Smart sensors	03
8	Mr. Milan Jena / Prof. Biswarup Pathak	Development of an Artificially Intelligent (AI) Nanopore for Rapid DNA Sequencing	Artificial Intelligence based sequencing	03

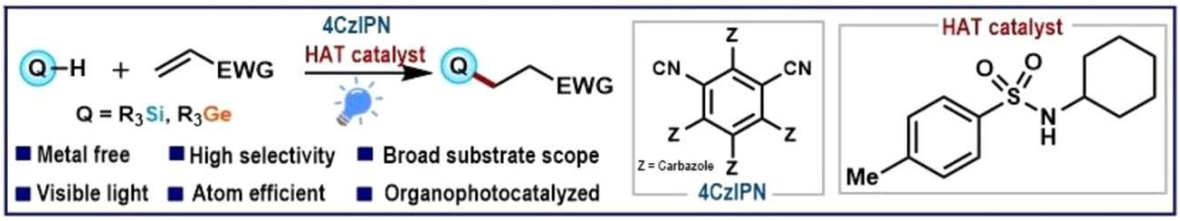
- *'A Handbook of Ideas, Innovations and Technologies of IIT Indore'* has been released which compiles approximately 140 technologies of IIT Indore in various domains.

- To provide up-scaling support to the faculty for their industry-ready ideas / technology, the Translational Research Up Scaling Scheme (TRUSS) has been launched. Under this scheme, up to Rs 05 Lakhs can be provided for Equipment & Consumables.

Research Work:

- Sustainable organic photocatalysis for Site-Selective hydrazo coupling of Electron-Rich arenes.
- Sulfonamide as photoinduced hydrogen atom transfer catalyst for organophotoredox hydrosilylation and hydrogermylation of activated alkenes.
- Safety assessment of underground steel pipelines with CFRP protection against subsurface blast loading.
- UNFOLD: 3-D U-Net, 3-D CNN, and 3-D Transformer-Based Hyperspectral Image Denoising.
- Development of a Compact, Cost-Ecective Photoacoustic Spectral Response measurement system for Biomedical Applications.
- AFIBRI-NET: a lightweight convolution neural network based atrial fibrillation detector.
- Digital Cartography and Feminist Geocriticism: A case study of the Marichjhapi massacre.
- On starlikeness of regular Coulomb wave functions.
- Parametric Investigation on laser annealing of polyimide on improving the characteristics of NiTi SMA-based bimorph towards the development of microactuators.
- Platinum-adsorbed defective 2D monolayer boron nitride: a promising electrocatalyst for O2 reduction reaction.
- Energy flow in ultra-high energy cosmic ray interactions as a probe of thermalization: A potential solution to the muon puzzle.





Technologies Developed:

- Design space exploration of secure optimal K-cycle fault tolerant data path processor with embedded encrypted protein molecular biometric during high level synthesis of integrated circuits (ICs)

  *Developed 'SOFTDEEP' which is tested and approved by "CAD for Assurance" sponsored by IEEE CEDA, University of Florida (UF), and IEEE HSTTC.

- IoT enabled Ultrasensitive and Selective Gas Sensor

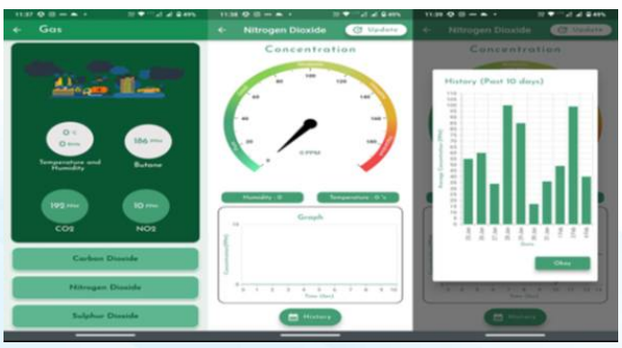
  *Developed technology is being incubated in IITI-ACE foundation in startup 'QuanTech'

- Intelligent surveillance system for Highway using novel deep-learning method

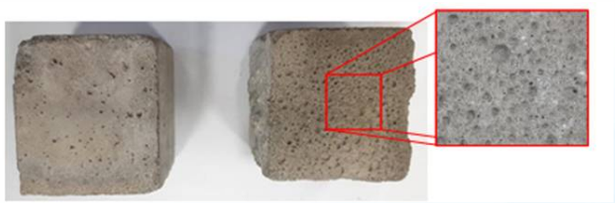
  *Development Software (video Incident Detection system, VIDS) is being tested by Devaditya Technocrats (a company working for NHAI) for the real-time monitoring of Anomaly.

- GOBAiR – a novel cow dung based foaming agent for developing sustainable light weight construction materials

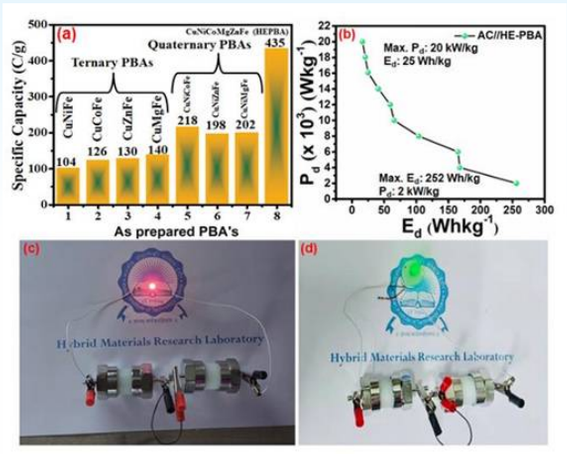
  *With the publicizing of this technology, Industries (viz. Adani cements, Cowlogy, IBITF etc.) have expressed interest in licensing of the technology.



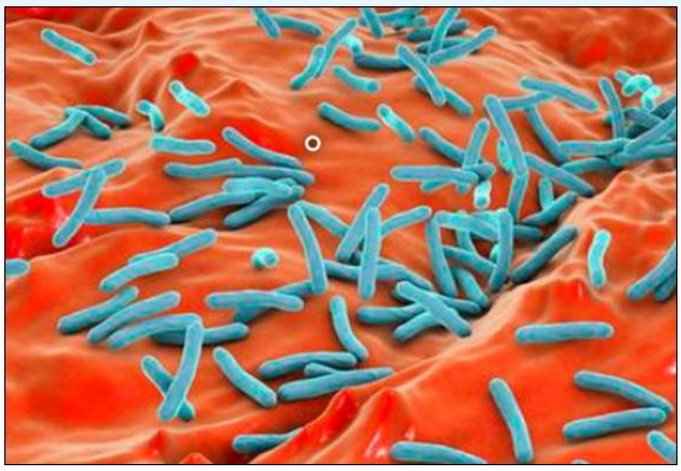
IoT enabled Ultrasensitive and Selective Gas Sensor



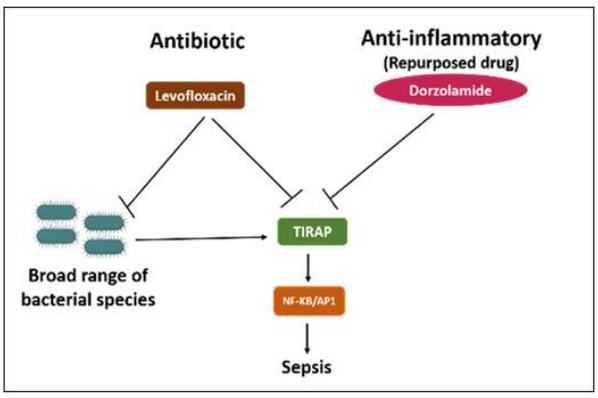
GOBAiR based light weight concrete



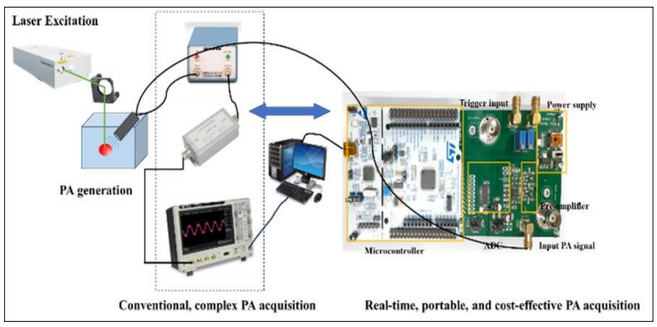
Hybrid Sodium-Ion Capacitor for Electrochemical Energy Storage Applications



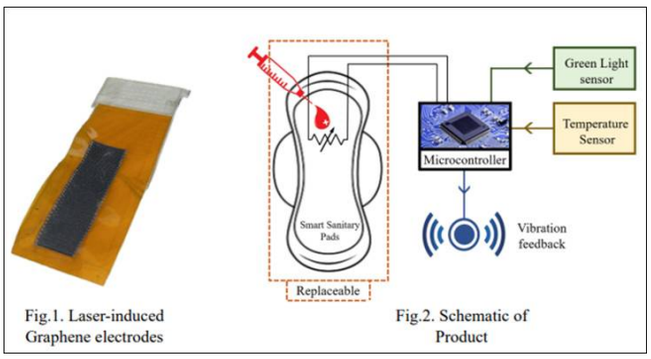
New therapeutic tools for the treatment of tuberculosis and drug resistance tuberculosis



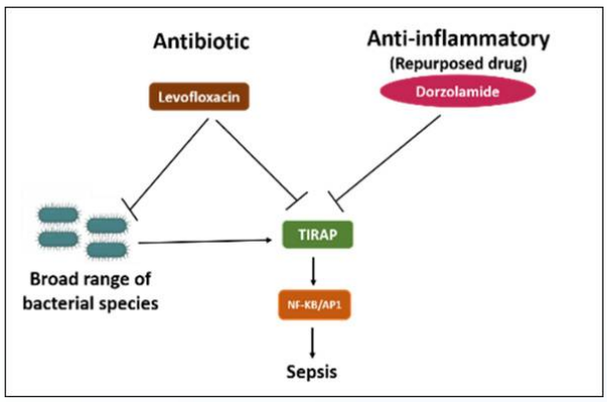
AI Based Soyabean-Seed Viability Sensor for Assessment of Seed-Quality



Fast cancer screening device for early-stage cancer diagnosis, using a quantitative photoacoustic spectral response technique



IoT-enabled smart absorbent material (Laser Induced Graphene) and Sanitary device



A composition for sepsis and method thereof

BEST TECHNOLOGY AWARD - 2024

Title of the Technology	Name of the Inventors/Mentor
Ultrasonic Atomizer-based Fabrication of Silk Nano-particles For Theranostics	Dr. Sharad Gupta, Abhijeet Joshi, Saumya Jaiswal
A composition for sepsis and method there of	Dr. Mirza Baig, Rajat Atre, Rahul Sharma
Delivery of new therapeutic tools for the treatment of tuberculosis and drug resistance tuberculosis	Dr. Chelvam Venkatesh, Prof. Avinash Sonwane, Premansh Dudhe, and Mena Asha Krishna
"IoT-enabled smart absorbent material (Laser Induced Graphene) and Sanitary device	Dr. Palani Iyamperumal Anand, Kailaash Pandiyan, Aditi T, Pragya Singh, Kanishka Goyal, Ayushi Agrawal, D J Mistry
AI Based Soyabean-Seed Viability Sensor for Assessment of Seed-Quality	Prof. Vimal Bhatia
GOBAiR – a novel cow dung-based foaming agent for developing sustainable lightweight construction materials	Prof. Sandeep Chaudhary, Sanchit Gupta
Fast cancer screening device for early-stage cancer diagnosis, using a quantitative photoacoustic spectral response technique	Dr. Srivathsan Vasudevan, Suhel Khan







International Relations

IIT Indore has proven its effectiveness in internationalizing its teaching and research worldwide with partnerships in higher education. IIT Indore is dedicated to offering top-tier research and academic amenities, serving as a hub for technological innovation, and fostering Indian culture, heritage, and languages. To achieve these objectives, the Institute is working with partners across the globe to collaborate on research opportunities and the development of institutions. The Institute aims to create a Centre of Excellence in Cutting-Edge Research Areas. It will serve as a hub that integrates research, education, and practice to address critical problems of today's society.

At present, the Institute has 100+ MoUs signed across the globe, a developed network with 400+ foreign universities, 35+ Bilateral Research Grants with foreign institutes, 200+ International Publications, 80+ GIAN Projects, 28+ Projects SPARC, VAJRA, and ASEM-DUO.

IIT Indore has recently hosted many international students in degree and exchange programs from Russia, Cameroon, Ethiopia, Nepal, and other SAARC & ASEAN, African, and Middle East regions.

Recent collaborations across the globe:

Institution	Country
Institute of Metallurgy and Materials Science of Polish Academy of Sciences (IMMS PAS)	Poland
Taipei Economic and Cultural Centre (TECC) India	Taiwan
University of Windsor	Canada
Nagaoka University of Technology	Japan
Julius-Maxmilians University Würzburg	Germany
Purdue University West Lafayette Indiana USA	USA
The University of Sussex Brighton UK	UK
National Research Lobachevsky State University of Nizhny Novgorod	Russia
German Academic Exchange Service, DAAD (Deutscher Akademischer Austauschdienst)	Germany
Universidade Lusófona (ULusofona)	Pol
Óbuda University, Hungary	Hungary
University of Hradec Králové, Czech Republic	Czechia
and many other world-renowned organizations.	

IIT Indore-International Partners:

German Academic Exchange Service, DAAD
Study In India
Doctoral fellowship in India for ASEAN
Indian Council of Cultural Relations

Nepal Scholarship
Heritage Network
Shastri Indo-Canadian Institute

The Association of Commonwealth Universities
Erasmus+
ASIA-AFRICAN: 33 Countries
INDO-ETHIOPIA NETWORK: 45 Ethiopian Universities
Shraman Foundation, US

Academic Pursuits

IIT Indore hosted international students / faculties / researchers under various academic / research programs such as PhD Co-supervision, Masters Exchanges, CV Raman Fellowship, India Science and Research Fellowship (ISRF), ASEAN-India Research Training Fellowship (AI-RTF) etc. Every year, IIT Indore admits international students through various government schemes such as Study in India (SII), Indian Council for Cultural Relations (ICCR), the Association of Southeast Asian Nations (ASEAN), SAARC Finance-RBI, and the Nepal Scholarship.

In connection with the pursuit of academic / research activities, IIT Indore has launched various international programs as below:

1. **Short-term Collaborative Research Programs for PhD Students:** The purpose or intention of these programs is to promote research, and teaching, and to build a network through short-term visits of PhD students of foreign institutions to IIT Indore and vice-versa.
2. **Semester Exchange Program UG/PG Students:** The IR office has recently launched a Program that will provide international exposure to UG / PG students of IIT Indore and allow students from foreign institutions to pursue a semester at IIT Indore.
3. **Mobility Grant for International MoU Coordinator:** This grant supports IIT Indore faculty in promoting bilateral research collaborations by organizing interactive sessions, online / offline talks, joint conferences, workshops, and joint PhD student supervision with the partner universities. These efforts aim to enhance international cooperation and the institute's global outreach.
4. **International Travel Grant:** This initiative aims to provide faculty members from IIT Indore with the opportunity to foster collaborations and partnerships with foreign universities, thereby enhancing global academic connections and research opportunities.

Recent collaborations across the globe:

Inbound Programme	Awardees	Home Country
Semester Exchange Program UG / PG Students	Ms. Zinu Jemberu	Ethiopia
	Mr. Worku Aweke Teso	Ethiopia
	Mr. Abrham Teshale Tegegn	Ethiopia
	Bezabih Kassie Mengist	Ethiopia
	Mr. Tewodros Nega Yahuala	Ethiopia
Short-term Collaborative Research Programs for PhD Students	Mr. Beruna Baisa	Ethiopia
	Mr. Girma Dejene	Ethiopia
	Mr. Tesfaye Ganeti Kenate	Ethiopia
	Mr. Abdeta Leta Adulla	Ethiopia
	Mr. Ivan Malkov	Russia
	Mr. Joemer Adorna Jr	Philippins
	Mr. Ram Prasad Neupane	Nepal
	Ms. Koushika Seelanatha	Sri Lanka
	Mr. Shinjae lee	US

Outbound Programme	Awardees	Host Country
Semester Exchange Program UG / PG Students	Ms. Swagatalkshmi Dhali	Germany
	Mr. Sayan Doloi	France
	Ms. Akruti taori	Sweden
	Ms. Riya Sehrawat	Germany
	Ms. Kumari Sunita	France
	Ms. Monika Yadav	USA
	Ms. Poonam Suresh Deshmukh	Singapore
	Ms. Sidhi G Ramer	Japan
	Mr. Zahir Abbas	South Korea
Short-term Collaborative Research Programs for PhD Students	Mr. Anup Kumar Gupta	USA
	Ms. Astha Sharma	Thailand
	Mr. Akhila Gouda	France
	Mr. Ummed Singh	South Korea
	Mr. Dhivya Prabhu K	Romania
	Mr. Sugato Panda	Australia

Other academic programmes (Inbound):

Inbound Programme	Awardees	Home Country
CV Raman Researcher programme	Dr. Bene Kouadio	Ivory coast
	Dr. Kouakou Ahoutou Paul	Ivory coast
	Dr. Solomon Abebe, University of Gondar	Ethiopia
ISRF Researcher programme	Dr. Isuru Dasanayake, University of Peradeniya	Srilanka
	Dr. Thanongsak Imjai, Walailak University	Thailand
AI-RTF	Mr. Arjun Hasibuan	Indonesia
	Mr. Myo Min Htwe	Myanmar
Joint-Co-supervision Program	Mr. Yonas Etafa Tasisa	Ethiopia
	Mr. Tadesse Beyene Hulle	Ethiopia
	Mr. Habtamu Melesse	Ethiopia

International Outreach

International Outreach is a mechanism to facilitate the exchange of knowledge and skills between India and other countries, primarily through collaboration between Indian universities and public institutions / organizations abroad. We have organized several webinars and talks by eminent speakers from various streams in online / offline mode this year.

Name of the Grant by IR	Awardee's Name	Department
Mobility Grant 2023-24 Host University - Obuda University, Hungary	Dr. Sanjeev Singh	Mathematics
Mobility Grant 2023-24 Host University - Carleton University, Canada	Dr. Gourab Sil	Civil Engineering
International travel Grant 2023-24 Host University - University of Bologna, Italy	Dr. Saurabh Das	Astronomy Astrophysics and Space Engineering
International travel Grant 2023-24 Host University - Technical University of Munich, Germany	Prof. Kiran Bala	Bioscience and Biomedical Engineering
International travel Grant 2023-24 Host University - University of Split Croatia	Prof. Sk. Safique Ahmad	Mathematics
International travel Grant 2023-24 Host University - Khon Kaen University, Khon Kaen, Thailand	Prof. Biswarup Pathak	Chemistry

International travel Grant 2023-24 Host University - Coventry University, United Kingdom	Dr. Ashok Kumar Mocherla	Humanities and Social Sciences
International travel Grant 2023-24 Host University - University of Zilina, Zilina, Slovakia	Prof. Vimal Bhatia	Electrical Engineering
International travel Grant 2023-24 Host University - ELDP, Berlin Brandenburg Academy of Sciences and Humanities, Germany	Dr. Thapasya J	Humanities and Social Sciences
International travel Grant 2023-24 Host University - Curtin University, Perth, Australia	Prof. Neminath Hubballi	Computer Sciences and Engineering
International travel Grant 2023-24 Host University - University of Oklahoma, USA	Dr. Parimal Kar	Bioscience and Biomedical Engineering
International travel Grant 2023-24 Host University - Loughborough University, UK	Prof. Shanmugam Dhinakaran	Mechanical Engineering

year. Some major activities are as follows:

(i) **IRTG-DFG workshop:** The International Research Training Group (IRTG) workshop entitled "Deciphering Respiratory Bacterial Niches and Molecular Mechanisms: Unraveling the dynamic interactions between bacterial pathogens and host organelles during infection" was organized at IIT Indore in collaboration with Julius-Maximilians-Universität Würzburg from April 11-13, 2024.

(ii) **German Research Day Conference:** IIT Indore hosted the German Research Day Conference on Monday, 15th April 2024. Representatives from several German Funding organizations and German Higher Education Institutions / Universities gave presentations on funding opportunities, bilateral cooperation, and mobility programs for faculties as well as Ph.D. and Postdoctoral students.

(iii) **DAAD-Bilateral Faculty Exchange Program:** Based on the MoU signed with DAAD, bilateral research cooperation between German universities and IIT Indore has been offered to the faculty members of IIT Indore.

(iv) **iHED Workshop:** International Relations, This year, IIT Indore, in collaboration with the German Academic Exchange Service (DAAD) organized the iHED workshop on "Internationalization at Indian Higher Education institutions- structures and services". In this event, Heads and Deans of international offices of more than 25 Higher Education Institutes of India participated and deliberated on the best practices and opportunities for collaboration between Indian Higher Education Institutes and German Universities.

(v) **DBT meeting:** IIT Indore hosted the 1st meeting of Sectoral Expert Committee on Bio-manufacturing of Precision Biotherapeutics- Monoclonal Antibodies on 11th Aug 2023. The Department of Biotechnology (DBT) has taken a major initiative on Bio-manufacturing titled "Fostering High Performance Bio-manufacturing-An integrated approach towards promoting circular economy for Green, Clean and Prosperous India and Precision Biotherapeutics- Monoclonal Antibodies is a vital sector under this program.

(vi) **Establishment of Taiwan Education Centre:** IIT Indore and DAVV Indore signed a Memorandum of Understanding (MoU) with the Taipei Economic and Cultural Centre (TECC), Taiwan, on April 3, 2024, for the establishment of the Taiwan Education Centre.

The MoU signing ceremony was held at IIT Indore. His Excellency Mr. Baushuan Ger, Ambassador, TECC, Prof. Renu Jain, Vice-Chancellor, DAVV, and Prof. Suhas Joshi, Director, IIT Indore graced the occasion.

This is the 1st Taiwan Education Centre established in Madhya Pradesh, India. Through this Education Centre, Education Division TECC, will facilitate disseminating knowledge and teaching Mandarin Language. This centre shall liaison between IIT Indore and DAVV with Taiwan higher education institutes and industries to build up academic and research collaborations.

Eminent international visitors at IIT Indore

Every year, IIT Indore hosts many eminent visitors from various countries. Here are some of the recent visitors.

Visitors	Purpose of Visit
Dr. Phillipe Maurin, the Attaché for Scientific and Academic Cooperation for West India at the Embassy of France / French Institute in India.	To deliver a session about the "Higher Education in France" and details on student scholarships, internships, and PhD programs is scheduled on Wednesday, January 31, 2024
Dr. Keshav Singh, National Sun Yat-sen University, Taiwan	MoU signing ceremony with National Sun Yat-sen University, Taiwan, held on January 18, 2024
Dr. Siman Fraser and Dr. Anita Singh, Robert Gordon University Aberdeen, Scotland	To explore the opportunities for collaboration for various research and academic activities
Prof. Eva Gerharz, Professor of Sociology & Head of Fulda Graduate Centre of Social Sciences, Germany	To deliver a lecture at the School of Humanities and Social Sciences to explore the opportunities for collaboration in various research and academic activities between the two institutions.
Ms Elaine Tan, Associate Dean (Academic Programmes Business), Mr Alson Tan Guan Chew, Senior Manager, International Marketing (Academic Programmes Business) Mr Benjamin Tey, Assistant Senior Manager, Student Recruitment and Business Development	To invite IIT Indore to partner for the Young Fellowship Program 2024, the possibility of a 3+1+4 collaboration and other avenues.
Prof. Zhiguo Ding	Visiting Professor under SPARC Project
Dr. Markus Gößler from University of Chemnitz	Paired Early Career Fellowship in Applied Research supported by the Indo-German Science & Technology Centre
Dr. Reiser Oliver, University of Regensburg, Germany Prof. Dominik Horinek, University of Regensburg, Germany Prof. Andreas Kirsching, Leibniz University of Hannover Dr. Masanori Shigeno, Tohoku University Prof. Werner Kunz, University of Regensburg, Germany	INDO-GERMAN conference on “Sustainable Chemistry-2024”, Department of Chemistry
Prof. Ilian T Iliev, Department of Physics & Astronomy, University of Sussex, UK	Astronomy Colloquium
Dr. N.D. Ramesh Bhat, International Centre for Radio Astronomy Research, Curtin University, Australia	Astronomy Colloquium

Dr. T. Kubota, Japan Aerospace Exploration Agency (JAXA)	IEEE GRSS Expert lecture in the Department of Astronomy, Astrophysics, and Space Engineering
Prof. Mikhail Ivanchenko, Lobachevsky University, Nizhny Novgorod	Invited talk and collaboration
Prof. Miharu Yui, Kwansei Gakuin University, Japan Prof. Ayako Namba, Kwansei Gakuin University, Japan Prof. Koji Kojima, Kwansei Gakuin University, Japan	Collaboration

New Initiatives to bridge between International Students and IIT Community

The International Relations (IR) office at IIT Indore started new initiatives aimed at enriching the experience of our international students that extend beyond the confines of the classroom. This hands-on approach enhances their academic journey and facilitates cross-cultural exchange, fostering meaningful interactions with the local community.

Diwali celebrations

Makar Sankranti Celebration

New year celebrations

Christmas celebration

Indore Zoo visit

Indore Rajwada visit

Achievements

International Awards and Grants received by IITI faculty members.

Every year, faculty members of IIT Indore attend/present their papers at various globally renowned conferences. This year, they presented at the Sakura Science Exchange Program Organized by Japan (JST), the 'FORCE-IICS' Conference Kathmandu, International Conference on Maintenance and Intelligent Asset management Australia, the URSI GASS Conference 2023 JAPAN, the International Union of Geodesy and Geophysics Conference Berlin, TFSC Conference Hsinchu, Taiwan and many more.

Many IIT Indore faculty members have been awarded with prestigious international collaborative projects and went for foreign visits like the Brussels Project, JSPS BRIDGE Fellowship, JSPS Invitational Fellowship, IGSTC Project, SSHN Fellowship France, YFRSG Dream Lab Grant, Cambridge-Hamied Visiting Lectures Scheme, The Sakura Invitational Awar-2023 by Japan Science and Technology Agency, etc.

Prominent International Scholarships received by IITI Students

Every year, many IIT Indore students receive prestigious scholarships and fellowships to visit global institutions of repute for academic and research work. Here are some achievements of students for this year.

- Taiwan Experience Education Program (TEEP) by Taiwan's Ministry of Education
- Charpak Lab scholarship 2024 by Embassy of France
- IIPP - International Internship Pilot Programme by Taiwan Gov.
- IJRA - International Junior Research Associate Scheme by University of Sussex UK
- NUS Younge Fellowship Programme -2024 by National University of Singapore
- JASSO Scholarship - Scholarships for Study in Japan
- The Catholic University of America-Exchange Visitor Programme
- Charles Wallace Fellowship
- International Science Partnerships Fund (ISPF)
- Research Collaborations Programme
- NATIONAL CENTRE FOR POLAR AND OCEAN RESEARCH (NCPOR) by Ministry of Earth Sciences (MoES), Government of India
- Max Planck Grant
- MITACS
- Shraman Scholarship

Public Lectures

i) **Mentorship talk by DAAD for KOSPIE:** A mentorship talk (online) by Ms. Anuroopa Dixit, Programme Coordinator, DAAD New Delhi, was organised on January 10, 2024, to guide our students about "Combined Study and Practice Stays for Engineers from Developing Countries (KOSPIE)- a Scholarship by DAAD to IIT students.

ii) **French language Demo Classes:** Knowledge of international languages is critical for students and researchers who want to pursue higher studies and research work abroad. IIT Indore also encourages students to learn new International languages. Concerning this, the Institute organized a French Language demo class in collaboration with Alliance Française.

iii) **Mentorship session for Fulbright fellowship:** Dr. Ryan Pereira, Regional Officer of USIEF, the Fulbright Commission in India, conducted an in-person session on "Fulbright Fellowship Opportunities to the U.S." for PhD students, post-doctoral research students, and faculty members at IIT Indore. In April 2024, two Fulbright mentoring sessions were held under the coordinatorship of Dr. Ananya Ghoshal, the Fulbright fellowship coordinator at IIT Indore. The session focusing on Fulbright-Nehru Academic and Professional Excellence Fellowships (FNAEP) for faculty members took place on April 16, 2024, while the session on Fulbright-Nehru Doctoral Research Fellowships (FNDR) for student applicants was conducted on April 17, 2024. Prof. Venkat Raman Gundumella (Indian alumni) and Dr. Arpita Joardar (U.S. alumni) mentored faculty members in the FNAEP session, whereas Dr. Unmesh Khati, Dr. Ananya Ghoshal, and Avijit Maity, all FNDR alums from IIT Indore, mentored the session for the student applicants. These sessions marked the first-ever Fulbright mentoring events organized at IIT Indore.

iv) **Session on Higher Education in France:** A session about the "Higher Education in France" and details on student scholarships, internships, and PhD programs was held on January 31, 2024, by Dr. Phillipe Maurin, the Attaché for Scientific and Academic Cooperation for West India at the Embassy of France / French Institute in India along with Ms. Divya Saxena, Manager - Campus France Indore / Bhopal.

Alumni & Corporate Relations (ACR)

Report on activities undertaken during the period July 2023 to July 2024 for inclusion in the Convocation Report 2024

About ACR Office: The office of the Alumni & Corporate Relations (ACR) is set up with an aim of fostering and maintaining the relationship with the Alumni & Corporate entities. The office includes a dedicated, dynamic, and enthusiastic team of officials and staff members, headed by Prof. Suman Mukhopadhyay, Dean (ACR), working consistently towards achieving the objectives of the institute aligned with its vision.

A. Activities undertaken by the ACR team to foster "Alumni Relations":

1. Alumni Meets:

- First Meet: Successfully organized its first out-of-campus Alumni Meet-Bangalore Chapter on 23rd September 2023 at The Hilton, Bengaluru Embassy Manyata Business Park Bengaluru. Around 200 alumni (along with their family members) attended the event.
- Second Meet: The second out-of-campus Alumni Meet 2024, Hyderabad Chapter, was organized on 10th February 2024 at Hotel Sheraton, Gachibowli, Hyderabad. Around 175 alumni (along with their family members) attended the event.

2. Magnum Opus 2024 (Alumni visiting IIT Indore Campus):

- Magnum Opus 2024- (A get-together with Alumni & current students) was held on March 9, 2024, at the IIT Indore Campus.

3. Fireside Chat with Alumni:

- Fireside Chat with Alumni (Mr. Gaurav Parchani, Co-founder of "Dozee" and Dr. Vibhor Pandhare, Assistant Professor) and students was held on 19th April 2024 at the IIT Indore campus.

4. Yearbook -2022 & 2023:

- Two editions of the yearbook "ADIOS 1.0 & 2.0" for the graduating students of 2022 and 2023 were released.

5. Alumni Magazine-2023:

- The Alumni Magazine "IITI-Alumnus" Edition 2023 was released on 10th February 2024 during the Alumni Meet – Hyderabad Chapter.

6. Charities Aid Foundation (CAF), America:

- The Validation Certificate was received from CAF America for two years (2023-25).

7. IIT Indore Academy Association and Internship Program:

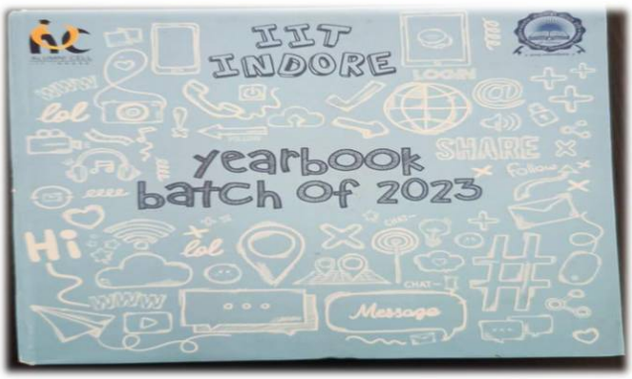
- Under this program, the Institute conducted visits and internships for the students of the Acropolis Group of Institutions, Chameli Devi Group of Institutions, Rewa Engineering College, Jabalpur Engineering College, and SGSITS Indore. More than 230 students benefited from internships and the IIT Indore facilities through visits.

Few Glimpses of Alumni Relations Activities

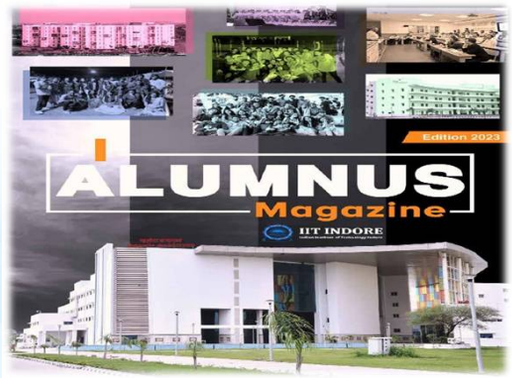
Alumni Meet-Bengaluru Chapter and Hyderabad Chapter

Magnum Opus 2024 (Alumni visiting IIT Indore Campus).

Fireside Chat with Alumni



Yearbook -2022 & 2023



Alumni Magazine-2023

Validation Certificate CAF, America

B. Activities undertaken by the ACR team to foster "Corporate Relations":

1) Project implementation under CSR initiatives:

a) Rajaratan Centre of Excellence (RCOE): The establishment of the Rajratan Centre of Excellence (RCoE) at IIT Indore is aimed at promoting advanced research and analytical testing, which is the first such initiative at IIT Indore under the CSR association between IIT Indore and 'Rajratan Global Wire', the world's largest tyre bead wire manufacturer.

Funds Received: Rs. 50 lakhs (Committed: Rs. 2 Cr.)

b) CASE- Centre of Excellence: The Establishment of 'CASE- Centre of Excellence at IIT Indore to promote the CSR association between IIT Indore and CNH Internationals Limited.

Funding received: Rs. 75 Lakhs (Committed: Rs. 3 Cr.)

c) State Bank of India (SBI) Plantation drive: Plantation drive by SBI at IIT Indore on July 31, 2023, as a ceremonial plantation of their CSR fund to IIT Indore. This visit is related to the site visit of the plantation drive by utilizing the CSR funds (Rs.9 lakhs) received from SBI.

Funds received: Rs. 9 Lakh

d) Sanction of Research project fund by 'Mazagon Dock Shipyard'

Mazagon Dock Shipyard (MDL), a unit under the Ministry of Defence, GoI, has inked an MoU with IIT Indore and funded two research projects for its functions under CSR funding for 2 Years duration

Funding received: Rs. 37 Lakh (Committed: Rs. 48 Lakh)

e) Sanction of Research project fund by Higher Education Financing Agency (HEFA)

One research project has been approved under CSR by HEFA for a duration of three years.

Funding received: Rs. 14 Lakh (Committed Rs. 59.93 Lakh)

2) Students' Scholarship under CSR initiative:

'Moira' Steel sponsored funds (Rs. 11 Lakh) to eleven B. Tech Students under CSR activities at IIT Indore for the FY-(2023-24).

3) Industry Visits:

a) M/s IMA PG Indore: A team of 12 faculties, along with the Director IIT Indore, visited IMA PG Indore on August 17, 2023, a leading manufacturer of sophisticated Packaging machines for the Pharma and FMCG Sectors. The visit was followed by a discussion to explore joint collaboration with IIT Indore now under process.

b) M/s CG Power and Industrial Solutions (CGPIS), Mandideep Plant, Bhopal: A team of 12 faculties, along with the Director IIT Indore, visited 2 plants of M/s CG Power and Industrial Solutions at Mandideep, Bhopal (CGPIS) on September 14, 2023, which is a leading manufacturer of Traction Motors (HT/LT), Switchgear, Circuit Breakers, network protection & Control Gear etc for Railways Business in India with multiple manufacturing locations. The visit was followed by a discussion to explore joint collaboration with IIT Indore.

c) CNH Industrial visit on November 24, 2023: A team of 20 faculties, along with Director IIT Indore, visited CNH Constructions (I) Pvt. Ltd. on 24 November 2023. CNH Construction (I) Pvt. Ltd. is more than a hundred-year-old Company and a leading Global manufacturer of Construction and Agriculture Equipment with manufacturing locations across various countries, including three State-of-the-art manufacturing plants and a Global R&D Centre in India.

4) CSR & CIC Conclave 2024':

ACR conducted third industry connect programme, CSR & CIC Meet 2024' on May 31, 2024, at Hotel Radisson Blu, Indore, bringing together industry leaders, academicians, and philanthropists to foster dialogue and collaboration in corporate social responsibility (CSR) initiatives. The event was graced by the presence of Dr. K. Sivan, Chairperson of the Board of Governors, IIT Indore as Chief Guest, and Shri. C.S. Sharma, State Head (M.P & Chattisgarh), SBI, as Guest of Honor. Other attendees of the event include distinguished guests and participants from corporates & industries, Director, Registrar, faculties & officials from IIT Indore.

Few Glimpses of Alumni Relations Activities

Rajratan Centre of Excellence (RCoE) at IIT Indore

CASE Centre of Excellence (CCoE) at IIT Indore

Plantation drive by State Bank of India at IIT Indore

Moira Sariya visits for distributing scholarship at IIT Indore

3rd CSR & CIC Conclave held at Hotel Radisson Blu, Indore on May 31, 2024.

Industry Visit to CNH Constructions (I) Pv.t Ltd.

Industry Visit to IMA PG, Indore

Industry Visit to CG power and Industrial solutions, Bhopal


भारतीय प्रौद्योगिकी संस्थान इंदौर
Indian Institute of Technology Indore

ACR Team

Educational Outreach

About the Office of the Educational Outreach: The vision of the Office of the Educational Outreach is driven by a deep belief in the transformative power of education to shape lives, build communities, and create a prosperous world. At the core of our mission lies a commitment to excellence, equity, and empowerment in education.

1. **Executive M.Tech for Employees of Volvo Eicher Commercial Vehicle (VECV) under Memorandum of Understanding (MoU) with VE Commercial Vehicle:**

   The Institute has started a two-year executive M. Tech program in "Hybrid and Electric Vehicle Technology" for Employees of VECV in the academic year 2023-24, under academia industry collaboration signed on 31st July 2023. In the First batch, a total number of 10 employees of VECV Ltd. were enrolled in AY 2023-24. The second batch shall start in July / Aug 2024.

2. **Inbound UG Program for students of Engg. Colleges of Govt. of Madhya Pradesh:**

   The Institute has also started an Outreach program, wherein the selected students of Engg. Colleges under Govt. of Madhya Pradesh are given opportunity to study and complete their last year of B.Tech at IIT Indore, under "Memorandum of Understanding (MoU) with Department of Technical Education Skill Development and Employment, Govt. of Madhya Pradesh (In-bound UG Program)" executed on 28th August 2023. In December 2023, 23 (Nos.) such selected students joined the program and completed their 8th Semester at IIT Indore. The next batch shall start in July / Aug 2024 tentatively.

3. **PhD program for faculty of Engineering College (CT Category):**

   Recognizing the mutual objective to foster academic collaboration, enhance educational opportunities, and promote research culture, IIT Indore has started Part-time Doctor of Philosophy (Ph.D.) Program for permanent faculties from the Government (Autonomous) Engineering Colleges including University Institute of Technology – Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal under Memorandum of Understanding (MoU) with the Department of Technical Education Skill Development and Employment, Govt. of Madhya Pradesh, executed on 28th August 2024.

4. Master of Science in Data Science and Management (MSDSM):

In collaboration with IIM Indore, IIT Indore has started two-year Master of Science program in Data Science & Management. Three batches have already been started since year 2021. A total of 81 students are graduating from Batch 1 & 2 in the 12th Convocation of IIT Indore, to be held on 13th July 2024.

The fourth batch of this program shall commence in August 2024.

Future Plans for next 6 months:

1. Executive program in Cybersecurity and Cyber law:

IIT Indore and National Law Institute University (NLIU) have signed an MoU on 18th April 2024 to start a joint executive Master program for working professionals in the area of cybersecurity and cyber law. The program intends to develop a skilled force of digital revolution in the country with expertise not only in technology but also in law aspect.

2. Academic association with Military Institute of Technology (MILIT), Pune:

Academic collaboration with Military Institute of Technology (MILIT), Pune wherein IIT Indore will assist MILIT, Pune in building up capacity in the renewable energy domain.

3. Sant Shiromani Ravidas Global Skill Park (GSP) under the Department of Technical Education, Skill Development and Employment, Govt. of Madhya Pradesh:

IIT Indore entered into an agreement on October 04, 2023 with Sant Shiromani Ravidas Global Skill Park (GSP) under the Department of Technical Education, Skill Development and Employment, Govt. of Madhya Pradesh, wherein IIT Indore will run and operate training facility at Centre for Occupational Skills Acquisition-II (COSA-II) in the GSP and will offer industry aligned programs. The potential beneficiary of this scheme will be the students of ITI, Diploma and B.E. / B.Tech programmes of educational institutions running under the aegis of Govt. of Madhya Pradesh.

4. Margdarshan Scheme:

IIT Indore has been nominated as Mentor Institution (MI) under Margdarshan scheme 2023 of All-India Council of Technical Education (AICTE) which aims at mentoring local Engineering Colleges (Mentee Beneficiary Institute). IIT Indore will mentor "Sushila Devi Bansal College of Technology, Indore" and will support it in achieving better NIRF rankings / NBA / NAAC Accreditation.

5. PM School for Rising India (PM Shri):

IIT Indore is part of the PM School for Rising India (PM Shri) scheme of Govt. of India, to promote transformation in equity, access, and inclusion in school education. The overarching purpose of PM SHRI School is to nurture students in a manner that transforms them into engaged, productive, and contributing citizens.

6. Development of Raja Bhoj Museum (Madhya Pradesh Tourism Board (MPTB):

IIT Indore is assisting the Madhya Pradesh Tourism Board (MPTB) in preparing the detailed design proposal for the Raja Bhoj Museum, Bhopal. The museum will display scientific, technical, and art developments in the time of Raja Bhoj.

IIT Indore Adopted Govt. Middle School in Gajinda

Background:

1. In its pursuit of expanding the ambit of social and educational outreach programs, the Institute has identified *Govt. Middle School Gajinda near Baigram on Khandwa Road under Mhow Tehsil, District -Indore*, for extending academic and infrastructural support to transform the academic standards of the school. A formal announcement for the adoption of the village school was made by the Director of IIT Indore on the occasion of the 15th Foundation Day of the Institute. In order to identify the areas of cooperation, a team of senior faculty and officers visited the school and had meaningful interaction with the headmaster, teachers, and students.

2. The school comprises eight classes from Std I to VIII with a student strength of 194 (Boys: 98 & Girls: 96). Out of the total students, 180 i.e., 93% students are from Scheduled Tribe community, 11 students i.e. 6% are from Scheduled Caste community and 3 students, i.e. 1% is from the OBC community. Special attention in education is thus necessary for students from socially and economically challenged sections to ensure equal opportunities for success and to bridge the gap in educational achievement between different socio-economic groups.

3. Based on the site visit and interaction with stakeholders, the need for support in the following areas has been recommended.

   (i) Deputing PhD students / Research Scholars and volunteer staff members to impart teaching in basic sciences, mathematics, and languages (English and Hindi).

   (ii) Infrastructure and tech support for enhanced learning experience.

   (iii) Visit of school students to the Institute Laboratories and Campus Kendriya Vidyalaya for exposure, motivation, and awareness about higher education.

   (iv) Health awareness programs for students to be conducted by the Institute Health Centre.

   (v) Sanitation awareness programs and periodic sanitation drives to be conducted with the participation of students.

4. The permission for formal adoption of the aforementioned village school has been duly accorded by the Indore District Administration vide CEO, Zila Panchayat, letter no. PS / ZP / 20204 / 694 dated 8th February 2024.

5. Consequent to the grant of permission by the District Administration, the students of class VIII were invited to witness the 15th Foundation Day of the Institute and for a campus tour on 17th February 2024 towards the first step of the social outreach initiative.

Govt. Middle School Gajinda

IIT Indore visit to Gajinda School

Makerspace

To fulfill the NEP 2020 guidelines for offering interdisciplinary hands-on knowledge and experiential learning among the students, IIT Indore has established Makerspace Laboratory. Dr. K.Sivan, Chairperson, Board of Governors, IIT Indore & Former Chairperson, ISRO, inaugurated Makerspace Lab on 20 Nov 2024. Present real-world problems are multi-disciplinary, and there is a need to prepare students with globally relevant training and a hands-on approach. Makerspace course could be the most suitable alternative to fulfill the needs. Makerspace is a collaborative work-space for promoting synthesis-based learning where the learners apply concepts they learned in the class to create a prototype and product. It fosters innovation through hands-on experimentation. IITI Makerspace has a world-class infrastructure with state-of-the-art research, innovation, and experiential learning facilities. The lab has all the essential facilities related to electrical, electronic, mechanical, and computational under one roof to cater to the product development requirements. Makerspace is equipped with machines such as laser cutters, desktop milling, CNC Lathe, CNC Milling, CNC routers, 3D printers, PCB printers, ESD workstations (Soldering, Power supply, Multimeter and Function Generators), Mechanical workbenches, Sewing Machines, Table saws, Band saws, various power and hand tools. It undertakes laboratory sessions of the B.Tech 1st year Makerspace (IC-152) course and supports the design and fabrication needs of BTP, Master's thesis, and Doctoral research.

Dr. K.Sivan, Chairperson, Board of Governors, IIT Indore & Former Chairperson, ISRO and Prof.Suhas Joshi, Director, IIT Indore, during the inauguration of Makerspace

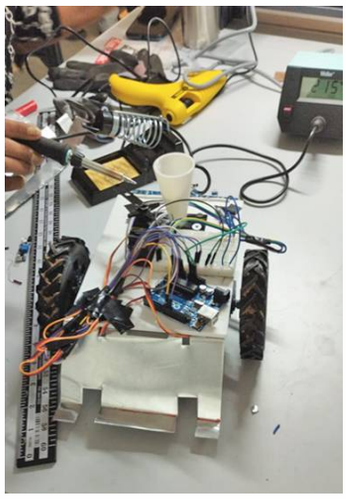
Convener, Makerspace
Dr. Eswar Prasad Kormilli
Associate Professor (MSME)
Email-convenver_makerspace@iiti.ac.in

Research Interests:

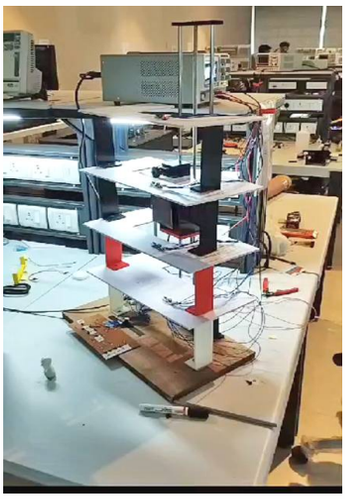
- Mechanical behavior of materials
- High strain rate deformation behaviour of Materials
- High strain rate deformation
- Nanoindentation, Small scale mechanical testing
- Surface Engineering and Failure analysis of materials

Activities during the year 2023-2024

- **UG TA training:** A hands-on operational training on Makerspace equipment was conducted for the B.Tech students of Civil, Electrical, and Mechanical disciplines during May –June 2023 to help them guide the first year B.Tech students. The UG TA students developed projects on Electronically Actuated Morphing Wing, Gesture Controlled Drone, Gesture Controlled Maze Solver, Hand Gesture Controlled Car, Multi Control Based Wheel Chair Safety using Android, touch, voice, and Gesture Control, RC Tank with Robotic Arm, Self Balancing Robot, Smart Lift, Solar Powered Seed Sowing Robot as a part of Makerspace Training.

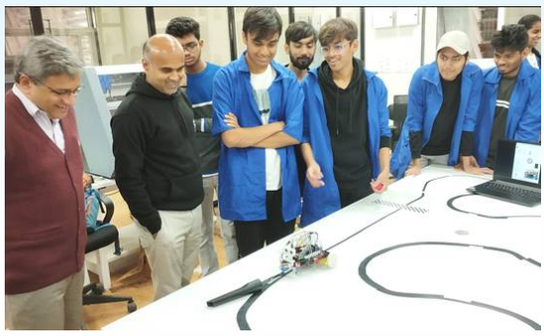


Solar Powered Seed Sowing Robot



Smart Lift

- **Work Request received at Makerspace:** The Makerspace has completed 17 Nos. of work requests during 2023-2024 for various purposes, including UG / PG Research teaching, PG Research, BTP, and Sponsored projects.
- **Laboratory classes:** The Makerspace has conducted practical classes of the Makerspace lab (IC-152) during the Autumn and Winter semesters. Practical works on the stitching of aprons using a sewing machine, Modelling of 2D and 3D components, 3D printing of parts, CNC machining of materials, Joining of metals, Simulation of the circuit, Assembly, and testing on Breadboard, the know-how of the Oscilloscope, function generator, Power source, etc. Soldering of joints, PCB routing using software, PCB fabrication and testing, Coding and interfacing sensors to Arduino and Raspberry-PI, Basic signal generation, and measurements with Arduino were completed by students. Student groups have fabricated 80 nos. of Line follower Robots with different functionalities for their end-semester major project.



Line follower Robot Presentation

- **Development of Makerspace at C-ELITE, DTRC Ujjain campus:** The Makerspace IIT Indore has developed the Makerspace facility C-ELITE, DTRC, IIT Indore Ujjain campus. The Makerspace was inaugurated by Hon'ble Chief Minister Dr Mohan Yadav on 08 Mar 2024. The Makerspace Lab has organized a hands-on training program from 30 March- 01 June for B.Tech Students of UEC, Ujjain.
- **Training Program:** The Makerspace IIT Indore lab has organised training programs for B.Tech Students of UEC, Ujjain, from 26-27 Feb 2024.

The inauguration of Makerspace at C-ELITE, DTRC, IIT Indore, Ujjain campus by Hon'ble Chief Minister, Dr Mohan Yadav

Infrastructure Development Office

IIT Indore was allotted 501.42 acres of land, including 200 acres of forest area. The Infrastructure Development Office of IIT Indore is one of the service departments that 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. The institute has completed a mandate of 2.21 Lakh square meter area (36 structures) of construction. Further, Phase III A construction work has started, and approval for Phase III (B) and Phase III (C) are in an advanced stage.

In the last one year, the following developments are taken up in the campus:

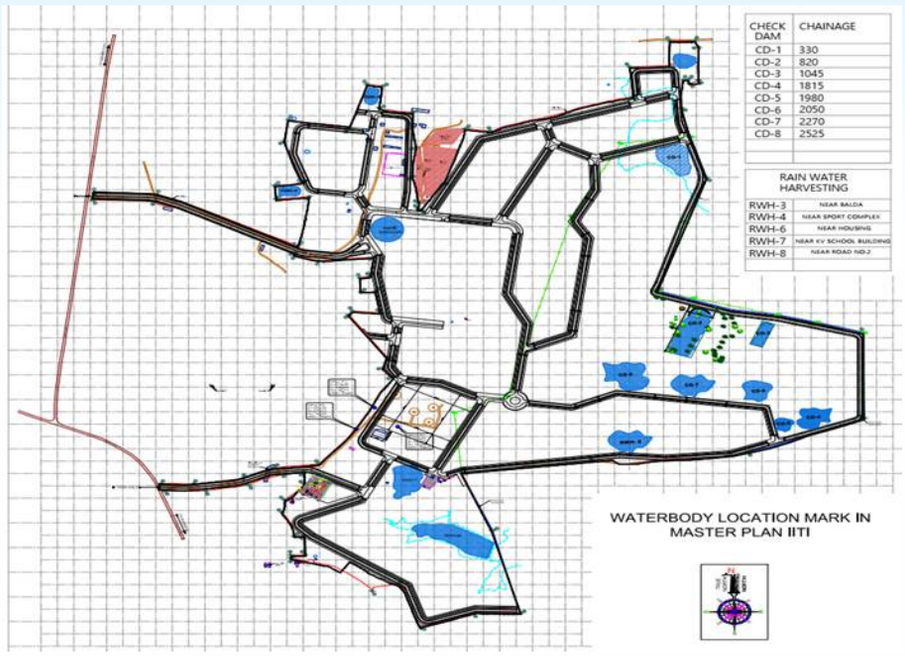
1. Development of Makerspace lab
2. Construction of Canopy in Abhinandan Bhawan (1-9 floors)
3. Construction of Rainwater Harvesting ponds
4. Construction of faculty cabins in LRC 4th floor
5. Construction of Animal House
6. Construction of Transit Lab Complex
7. Construction of laboratory
8. Construction of Multilevel car Parking
9. Construction of a Multi-Purpose Hall Near the Central Dining facility
10. Construction of Hostel under PMAJAY Scheme
11. Development of Sports Arena
12. Phase III A works

1. Development of MakerSpace Lab: MakerSpace laboratory is a set of laboratories, electronics, mechanical & integration that is developed by creating partitions in the existing workshop space for promoting synthesis and imparting interdisciplinary hands-on knowledge and experience to all students as per the mandate of NEP 2020. The laboratory was completed on 20.09.2023 and was inaugurated on November 20, 2023.

2. **Construction of Canopy in Abhinandan Bhawan:** Canopy was installed on every floor, i.e., the 1st floor to the 9th floor on the north side of the Abhinandan Bhawan, to prevent rainwater from entering the corridors. The work was completed on October 3, 2023.

3. **Construction of Rainwater Harvesting ponds:** IIT Indore is developing 8 number of check dams and 7 RWH rainwater harvesting ponds of total capacity approximate 22.32 Crore Liters in the campus for water conservation.

   Out of 7 RWH Ponds, 5 are already developed and 2 are proposed. Further out of 8 Check dams, 2 are already developed by the Institute and the remaining 6 are under planning. The total present storage capacity already developed is 15 Cr liters approximately.



4. **Construction of faculty cabins at LRC 4th Floor:** Partition is created at the 4th floor of the Library Building to provide seating spaces for Faculty & students. There are 12 faculty cabins of approximately 150 sqft each and common seating space for nearly 50 students.

5. **Animal House:** It is a research facility for BSBE faculty & students with a total area of 5509 sqft. It is planned for G+3 and presently only on the Ground Floor.

6. **Transit lab Complex (Drishti Bhawan extension):** IIT Indore has developed laboratory spaces near the existing Drishti Bhawan building (Old Taste Buds building). The facility consists of 4 labs with a total area of 4660 sqft.

7. **Construction of laboratory complex:** In view of the increasing strength of faculty and students in IIT Indore, a laboratory of an approximate area 22,000 sqft is planned for faculty and students to meet their research requirements. The laboratory consists of 8 nos. 12 feet clear height labs, 2 nos. 16 ft clear height lab, 24 faculty cabins & seating space for 96 students.

8. **Construction of Multilevel car parking:** In view of the increasing strength of faculty and staff members in IIT Indore, the Institute has felt the need to develop a multi-level parking facility for institute community members as well as visitors. The parking facility has capacity of 76 cars (38 on GF + 38 on roof) and is located near Abhinandan Bhawan & LRC.

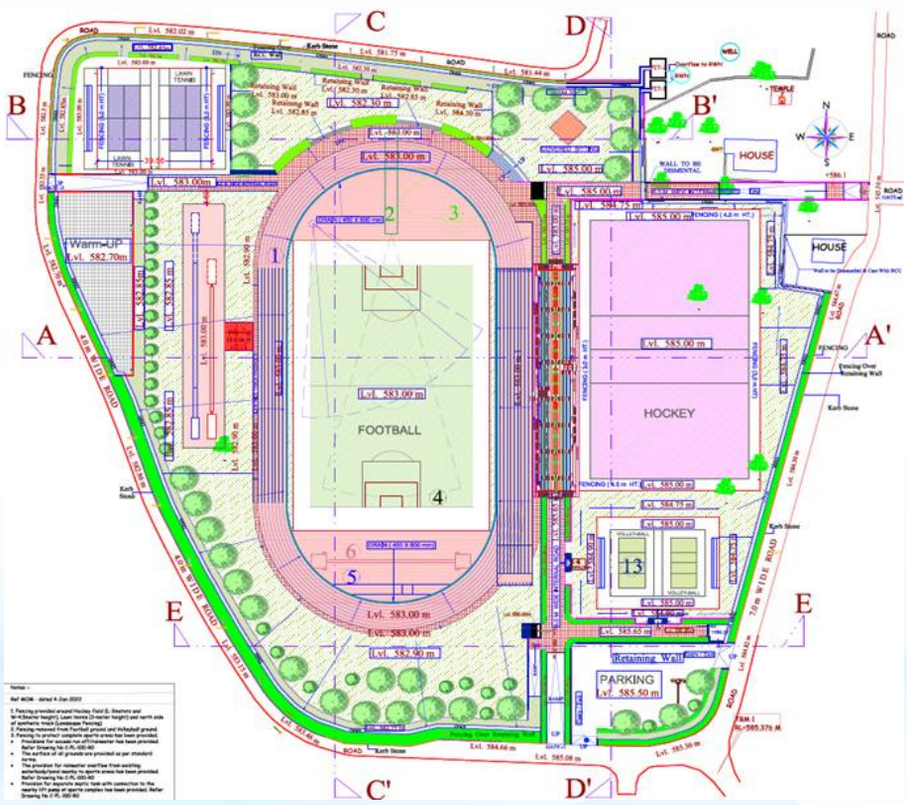
9. **Construction of Multi-Purpose Hall Near the Central Dining facility:** Large dining facility for hosting guests for lunch / dinner during events is being developed near the Central Dining facility. It consists of an Open Hall of 2500 capacity, 2 Kitchen area, 2 Utensil Wash Area, 2 Storeroom & 2 pantries.

10. **Construction of Hostel Under PM AJAY Scheme:** Under the scheme, the Ministry of Social Justice & Empowerment has the provision of construction of hostels for SC Boys & Girls students under the generally sponsored scheme of Pradhan Mantri Anusuchit Jaati Abhyuday Yojna (PM-AJAY). The Hostel has a capacity of 284. The Hostel has G+5 floors with an area of 6,550 sqm.

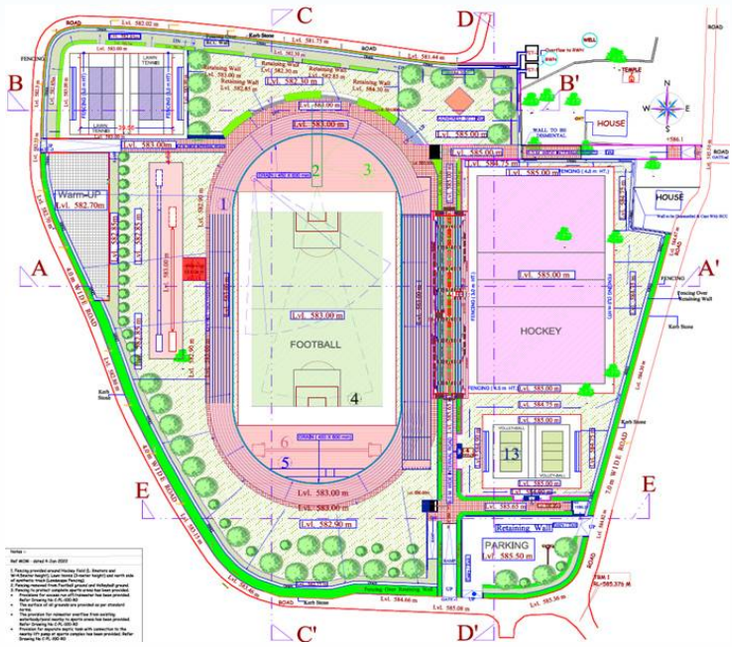
11. Development of Sports Arena: Work of the development of the sports arena is in progress, and the scheduled date of completion is October 2024.

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) Seating Gallery
7) VIP Lounge, Dormitory, Indoor sports area, etc. at the basement
8) 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.

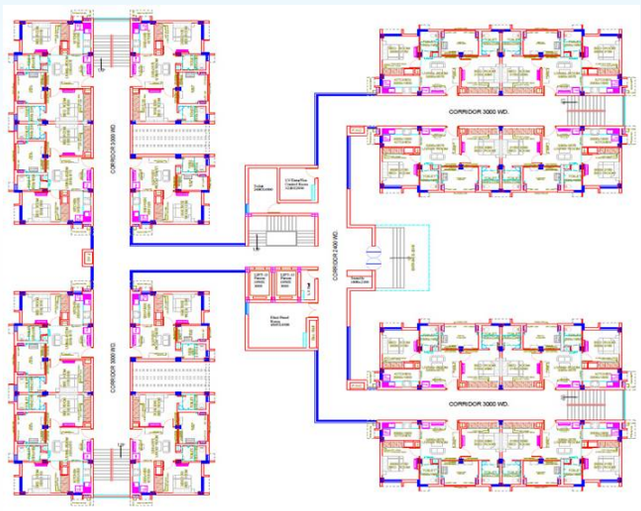


12. Phase III (A) works: Owing to the expansion of academic and research activities of the Institute it is necessary to create academic and supportive infrastructure for which the Institute has planned works under Phase III (A). The proposal amounts to Rs. 496.28 Cr and is sanctioned by HEFA. The works are under progress. Brief details are as follows:

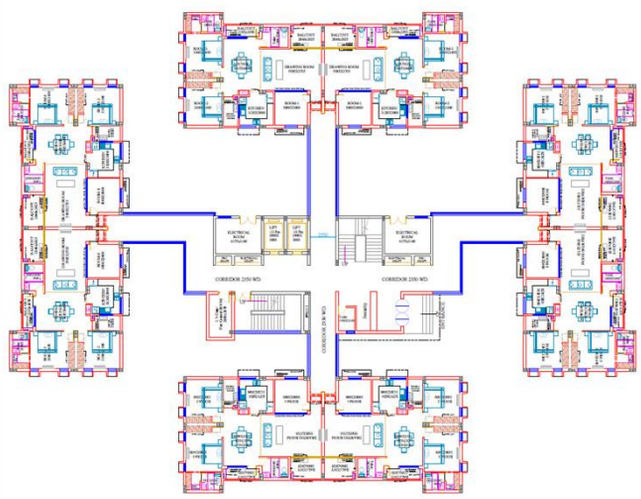


Name of Work	Area / Floors	Facilities
Construction of Hostel on BH 10 location	15450 / G+6	750 nos. occupancy
Construction of Hostel on BH 07 location	15450 / G+6	750 nos. occupancy
Construction of Hostel on GH 02 location	15450 / G+6	750 nos. occupancy
Construction of Residential complex FH07	9795 / G+7	64 nos 2BHK units
Construction of Studio Apartment SA 01	11000 / G+7	104 nos 2BHK & 16 nos 1 BHK 16 nos
Heavy & Sophisticated Lab Complex (academic POD)	28820 / G+5	The total area is 28820 sqm. 6 Heavy labs of Double Height 24 Module-2 Labs 53 Module-3 labs 12 COE labs 2 SIC labs 96 faculty rooms 384 student seating
Academic POD		
Infrastructure for Centers of Excellence		

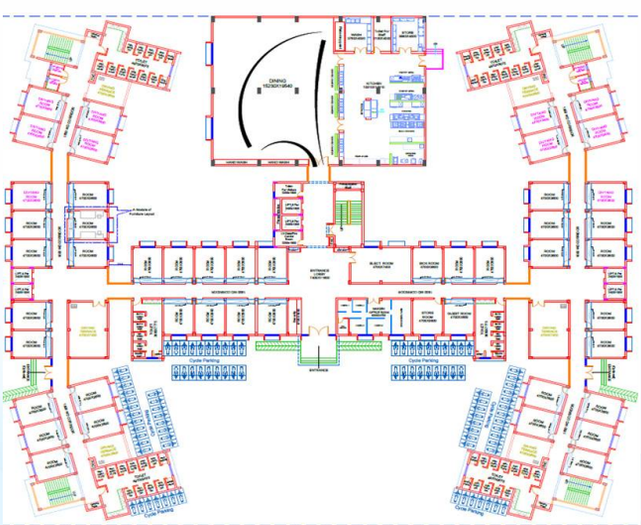
Layout for proposed Studio Apartment



Layout for Proposed Residential Building



Layout for Proposed Hostel Buildings



Student Affairs

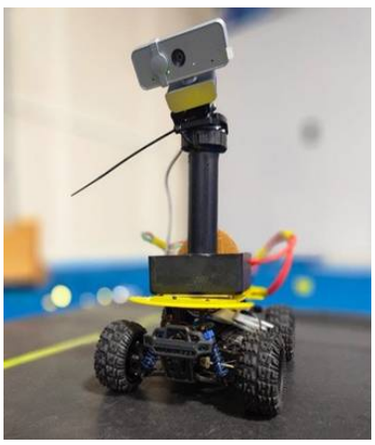
Student Affairs Office operates as an administrative interface to the students at IITI for the conduction of various events through Student Gymkhana through a team headed by Professor Srivathsan Vasudevan, Dean of Student Affairs (DoSA), assisted by Dr. Sanjeev Singh, Associate Dean of Student Affairs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

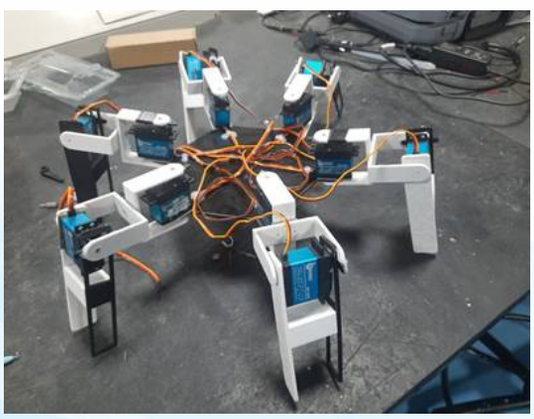
Student life at IIT Indore is vibrant and well-rounded, offering a diverse range of opportunities for both academic and personal growth. The emphasis on extra-curricular activities through structured clubs and cells seems to complement the academic curriculum effectively, providing students with a holistic learning experience. The involvement of students in BTech project work, industrial visits, and engagement with industry and academia through various cells that speak volumes about the institute's commitment to preparing students for real-world challenges. Additionally, the healthy student-to-faculty ratio suggests that students have ample access to support and guidance from their professors, contributing to a conducive learning environment. Overall, IIT Indore strives to provide its students with the best possible platform for their development and success.

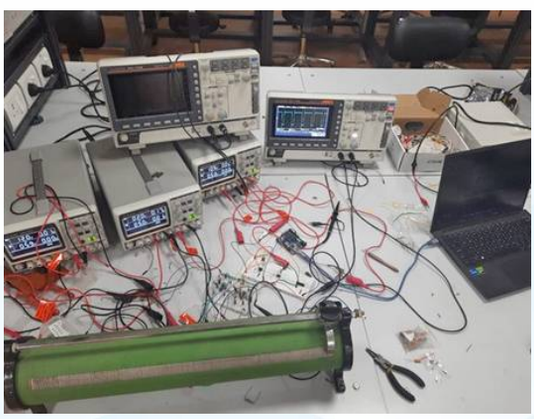
There are mainly 5 councils within the Student Gymkhana, namely, Science & Technology Council, Cultural Council, Sports Council, Counselling, Outreach & Alumni Council, and Academic Council.

Science & Technical Council

The Science & Technology Council organized IITISoC and conducted various workshops throughout the year for learning and overall development of the students. Students have also worked on some interesting and brainstorming projects. They have also participated in the Inter IIT Tech meet and secured one of the top 3 positions in various domains.

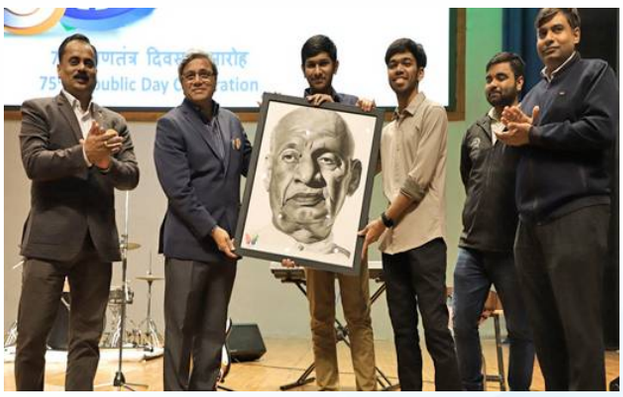






Cultural Council

Throughout the year, Dramatics Club, Dance Club, Kalakriti Club, etc. under the Cultural Council came together to showcase the students' talent on stage and delivered stellar performances during celebrations for Independence Day, Republic Day and Teacher's Day and performed various traditional Indian classical performances. The campus also hosted the competitive T vs M event and organized festive gatherings like Garba Night, donation drives, etc.

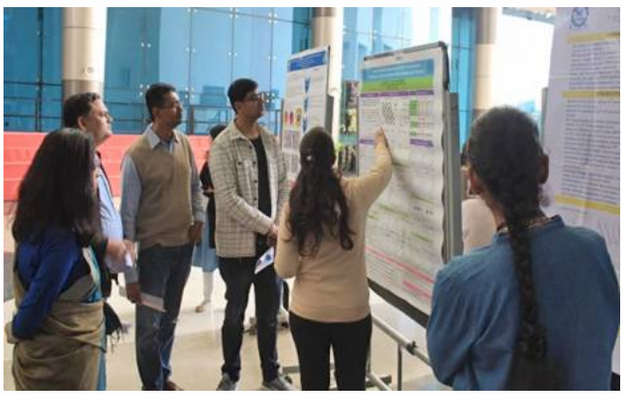


Sports Council

The Sports Council organized various sports events like JOSH, SHAURYA and General Championship to enhance and maintain the sports culture at the campus. Additionally, the council also successfully organized LAKSHYA 2.0, its annual flagship inter-college event with the theme “Embrace The Chase”. It showcased the potential of our teams against other college teams across Indore. More than 7 sports were played with a participation of over 200 students. Informal games have been a center of attraction in this fest.

Academic Council

The Academic Council organized the Research Industry Conclave to nurture young minds towards research & innovation and held Departmental orientations for all the academic branches. The council also conducted an event called "Techno Samvad" to spread academic awareness among students

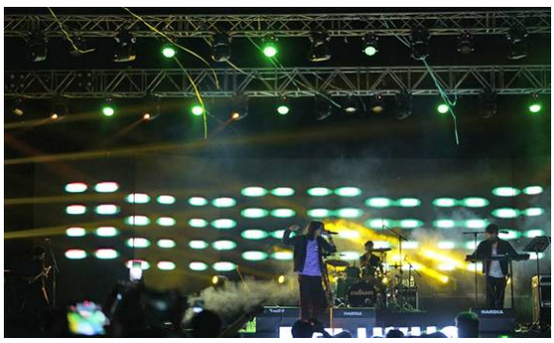


Summit'23

The Entrepreneurship Cell of IITI hosted E Summit'23 and Marketing Fiesta. The students invited some renowned personalities like Dr. Tanu Jain, Miss Shardha Khapra, Mr. Shaurya Mehrotra and many more to deliver talks and inspire the community. E-cell also hosted many events like pitching competitions, "break it down to develop entrepreneurial spirit" among students.

Fluxus 11.0

Fluxus, the annual technical fest of the campus, has been a resounding success this time. With Sachin-Jigar as the main artist duo, it also had a scintillating performance by The Pineapple Express in the electrifying Band Night. Many technical competitions and exhibitions from RRCAT, MCTE Mhow, etc. have been conducted in the event. To name a few, starting from Kavyanjali with renowned poets and storytellers like Laksh Maheshwari, Rakesh Tiwari, it continued through I-Conclave with speakers like Dr. Chetan Singh Solanki, Sanyukta Sinha, and Words of Wisdom from notable personalities like Dr. Vijendra Singh Chouhan, Mr. Harpal Singh Sokhi, Mr. Raj Shamani, Mr. Anubhav Dubey glittered through the event.



Other Highlights

1. MUN 7.0 - With the presence of Mr. T S Tirumurti, former representative of India to the United Nations, MUNIITI has been a great success. It has a participation of around 300 students from different schools and colleges.
2. Chat with Dr K Sivan - Dr K Sivan, Chairperson, BOG along with our Director had an interaction with the students in Auditorium. A great exchange of ideas and ethics took place in the session.
3. Hostel days - This time the celebration of Hostel days in each hostel was at its best. The students showcased their talents in the forms of dancing, singing, painting, storytelling, cooking and many more.

Achievements

1. IIT Indore secured overall 6th position in Inter IIT Tech meet 12.0 with a total of 5 medals won.
   - DevRev (High Prep NLP PS): Silver Medal
   - Adobe (Mid Prep NLP PS): Bronze Medal
   - Zelta (Mid Prep Trading PS): Bronze Medal
   - IGDC (Low Prep Game development PS): Bronze
   - CERTIN (Low prep cybersecurity PS): Gold
2. Our students Jaskaran Singh, Khusi Agarwal and Devesh Jindal have successfully qualified for ICPC 2023 Chennai regionals and achieved a final rank of 21st in the Chennai onsite regional contest.
3. IIT Indore bagged silver medals in Women's singles and men's doubles in Ranbhoomi - an inter college tournament organized by IIM Indore.

Welfare Activities

1. On the 15th Foundation Day of IIT Indore, the 10th successful blood donation camp was organized with the contribution of 321 generous donors.
2. Avana club members had a visit to Jagannath Narayan Vridhashram to engage with the residents through various activities aimed at bringing joy, companionship, and support to the elderly members.
3. Amidst the Diwali festivities, our students distributed an array of traditional sweets and bottles to the staff and workers of the transport office, symbolizing the sweetness of camaraderie and mutual respect.
4. Avana club IIT Indore partnered with the Being Sevak Charitable Foundation in Bombay to provide essential kits for blind students, underscoring our dedication to social welfare. The kit included specialized braille systems, vital nutrients, notebooks, and educational materials, addressing the unique needs of visually impaired learners.
5. Avana Team had a visit to Simrol Higher Secondary School and Kanyashala, engaging with students from grades 4 to 12. With passion and dedication, the team shared basic concepts of various subjects, creating an engaging and interactive learning environment.
6. A cloth donation drive has been conducted on the campus aimed at collecting clothing and stationery items from all corners of the campus, extending the spirit of generosity to the broader community. Partnering with local organizations, they identified areas where the donations would have the most significant impact. This event stands as a testament to the power of collective action and empathy.
7. Students also organized a successful plantation drive adding greenery to the campus and promoting sustainability and ecosystem restoration.






Training & Placement Cell, IIT Indore

The Training & Placement Cell (TPC) of IIT Indore is dedicated to fostering exceptional career opportunities for its students by establishing robust relationships with top multinational companies, research organizations, and public sector undertakings (PSUs). Serving as the central point of contact for campus placements, the Cell orchestrates a seamless recruitment process. The TPC has a dedicated team of faculty and staff to interact with various leading Indian and international organisations to facilitate career opportunities for the students. A dynamic student team is an integral part of the TPC, which helps organise and execute the activities.

Placement Session Overview

The placement session for the year 2023-24 was conducted as a hybrid event, commencing in October 2023 and concluding in June 2024 for full-time positions. The internship recruitment process started in August 2023 and ended in September 2023.

Key Highlights

- The global economic crisis significantly impacted the job market, leading many associated companies to impose hiring freezes, resulting in fewer selections for the 2023-24 session.
- Despite these challenges, IIT Indore successfully increased the number of participating companies and total offers compared to the previous year.
- A total of 140+ companies, along with 7 PSUs, registered for the 2023-24 Recruitment Drive.
- This year, IIT Indore collaborated with other first-generation IITs for the placement season, adopting a day-wise recruitment system starting from December 1, 2023.

Student Placement Preparation:

The Training and Placement Cell (TPC) plays a pivotal role in preparing students for campus placements and internships by organizing an array of career guidance and development activities. The TPC fosters student engagement through industry-sponsored hackathons and competitions, promoting hands-on experience across various domains such as engineering, coding, consultancy, finance, and analytics.

To ensure holistic placement preparation, the TPC conducts a thorough analysis of industry trends, enabling it to invite top-tier recruiters that align with students' career aspirations. Below are some of the key activities undertaken by the TPC for student placement preparation:

1. **Two-Day Workshop on Mastering Interview Skills:** This intensive workshop equips students with essential interview techniques, enhancing their confidence and performance during recruitment processes.
2. **Placement Experience Handbook:** A comprehensive guide titled "Placement Experience Handbook - A Complete Guide for a Successful Placement" is compiled and published, providing students with valuable insights and strategies for excelling in placements.
3. **Campus Connect Program by NXP Semiconductors:** To bring awareness among students about various career opportunities available in the field of semiconductors design, VLSI, System Engineering and embedded systems, a session has been organized by the technical leaders of NXP Semiconductors.
4. **Women's Possibility Summit by Goldman Sachs:** An exclusive event for girl students of IIT Indore to meet the top leaders of Goldman Sachs, gain new perspective on diversity and inclusion in today's world and get advice for a successful career ahead.

Online Assessments

Pre-Placement Talk

Key Recruiters at IIT Indore

IIT Indore has experienced remarkable growth in both the number of companies visiting the campus and the compensation being offered to students. The initial part of the recruitment season was dominated by companies offering roles in Software Development, Research Engineering, AI/ML, and Data Science Analysis. Many of these firms are global leaders in their respective fields.

The world's top consulting firms, banks, and software companies participated in the placements, reflecting IIT Indore's success in attracting some of the best recruiters to hire from its talented pool of students.

Additionally, there was a significant increase in the participation of Public Sector Undertakings (PSUs) in campus recruitment. Leading PSUs such as HPCL, BPCL, GAIL, EIL, BEML, and C-DOT offered full-time positions to our students.

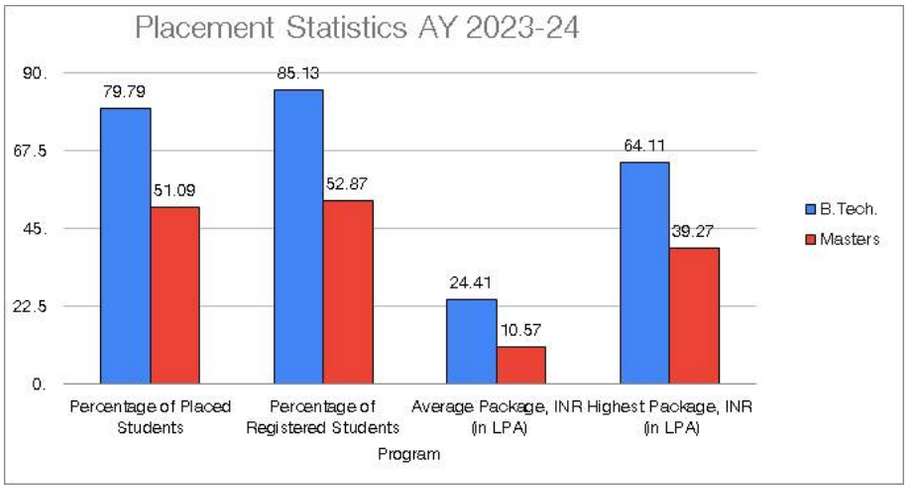
Leading companies that extended full-time placements and internship opportunities included Google, Amazon, DE Shaw, Quadeye, Groww, MoveInSync, BNY Mellon, Deloitte, TCS, Qualcomm, Flipkart, Axtria, Mahindra & Mahindra, L&T, Arcelor Mittal Nippon Steel, Volvo Eicher Commercial Vehicles Pvt. Ltd., Dolat Capital, Futures First, Goldman Sachs, Oracle, MathWorks, MAQ Software, Texas Instruments, Nvidia, Jaguar Land Rover, Tata Capital, Zomato, Palo Alto, Versa Networks, Analog Devices, and HCL Tech, among others.

Group Discussion

Overall Placement Statistics with Chart and Matrix (AY 2023-24)

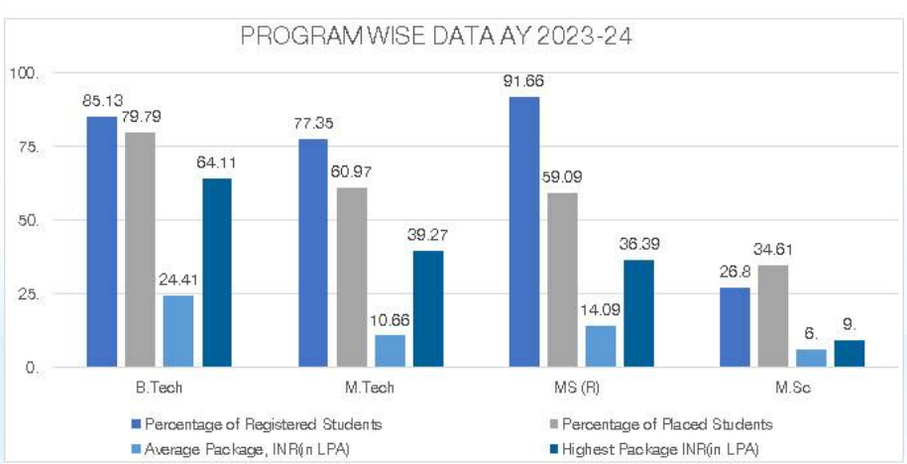
Overall Placement Statistics with Chart and Matrix (AY 2023-24)

Program	Batch Size	Registered Student	Total Placed	Percentage of Placed Student	Percentage of of Registered Students	Average Package, INR (in LPA)	Highest Package, INR (in LPA)
B.Tech.	343	292	233	79.79%	85.13%	24.41	64.11
Masters	174	92	47	51.09%	52.87%	10.57	39.27



Program- Wise Placement Statistics in Chart and Matrix (AY 2023-24):

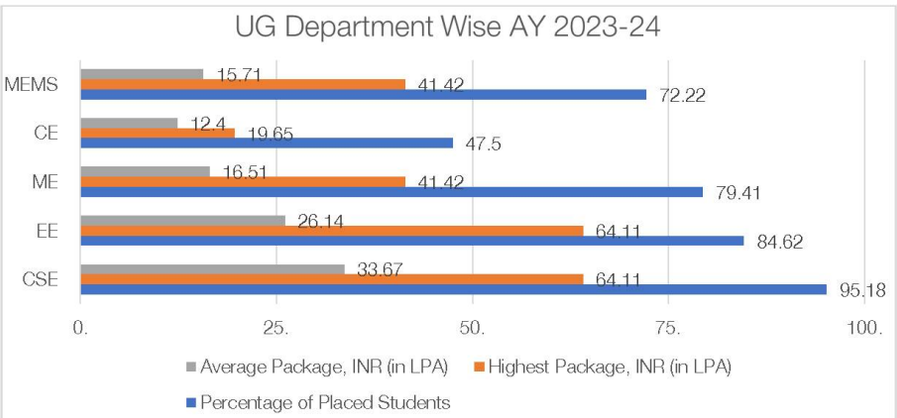
Program	Batch Size	Registered Student	Total Placed	Percentage of Registered Student	Percentage of of Placed Students	Average Package, INR (in LPA)	Highest Package, INR (in LPA)
B.Tech	343	292	233	85.13%	79.79%	24.41	64.11
M.Tech	53	41	25	77.35%	60.97%	10.66	39.27
MS (R)	24	22	13	91.66%	59.09%	14.09	36.39
M.Sc	97	26	9	26.80%	34.61%	6	9



Department Wise Placement Statistics in Graphs and Matrix

Department- wise B.Tech Placements (AY 2023-24):

Dept wise (B.Tech)	Registered Student	Total Placed	Percentage of Placed Student	Highest Package, INR (in LPA)	Average Package, INR (in LPA)
CSE	83	79	95.18 %	64.11	33.67
EE	65	55	84.62 %	64.11	26.14
ME	68	54	79.41 %	41.42	16.51
CE	40	19	47.50 %	19.65	12.4
MEMS	36	26	72.22 %	41.42	15.71



Internship Report

Industrial exposure is essential for students aspiring to enter the corporate world. At IIT Indore, students undertake internships during their summer break after the 6th semester. The Training and Placement Cell (TPC) plays a pivotal role in securing top-notch internships for students, providing them with the opportunity to apply classroom knowledge to real-world scenarios.

During the current placement season, pre-final year students secured exciting internship opportunities with leading companies and prestigious academic and research institutions both in India and abroad. Notably, the highest stipend received this season has risen to INR 3 lakhs per month.

A total of 126 pre-final year students secured internships with major multinational corporations, reflecting the robustness of our placement efforts and the caliber of our students.

Department- wise Internship Matrix (AY 2023-24):

Department	No. of Internship Offers (2025 Batch)	PPO Conversion (2024 Batch)
Computer Science	59	22
Electrical Engineering	36	18
Mechanical Engineering	8	5
Civil Engineering	5	0
Metallurgical Engineering & Materials Science	2	6

Conclusion:

The placement season of 2023-24 at IIT Indore has been notably smooth, showcasing a promising increase in both the number of participating companies and the offers extended to students. Over the past few years, the average salary package has consistently been around INR 20 lakhs per annum, with the highest package reaching an impressive INR 65 lakhs per annum.

This year, over 140 leading companies from various sectors, including Automobile, Information Technology, Consulting, Analytics, Core Engineering, Technology, Research & Development, and Public Sector Undertakings (PSUs), took part in the campus recruitment program, offering a wide range of job roles. A marked increase in PSU participation further enriched the opportunities available to our talented students.

Additionally, 10-15% of our graduates typically pursue higher studies at prestigious institutions such as top-ranked foreign universities, IIMs, and IITs, while 3-5% embark on entrepreneurial ventures, establishing their own enterprises and start-ups.

TPC Team 2023-24 (UG + PG)

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 on shared basis. 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 inter-disciplinary 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. Surendra Singh Sulya and Ms. Pratibha Chandanshive, Junior Assistants 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 PakirJainulabdeen 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 Sajeevan Maurya	--

Guest Rooms/Units in Hostel

The hostel offers guest house facilities to accommodate 60 guests. Each guest room is well-equipped with amenities to ensure a comfortable stay. The facilities provided include:

- Smart LED TV
- Sofa Set
- Center Table
- Cooler
- Microwave
- Electric Kettle
- Mattress
- Blanket
- Bedsheet
- Pillow
- Towels
- Cloth Stand

These amenities are designed to cater to the needs of the guests, ensuring a pleasant and convenient experience.

Hostel Photos

Hostel No. 01 – A.P.J. Abdul Kalam

Hostel No. 02 – C. V. Raman

Hostel No. 03 – Homi J. Bhabha

Hostel No. 03 -Devi Ahilya

Hostel No. 5 - Vikram Sarabhai

Basic Facilities in Hostel

Basic Room

Common Hall

Washroom

Kitchen with RO Water Tap

Wi-Fi

RO Water Dispenser

Sports Facilities in Hostels

Badminton Court

Table Tennis

Soccer Table

Other Facilities in Hostels

News Paper Stand

Magazine Stand

Fitness Equipment

Central Dining Facility

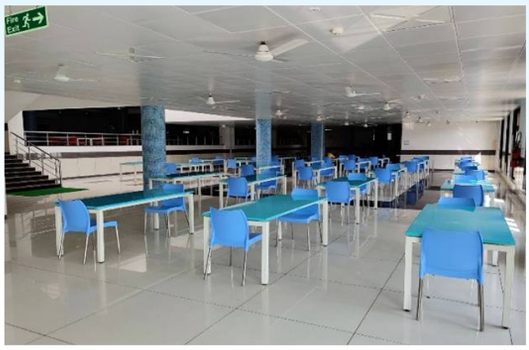
Our Institute's Central Dining Facility, known as the Carbon building, showcases the inclusive and community-focused environment we strive to maintain. With the capacity to serve around 2500 individuals simultaneously, it allows students from different hostels to dine together, fostering a sense of unity and camaraderie. The facility also includes separate sections for students, institute staff, and guests, along with multiple kitchens, common washrooms, and an elevator facility, ensuring convenience and accessibility for all. Additionally, the Executive Dining Hall provides exceptional hospitality and dining services for the Institute's invited / VIP guests.

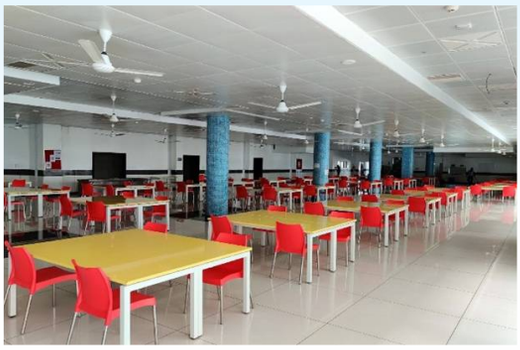
Students are served healthy and nutritious meals, with the student body deciding the menu on a weekly basis and the dining committee monitoring the overall functions. The quality of food is maintained through frequent feedback and immediate addressal of complaints. Payments to the caterer are made on a monthly meal plan basis through a cashless Smart Card Facility. The entire dining facility adheres to COVID-appropriate behavior. Besides regular dining services, the Carbon Building 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, the student body, and student volunteers, and is administered by a dining committee headed by Dr. Pravarthana Dhanpal, Dining Warden.

Dining Hall Building Photo

Cleaning in Dining Hall





Secured and cleaned seating arrangements

Convocation Report 2023 - 2024 of Counselling Cell, IIT Indore

Counselling Cell has been an integral part of 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 issues or academic challenges and seek professional help from the counselling cell team members.

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

Counselling Cell Team

Professor In-charge, Counselling Services

Prof. Aruna Tiwari
Computer Science and Engineering

Faculty Counselling Coordinators

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

Dr. Appina Balasubramanyam
Electrical Engineering

Dr. Girish Chandra Verma
Mechanical Engineering

Dr. Chandresh Kumar Maurya
Computer Science and Engineering

Dr. Kaustav Bakshi
Civil Engineering

Dr. Chandan Halder
Metallurgy Engineering and Material Science

Dr. Amit Shuklastronomy
Astrophysics & Space Engineering

Dr. Mirza S. Baig
Biosciences and Biomedical Engineering

Dr. Naresh Kumar Kumawat
Physics

Dr. Abhinav Raghuvanshi
Chemistry

Prof. 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.

Mr. Shubham Alte
Student Counselling Coordinator for PG

Mr. Harshwardhan Chaube
Student Counselling Coordinator for UG

Mr. Aniket Tiwari
Student Gymkhana Representative

Counselors

Ms. Monika Gupta
Senior Counselor

Mr. Shubham Mandsaurkar
Counselor

Ms. Shubhra Vyas
Counselor

Office Staff

Ms. Shilpa Chouhan
Junior Superintendent

Counselling Cell undertakes the following activities:

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

Parents counselling sessions- Meetings with parents of students who have academic or psychological concerns are held.

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 and 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 by extending their helping hand both for academic and non-academic concerns of the students.

Faculty Advisor Programme- The counselling cell assigns faculty advisors to new undergraduate (UG) and postgraduate (PG) students upon their enrollment at the institute, in consultation with the Deans of Student Affairs and Academic Affairs. These faculty advisors maintain regular interaction with their assigned students, offering guidance on academic matters. If a student displays signs of distress, they are referred to the student counselor for further assistance.

My Protective shield- During the inclusion of new BTech students, the Student Affairs Section organized the Genesis Programme. In this programme, the Counselling Cell conducted a series of sessions with the motive of increasing the social connection among the students and understanding the challenges they may face during their inclusion.

Orientation to Counselling Cell- An orientation session is organized for new students to introduce them to the counselling cell and the services it provides at IIT Indore. During this session, information about the counselling cell and its offerings are shared.

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

Strong Referral System- As a foundation for enhancing mental health services, students can be referred by officials, the academic office, the health centre, faculty advisors, parents, and friends. Additionally, walk-in students who approach the counseling cell on their own will also be accommodated.

Activities conducted in month of December-2023

Placement Pursuit Pavilion-

The placement pursuit pavilion was held from December 1st to 8th, 2023, with the objective of providing support and guidance to the final year students for their placement concerns. Counselors were also available in DA and APJ, Hall of residences from 2pm to 10 pm to address the issues. Counselors coordinated with the placement office to provide support to the students with concerned staff and student placement coordinators. Individual counselling sessions and mock interviews were held with the students who had specific concerns.

Exam Stress Sessions –

Exam stress sessions were scheduled for all BTech first year students during December 4-8, 2023. These interactive sessions aimed to share practical strategies and tips for managing exam stress. It also helped students to maintain overall well-being during the exam period.

On December 04th, 2023 honorable Director, Dean of Student Affairs and Professor in-Charge, Counselling Services attended the interactive session in the hall of residence area. In the series of sessions, the important tips and the practical examples were shared. These exam stress sessions motivated the students to take the exam with ease. Regular assessments and follow-ups will be planned to increase the students' well-being.

Inter IIT Wellness Meet, IIT Roorkee, Noida campus on February 14th & 15th 2024 Attended by

1. Dr. Sanjeev Singh
2. Dr. Kalandi Pradhan
3. Ms. Monika Gupta

The experience shared by the team members attended the Inter IIT Wellness Meet

- IIT Indore being the only IIT to have a LIVE committee
- Feedback about the steps to be taken to resolve the concerns of students, interaction with students monthly or bi-monthly and focusing on early identification
- Practices of different IIT's and challenges they face were also shared

Counselling Committee 2023-24

The counselling committee consists of both Faculty Counselling Coordinators (FCC) and Student Counselling Coordinators (SCC). In view of the increasing student strength the SCC team has been expanded with 'Department Counselling Coordinators' from each department / courses this year onwards.

Interactive Meeting with Faculty Advisor and Student Mentor Dates:

1st Interactive Meeting: July 18, 2023

2nd Interactive Meeting: October 10, 2023

3rd Interactive Meeting: January 24, 2024

Interactive meetings with new students, their faculty advisors and student mentors were held in a semester three times for PG and UG batch 2023. Director, IIT Indore, Professor Suhas S Joshi, addressed the students, and it was followed by a question answer session along with the Dean of faculty affairs, Dean of student affairs and Head, counselling services.

Some of the events organized by the Counselling Cell during 2023-24 are as follows:

World Mental Health Day 2023- 4-week challenge

World Mental Health Day is a global event that promotes awareness for mental health issues. It provides an excellent opportunity to engage students in activities that promote mental well-being and resilience. In recognition of this important day, a 4-week mental health challenge for our students was designed to enhance their mental well-being, reduce stress, and promote a supportive community.

Week 1: Self-Care and Stress Management

- Daily self-care tips and challenges.
- Workshops on emotional intelligence and self-awareness.
- Stress and anxiety management techniques.

Week 2: Building Strength and Persistency

- Encouraging open dialogues on mental health.
- Inspirational stories from individuals who have overcome adversity.
- Discussions on maintaining a positive mindset during challenging time

Week 3: Social Connection

- Virtual group activities and games to increase social interaction.
- Panel discussions on the importance of social support.
- Encouraging students to reach out to companions and professionals for support.

Week 4: Physical Well-being

- Highlight the connection between physical and mental health.
- Encourage regular exercise and its positive impact on mental well-being.
- Promote a balanced diet and sufficient sleep

Benefits of the challenge:

1. Improved Mood: Regular exercise releases endorphins, contributing to a positive mood and reduced stress.
2. Stronger Community Bonds: The challenge will foster a sense of belonging and connection among students, reducing feelings of isolation
3. Lifestyle Habits: Encouraging healthy habits early in life can lead to long-term well-being and disease prevention.

An expert talk by Dr. Krithika Chandrasekar was organized on 22nd March 24
Topic- "Self-Navigating the Emotional Wellness Labyrinth".

Ek Bharat Shresth Bharat

एक भारत श्रेष्ठ भारत

भारतीय प्रौद्योगिकी संस्थान इंदौर

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

The "Ek Bharat Shrestha 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 Shrestha 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 Aviskar Abhiyan, Unnat Bharat Abhiyan, Swachh Bharat Abhiyan, RuTAG, etc.

Dr. Niraj Kumar Shukla
Convener

Dr. Ashisha Kumar
Coordinator
Rashtriya Avishkar 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 a Yuva Sangam / Student Exchange Program for the 2nd edition of Akhil Bhartiya Shiksha Samagam and the 3rd anniversary of the NEP at Pragati Maidan, New Delhi. The event was inaugurated by the Hon'ble Prime Minister. Cross cultural performances were organized on 29th and 30th July, 2023. The following delegates from IIT Indore also participated: Dr. Niraj Kumar Shukla, Dr. Mrigendra Dubey, Dr. Ananya Ghoshal, Mr. Lalit Jain, and Mr. Santosh K. Sharma. Dr. Ananya Ghoshal played an important role in coordinating the performance and mentoring the performers.MOE and AICTE selected 12 cultural teams across India and IIT Indore was one among them.

To promote the Rashtriya Aviskar Abhiyan, the EBSB team of IIT Indore conducted more than 144 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. Organized heath camp bai gram panchayat with Govt MGM Medial Dr. Team.

Continuously inviting various school teachers and students at IIT Indore and then their interaction with IIT Indore faculties, to show them various Experimental Labs, group discussions, etc.

Science Exhibition to showcase models developed by students. To enable children to become motivated and engaged in Science, Mathematics and Technology (SMT) through observation, experimentation, inference drawing, model building, rational reasoning and testability.

IIT Indore in News

IIT-Indore joins clean Kshipra mission

Sagar.Choukse
@timesgroup.com

Indore: IIT-Indore will be involved as an expert in the ongoing Kanh-Saraswati River purification project as Indore Municipal Corporation (IMC) has got sanction to develop three sewage treatment plants (STPs) at Rs 511 crore under Clean Ganga Mission.

Thirteen more STPs proposed under AMRUT 2.0 and Şimhastha Project are meant to ultimately clean Kshipra River before Ujjain Kumbh 2028.

"A Kshipra Purification Cell is being set up at IIT-Indore for this purpose," collector Asheesh Singh said.

According to IMC additional commissioner Siddhartha Jain, the corporation has got sanction for three STPs. **P4**

IIT-Indore to get 5G lab

Indore: IIT Indore is amongst the 100 institutes in India that will get 5G labs as part of the initiative by the department of Telecommunication, a press statement by IIT-I said on Friday.

"The announcement was made today during the inauguration of 7th edition of India Mobile Congress by PM at Bharat Mandapam. The labs are being set up to build competencies and engagement in 5G technologies for students and startup communities. This will facilitate the development and experimentation of 5G applications in various socioeconomic verticals," the institute said in a statement. IIT -I director Prof Suhas Joshi said "It is a proud moment for the institute for being entrusted with this responsibility."

The institute will require to train at least 50 students and 10 faculty members in 5G lab. TNN

IIT-I study on betel nuts claims to aid in early diagnosis of oral cancer

Times News Network

Indore: A study by the Indian Institute of Technology, Indore (IIT-I), has claimed to aid in early diagnosis of oral cancer caused due to extensive consumption of betel nut in a malnourished population.

The institute in a statement released on Tuesday said a team of professors and students carried a study on betel nut, one of the key causes of an oral precancerous condition called Oral Submucous Fibrosis (OSMF), that leads to loss of elasticity in cheeks and restricts mouth opening. The condition, if not unaddressed, can progress into oral cancer.


File photo

The institute used the Raman micro-spectroscopy technique to study the biomolecular mechanisms behind the pathogenesis of OSMF and to identify the pathways that can be targeted to prevent its transformation to cancer.

The results of the study were verified using established sophisticated methods such as metabolomics and lipidomics by liquid chromatography-mass spectrometry.

IIT-I biosciences and biomedical engineering associate professor Dr Hem Chandra Jha said, "The study is based on a non-invasive spectroscopic technique, Raman micro spectroscopy. Such studies can help doctors and scientists to develop methods for early diagnosis of cancer. Moreover, they can help in cancer therapy to treat in early stages and improve the overall quality of life of the patients".

Jha said, the study found that with a lack of appropriate nourishment, the betel nut dysregulates several cancer-causing pathways associated with molecules like acetyl-coA and carbohydrate metabolism. In the future, such molecules can be potential biomarkers for detecting whether a patient is susceptible to developing oral cancer.

Other members of the team included Dr Tarun Prakash Verma, Siddharth Singh, Sonali Adhikari from the department of biosciences and biomedical engineering and professor Rajesh Kumar and Dr Chanchal Rani from department of physics.

The study was supported by the department of science and technology (DST) and was published in the Journal of Raman Spectroscopy.

Professor Rajesh Kumar said, "Methods like Raman Spectroscopy can serve as non-invasive methods in identification of the signature molecules for early diagnosis of cancer and various other diseases. Such techniques can be fast and reliable for mass screening in public health centres".

IIT Indore showcases four technologies at IInvenTive

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

IIT Indore, which participated in the second edition of India's largest research and development (R&D) fair, IInvenTiv 2024 which was held at IIT Hyderabad, showcased four of its technologies. The fair aimed at promoting inclusive involvement of the best institutes in India to develop a self-reliant and developed India by 2047. IInvenTiv 2024 was inaugurated by Dharmendra Pradhan, union minister of education and skill development, in the presence of K Sanjay Murthy secretary of higher education.

IIT Indore showcased technologies in the domains of Defence and Space Technology, Agriculture and Food Processing, Industry 4.0, and Affordable Healthcare. From a total of 250 technologies, 128 were selected to be showcased of which 04 were from IIT Indore.

BIG FEAT: IIT Indore fabricates chips for hardware security, AI applications

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Adding yet another feather to its cap, the Indian Institute of Technology Indore has fabricated two chips - one for hardware security applications and another for AI applications.

The elite institute achieved this big feat wherein out of 144 designs of a chip submitted, 2 designs were approved by Efabless Corporation which in turn has fabricated the chip for the institute free of cost.

"For a selection of 40 projects, a total of 144 projects were submitted, with 83 from India. This programme was under Efabless Open Multi Project Wafer (MPW) programme, which provides opportunities for designers to experiment and push the state-of-the-art without having to reconcile the risk associated with the cost of fabrication," a press release issued by IIT Indore said.


The chip design team

Chips are indispensable components in modern technology, serving various purposes.

"One of the fabricated chips will be dedicated to hardware security applications, enhancing protection against cyber threats. This will help generate security keys for various applications like device authentication and privacy policy thus safeguarding against unauthorised access and tampering. The second chip will serve as a hardware accelerator for edge AI applications, contributing to the development of advanced technologies.

Matrix multiplication, a fundamental operation in computing, finds applications in speech recognition, image processing, and generating computer graphics. It forms the backbone of many advanced technologies," the press release stated.

The hardware security design was submitted by PhD scholar Neha Maheshwari, and the matrix multiplier design for the Accelerator design was led by MS scholar Radheshyam Sharma with a team, including MTech scholar Komal Gupta, and BTech student Satvik Reddy.

"This involvement underscores the commitment of IIT Indore to fostering academic excellence and research in semiconductor design and related fields," said a press release issued by IIT Indore," the release stated.

Prof Santosh Kumar Vishvakarma, faculty member at IIT Indore and supervisor, said "These chips represent a leap forward in semiconductor design and contribute to the advancement of technology in diverse fields. These accomplishments reflect the collaborative efforts of academia and industry in advancing technology and fostering innovation. They highlight the importance of interdisciplinary research and its impact on addressing real-world challenges. Moreover, they align with the objectives of the India Semiconductor Mission launched by the Government of India, aiming to bolster India's position in the global semiconductor market and promote indigenous chip design and manufacturing capabilities."

Presently, the testing of the chips is underway, and the authentication of the security keys will subsequently commence.

Efabless Corporation is the first creator platform for chips where hardware and software developers, chip experts, students and researchers design, share, collaborate, fabricate and commercialise their own chips.

IIT Indore elevates STEM education with Tinkerers' Lab inauguration

OUR STAFF REPORTER
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Indian Institute of Technology (IIT) Indore inaugurated Prof Deepak Phatak Tinkerers' Lab, a student managed facility on September 11. The facility is funded by the Maker Bhavan Foundation (MBF) and the Desai Sethi Foundation and is named after recipient of Padma Shri Phatak, a former chairman of IIT Indore who is known for his path breaking work on a variety of digital technology domains. The lab will remain open 24x7 to the IIT Indore community.

Phatak was the chief guest and were accompanied by Dr Hemant Kanakia, chairman and founder of Maker Bhavan Foundation and Bharat Desai of Desai Sethi Foundation. Phatak addressed the students and highlighted the value of Learning by Doing for an engineer.

'Tinkerers' Lab is an embodiment of fundamental aptitude and attitude of an IITian. Students will definitely enjoy building things with their own hands. The amount of innovation and creativity will depend upon the talent you use and passion shown. The product prototypes students build here will not be bound by any syllabus, but only by the imaginative ideas and creative talent brought to life. The students are encouraged to work and build things with their own hands and seek advice and mentorship from elders as required. The passion which gets poured into the work done here would make the students far better practical problem solvers in life. Their accomplishments here may constitute tiny steps taken towards becoming successful entrepreneurs,' he said.

IIT Indore director Prof Suhas Joshi said, 'The inauguration of Tinkerers' Lab is a momentous occasion for IIT Indore marking our commitment towards nurturing next generation of engineers who are adept at practical problem solving, besides being well-versed in theory. It reflects IIT Indore's commitment to provide holistic ambience to its students and prepare them to make a real impact in the world. The lab will be open 24x7 and that will give a lot of flexibility to execute working on one's idea whenever it strikes and don't have to wait for the next day.'

Desai joined the inauguration online from USA and interacted with the students in a fireside chat. He shared, 'We are inspired by Phatak's passion for teaching, his deep understanding of technology and his ability to translate that into clear conceptual principles that audiences can readily grasp and his immense love for India. This laboratory is dedicated to his contributions to India and his unwavering support to learning.'

आईआईटी इंदौर की खोज • डिजीज के अंश मिले तो रोकने के प्रयास करेंगे

35 से 40 की उम्र में एमआरआई से पता करेंगे अल्जाइमर का, एआई की मदद लेंगे

भास्कर संवाददाता | इंदौर

अल्जाइमर का 35 से 40 की उम्र में ही पता लगाने के लिए आईआईटी इंदौर की टीम ने एक्सप्लेनेबल आर्टिफिशियल इंटेलिजेंस आधारित सॉफ्टवेयर अल्गोरिथ्म बनाया है। इसके लिए किसी भी व्यक्ति को सामान्य चेकअप में मस्तिष्क का एक बार एमआरआई स्कैन करवाना होगा। स्कैन से प्राप्त डाटा को इस एआई प्रोग्राम में डाला जाएगा और फिर उस व्यक्ति को तीन स्टेज में रखा जाएगा- स्वस्थ, माइल्ड कॉग्निटिव डिसऑर्डर और अल्जाइमर डिजीज। प्राप्त डाटा से अल्जाइमर होने की आशंका का पता चल जाएगा और फिर इसे रोकने के प्रयास किए जाएंगे।

इस शोध का नेतृत्व प्रो. एम तनवीर कर रहे। उनका साथ दे रहे एसआईटी मिलान से डॉ. तृप्ति गोयल, आईआईटी इंदौर के छात्र डॉ. राहुल शर्मा और डॉ. अश्वनी कुमार मलिक। इसके अलावा विदेशी संस्थाओं में कनाडा के मैनिटोबा विवि से डॉ. [illegible], स्पेन के प्रो. जैवियर डेल सेर, कतर विवि से प्रो. पोन्नु सुगंथन और ऑस्ट्रेलिया के प्रोफेसर सीटी लिन रहे। यह शोध नेचर मेंटल हेल्थ जर्नल के साथ 8 अन्य अंतरराष्ट्रीय जर्नल में भी प्रकाशित हुआ।

जेनेटिक फार्मेशन की भी जांच की

प्रो. तनवीर ने बताया एआई अल्गोरिथ्म को तैयार करने में हम 8 साल से काम कर रहे। इसके लिए अल्जाइमर और बिना अल्जाइमर वाले लोगों का एमआरआई और पीईटी स्कैन डाटा इकट्ठा किया। युवाओं के एमआरआई स्कैन पर भी शोध किया, ताकि पता चल सके कि दिमाग में इस बीमारी के पहले और बाद में किस तरह के बदलाव आते हैं। व्यक्ति के जेनेटिक फार्मेशन और न्यूरो इमेजिंग को भी गहराई से जांचा गया।

अल्जाइमर का पता चलता तब तक देर हो चुकी होती- प्रो. तनवीर ने बताया अल्जाइमर का पता 60-65 की आयु में चलता है और तब इसके सुधार का कोई मार्ग नहीं बचता, लेकिन यदि डायग्नोसिस पहले हो जाए तो इस बीमारी को रोका जा सकता है।

Financially needy students to be trained in AI, software

TIMES NEWS NETWORK

Indore: Homegrown information technology company, Infobeans Foundation, has collaborated with the Indian Institute of Technology, Indore (IIT-I), to train young students from financially underprivileged backgrounds free of cost in artificial intelligence and advanced software to create a pool of industry ready workforce.

Infobeans Technologies Ltd co-founder Avinash Sethi said, "We have signed a MoU with IIT-I's Drishti CPS Foundation under which more than 250 youths will be provided training in software development and artificial intelligence. It's a one-year programme which will be free of cost for students of any stream from financially underprivileged backgrounds. The idea is to create a talent pool by nurturing students in advanced technologies and increase employment opportunities by making them industry ready."

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FICCI FLO Indore chairperson Vibha Jain Sethi said, "This software development training will run for a year and education will be completely free for girls. Members of FICCI FLO Indore will mentor each girl, inspire them to progress, bear some of their educational expenses, and assist in their training. After a year, efforts will also be made to employ trained girls in their institutions."

IIT-I signs MoU with state skill devpt dept

Indore: Indian Institute of Technology (IIT) Indore signed a memorandum of understanding (MoU) with the department of technical education, skill development and employment of state government on Friday to foster academic collaboration, enhance educational opportunities, and promote student mobility. As part of the collaboration called Vidya Samagam, students from all the government/autonomous engineering colleges including University Institute of Technology - Rajiv Gandhi Proudyuogiki Vishwavidyalaya, Bhopal (AGAEC) will get an opportunity to complete their BTech. project at IIT Indore and study advanced courses along with IIT Indore students, IIT-I said in a statement. The MoU signed by IIT-I director Professor Suhas Joshi and additional chief secretary Manu Srivastava will be valid for 5 years.

ACADEMIC COLLABORATION

Joshi said, "Meritorious BTech and BE students studying in pre-final year having no backlog from previous semesters from AGAEC in civil engineering, computer science and engineering, electrical engineering, electronics and telecommunication engineering or electronics and communication engineering, information technology, mechanical engineering, mechatronics engineering and metallurgy would be eligible to apply. We will have a selection process comprising of written examination and or personal interview conducted by IIT Indore."

"Selected students for this programme will start working on their project in an online mode from semester 7. The students may visit IIT Indore during holidays or vacations for guidance and project work. They will join IIT Indore in the eighth semester and will complete their project and study elective courses as per the requirement of AGAEC. Students will be evaluated as per the academic policy of IIT Indore for projects and courses studied," said Joshi.

As part of the MoU, students will be allowed to tailor their education by selecting courses from both institutions that align with their academic and career goals. This flexibility of the programme will promote interdisciplinary learning, cross institutional collaboration, and the development of a well-rounded education. TNN

पीएचडी छात्र का शोध • ईंट निर्माताओं से चल रही चर्चा, आगे जाकर बिल्डर, कॉन्ट्रैक्टर को भी करवाएंगे उपलब्ध

आईआईटी इंदौर ने ईंटों के लिए बनाया गोबर का फोमिंग एजेंट, ईंटें हलकी और मजबूत होंगी, गर्मी में घर की दीवारें ठंडी रहेंगी

भास्कर संवाददाता | इंदौर

आईआईटी इंदौर के पीएचडी छात्र ने प्रोफेसर के सहयोग से ईंट में फोमिंग एजेंट के रूप में इस्तेमाल होने वाले एल्युमीनियम का सस्ता और पर्यावरण हितैषी विकल्प बनाया है। गोबरएयर नाम से बनाए गए गोबर के पाउडर का इस्तेमाल ईंट बनाने में करने से ईंट का वजन कम हो सकता है। इससे गर्मी में घर ठंडा रहेगा और ईंटों की कीमत भी कम हो सकेगी। यह ईंट साधारण ईंट के मुकाबले 24% तक सस्ती होगी।

आईआईटी इंदौर के सेंटर फॉर रूरल डेवलपमेंट एंड टेक्नोलॉजी के प्रमुख प्रो. संदीप चौधरी और उनके पीएचडी छात्र संचित गुप्ता ने संयुक्त रूप से इस पर काम किया है। प्रो. चौधरी ने बताया गोबर गोशाला से निकलने वाला बड़ा उपयोगी उत्पाद है, जिस पर टीम ने और भी कई शोध किए हैं। यही से गोबरएयर की शुरुआत भी हुई। यदि गोबरएयर बाजार में सफल हो जाता है तो गोशालाओं को गोबर के लिए 1 रुपए किलो से बढ़कर 4 रुपए किलो तक मिल सकते हैं। गोबर भरकर बनी ये ईंट लाल ईंट और फ्लाई ऐश ईंट दोनों के ही मुकाबले अधिक सस्ती और ज्यादा हलकी भी बन रही हैं।

24 प्रश तक सस्ती साधारण ईंट के मुकाबले

03 रुपए किलो ज्यादा मिल सकेंगे गोशालाओं को गोबर के

साइट पर कांक्रीट में मिला सकेंगे पर्यावरण हितैषी भी होंगी

टेस्टिंग आखिरी चरण में है। फिलहाल इसका रेरयो स्पेसिफिकेशन टेबल तैयार किया जा रहा है, जिसकी मदद से इसे सीधे बिल्डर और ठेकेदार को दे सकेंगे। वे इसे सीधे साइट पर कांक्रीट में मिला सकेंगे। टीम ने इसे सीआईआई को भी अपनी बिल्डिंग में इस्तेमाल करने के लिए संपर्क किया है। इंडियन ग्रीन बिल्डिंग काउंसिल, ग्रीन रेटिंग काउंसिल और इस क्षेत्र में काम कर रही अन्य संस्थाओं से भी संपर्क कर रहे हैं, जिससे इन ईंटों से बने मकानों और भवनों को ग्रीन रेटिंग मिलने में आसानी हो सके। इसके लिए टीम द्वारा फरवरी के महीने में पेटेंट भी फाइल किया गया है।

IN A FIRST, 23 COLLEGE STUDENTS TO COMPLETE BTECH AT IIT INDORE

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

Every year, lakhs of students try their luck but barely around 10,000 students reach IITs in the country. The IIT bus once missed couldn't be caught, at least, for pursing BTech course.

But here is a batch of 23 students from government engineering colleges in Madhya Pradesh that has got a chance to get into the BTech course offered by IIT Indore in their final semester.

As part of Vidya Samagam programme, these 23 students from government engineering colleges in the state have joined IIT Indore for completing their BTech project.

The programme Vidya Samagam, which provides an opportunity to students from government (autonomous) engineering colleges including University Institute of Technology - Rajiv Gandhi Proudyuogiki Vishwavidyalaya, Bhopal (AGAEC) to complete their BTech project at IIT Indore and study advanced courses along with IIT Indore students, started on Wednesday.

These students from government engineering colleges will study along with IIT Indore students in the eighth semester

In a first, this facility has been extended to government engineering college students in accordance with the MoU with the Department of Technical Education, Skill Development and Employment, Government of Madhya Pradesh to foster academic collaboration, enhance educational opportunities, and promote student mobility.

A total of 230 students from six engineering govt colleges of Madhya Pradesh participated in the selection process, out of which 23 students, including 8 girls, have finally joined the eighth semester.

These students, who had to clear the written test and interview conducted by IIT Indore, belong to Jabalpur Engineering College and Ujjain Engineering College.

"They would be undergoing BTech courses under the Department of Civil Engineering, Computer Science and Engineering, Electrical Engineering, and Mechanical Engineering," a press release issued by IIT Indore said.

Their classes will be held along with the eighth-semester regular students of IIT Indore. These students will be mentored by IIT Indore faculties in state-of-the-art research which will provide them with an opportunity to work in advanced research laboratories.

Addressing the inducted students, IIT Indore director Prof Suhas Joshi said, "You are one of the meritorious and lucky students, who have been chosen for this prestigious programme. Hence, you should utilise this unique opportunity to enhance your academic and research skills. At no point, you should underestimate yourself. You should regularly interact with the faculty members and students of this institute. You should plan your academics in such a way that you finish your course on a weekly basis. Similarly, you should crystalise your projects, plan them properly and work hard to achieve the desired results."

He added, "This association should not end with this programme and you should explore the possibility of extending your studies to master's and PhD in this institute."

The event was attended by Prof Devendra Deshmukh, dean of educational outreach along with other deans, HoDs and registrar.

IIT-I, Choithram join hands to study brain disorders

Indore: A joint research by Indian Institute of Technology, Indore, (IIT-I) and Choithram Hospital and Research Centre has revealed the likelihood of bacterial infection causing brain disorders in human beings leading to medical conditions like alzheimer.

Researchers claim the revelations in the study will help in deciding the line of treatment for alzheimer at an early stage making treatment more effective.

The study to investigate the role of gut bacteria, Helicobacter pylori (H pylori) in gut-brain axis disruption and neuro inflammation was published in the journal Virulence and it emphasised on the possibility of gut microbial secretions entering the brain through one of the longest nerves, connecting gut to the brain and further inducing neuro related diseases and changing the gut-brain axis (GBA).

The research was led by IIT-I Department of Biosciences and Biomedical Engineering associate professor Dr Hem Chandra Jha and Dr Ajay Kumar Jain, Choithram Hospital and Research Centre, Indore.

Jha said "Our team has assessed the effect of antimicrobial resistant (AMR) H pylori strains on brain physiology. We now have a potential mechanism linking the stomach bacteria to neurological conditions. This study can help to upgrade the treatment regimen of patients with neurological complications along with prior H pylori infection and deciding the line of treatment for alzheimer."

The GBA consists of bi-directional communication between the central and the enteric nervous system, linking emotional and cognitive centres of the brain with peripheral intestinal functions, IIT-I said in a statement issued on Monday.

The study showed that H pylori infection increases inflammation in the gut compartment and alters the activity of signal transducer and activator of transcription 3 and its downstream molecules. This might act as a transcriptional regulator for inflammatory and alzheimer's disease associated hallmarks, the statement said. TNN

Financially needy students to be trained in AI, software

TIMES NEWS NETWORK

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IIT ने हरियाणा के 238 सरकारी स्कूलों में स्थापित की एस्ट्रोनॉमी लैब

भास्कर संवाददाता | इंदौर

नेशनल एजुकेशन पॉलिसी के तहत छात्रों में नए विषयों के प्रति जागरूकता लाने और दिलचस्पी बढ़ाने के लिए आईआईटी इंदौर ने हरियाणा के 238 सरकारी स्कूलों में शिक्षा विभाग के साथ हुए अनुबंध के तहत एस्ट्रोनॉमी लैब 'यज्ञवेदस' की स्थापना की है। लैब में एस्ट्रोनॉमी से जुड़े कई उपकरणों की स्थापना की गई है। यहां 6वीं से 12वीं तक के विद्यार्थी प्रयोग कर सकते हैं। हरियाणा की स्कूल शिक्षा परियोजना परिषद द्वारा आईआईटी इंदौर के साथ यह एमओयू अक्टूबर 2017 में किया गया था। इसके तुरंत बाद एमपी कांग्रेसमैन ऑफ साइंस एंड टेक्नोलॉजी (एमपी सीएसटी) ने भी इसी प्रकार का समझौता आईआईटी इंदौर के साथ दिसंबर में किया था। इसके तहत आईआईटी को भोपाल में एमपी सीएसटी में ऐसी ही लैब बनाना है।

हरियाणा स्कूल शिक्षा परियोजना परिषद के साथ हुए समझौते में हरियाणा के सरकारी स्कूलों में एस्ट्रोनॉमी लैब स्थापित करना थी। लैब में रखे जाने वाले लगभग सभी उपकरण आईआईटी इंदौर ने हरियाणा के स्कूलों में मार्च-अप्रैल 2023 तक स्थापित किए। मई 2023 में प्रत्येक स्कूल से एक शिक्षक को इन उपकरणों को इस्तेमाल करने और उनकी मदद से बच्चों को ऑब्जर्वेशन साइंस और एस्ट्रोनॉमी के सिद्धांतों को समझाने का प्रशिक्षण भी दिया गया। अधिकतर स्कूलों में यह लैब सेटअप हो चुकी है। इस सत्र से सभी स्कूलों में इन लैब की मदद से विद्यार्थियों को स्पेस साइंस के एक्सपेरिमेंट कराए जाएंगे।

हर लैब में 10 लाख रुपए के उपकरण लगाए गए

आईआईटी इंदौर के डिपार्टमेंट ऑफ एस्ट्रोनॉमी एस्ट्रोफिजिक्स और स्पेस इंजीनियरिंग के हेड और डिपार्टमेंट प्रोफेसर अभिलाष दास ने बताया कि पूरे हरियाणा में स्थापित इन लैब को ही तरह आईआईटी इंदौर ने अपने परिसर में यूनिवर्सिटी विद्यालय में भी इस प्रकार की एक लैब स्थापित की है। प्रत्येक लैब में लगभग 10 लाख रुपए के उपकरण लगाए गए हैं। इनमें टेलिस्कोप, वीडियो टेलिस्कोप, ऑप्टिकल्स से जुड़े एक्सपेरिमेंट की मशीन रखी गई हैं। वेब से दो साल तक सभी स्कूलों को यह लैब संचालित करने को लेकर प्रशिक्षण देंगे और उनकी समस्याओं को सुलझेंगे। इसी कड़ी में एक प्रशिक्षण शिविर इसी महीने होगा, जिसमें अभिलाष सभी टीचर्स जोड़े जाएंगे।

IIT-Indore unveils three labs on Ujjain campus

Indore: As part of the upcoming campus at Ujjain, IIT Indore inaugurated three state-of-the-art labs under Centre for Experiential Learning on Innovation, Technology and Entrepreneurship (C-ELITE) in Ujjain engineering college.

The labs, namely Makers' Space, Heritage and Innovation Centre in Astronomy and Space Engineering (HICASE), and Laser Engineering, were inaugurated by chief minister Dr Mohan Yadav, Union education and skill development and entrepreneurship Dharmendra Pradhan was present virtually to mark the event.

IIT Indore director Prof Suhas Joshi said that the campus aligns with the National Education Policy 2020 and envisions a Deep Tech Research and Discovery Campus built on the pillars of research and innovation.

The campus will include Deep Tech Research laboratories, a Discovery Center, a Lab-to-Market Center, and a Center for New and Emerging Technology, he said adding It will also support real-life products through a Lab-to-market Incubation and entrepreneurship center, benefiting engineering students from state colleges.

The Makerspace Laboratory aims to provide a conducive environment for young engineering students to showcase their innovative and creative ideas. It encourages students to dismantle and examine systems, as well as rebuild them. This lab will also enable students to transform their creative concepts into tangible engineering products, an institute release said.

HICASE is a unique center that combines ancient wisdom with modern technology to inspire young minds. It encompasses various aspects such as Astronomical Heritage, Space Science Education Hub, Skill Development Centre, Data Intensive Computing & Analytics Laboratory, and Start-up and Innovation in Device Technology related to Astronomy and Space Research, it said.

The Laser Engineering lab offers hands-on experience to students and faculty in designing laser systems for different industrial needs. The lab includes Laser-based GI Index Printing on Textile, which allows for geographical indexing on textile products and wood carving. It also features Laser Michelson Interferometry for high-precision distance and thickness measurements, Laser Engraving and 3D Printing, Opto-Mechatronics System for nano to micro-level laser beam steering, and Photoacoustic System for Health Monitoring to screen for early-stage cancer diagnosis.

Over the next five years, IIT Indore aims to develop 250 new technologies. Through its Lab-to-Market program, it plans to incubate 150 ideas and bring at least half of them to the market-ready stage.

The campus will also offer degree programs, executive programs, and skill development programs. It also aims to train 2500 individuals in deep technology over the next five years. The campus facilities will include five conference halls, fifteen digital classrooms, an Administrative Building, and Residential & Hostel complexes. It will serve as a hub for cutting-edge research, interdisciplinary collaboration, and talent development, contributing to the nation's progress. TNN

IIT-I to train industry ready talent pool

TIMES NEWS NETWORK

Indore: Indian Institute of Technology, Indore (IIT-I), signed a memorandum of understanding (MoU) with an automobile manufacturing unit on Monday to collaborate on developing competencies and train industry ready talent pool.

The agreement signed for a period of five years with Volvo Eicher Commercial Vehicles Limited (VECV) will also allow the employees of the automobile company to acquire MTech, Master of Science (Research) and PhD degrees.

IIT-I director professor Suhas S Joshi said, "This cooperation will cover joint research, scientific mobility, exchange of scientific and technical information, exploitation of research results and transfer of technology. It will also help in training of VECV employees, internship of students from IIT-I, joint workshops, research and consultancy projects."

IIT-I will award M.Tech degree in hybrid and electric vehicle to employees of VECV on completion of the course.

VEVC chief operating officer Rajinder Singh Sachdeva said "This is a VECV sponsored programme for its employees. We hope an exchange of around 100 high quality engineers for training in a time frame of five years for future competencies. This MoU will also enhance collaboration in research and academics in the areas of mutual interest. We are working towards building trained manpower for the future automotive industry."

Ex-ISRO chairman Sivan to head IIT-Indore board of governors

TIMES NEWS NETWORK

Indore: Former Indian Space Research Organisation (ISRO) chief **K Sivan** has been appointed the new chairperson of the board of governors of IIT-Indore, the institute's director Suhas S Joshi told TOI on Wednesday.

Sivan was the ISRO chairman from 2018 to 2022 and was in charge of the Chandrayaan-2 mission that was launched on July 22, 2019.

Professor Joshi said that the institute is working out Sivan's visit to the campus. The chairperson of the board has a three-year tenure.

A note about Dr Sivan's appointment and introduction on IIT-I's website listed his innovative contributions, particularly the strategies adopted in mission design enabling the consistent performance of PSLV. P4

Innovators present ideas to address rural challenges

Indore: Innovators and entrepreneurs showcased products and pitched innovations to improve and address challenges faced in rural areas at the Rural Innovators Conclave organised by the Indian Institute of Technology Indore on Saturday.

More than 14 innovators from across the country showcased their products and ideas in the two-day conclave concluded on Saturday. The conclave conducted by the Centre for Rural Development and Technology (CRDT), IIT Indore in association with the Science and Engineering Research Board saw discussions on challenges faced by rural innovators and upcoming innovations.

CRDT works for skill development, small scale entrepreneurship, development of value-added products, access and opportunities for gender diversity. It also works on developing user-friendly interfaces for launching e-platforms for various rural activities that require outreach to larger communities, helping rural entrepreneurs to develop and sell their products with easy access to technology and facilitating the gap between skills and outreach.

CONCLAVE AT IIT

Professor Suhas Joshi, Director, IIT Indore said, "IIT Indore has been engaging with the neighboring institutes and organizations to identify the problems faced by rural India. Our endeavour will be to improve their living conditions by development and application of appropriate and people friendly technologies by adopting participatory, sustainable, transparent and gender sensitive processes." TNN

IIT में स्थापित होगा मैन्युफैक्चरिंग सेंटर ऑफ एक्सीलेंस

इंदौर | आईआईटी इंदौर में मैन्युफैक्चरिंग क्षेत्र का सेंटर ऑफ एक्सीलेंस स्थापित होगा। इस सेंटर में शिक्षा और उद्योग जगत के लोगों के लिए काम करने और औद्योगिक समस्याओं का समाधान खोजने के अवसर होंगे। दोनों क्षेत्रों के विशेषज्ञ यहां साथ आकर ज्ञान का आदान प्रदान भी कर सकेंगे।

मैन्युफैक्चरिंग के क्षेत्र में काम कर रहे अधिकारियों व कर्मचारियों के लिए विशेष कोर्स भी चलाए जाएंगे जिससे वो अपने कार्यस्थल पर आगे बढ़ सकें और अनुभव और शिक्षा प्राप्त कर सकें। इसे लेकर आईआईटी और केस न्यू हॉलैंड कंस्ट्रक्शन इक्विपमेंट (आई) प्रालि के बीच एमओयू हुआ है।

आईआईटी इंदौर निदेशक प्रो. सुहास जोशी के मुताबिक आईआईटी इंदौर सेंटर ऑफ एक्सीलेंस की स्थापना और संचालन के लिए आवश्यक बुनियादी ढांचा और सहायता प्रदान करेगा। आई के डायरेक्टर सतेंद्र तिवारी के मुताबिक हम सीएसआर फंडिंग के तहत अनुसंधान उपकरणों में सहयोग करेंगे।

IIT-I ALUMNI MEET IN HYD HELD WITH 140 EX-STUDENTS, FAMILIES

IIT Indore hosted its second off-campus Alumni Meet in Hyderabad recently, gathering around 140 alumni along with their families. Prof. Suhas Joshi, director of IIT Indore, along with Deans, Registrar, faculty, and staff, attended the event. Prof. Joshi highlighted the institute's journey and recent developments, expressing pride in alumni accomplishments. Prof Suman Mukhopadhyay and other deans discussed current and future institute activities. The event featured the release of the 2023 edition of the Alumni Magazine, performances by alumni and students, and felicitation of volunteers. It celebrated the institute's vibrant community and shared successes.

IIT-I starts centre for translational research

TIMES NEWS NETWORK

Indore: Indian Institute of Technology (IIT) Indore inaugurated the centre for translational research on the occasion of its 15th foundation day on Saturday.

The translation research centre was established to formalize the translation research ecosystem and extend the commercialization of technology from research to product stage, the institute said in a statement.

The Institute awarded Excellence Awards on Technology, Research Paper and Non-Teaching staff on the foundation day.

ON OCCASION OF 15TH FOUNDATION DAY

The chief guest on the occasion Professor Abhay Karandikar, Secretary, Department of Science and Technology (DST), Government of India said, "The new National Education Policy has aimed to make an Atmanirbhar Bharat and I am indeed delighted to see that IIT Indore has taken several initiatives in line with the objectives and vision of NEP. It is heartening to know that IIT Indore has programs to include meritorious students from MP Govt Colleges of Engineering in the curriculum of the Institute during their final year. I am happy to note that IIT Indore is one of first IITs to establish the Department of Astronomy and Space Engineering and have a B.Tech program in Space Science and Engineering and I am confident that this department will play a pivotal role in the growth of space sector in the country."

The institute gave Excellence Awards on Technology, Research Paper and Non-Teaching staff onfoundation day

"The landscape of higher education in India is experiencing a phenomenal transition and NEP 2020 has emphasized a lot of thrust in innovation. DST has been spearheading the research and innovation ecosystem in the country and has notified the Anusandhan National Research Foundation (ANRF) which will help in creating a robust R&D ecosystem not only to select universities but also educational institutes across the country. DST has also launched a national quantum mission wherein thematic hubs will be set up in the area of quantum computing, quantum communication, quantum sensing and quantum materials and devices," said Karandikar.

On the occasion, the institute awarded five translational research fellowships for upgrading the current technologies to higher Technology readiness levels to bring out market ready products. An exhibition showcasing technologies evolved out of the research at IIT Indore including researches done by the Centre for Rural Technology Development was also organised.

A technology handbook, compilation of 135 sessions of a popular programme of IIT-I, Vigyan Par Charcha and a compilation of minutes of Board of Governors meeting were released on the occasion.

Professor Suhas Joshi, Director, IIT-I said, "In the years to come, we have made major plans and thought processes underway for the expansion of our teaching and research activities and making them more relevant to industries and society. In this context, we are planning for some of the new UG and PG academic programs. Development of a new Industrial Research Park where industries can cross-over the industry academia boundary and come closer to us. On this 15th Foundation Day, let us reaffirm our commitment to excellence, innovation, and societal impact. May the years ahead be filled with even greater achievements, breakthroughs, and contributions to the advancement of knowledge and the betterment of humanity."

IIT-I plans to recycle food waste into compost, biofuel

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Indore: Taking a step towards achieving sustainable waste management goal, Indian Institute of Technology (IIT), Indore is mulling over recycling food waste into compost and bio fuel.

The institute generates around 1,000 kg of food waste in the campus every day and this waste will be converted into manure that will be used in the campus for gardening

SWACHH MOVE

while the bio gas will be used in the institute's laboratory, said an assistant professor from IIT on the sidelines of the conclave on sustainable waste management.

Dr Ashootosh Mandpe, assistant professor, department of Civil Engineering, IIT-I said, "We generate about a ton of organic waste in our campus, this includes cooked food and vegetable waste. The plan is to develop a sustainable waste management strategy that includes segregating organic waste and converting it into biogas and compost."

"In a preliminary lab study, 312 ml biogas/gm VS was obtained in a BMP bottle study and now we are planning to perform this study in a lab-based reactor. This successful initial experiment lays the groundwork for a broader application of biofuel production as part of their long-term waste management plan," he said.

Mandpe as a participant in the sustainable waste management organised by the Confederation of Indian Industry (CII) spoke about linear and circular economy.

IIT-I generates around 500-700 kg of cooked food waste and 300-400 kg of vegetable waste every day. This food waste includes leftover food, vegetables, fruits, egg shells, meat and fish among other items.

"We have started the mapping of food waste generated in the campus like from canteen, apartments and from other places. Besides, we have shops running in the campus that also generates food waste, so that is also being mapped for coming up with a sustainable plan for waste management," said Mandpe.

New course to handhold agri entrepreneurs

Indore: Indian Institute of Technology (IIT) Indore in collaboration with Chaudhary Charan Singh National Institute of Agricultural Marketing, Jaipur, has rolled out a programme to handhold agriculture entrepreneurs in adopting advanced technology and address local challenges.

The institutes have been associated to address challenges like uncertainties in weather predictions, land constraints, crop yield management, supply chain and need for modern technologies.

A 3-day Agricultural Entrepreneurship Development Training Program was hosted at IIT-I starting Thursday. The program is designed to foster interaction among participants from different sectors, focusing on technology, entrepreneurship, and agriculture so as to address challenges in agriculture.

Professor Suhas Joshi, director, IIT Indore said, "The importance of agriculture in India's economic and social fabric is known to all and is a significant contributor to the GDP of the nation. It is high time that we address the real problems faced by the farmers through technological innovations which should be available at an affordable price to them." "We should focus on sustainable business models for the benefit of farmers and society. Through this program we aim to empower participants with knowledge and insights into modern agricultural practices and entrepreneurship," he said. The event included sessions on the untapped potential of Agritech, overview of Intellectual Property Rights and Management, entrepreneurship for small farmers, understanding markets in India, agricultural innovation and biological inputs for soil health. The program will also feature a field visit to ICAR-Indian Institute of Soybean Research. TNN

Conservation plan: IIT-I to conduct study on Narmada

TIMES NEWS NETWORK

Indore: Indian Institute of Technology, Indore, (IIT-I) will conduct a detailed study on Narmada River and prepare a report on erosion hotspots, flood-prone areas, sewerage and drainage network as part of the National River Conservation Plan, aimed at cleanliness of river and addressing water related challenges.

A team of six professors from IIT-I will work on the project for an initial three years. The study is part of the memorandum of understanding (MoU) signed between the Ministry of Jal Shakti and academic institutions of the country under the National River Conservation Plan.

The ministry had signed agreements with 12 different technical institutes including IITs, NITs, and NEERI for preparing the outlines of river basin management plans for Narmada, Godavari, Krishna, Cauvery, Periyar, and Mahanadi.

IIT-I in collaboration with IIT Gandhinagar will conduct an extensive study of the 98,796 sq km widespread Narmada River basin.

Professor Manish K Goyal from IIT-I said "IIT Indore will provide a detailed water budget report and identify sediment-contaminated regions and erosion hotspots. Detection and prediction of the flood-prone area and suggesting measures for assessing and sustaining the aquatic biodiversity in the region will be focussed upon."

IIT-I will conduct a detailed analysis of the soil, rock, and water quality availability in the region and provide a proper sewerage and drainage network plan, sanitation mapping. The institute will also study the potential of integrated solid waste management practices and viability of sustainable biological treatment techniques in the Narmada River Basin.

The Mahanadi River basin will be studied by NIT Raipur and NIT Rourkela, the Godavari River basin by IIT Hyderabad and NEERI Nagpur, the Cauvery River basin by IISc Bengaluru and NIT Trichy, the Periyar River basin by IIT Palakkad and NIT Calicut. These institutes will indulge in research, monitoring and gathering technical knowledge required for the condition assessment and management plan in basin management of the six rivers.

'At ₹611 cr, 11 STPs & CETP to be developed'

▶Continued from P1

The three STPs will be of 40 MLD, 35 MLD and 120 MLD capacity under Clean Ganga Mission, and two of 40 MLD and 80 MLD under AMRUT 2.0. "For project Simhastha, 11 STPs and a common effluent treatment plant (CETP) will be developed at a total cost of around Rs 611 crore," Jain said.

Help from IIT-Indore has been sought to address the shortcomings of previous plans and ensure proper implementation of proposed works as part of Kanh-Saraswati River cleaning, he added.

ISSUES WITH EXISTING STPs AND NULLAH TAPPING

- **The large treatment plant at Kabir Khedi needs to be replaced.** New STPs will be built under the Namami Gange project
- There are also **technical problems with STP near Indore zoo**

File Pic

- Improving nullah tapping, **wherever there are glitches, is crucial**
- According to the report, **there are over 150 outfalls from which sewage is flowing into the rivers**

WHAT'S NEXT

- **IIT-Indore will analyse the existing DPRs** and give recommendations
- **A third DPR will be prepared based on IIT's recommendations** and incorporating population projections
- **The new DPR will address shortcomings** of the previous plans

According to collector Asheesh Singh, senior officials have met IIT-Indore officials as work on detailed project reports (DPRs) for river cleaning projects will begin only after experts analysis.

"We have spoken to IIT and they are setting up a Kshipra Purification Cell. Experts there are now planning afresh, based on population demand, assessment, and CPHEEO guidelines. The work done so far was without considering the population and the increasing load. This is why STPs and lines that were laid could not bear the sewage load," he said. TNN

IIT-I collaborates with German universities

Indore: The Indian Institute of Technology at Indore (IIT-I) has signed a Memorandum of Understanding (MoU) with DAAD (German Academic Exchange Service), Germany, to foster academic and research collaborations.

Under this agreement, faculty members from IIT-I and German universities will collaborate to discuss research and academic collaborations, IIT-I said in a statement issued on Saturday.

DAAD is an organisation representing German higher education institutions, which promotes internationalisation of academic programmes by providing funding for faculty and student exchange programmes from around the world. The MoU signing took place at the German Embassy in New Delhi on October 11, 2023. Dr Philipp Ackermann, the German Ambassador to India, shared his views on strengthening partnerships between Indian higher education institutions and German universities. TNN

Institute Events and Functions

International Day of Yoga - 2023

Following the eternal mantra of "Yoga for Vasudhaiva Kutumbakam" IIT Indore celebrated the 9th International Day of Yoga. The event was conducted by Mrs. Manisha Manjul Pandey,a Yoga Instructor and practitioner. She has done her masters in English and Yoga. Apart from this, she has also graduated from Music and Education. At present, she is a teacher in Vinyasa Yogashala, Rishikesh and specializes in conducting meditation classes with Yoga Nidra and Mantra chanting. Manisha incorporates the techniques of world's most renowned system: "Bihar School of Yoga" which is known for its authentic and practical aspects of imparting quality teaching throughout the world. The event saw a large participation of students, faculty members, staff, and families.

11th Convocation Day - 2023

IIT Indore hosted the 11th Convocation of 2023 batch on July 15, 2023. Out of the total of 554 -degree recipients, 470 were present at the ceremony. The batch comprised of 297 B.Tech, 101 M.Sc., 62 MTech, 12 MS Research and 82 Ph.D. students. Dr. Volker Epping, President, Leibniz University Hannover Germany was the Chief Guest. Shri Senapathy "Kris" Gopalakrishnan, Chairman, Axilor Ventures, Co-founder Infosys, and President, Infosys Science Foundation, was the Guest of Honour of the ceremony. Prof. Deepak B. Phatak, Chairman, Board of Governors, and Prof. Suhas S. Joshi, Director IIT Indore were also present during the occasion.

Mr. Purnadip Chakrabarti from Computer Science and Engineering was awarded the President of India Gold Medal for the best academic performance among all the graduating UG students. Krishanu Saini of Computer Science and Engineering, Satyam Vatsa of Civil Engineering, Aryan Rastogi of Electrical Engineering, Ishika Budhiraja of Mechanical Engineering and Rama Sandeep Edlabadkar of Metallurgical Engineering & Materials Science were the recipients of Institute Silver medals for the best academic performance among all the graduating UG students of a particular Discipline. Samriddhi Saxena of M.Tech and Sayeed Kazim Hussain Nasir of M.Sc program also received the Institute Silver medals for the best academic performance among all the graduating PG students. Ms. Srijita Pal of the Department of Chemistry received the 'Buti Foundation Gold Medal' for the best female student securing the highest CPI among all the graduating students of all the two years Masters' Programs. Prasheel Kumar Tiwari and Jyotishna Baishya of Computer Science and Engineering were awarded the best B.Tech Project for "Intra-Sensor Fingerprint Presentation Attack Detection". Ms. Niyati Totala of Civil Engineering was awarded the Institute Silver Medal for the best all round performance among all the graduating students.

Orientation Program for new B.Tech students - 2023

IIT Indore conducted the Orientation Program of new B.Tech students on August 2, 2023. The event was conducted offline, and parents were also invited. Around 480 students enrolled in various programs including 99 girls, 02 OCI and 03 preparatory. Lieutenant General KH Gawas, Commandant, Military College of Telecommunication and Engineering (MCTE) was the Chief Guest on the occasion.

Four new BTech Programmes in Space Science and Engineering, Chemical Engineering, Mathematics and Computing and Engineering Physics have commenced from this Academic Year. This is in addition to the existing BTech programs in Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Civil Engineering and Metallurgical Engineering & Materials Science.

Committee of Parliament on Official Language visit - 2023

Indian Institute of Technology Indore participated in the Exhibition and Meeting of the Committee of Parliament on Official Language. Raja Ramanna Centre for Advanced Technology, Indore organized the meeting and exhibition on August 21, 2023 (Monday) at the Indore Marriott Hotel. On this important occasion, the first Sub-Committee of the Committee of Parliament on Official Language held a review meeting. Hon'ble Convener of the first Sub-Committee, Shri Ramchandra Jangra, Member of Parliament, Rajya Sabha chaired the meeting. He was accompanied by Shri Dharmendra Kashyap, Member of Parliament, Lok Sabha; Shri Iranna kadadi, Member of Parliament, Rajya Sabha; Shri Sujeet Kumar, Member of Parliament, Rajya Sabha; Shri Irfan Ahmed Khan, Senior Research Officer; Shri Vikrant Bhatia, Section Officer and Shri Sahdev Singh, Reporter, also, on behalf of the Ministry of Education, Government of India Shri Jagdish Ram Pauri, Joint Director, Official Language, and Smt. Satinder Malhotra, Assistant Director, Official Language were also present. Apart from this, Prof. Suhas S. Joshi, Director, IIT Indore; Prof. Rajesh Kumar, Convenor, Rajbhasha Samiti; Shri S. P. Hota, Registrar; Cdr. Sunil Kumar (Retd.), Joint Registrar; Mr. Ramakant Kaushik, Chief Security Officer; Mr. Rajesh Kumar, Assistant Librarian; and other staff were also present.

On this occasion, samples of all the work related to the official language were displayed by the institute in the exhibition, also, books related to the official language and books on Hindi literature were also displayed. Along with this, the Director and other officers of the institute brief the honourable members about the material displayed in the exhibition.

Prof. Deepak Phatak Tinkerers' Lab inauguration

Indian Institute of Technology Indore (IIT Indore) inaugurated a Prof. Deepak Phatak Tinkerers' Lab, a student managed facility on September 11, 2023. The facility is funded by the Maker Bhavan Foundation (MBF) and the Desai Sethi Foundation and is named after recipient of Padmashri, Prof. Deepak B. Phatak, an exceptional educator, and maker par excellence himself known for his path breaking work on a variety of digital technology domains. The lab will open 24x7 to

the IIT Indore community. Prof. Deepak B. Phatak was the Chief Guest and were accompanied by Dr Hemant Kanakia, Chairman and Founder of Maker Bhavan Foundation, and Mr. Bharat Desai, Desai Sethi Foundation.

Hindi Pakhwada – 2023

Indian Institute of Technology Indore organized Hindi Pakhwada (Hindi Fortnight) – 2023 September 14 - 29, 2023 under the aegis of Rajbhasha Samiti. On September 14, 2023, "Hindi Diwas" was celebrated in the Institute and Hindi Fortnight – 2023 celebrations were formally inaugurated. The event was graced by the presence of Professor Sandeep Chaudhary, Dean of Administration, IIT Indore as Chief Guest and the Registrar of the Institute, Mr. S. P. Hota as the Guest of Honor. Also, Professor Rajesh Kumar, Convenor, Rajbhasha Samati and Dr. Sharad Gupta, were present in this glorious event. A total of 5 competitions were organized in this fortnight. Faculty members, students, officers, and employees actively participated in all the competitions. On September 29, 2023, the children of Kendriya Vidyalaya located in IIT Indore campus had a glance about the books and their authors displayed in the Hindi book exhibition and got acquainted with other books of Learning Resource Centre (Institute Library). In the valedictory session, prize distribution ceremony has been organized to all the winning participants and the First Quarterly Hindi Newsletter of the institute was released.

Alumni Meet – Bangalore Chapter

The IIT Indore has organized its first out of campus Alumni meet-Bengalore Chapter on 23rd September 2023 at The Hilton, Bengaluru Embassy Manyata Business Park Bengaluru. The event was inaugurated by the address of Prof. Suhas S. Joshi, Hon'ble Director, IIT Indore followed by the address of Deans viz. Dean Alumni & Corporate Relations ACR (Prof. Suman Mukhopadhyay), Dean R&D (Prof. Professor I. A. Palani) and Dean Student Affairs (Prof. Srivathsan Vasudevan). The event was attended by around 200 alumni (along with their family members), who are working in different domain in different companies and industries across the country and abroad. Prof. Joshi shared the entire Journey of institute since the date of its inception in 2009 to the alumni and highlighted the achievements and recent developments in the institute in terms of infrastructure, research, sponsored projects, academic courses, student activities, amenities. The event was also attended by Professor Subhendu Rakshit, Prof. Anand Parey, Prof. Amod C. Umarikar, Prof. Sk. Safique Ahmad, Prof. Ruchi Sharma, Prof. Neminath Hubballi, Prof. Devendra Deshmukh, Dr. Partha Pratim Chattaraj, Sr. VP (ACR) and Mr. Ashok Kumar Dev, Deputy Registrar (ACR) who got an opportunity to interact with their old students and their family members. The other spotlights of the event were: release of the Institute Yearbook 2023, musical performance & standup comedy by alumni & current students, and felicitation of volunteers and performers by the Director, IIT Indore. The program concluded with the vote of thanks by Mr. Siba Prasad Hota, Registrar IIT Indore.

Swachhata Shramdaan Abhiyaan - 2023

Indian Institute of Technology Indore conducted Swachhata Shramdaan Abhiyaan on October 1, 2023 (Sunday), a day before Gandhi Jayanti. In this campaign, the members of the institute participated enthusiastically. On the occasion of this duty-oriented day, the Institute Director Professor Suhas S. Joshi; Professor Srivatsan Vasudevan, Dean of Student Affairs; Professor Devendra Laxmanrao Deshmukh, Dean of Educational Outreach; Professor Manish Kumar Goyal, Dean of Infrastructure Development, Mr. S. P. Hota, Registrar; Dr. Shilpa Raut, Chief Medical Officer; Mr. Suresh Chandra Thakur, Deputy Registrar (Administration); Ms. Pooja Dutta, Assistant Registrar (Material Management Section); other officers, students and staff were present. Apart from this, Kendriya Vidyalaya located in the institute campus also participated in this work, where the Principal of the school Mrs. Neelam Malviya, other teachers and school children also participated in this campaign with great enthusiasm and made it a success.

Under this campaign, about 200 personnel of the Institute and family members cleaned various places of the institute and participated in the Swachhata Shramdaan Abhiyaan. Also, the people of the institute also visited the forest area spread in the campus to maintain biodiversity. In the same sequence, everyone also cleaned the periphery area of the reservoirs developed and maintained by the Institute campus under the Jal Shakti program. In this way, people made the special program 'Ek Tareekh-Ek Ghanta-Ek Saath' meaningful and pledged to make the country and the institute campus clean and garbage free.

PM inaugurated Academic PODs of IIT Indore

Shri Narendra Modi, Hon'ble Prime Minister, inaugurated the academic pods of IIT Indore on the eve of Gandhi Jayanti i.e. October 2, 2023. He joined online from Gwalior and laid foundation stone of the Student's Hostel under PM-AJAY scheme and third phase of the Institute's Infrastructure Development.

The academic buildings, which are called Pods, are spread over approximately 44,000 square meters, and built at a cost of around INR 128.9 crores. The building comprises of various laboratories and offices of the academic departments. The labs in the Institute emphasises on interdisciplinary curriculum and programs in line with the recommendations of NEP 2020. IIT Indore has developed its academic programmes, research initiatives and outreach activities keeping in mind the 21st century knowledge societies and their aspirations. With the mantra of Think globally, Act globally, IIT Indore is becoming a global hub of learning and research.

IIT Indore amongst 100 labs in the country chosen for 5G Lab testing

Indian Institute of Technology Indore has been chosen amongst 100 5G labs to be set up in the country by the Department of Telecommunications, Government of India. The announcement was made today during the inauguration of 7th edition of India Mobile Congress by the hon'ble Prime Minister at Bharat Mandapam. The labs are being set up to build competencies and engagement in 5G technologies for students & startup communities. This will facilitate the development and experimentation of 5G applications in various socioeconomic verticals.

Whilst the government will fund 80% of the capital expenditure for setting up the lab, a balance of 20% is to be met by the Institute. However, the government will bear 100% of operational expenditure for the next four years.

IIT Indore would focus on advanced quantum and contribute to local development and showcase research innovation globally. The 5G lab equipment would include 5G SA infrastructure (mid band), 5G SIMs, Dongles, IoT Gateway, Router and Application Server to meet lab needs along with management dashboard.

IIT Indore organized iHED Workshop on Internationalization at Indian Higher Education institutions

IIT Indore in collaboration with German Academic Exchange Service (DAAD) organized the iHED workshop on "Internationalization at Indian Higher Education Institutions - Structures and Services" on October 30 & 31, 2023. This workshop was inaugurated by Professor Suhas Joshi, Director IIT Indore and Mrs. Marja-Sirkha Einig, Deputy Consul General, German Consulate, Mumbai. The workshop was intended to deliberate on the best practices and opportunities for collaboration between Indian Higher Education Institutes and German Universities.

This workshop focused on German and Indian strategies for the internationalization of the education institutes and the role of international relations offices in promoting regional, national, and global networks in efficient manner. Various funding and research opportunities available in Germany were also discussed.

67th DAE Symposium on Nuclear Physics-2023

IIT Indore has hosted the 67th DAE Symposium on Nuclear Physics-2023, during December 9-13, 2023, with a pre-symposium orientation program on the theme "Nuclear Shell Model". This is happening in central India for the first time in the 67 years of its history. These symposia aim to provide a scientific forum for the nuclear physics community to present their research work and to interact with the researchers, which helps in furthering the subject boundaries. The scientific deliberations of the symposium consist of plenary talks, oral / poster presentations of contributory papers, and theses presentations. In addition, there was a Young Achiever Award (YAA) and the best PhD thesis award by the Indian Physics Association (IPA). Dr. Aradhana Shrivastava, BARC Mumbai is the Convener and Prof. Raghunath Sahoo, IIT Indore is the local Convener of the symposium.

This event had more than 700 research papers in various areas of nuclear physics- nuclear structure, nuclear reactions, nuclear astrophysics, hadron physics, quark-gluon plasma, electroweak interactions, nuclear instrumentation, and future facilities. This grand event has witnessed around 550 participants from all over India and abroad, which of its kind at IIT Indore. The event was inaugurated on 9th December 2023 with Padma Bhushan Prof. V.S. Ramamurthy, former Secretary of the Department of Science and Technology and a renowned nuclear physicist as the Chief Guest.

The symposium is sponsored by the Board of Research in Nuclear Sciences, Department of Atomic Energy, Govt. of India.

Rural Innovators Conclave – 2024

IIT Indore organized Rural Innovators Conclave from January 5 to 6, 2024, which has provided a platform to a wide array of innovators and entrepreneurs to showcase their products, pitch and talk about their innovations to improve rural life. The participants can display their products in conclave and identify the problems faced by the rural population and find potential solutions. The conclave included discussions on challenges faced by Rural Innovators and expected Rural Innovations in the coming 10 years. In addition, more than 14 innovators also showcased their innovation on this occasion. This event is conducted by the Centre for Rural Development and Technology, IIT Indore in association with the Science and Engineering Research Board.

The Centre for Rural Development and Technology, IIT Indore, aims to work into Skill development, small scale entrepreneurship, development of value-added products, access and Opportunities for Gender diversity, developing user-friendly interfaces for launching e-platforms for various rural activities that require outreach to larger communities, helping rural entrepreneurs to develop and sell their products with easy access to technology and facilitating the gap between skills and outreach.

The inaugural session was attended by Prof. Suhas Joshi, Prof. Virendra Kumar, CRDT IIT Delhi, Dr. Debapriya Dutta, Head and Senior Advisor - SEED Division, DST, Dr. Neha Gupta, Senior Consultant, State Policy & Panning Commission, Madhya Pradesh, Prof. Parul Rishi, IIFM Bhopal, Mr. Siddharth Jain, CEO, Indore Jila Panchayat, Smt. Bharti Thakur, Secretary, Narmada, Prof. Sandeep Chaudhary, Dean (Administration) and Dr. Debayan Sarkar, Head CRDT.

World Hindi Day – 2024

Indian Institute of Technology Indore organized World Hindi Day - 2024 on January 10, 2024 (Wednesday) under the aegis of Rajbhasha Samiti. The event was graced by Professor Sandeep Chaudhary, Dean of Administration as the Chief Guest, and Mr. S. P. Hota as the Guest of Honour, also, Professor Rajesh Kumar, Convenor, Rajbhasha Samiti and Dr. Sharad Gupta, were present. On this auspicious occasion, all the guests and scholars released the Hindi Quarterly Newsletter, Second Issue, January - 2024 & Hindi Calendar - 2024 published by the Rajbhasha Samiti of the Institute.

Many faculty members, officers, students, and employees were present in this event. Guest of Honour and Registrar of the Institute, Mr. S. P. Hota first extended his heartfelt wishes of World Hindi Day to the IIT Indore community. After this, he drew the attention of the people through PPT about all the activities related to Rajbhasha in the institute last year and some of the proposed programs, which was an important part of this function. Former conveners and members of the Rajbhasha Samiti were honored for doing top-notch work in the implementation of Hindi in the institute. Also, a Hindi research poster presentation event was organized on the auspicious occasion of World Hindi Day.

IInvenTive – 2024

IIT Indore participated in the second edition of India's largest research and development (R&D) fair, IInvenTiv 2024, that was held on January 19th and 20th, 2024, at IIT Hyderabad. The fair aimed to promote inclusive involvement of the best institutes in India to develop a self-reliant and developed India by 2047. IInvenTiv 2024 was inaugurated by Shri. Dharmendra Pradhan, Union Minister of Education and Skill Development, in the presence of Mr. K. Sanjay Murthy Secretary of Higher Education.

Indian Institute of Technology, Indore, showcased four of its technologies in the domains of Defense and Space Technology, Agriculture and Food Processing, Industry 4.0, and Affordable Healthcare. From a total of 250 technologies, 128 were selected to be showcased of which 04 were from IIT Indore. These technologies were developed by the research groups of eminent professors of IIT Indore including Prof. I. A. Palani, Prof. Trapti Jain, and Prof. Shaibal Mukherjee.

Alumni Meet – Hyderabad Chapter

IIT Indore has organized its second out of the campus Alumni Meet-Hyderabad on February 10, 2024, at Hyderabad. The event was attended by around 140 alumni (along with their family members), who are working in different domain in different companies and industries across the country and abroad.

Prof. Suhas Joshi, Director, IIT Indore along with Deans, Registrar, faculty members and staff attended the event. Prof. Joshi shared the journey of the Institute since inception and highlighted the achievements and recent developments in terms of infrastructure, research, academic courses, student activities, & amenities

Prof. Suman Mukhopadhyay, Dean ACR highlighted the present and future activities being undertaken by institute while Prof. Palani, Dean R&D & Prof. S. Vasudevan, Dean Student Affairs provided an insight about the vigorous and propelling growth of institute.

The event also included release of the 2023 edition of Institute's Alumni Magazine IITI-Alumnus, "Giving back to Alma Mater" campaign, musical & dance performances by alumni, staff & current students, and felicitation of volunteers and performers.

15th Foundation Day - 2024

Indian Institute of Technology Indore celebrated the 15th Foundation Day of the Institute on February 17, 2024. A series of event was planned during the day. Professor Abhay Karandikar, Secretary, Department of Science and Technology (DST), Government of India was the Chief Guest. Prof. Deepak B. Phatak, ex-Chairman, Board of Governors and Prof. Suhas Joshi, Director, were also present during the event.

A series of event was planned during the day. The major attraction of the day was the inauguration of Centre for Translational Research. It has been established to formalize the translation research ecosystem and extend the commercialization of technology from research to product stage. Five Translational Research Fellowship have been awarded for upgrading the current technologies to Higher TRL levels to bring out market ready products and were showcased. In addition, an exhibition of technologies that have been evolved out of the research at IIT Indore has been conducted. It also included technologies from the Centre for Rural Technology Development.

The Institute also adopted the Govt. Middle School Gazinda so that it can provide handholding to enhance their learning experience. The school children along with the Headmaster was specially invited for the event.

A technology handbook, compilation of 135 sessions of popular programme of the Institute, Vigyan Par Charcha and a compilation of minutes of BoG meeting were also released. The Institute Excellence Awards on Technology, Research Paper and Non-Teaching staff were also given during the event.

PMRF Annual Symposium 2024

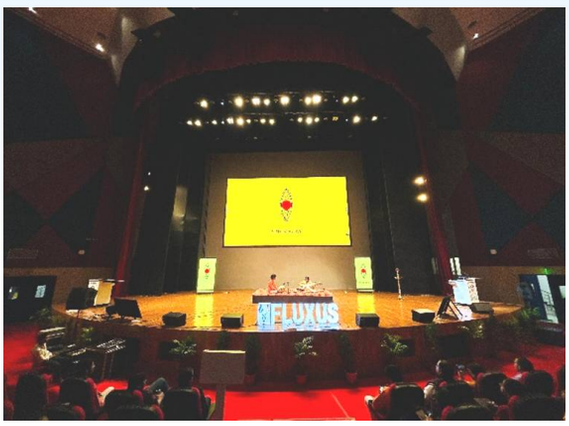
IIT Indore hosted the "PMRF Annual Symposium 2024" a two-day event featuring Prime Minister's Research Fellows from PMRF granting institutions across various science and engineering fields. This symposium, held on March 3rd and 4th, was a confluence of intellectual discussions, academic insights, and cultural enrichment. The Chief Guest of the symposium was Prof. Devang V. Khakhar, former Director IIT Bombay, and was hosted by Prof. Suhas Joshi, Director, IIT Indore.

The sessions included plenary talks on Cutting-edge Research, Academic Pedagogy for the future, Doing Science in India and (As a Woman), An enviable journey with experiments, Indian Knowledge Systems & its current day relevance, what it takes to be a good teacher? and Research across borders: Prominence and Productivity were delivered by eminent speakers.

The Prime Minister's Research Fellows (PMRF) Scheme has been designed for improving the quality of research in various higher educational institutions in the country. With attractive fellowships, the scheme attracts the best talent into research thereby realizing the vision of development through innovation.

Fluxus – 2024

Fluxus 2024, the eleventh edition of the Annual Techno-Cultural Festival of IIT Indore was conducted from 6th-9th March 2024. The event kicked off on 6th March with a performance under the SPICMACAY banner by Pandit Brij Mohan Narayan, followed by Kavyanjali, featuring seven talented poets namely, Prof. Rajesh Kumar, Pankaj Dixit, Rahul Prakash, Mahendar Singh Panwar, Laksh Maheshwari, Rakesh Tiwari and Nidhi Narwal.



The three days of the event, 7th-9th March, witnessed a plethora of technical events, competitions, exhibitions, and showcases. Key competitions included Nitrothrust, Pick N Place, RoboSoccer, RoboSumo, Aero Artistry, Obstacourse, Margdarshak, ConsultX, Gesture Control, Concastle, Euristica, etc. Fluxus also featured exhibitions from several students, labs & prominent institutes such as RRCAT, MCTE. The Technical Events of Fluxus 2024 witnessed 1000+ participants across all domains.

Fluxus also conducted two talk shows, i-Conclave, and Words of Wisdom. i-Conclave was conducted on 8th March and featured Mrs. Sanyukta Sinha, Director of Business Planning, Microsoft India, Mr. Gaurav Bhardwaj, Vice President, Accenture India, Mr. Anant Ladha, Founder, Invest Aaj for Kal. and Prof. Chetan Singh Solanki, Solar Man of India. Words of Wisdom was held on 9th March and featured Dr. Vijender Chauhan, Chef Harpal Sokhi, Raj Shamani, and Anubhav Dubey.

Fluxus had not just technical events, but cultural too. Two Bands, Koi Paanch and Ziddi, performed on 7th March at Nalanda Auditorium. This was followed by the two pronites featuring, Prog-Fusion Band Pineapple Express on 8th March and Bollywood Music Composers Sachin-Jigar on 9th March to conclude the event.

Inauguration of Deep -Tech Research and Development Centre at Ujjain

As part of the upcoming campus at Ujjain, IIT Indore inaugurated three state-of-the-art labs under Centre for Experiential Learning on Innovation, Technology and Entrepreneurship (C-ELITE) in Ujjain Engineering College today. The inauguration was done by Dr. Mohan Yadav, Hon'ble Chief Minister of Madhya Pradesh. Shri Dhamendra Pradhan, Hon'ble Cabinet Minister for Education and Skill Development and Entrepreneurship in the Government of India and Prof. Suhas Joshi, Director, IIT Indore joined online.

The labs include MakersSpace, Heritage and Innovation Centre in Astronomy and Space Engineering (HICASE) and Laser Engineering.

Makerspace Laboratory will provide an enabling physical environment for young engineering students to go hands-on and give form and expression to their innovative and creative minds. The objective is to empower students to take systems apart, examine the component parts, and rebuilding back the original systems. It will also help the students to put together new systems, to convert creative ideas into actual engineering products.

IIT Indore will be developing 250 new technologies in 5 years. Through Lab-to-Market program, it is envisioned to incubate 150 ideas and convert at least half of them to be market ready. In addition, the campus will have degree programs, executive programs, and skill development programs. It is also planned to train 2500 personnels in deep technology in 5 years.

Narmada River Basin Management

IIT Indore, in collaboration with IIT Gandhinagar, has been assigned to extensively study the 98,796 sq. km widespread Narmada River basin in accordance with the MoU signed with the Union Ministry of Jal Shakti. Team of Professors led by Prof. Manish K. Goyal attended the event.

The NRCD's initiative to undertake the study on Condition Assessment & Management Plan (CAMP) for these six river basins is a significant step towards cleanliness of rivers. This marks the beginning of a new era in river basin management and the holistic approach India has taken in addressing water-related issues, citing initiatives related to drinking water, river cleaning, and groundwater recharge as among the largest globally. Towards this, it is important that the academia and government works together for river basin management.

Fireside Chat by Chairperson, Board of Governors with Students

Dr. K. Sivan, Chairperson, Board of Governors along with Prof. Suhas S. Joshi, Director, IIT Indore had an interaction with the students in Auditorium. A great exchange of ideas and ethics took place in this session. In this fireside chat, students shared their thoughts and concerns regarding their future roadmap of the career to Dr. K. Sivan. Honorable Chairperson Dr. Sivan has also shared his life journey experience & thoughts among students, faculty members, and staff members. This session provides a platform for sharing success stories, inspiring current students with real-life experiences.

Blood Donation Camp - 2024

Indian Institute of Technology Indore conducted Blood Donation Camp on February 7, 2024, with a special significance as it is part of the celebration of our institute's 15th Foundation Day. The event was graced by Prof. Suhas S. Joshi, Director; Prof. Sandeep Chaudhary, Dean of Administration; Prof. Srivatsan, Dean of Student Affairs and Shri S. P. Hota, Registrar. This event is carried out in collaboration with Model Blood Bank, M Y Hospital, and MGM Medical College, Indore. A total of three hundred twenty-one individuals from our IIT Indore community donated blood, and Chief Medical officer extended her heartfelt congratulations to these heroes for their noble act. The success of the blood donation campaign is attributed to the dedication of the student volunteers under the leadership of the Avana team.

CSR & CIC Meet - 2024

IIT Indore conducted its third industry connect programme, CSR & CIC Meet 2024' on May 31, 2024, bringing together industry leaders, academicians, and philanthropists to foster dialogue and collaboration in corporate social responsibility (CSR) initiatives. The event was graced by the presence of Dr. K. Sivan, Chairperson of the Board of Governors, IIT Indore as Chief Guest, and Shri. C.S. Sharma, State Head (M.P & Chhattisgarh), SBI as Guest of Honor. Other attendees of the event include distinguished guests and participants from corporates & industries, Director, Registrar, faculties & officials from IIT Indore.

The Conclave aimed to leverage CSR as a strategic tool for social innovation and sustainable development. Prof. Suhas S. Joshi, Director, IIT Indore, in his inaugural address highlighted the multi-facet growth of the institute, emphasized the institute's commitment to excellence and, its strategic vision in enhancing industry-academia partnerships. Prof. Suman Mukhopadhyay, Dean (ACR), IIT Indore & Prof. I.A. Palani, Dean (R&D), IIT Indore highlighted the importance of these collaborations in driving innovative solutions and societal development.

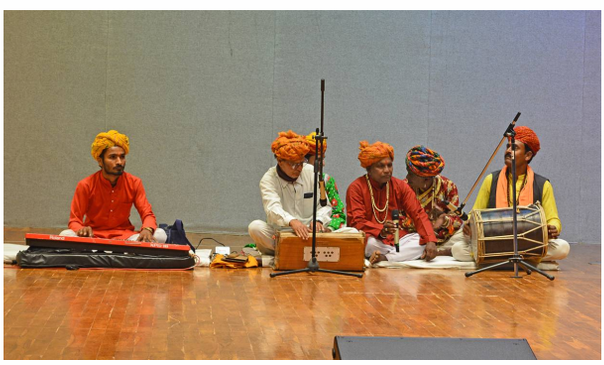
The Institute also conferred CSR Award 2024 to its CSR partners and had panel discussions focusing on past & present criteria for CSR funding focusing industry-academia and, Current challenges for industry & expectation of industries from IIT Indore.

Green Campus Drive – Transplantation of trees

The Indian Institute of Technology Indore has initiated a commendable tree transplantation initiative. This program has been implemented primarily to preserve the ecological balance. Tree transplantation is the process of uprooting trees from their original location and planting them at new places, which is to re-grow trees at new locations. By providing an area for the numerous trees that were uprooted during Khandwa Road's widening and planting them within the institute, the institute is carrying out highly significant and environmentally friendly activities. If we assess the current scenario of the environment in the world, then we find that life is moving towards anxiety due to global warming on the earth. Prolific trees are being replanted on the institute premises in response to this, to preserve the ecological balance of both the institute and the surrounding area. Additionally, the Institute has also taken initiative revive water bodies on the campus. Taking forward this ambitious initiative, 8 lakes and several check dams have been revived for water and soil conservation.

Capacity Building Workshop on
Environmental Humanities for Sustainability: Interdisciplinary Dimensions

Cultural Programme Organized by
The Environmental Humanities Workshop (JPN Centre)



राजभाषा समिति

1.वार्षिक प्रतिवेदन एवं वित्तीय प्रतिवेदन – 2022–23

भारतीय प्रौद्योगिकी संस्थान इंदौर में प्रत्येक वर्ष अनिवार्य रूप से हिंदी व अंग्रेजी में वार्षिक प्रतिवेदन तथा वित्तीय प्रतिवेदन प्रकाशित किया जाता है। संस्थान के वार्षिक प्रतिवेदन में, पिछले वर्ष विभिन्न विभागों, अनुभागों एवं केंद्रों द्वारा किए गए महत्वपूर्ण कार्यों एवं उनके सफल परिणामों की जानकारी प्रविष्ट की जाती है जैसे कि संकाय सदस्यों द्वारा प्रौद्योगिकी के क्षेत्र में प्रस्तुत किए गए शोध–पत्र, पोस्टर प्रस्तुतीकरण, प्राप्त किए गए पेटेंट इत्यादि। साथ ही, इस प्रतिवेदन में पिछले वर्ष आयोजित किए गए विभिन्न कार्यक्रम, बैठक, सम्मेलन इत्यादि का भी विवरण दिया जाता है। वहीं, वित्तीय प्रतिवेदन में विभिन्न विभागों, अनुभागों व केंद्रों के अलग–अलग मदों में खर्च की गई धनराशि का ब्यौरा दिया जाता है। दोनों प्रतिवेदन को मिलाकर, संस्थान के अनुवादक एवं अन्य कर्मचारियों की मदद से वर्ष 2022–23 के वार्षिक एवं वित्तीय प्रतिवेदन के लगभग 45 हजार अंग्रेज़ी शब्दों का अनुवाद किया गया।

2. राजभाषा कार्यान्वयन प्रशिक्षण – 2023

भारतीय प्रौद्योगिकी संस्थान इंदौर में दिनांक 4–8–2023 (शुक्रवार) को राजभाषा कार्यान्वयन प्रशिक्षण का आयोजन किया गया। इस अवसर पर, प्रशिक्षिका के रूप में आयकर विभाग की सहायक निदेशक (राजभाषा) श्रीमती प्रज्ञा द्विवेदी को आमंत्रित किया गया। इस प्रशिक्षण के प्रारंभ में प्रशिक्षिका ने सभी लोगों को राजभाषा की पृष्ठभूमि के बारे में बताया। इसके बाद, इन्होंने राजभाषा के मूल तत्वों के ऐतिहासिक, सामाजिक एवं सांस्कृतिक परिपेक्ष्यों से अवगत कराया। साथ ही, राजभाषा के अलग–अलग अधिनियम तथा उनके अनुप्रयोग को लेकर भी ध्यान आकर्षित किया एवं राजभाषा के क्षेत्रीय वर्गीकरण तथा उन क्षेत्रों में आनेवाले विभिन्न राज्यों का राजभाषा कार्यान्वयन के प्रति दायित्व समझाया। इसके अतिरिक्त, संसदीय राजभाषा समिति के मुख्य तथ्यों के बारे में बताया, जिसमें इन्होंने संसदीय राजभाषा समिति की निरीक्षण प्रश्नावाली की विस्तार से व्याख्या की एवं उनसे जुड़ी समस्याओं का निस्तारण किया। इस प्रशिक्षण के दौरान, प्रशिक्षिका ने राजभाषा के अलग–अलग कार्यान्वयन कार्यों के बारे में कई नियम बताए गए, जिसमें प्रशासनिक, गैर–प्रशासनिक एवं अन्य दृष्टिकोण से कई सारी बातें समझायीं। साथ ही, यह भी बताया गया कि राजभाषा के प्रति हमारे क्या–क्या कर्तव्य होने चाहिए एवं इसके निर्वहन का तरीका बताया गया।

3. संसदीय राजभाषा समिति – 2023

भारतीय प्रौद्योगिकी संस्थान इंदौर ने संसदीय राजभाषा समिति की प्रदर्शनी एवं बैठक में भाग लिया। यह बैठक एवं प्रदर्शनी दिनांक 21–8–2023 (सोमवार) को राजा रामन्ना प्रगत प्रौद्योगिकी केंद्र इंदौर द्वारा इंदौर मैरियट होटल में आयोजित की गई। इस अवसर पर, संसदीय राजभाषा समिति की पहली उप–समिति ने समीक्षा बैठक की। इस अवसर पर, पहली उप–समिति के संयोजक श्री रामचंद्र जांगड़ा, सांसद सदस्य, राज्य सभा ने इस बैठक की अध्यक्षता की। इनके साथ, श्री धर्मेंद्र कश्यप, सांसद सदस्य, लोक सभा; श्री ईरण्ण कड़ाड़ी, सांसद सदस्य, राज्य सभा; श्री सुजीत कुमार, सांसद सदस्य, राज्य सभा; श्री इरफ़ान अहमद खान, वरिष्ठ अनुसंधान अधिकारी; श्री विक्रांत भाटिया, अनुभाग अधिकारी एवं श्री सहदेव सिंह, रिपोर्टर मौजूद रहे। साथ ही, शिक्षा मंत्रालय, भारत सरकार की ओर से श्री जगदीश राम पौरी, संयुक्त निदेशक, राजभाषा एवं श्रीमती सतिन्दर मल्होत्रा, सहायक निदेशक, राजभाषा भी उपस्थित रहीं। इस अवसर पर, प्रदर्शनी में संस्थान की ओर से राजभाषा से संबंधित सभी कार्य के नमूने लगाए गए एवं राजभाषा से संबंधित पुस्तकें एवं हिंदी साहित्य की पुस्तकें भी लगाई गईं। साथ ही, संस्थान के निदेशक एवं अन्य अधिकारीगण ने माननीय सदस्यों को प्रदर्शनी में लगी सामग्रियों से अवगत कराया। इस प्रदर्शनी में, हमारे संस्थान की ओर से 'विज्ञान पर चर्चा' नामक कार्य विशिष्ट कार्य के रूप में प्रस्तुत किया गया।






4. हिंदी पखवाड़ा – 2023

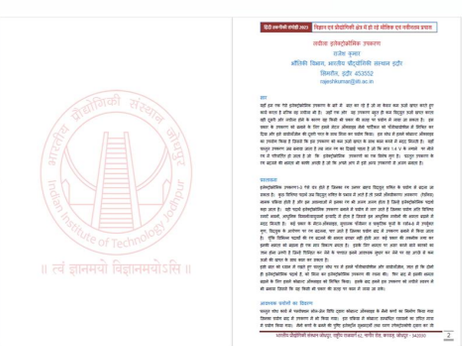
हिंदी की परंपरा को आगे बढ़ाते हुए प्रत्येक वर्ष की तरह, भारतीय प्रौद्यौगिकी संस्थान इंदौर द्वारा राजभाषा समिति के तत्वावधान में दिनांक 14 से 29 सितंबर, 2023 के दौरान हिंदी पखवाड़ा . 2023 का आयोजन किया गया। 14 सितम्बर, 2023 को संस्थान में षहिंदी दिवसष मनाया गया तथा हिंदी पखवाड़ा . 2023 समारोह की औपचारिक शुरुआत की गई। कार्यक्रम के मुख्य अतिथि के रूप में संस्थान के अधिष्ठाता (प्रशासन) प्रोफेसर संदीप चौधरी की गरिमामयी उपस्थिति रही। साथ ही, सम्मानित अतिथि के रूप में संस्थान के कुलसचिव श्री एस. पी. होता तथा अध्यक्ष के रूप में संस्थान की राजभाषा हिंदी समिति के संयोजक प्रोफेसर राजेश कुमार एवं डॉ. शरद गुप्ता उपस्थित रहे। इस पखवाड़े में कुल 5 प्रतियोगिताएँ आयोजित की गईं। सभी प्रतियोगिताओं में संकाय सदस्यगण, छात्रगण, अधिकारीगण तथा कर्मचारीगण की सक्रिय भागीदारी रही। हिंदी पखवाड़ा के समापन समारोह के अवसर पर संस्थान की प्रथम हिंदी त्रैमासिक समाचार पत्रिका का विमोचन किया गया। इसी क्रम में, दिनांक 29 सितंबर, 2023 को आई.आई.टी. इंदौर परिसर में स्थित केंद्रीय विद्यालय के बच्चों ने हिंदी पुस्तक प्रदर्शनी में लगाई गईं पुस्तकों एवं उनके लेखकों के बारे में जाना एवं विद्यार्जन संसाधन केंद्र (संस्थान पुस्तकालय) के अन्य पुस्तकों से भी परिचित हुए।





5. तकनीकी हिंदी संगोष्ठी – 2023

भारतीय प्रौद्योगिकी संस्थान इंदौर के भौतिकी विभाग के प्रोफेसर राजेश कुमार ने भारतीय प्रौद्योगिकी संस्थान जोधपुर द्वारा आयोजित तकनीकी हिंदी संगोष्ठी – 2023 में अपना शोध–पत्र प्रस्तुत किया एवं उनका शोध–पत्र प्रकाशित हुआ। इस अवसर पर, प्रोफेसर कुमार ने 'लचीला इलेक्ट्रोक्रोमिक उपकरण' पर अपना व्याख्यान दिया। इस पहल से संस्थान के अन्य शोधकर्ता भी हिंदी में शोध–पत्र लिखने की सकारात्मक शुरुआत कर रहे हैं। इसी परंपरा को आगे ले जाते हुए संस्थान में हिंदी अनुसंधान पोस्टर प्रस्तुतीकरण का आयोजन विश्व हिंदी दिवस – 2024 के शुभ अवसर पर किया गया।



6. एक दिवसीय कंठस्थ 2.0 प्रशिक्षण कार्यक्रम – 2023

राजभाषा विभाग, गृह मंत्रालय, भारत सरकार एवं सी–डैक, पुणे द्वारा संयुक्त रूप से आयोजित एक दिवसीय कंठस्थ 2.0 प्रशिक्षण कार्यक्रम में भारतीय प्रौद्योगिकी संस्थान इंदौर की ओर से संस्थान के कनिष्ठ हिंदी अनुवादक श्री शिशिर कुमार ने भाग लिया एवं सफल रूप से प्रशिक्षण प्राप्त किया। इसके साथ, संस्थान के अन्य कर्मचारी भी कंठस्थ 2.0 अनुवाद टूल का उपयोग कर रहे हैं एवं इस टूल को कुशल तरीके से हिंदी कार्यान्वयन के लिए उपयोगिता में ला रहे हैं।

भारत सरकार / Government of India
गृह मंत्रालय / Ministry of Home Affairs
राजभाषा विभाग / Department of Official Language

प्रमाण पत्र
CERTIFICATE

दिनांक/Date: 2023-11-28

प्रमाणित किया जाता है कि
श्री / सुश्री : शिशिर कुमार
ने सी-डैक एवं राजभाषा विभाग, गृह मंत्रालय, भारत सरकार द्वारा **'कंठस्थ 2.0'** पर आयोजित एक दिवसीय अनुवाद कार्यशाला में सहभागिता की है।

It is certified that
Mr / Ms : Shishir Kumar
has participated in one day **'Kanthasth 2.0'** translation workshop organized by C-DAC and Department of Official Language, Ministry of Home Affairs, Government of India.

श्री शशी पाल सिंह / **Shri Shashi Pal Singh** — संयुक्त निदेशक / Joint Director, एप्लाइड ए आई ग्रुप / Applied AI Group, सी-डैक पुणे / C-DAC Pune

डॉ. अजय कुमार / **Dr. Ajai Kumar** — वरिष्ठ निदेशक और विभागाध्यक्ष / Senior Director & HOD, एप्लाइड ए आई एवं डिस्ट ग्रुप / Applied AI & DIST Group, सी-डैक पुणे / C-DAC Pune

डॉ. मीनाक्षी जोशी / **Dr. Meenakshi Joily** — संयुक्त सचिव / Joint Secretary, राजभाषा विभाग, गृह मंत्रालय / Department of Official Language, MHA, भारत सरकार / Government of India

7. विश्व हिंदी दिवस – 2024

संस्थान की राजभाषा समिति द्वारा दिनांक 10 जनवरी, 2024 को विश्व हिंदी दिवस कार्यक्रम का आयोजन किया गया। इस कार्यक्रम का आयोजन संस्थान के पुस्तकालय (लघु सम्मेलन कक्ष) में हुआ। इस अवसर पर संस्थान के अधिष्ठाता प्रशासन प्रोफेसर संदीप चौधरी, कुलसचिव श्री एस पी होता, राजभाषा समिति के संयोजक प्रोफेसर राजेश कुमार, डॉ. शरद गुप्ता, संयुक्त कुलसचिव कमांडर सुनील कुमार (सेवानिवृत्त), उप कुलसचिव (प्रशासन) श्री सुरेश चंद्र ठाकुर एवं अन्य अधिकारीगण, छात्रगण, संकाय सदस्य तथा कर्मचारियों की उपस्थिति में कार्यक्रम का शुभारंभ हुआ। इस अवसर पर, हिंदी की महत्ता पर ध्यान आकर्षित करते हुए नूतन वर्ष 2024 के हिंदी संस्करण वाले कैलेंडर का विमोचन किया गया। साथ ही, विश्व भर में हिंदी भाषा का प्रचार–प्रसार हो सके, इसलिए संस्थान के संकाय सदस्यों, छात्र/छात्राओं एवं कर्मचारियों के समक्ष संस्थान की द्वितीय हिंदी त्रैमासिक समाचार पत्रिका का विमोचन अतिथियों द्वारा किया गया। साथ ही, संस्थान में हिंदी के कार्यान्वयन में महत्वपूर्ण योगदान देने के लिए राजभाषा समिति के पूर्व सदस्यों को प्रशस्ति–पत्र, मोमेंटो व पुष्पगुच्छ देकर उनका सम्मान किया गया। इसके बाद, प्रौद्योगिकी को ध्यान में रखते हुए विश्व हिंदी दिवस के शुभ अवसर पर, हिंदी अनुसंधान पोस्टर प्रस्तुतीकरण का भी आयोजन किया गया था। अंत में, इस कार्यक्रम का समापन लोगों के बीच भेंट के रूप में नूतन वर्ष – 2024 के कैलेंडर एवं समाचार पत्रिका का वितरण करके किया गया।







डॉ. शरद गुप्ता
सह प्राध्यापक,
बीएसबीई विभाग
सदस्य,
राजभाषा समिति
श्री नीरज कुमार
उप कुलसचिव,
शैक्षणिक कार्य
सदस्य,
राजभाषा समिति
सुश्री पूजा तिवारी
फार्मासिस्ट,
स्वास्थ्य केंद्र
सदस्य,
राजभाषा समिति
प्रोफेसर राजेश कुमार
प्राध्यापक,
भौतिकी विभाग
संयोजक, राजभाषा समिति
श्री नीरज कुमार
सोनी
अधीक्षक,
प्रशासन अनुभाग
सदस्य,
राजभाषा समिति
श्री रोहित खत्री
कनिष्ठ सहायक,
आईडीओ कार्यालय
सदस्य,
राजभाषा समिति
श्री शिशिर कुमार
कनिष्ठ हिंदी अनुवादक,
संकाय कार्य कार्यालय
सदस्य सचिव,
राजभाषा समिति

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 41,400+, and E-Books are 8,050+ as on 18th June 2024.

Figure 2. Reading Halls

Electronic Resources

In today's world of Information explosion, access to electronic information resources is essential, particularly in an academic environment. During the year 2024, the LRC has subscribed and provided access to more than 3800+ e-Journals and 10 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, MLA

International Bibliography fulltext, ACI standard and journals, SciFinder –n, Scopus, Indiastat, 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 5,000+ 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 12,420+ 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 June 2023 to May 2024, a total of 25,514 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	12516	2403	4006	329	3379	2056	825

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 1,330+ research articles arranged from other institutions' libraries and provided to IITI users during the period June 2023 to May 2024.

Matrubhasha Collection

This Matrubhasha Collection section of the library was dedicated to the community by Prof. Suhas S. Joshi, Director, IIT Indore. More than 850 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 Swadhyay (Self Study Space) of the LRC provides a conducive environment for self-study. This space is independent of the main LRC building and is open 24x7 for its users.

Figure 3. Swadhyay (Self-study Space)

Health Centre

Facilities:

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 Gynaecology, 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	:	15769
Total Day care and IPD	:	695
Emergency And trauma	:	419
In-house investigations such as ECG, GRBS	:	700
Minor emergencies after OPD hours	:	3143
Total Physiotherapy	:	2940

Central Workshop

The Central Workshop, IIT Indore, was established during AY 2011-2012 . It undertakes laboratory classes, fabrications of research and project components. It has excellent infrastructure equipped with modern state-of-the-art facilities and high-end research equipment. CW having seven shops, Machining, Welding, Forming, Foundry, Injection Molding, Fitting, and Carpentry, with a team of efficient and highly skilled work force. The workshop undertakes 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.

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. The CW supports students and research scholars in realizing their research objectives by providing technical expertise and infrastructure support to perform novel and cutting-edge research. CW also offers opportunities of hands-on training and skill development to students through practical training sessions and workshops.

Professor In charge, Central Workshop

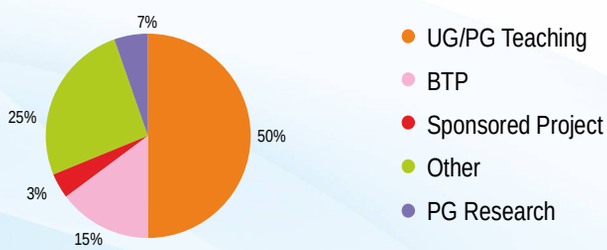
Dr. Dan Sathiaraj Associate Professor (ME) | Email-workshopincharge@iiti.ac.in

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 2023-2024

- Work Request received at Central Workshop:- The central workshop completed 329 Nos. of work requests during year 2023-2024for various purposes, including UG/PG Research teaching, PG Research, BTP, Sponsored projects, and other fabrication works. The workshop has utilized available scarp materials to make flowerpot stands, storage rakes, compressor sheds, boxes, tables, stands etc. The distribution of work requests for various categories is shown in following Figure:-



- Laboratory classes : The central workshop has conducted practical classes of Manufacturing processes lab(ME-258) and Machining Science and Metrology Laboratory (ME-355).
- Skill Development Training Program:- The Central Workshop has organised training programs on basic workshop practice for (a) trainers of Narmadalaya Kasrawad, Madhya Pradesh, India and (b) ITI Students of Indore region.
- Development of new facilities:- The central workshop has developed new facilities for measurement of tool wear in machining, testing tensile, compressive and shear testing of foundry sand, measurement of core sand hardness and mould hardness measurement. Developed sheeting and wire rolling facility for supporting sheet metal experiments.
- Infrastructure development: TheCentral workshop has developed classroom and sophisticated instrument room in workshop premises to support the laboratory and research works.

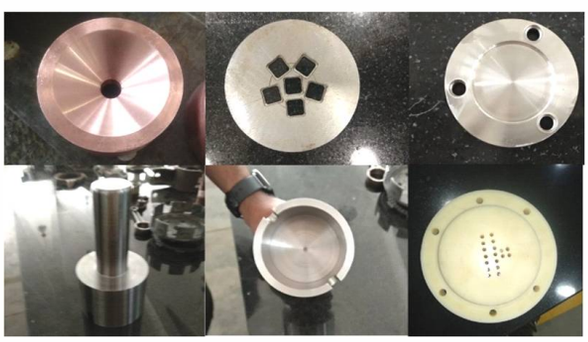
The photographs of some work requests are as follows

Fabricated Solar Panel- Student Project

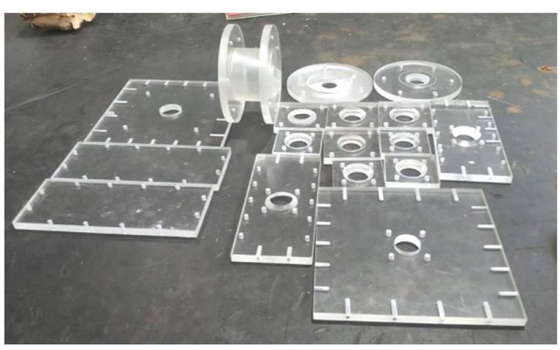
Fabricated Iron dustbinfor Housekeeping Deptt.

Arch fabricated by using scrap materials forHorticulture Deptt.

Fabricated safety covers for Civil Engg.Deptt.



Machined components for research works



Machined components for research works

School students visited the Central Workshop

Skill development program organised by the Central Workshop

Department Profiles

Department of Astronomy, Astrophysics and Space Engineering

About the Department:

The Department of Astronomy, Astrophysics, and Space Engineering (DAASE), established in 2015, is the first interdisciplinary department of its kind in the IIT system. It offers PhD, M.Sc. in Astronomy, M.Tech, MS (Research), and B.Tech in Space Engineering. The department has ten regular faculty members, one INAE Distinguished Professor, and two visiting professors engaged in advanced research projects such as the Square Kilometer Array and Aditya-L1, funded by DST, DRDO, ISRO, and other agencies. DAASE collaborates with global universities and industry, with most alumni pursuing research or careers in relevant sectors.

The department is also contributing to the Heritage and Innovation Centre in Astronomy and Space Engineering (HICASE) to advance research and innovation in Madhya Pradesh. Currently, DAASE has 37 PhD scholars, 45 PG students, and 20 UG students. Our students engage in cutting-edge research and tech development in areas like Radio and X-ray Observations of Clusters of Galaxies , Machine Learning and Big Data; Sustainability Research , Space Weather and Ionosphere: Using GNSS, NaVIC and low-frequency radio astronomy, payloads, small satellites, detector design, data analytics, imaging, and high-end numerical simulations, targeting applications in climate change, sustainable development, agriculture, defense, communication, navigation, and astronomy.

Academic Programs:

The academic programs consist of the MSc (Astronomy), M.S (Research), MTech (Space Engineering) and the PhD. In the MSc (Astronomy) program, students are admitted through JAM. The department also offers a minor degree for BTech students in Space Engineering.

Our vibrant group of faculty members aspires to create an ambience for the smooth pursuit of scholarly activities in research and training in the study of astronomy, astrophysics, and space engineering. By fostering a collaborative and innovative environment, we aim to inspire and support our students and researchers in exploring the mysteries of the universe. Our faculty is dedicated to providing high-quality education and mentorship, facilitating access to state-of-the-art facilities, and engaging in pioneering research projects. This commitment ensures that our students are well-prepared for successful careers in academia, industry, and research institutions worldwide, contributing to significant advancements in space science and technology.

Number of Faculty Members	10
Professor	01
Associate Professor	05
Assistant Professor Grade -I	04
Assistant Professor Grade -II	Nil
Visiting Professor / Inae Fellow	3
No. of Post Doctoral Fellows	01

Programs	Student Intake	Degree Awarded
B.Tech	20	Nil
M.Sc.	26	10
M.Tech	13	4
MS (Research)	6	2
PhD	37	7

R&D Activities

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

1) **Heritage and Innovation Centre in Astronomy and Space Engineering (HICASE):** Contributing to the development of HICASE, aimed at advancing research and innovation in astronomy and space engineering.
2) **Research Collaboration:** Research collaboration meeting with RRCAT Indore.
3) **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)
4) **Space Technology:** Connected to a few Mega Science projects and space missions with ISRO – funding comes from ISRO, MoE, DST
5) **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) Our faculty members and students working on various activities:

I. Developed Space weather Adaptive Modeling framework (TRL 5) to complement in-situ measurements from Aditya L1, India's maiden mission to observe the Sun.

ii. The first article on the Search for Extra Terrestrial Intelligence (SETI) from DAASE was published in 2024 in the Monthly Notices of the Royal Astronomical Society, with significant contributions from DAASE members Priyatam Kumar (MSc Astronomy student) and Dr. Suman Majumdar (faculty).

iii. Radar data processing open source software, "PYIWR" has been developed.

iv. Investigated broadband variability and spectral emission from the neutron star X-ray binary Z-source using Indian mission AstroSat and NASA mission NICER putting constraints on the stellar properties and accretion fluctuations.

v. Digital backend development for IIT Indore interferometer.

vi. Urban tree mapping and biomass loss characterization for Indore.

2) Organized a SPARC sponsored in-person course on Numerical Radiative Transfer (15-24 January 2024) at IIT Indore. Instructor of the course was Prof. Ilian T. Iliev, University of Sussex, UK.
3) In our department two students were awarded the PMRF fellowship (Mr. Keshav Aggarwal and Mr. Sirsha Nandy).
4) International Linkages: 3 SPARC projects, 2 DST-SIRE projects, 1 Max Planck Partner Grant.
5) Several high -impact publications.
6) Organized international conferences: IRAD Conference January 2024.

Project

Project	Sponsored	Consultancy
NEW PROJECTS	8	-
ONGOING PROJECTS	16	-
COMPLETED	9	1

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	1	-	29	39

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 the MSc (Biotechnology), M.Tech. (Biomedical Engineering) and PhD. In the MSc (Biotechnology) program, students are admitted through JAM & GAT-B.

M.Tech (2-Year), M.Tech. + Ph.D. Dual Degree in Biomedical Engineering started from AY 2023-2024. The department also offers a minor degree for BTech students in Biomedical Engineering. The department intends to start B.Tech Programme.

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	15
Professor	06
Associate Professor	04
Assistant Professor Grade- I	04
Assistant Professor Grade -II	01
No. of Post Doctoral Fellows	03

Programs	Student Intake	Degree Awarded
MSc	20	16
M. Tech	07	Nil
PhD	16	06

Notable R&D Activities

- Prof. Amit Kumar's research group has identified several potent drugs for which seven different patents are filed and also received the best research paper award 2023.
- Prof. Prashant Kodgire's group's recent study is the first report on the interaction of genome mutator enzyme AID with UBN1, nevertheless, the fate of interaction between UBN1 and AID is yet to be explored in the context of SHM or CSR.
- Dr. Parimal Kar's research group has identified novel inhibitors for neurodegenerative diseases targeting dual leucine zipper kinase through virtual screening and molecular dynamics simulations.
- Dr. Baig's research has introduced a novel mechanism in understanding the host's response to infections and has contributed to the search for innovative therapeutic targets in chronic inflammatory diseases and cancer. This research encompasses innovative small molecules, peptides, and combination therapies.
- Dr. Hem C. Jha has filed patents for screening of virus induced Neurological disorders, and their treatment.
- Dr. Kiran Bala's research group is exploring Novel peptides and bioactive compounds as DPP-IV inhibitors from magneto-primed soybean seeds and algae species for diabetes treatment and on Cost effective production and optimization of Gamma-Aminobutyric Acid (GABA) using agro-wastes

Projects:

Project	Sponsored	Consultancy
New Projects	14	NIL
Ongoing Projects	15	NIL
Completed	28	01

Publications:

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	01	09	09	124

Department of Chemical Engineering

About the Department

Department of Chemical Engineering at the Indian Institute of Technology Indore is one of the youngest departments in the Institute set up in July 2023. The mission of the department is to trainengineers and scientists who will work on cutting-edge problems in chemical engineering and provide solutions that benefit society and help in the progress and welfare of our country and the world.

Academic Programs

The academic programs consist of the B.Tech. and PhD in Chemical Engineering. In the B.Tech. program, students are admitted through JEE-Advanced, and the PhD students are admitted through GATE and rigorous selection process. In the coming years, the department intends to start M.Tech and minor B.Tech. programs in Chemical Engineering.

Our diverse group of faculty members work on problems spanning the breadth of the Chemical Engineering discipline: from traditional Chemical Engineering problems such as catalysis and polymers to working on newer Chemical Engineering problems such as AI in Chemical Engineering and biosystems engineering.

Details of Teaching and Non-teaching staff	
Professor	-
Associate Professor	-
Assistant Professor Grade -I	01
Assistant Professor Grade -II	02
Visiting Distinguished Professors	03
Academic Working Committee	18
Technical and office Staff	02

Programs	Student Intake	Degree Awarded
PhD	7 (2023-2024)	0
B. Tech.	40	0

Department of Civil Engineering

About the Department

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, MTech 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)	17
Professor	03
Associate Professor	02
Assistant Professor Grade-II	04
Assistant Professor Grade-I	08
No. of Post Doc Fellows	07

Programs	Student Intake	Degree Awarded
BTech	53	50
MTech	-	-
MSc	-	-
PhD	-	08

Notable Activities in the Department

The Department has been awarded several research and industrial consultancy projects (around 90 projects) and the value of Rs. 7.69 crores approx. Our dynamic faculty and students are recognized on various platforms; some of our key achievements are as following:

- Dr. Abhishek Rajput has received the Best Research Paper Award on the 15th Foundation Day held on 17th February 2024 at IIT Indore.
- Prof. Sandeep Chaudhary developed first-of-its-kind cow dung based foaming agent (GOBAiR), provisional patent has been filed for the same. Received best technology award for the same. Organizing a Research Capacity Building International Student Exchange program in the field of recycled aggregates jointly with UK, sponsored by SPARC and UKIERI. This is a first of its kind international student exchange program between 20 undergraduate and postgraduate students (10 from each university) involving one month stay in each country.
- Prof. Manish Kumar Goyal characterized the spatiotemporal distribution, detection, and prediction of atmospheric rivers (ARs) and aerosol atmospheric rivers (AARs) on a global scale and studied the impact of hydro-climatic extremes (floods, droughts, heatwaves) on KBAs and Smart Cities over India.
- Prof. Neelima Satyam was awarded the Best Woman Researcher in Geotechnical Engineering by the Indian Geotechnical Society (IGS) in 2023 and Recipient of the INSA Associate Fellowship in 2024, presented by the Indian National Science Academy (INSA).
- Dr. Kaustav Bakshi secured a sponsored project from M/s Mazagaon Dock Shipbuilders under CSR activities and Best paper of a session awarded by Advances in Structural Mechanics and Applications (ASMA 2021).
- Dr. Priyansh Singh served as liaison officer, India for Heritage Time Capsule (HTC) Project of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) andoffered an executive course on Low Volume Roads during conference of Transportation Research Group, India.
- Dr. Gourab Sil conducted One day workshop on Emerging Technologies for Transportation Safety on 23rd December 2023 Sponsored by SERB and received Mobility Grant 2023-24 by Indian Institute of Technology Indore.
- Dr. Priyank J Sharma coauthored an undergraduate textbook titled “Engineering Hydrology” (6th Edition), published by McGraw Hill Education (India) Private Limited and 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.
- Dr. Ramu Baadiga contested and won the 10th edition of Indian Young Geotechnical Engineers Conference for IIT Indore which will be held on 13 & 14th March 2025 and Advanced work on development of new multiaxial geogrids for Civil Engineering Applications have been carried out.
- Dr. Sridharan Balakrishnan Reviewer of the Hydro-2024 conference and PI of the one of the projects.

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	10	37
Ongoing Projects	14	20
Completed	03	36

Publications:

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	06	22	34	59

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. From 2023 onwards, the department offers a Master of Technology (M. Tech.) program. A total of 46 PhD, 26 MS by Research and 614 BTech students have graduated from the Department of CSE until July 2024. Currently, the department has 53 PhD, 24 MS by Research, 16 M.Tech. and 261 BTech students.

Number of Faculty Members:	20
Professor	06
Associate Professor	05
Assistant Professor Grade-I	07
Assistant Professor Grade-II	02
No. of Post-doctoral Fellows	Nil

Programs	Student Intake	Degree Awarded
B.Tech.	80	614
M.S. Research	12	26
M.Tech.	16	Nil
Ph.D.	NA	46

Notable R&D Activities

- Department of CSE organized SERB-Funded High-End Workshop on "Mathematical foundation of machine learning and its application to emerging areas of AI" May 27-June 1, 2024
- Organized SERB-Funded High-End Workshop on "Internet of Things in Edge Cloud Continuum: Theory and Applications
- Oragnised "Algorithmic Graph Theory" supported by National Board of Higher Mathematics, IIT Bombay and TIFR from June, 26 to Jul 14, 2023
- Department of CSE organized Open-house & Inhouse high-end research symposium. March 15-16, 2023

Projects

Project	Sponsored	Consultancy
New Projects	13	1
Ongoing Projects	26	1
Completed	17	

Publications

	Patent	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	6	3	13	34	52

Department of Electrical Engineering

About the Department

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. At present 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 department's vision is to impart quality education and promote interdisciplinary, industry-oriented advanced scientific research to address the challenges and develop future technologies relevant 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.

Total Number of Faculty Members	23
Professor	12
Associate Professor	1
Assistant Professor Grade-II	5
Assistant Professor Grade-I	5

Programs	Student Intake	Degree Awarded
B.Tech.	84	75
M.Tech. (CSP)	13	5
M.Tech. (VDN)	14	7
M.S. (Research)	7	6
Ph.D.	18	9

Notable R&D Activities

- The Optoelectronic Nanodevice Research Laboratory led by Prof. Mukesh Kumar has developed a technology on semiconductor heterojunctions for chip-scale photonic devices for optical communication, data centers, and health care applications.
- Optoelectronic Nanodevice Research Laboratory has demonstrated a nanophotonic resistive switch for optically readable resistive RAM (ACS Photonics, DOI: 10.1021/acsphotonics.3c01289).

Projects

Project	Sponsored	Consultancy
New Projects	8	1
Ongoing Projects	13	1
Completed	10	1

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	2	13	40	115

Department of Mechanical Engineering

About the Department

The Department of Mechanical Engineering, one of the oldest and largest at our Institute, features 28 full-time faculty and over 10 administrative and technical staff. Our curriculum emphasizes Science, Engineering, and Technology, focusing on technical skills, problem-solving, and fostering innovation. We offer state-of-the-art research facilities to support academic and research programs. Our primary goal is to provide high-quality education, equipping students with a strong foundation and specialized training to meet current and future demands. We are committed to shaping capable engineers who will advance the field of mechanical engineering.

Academic Programs

The Department of Mechanical Engineering offers BTech, MTech, MS (Research), and PhD programs, including dual degrees. With over 244 UG, 32 PG, and 56 PhD students, it provides a dynamic academic environment. It also hosts postdoctoral fellows and personnel from DRDO, armed forces, and various sectors. The MTech programs cover Advanced Manufacturing, Mechanical System Design, and Thermal and Energy Systems. International students from countries like Nepal and Nigeria contribute to a global learning atmosphere. The department is dedicated to academic excellence, research innovation, and developing engineers who will significantly impact 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	81	81
MTech	40	30
MS Research	4	6
PhD	12	8

Notable R&D Activities

The Department of Mechanical Engineering has undertaken numerous research projects for organizations such as DRDO, ISRO, John Deere (India), and Simple Energy Private Limited. Equipped with state-of-the-art research facilities, the department has hosted Short-Term Programs (STPs) and Faculty Development Programs (FDPs) for professionals and academics. Key research includes developing micro-plasma transferred arc (μ-PTA) processes for additive manufacturing, biocompatible knee implants, fault detection algorithms for wind turbine gearboxes, and lead-free triboelectric nanogenerators for energy harvesting. Other contributions include soft robotics, thermal management using phase change materials, ceramic coatings, reliability testing of shape memory alloy springs, nanoglass research, and biomechanical analysis of root canal preparation.

Projects

Project	Sponsored	Consultancy
New Projects	10	2
Ongoing Projects	25	4
Completed	16	16

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	0	41	43	90

Department of Metallurgical Engineering and Materials Science

About the Department

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.

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.

Our vibrant group of faculty members aspire to create an environment conducive to the smooth pursuit of scholarly activities in research and training within the field of Metallurgy and Materials Science. Our focus spans the study of materials ranging from simple alloys to complex composite materials, with an emphasis on their structure, properties, processing, and performance. We aim to understand the fundamental principles governing the behavior of materials and apply this knowledge to develop innovative solutions for practical problems. In addition to fundamental research, the Metallurgy and Materials Science department is dedicated to contributing to applied research that addresses the practical challenges faced by various industries.

Number of Faculty Members:	21
Professor	03
Associate Professor	08
Assistant Professor Grade-I	06
Assistant Professor Grade-II	04
No. of Post Doctoral Fellows	Nil

Programs	Student Intake	Degree Awarded
B. Tech	48	36
M.Tech	12	14
Ph.D.	13	07

R&D and other activities

1. Two In-house Symposium on Progress in Metallurgy and Materials (ISPMM) 15 September 2023 & 28 February 2024
2. International Workshop "Energy Conversion and Sustainable Future" on January 23-24 2024
3. 1-Week active learning and Hands-on workshop on 'Energy Materials Synthesis, Characterization, and Device Fabrication' on 3rd-8th July 2023.
4. 1-Days short-term course on 'Workshop on Electrochemistry' on 11th January 2024.

Projects

Project	Sponsored	Consultancy
New Projects	15	05
Ongoing Projects	24	05
Completed	Nil	Nil

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	Nil	04	Nil	112

Department of Physics

About the Department

The Department of Physics has beena vibrant and flourishing department since the inception of the Institute in 2009.Presently the department consists of 21 faculty members with expertise in diverse fields such as condensed matter physics, high energy physics, black-hole physics, gauge/gravity duality and complex networks. Our research labs have state-of-the-art facilities, that have grown and evolved over the years to facilitate cutting-edge research and foster innovation and technology development amongst the young research students.

Academic Programs

The department offering academic programs such as M.Sc. and Ph.D., and have proudly graduated over 150, and 60students, respectively. Our PhD students have been placed at prestigious institutes worldwide and are actively pursuing research.

Since 2023, the Physics department has started an undergraduate programme, B.Tech (Engineering Physics), with an initial strength of 20 students. The department also partners with the Mechanical Engineering department in running the M.Tech programme in Mechanical Engineering with specialization in Applied Optics and laser Technology. Our commitment to providing students with practical research experience extends across all levels of education, from undergraduate to postgraduate programs. To this end, the department 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:	21
Professor	10
Associate Professor	02
Assistant Professor Grade-I	09
Assistant Professor Grade-II	00
No. of Post Doctoral Fellows	04

Programs	Student Intake	Degree Awarded
B.Tech (Engineering Physics)	20	–
MSc	26	25
PhD	12	05

Notable Physics Departments Activities

The department prides itself on fostering a highly collaborative research environment, that facilitates close interaction across various departments in IIT Indore, and renowned national and international institutions. Presently we have active collaboration with IISc Bangalore, IITs (Bombay, Delhi, Madras, Kanpur, Ropar, Hyderabad), RRCAT, Indore, BARC, Mumbai, IISERs (Kolkata, Pune, Behrampur), HRI Allahabad, Central Universities (Pune, Mumbai, Allahabad, Calcutta), SNB-NCBS, Kolkata, 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.

The department was instrumental in submitting a multi-institutional research proposal to the recently announced Nation Quantum Mission, by DST India. Further, department has taken initiative to explore collaboration for academic and research activities in the Asian subcontinent by reaching out to several universities in Thailand and Vietnam.

Projects

Project	Sponsored	Consultancy
New Projects	09	Nil
Ongoing Projects	23	Nil
Completed	33	Nil

Publications

Details	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	01	01	13	63

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:	19
Professor	11
Associate Professor	04
Assistant Professor Grade-I	04
No. of Post-doctoral Fellows	05

Programs	Student Intake	Degree Awarded
MSc	26	25
PhD	22	12

Notable R&D Activities

- Sustainable Chemistry – 2024 Under INDO-GERMAN Higher Education Partnerships 20 -22February 2024 Funded by UGC and DAAD
- The Chemistry Day & In-House Chemistry Symposium (CHEM 2024), March 21, 2024.
- Prof. Sanjay K Singh developed new materials for efficient CO2 capture from air for CCUS.
- Prof. Sanjay K Singh Developed an efficient catalytic process for complete conversion of alcohol for the production of purified hydrogen gas.
- Prof. Suman Mukhopadhyay Secured one SERB CRG Project.
- Prof. Suman Mukhopadhyay delivered one invited lecture in Amsterdam in an International Conference.
- Dr. Debayan Sarkar Received MOE-Stars Project&One Patent Filed.
- Dr. Debayan Sarkar at University of Regensburg for 3 months Under IGP Mobility.
- Prof. Tushar K Mukherjee Secured one SERB CRG Project.
- Prof. Apurba K Das Secured one CSIR Project&one Industry-sponsored project.
- Prof. Apurba K Das granted three Indian patents.
- Prof. Apurba K Das filed one Indian patents.
- Prof. Chelvam Venkatesh delivered invited lectures at Institut für Organische Chemie, Universität Regensburg, Germany and Research Presentation at University of Hannover, Germany in 2023.
- Delivered talk in the International Research Training Groups (IRTG) – Deutsche Forschungsgemeinschaft (DFG) Workshop on Deciphering Respiratory Bacterial Niches and Molecular Mechanisms: Unraveling Organelle Dynamics During Infection.
- Received Fulbright Scholarship Award, 2023-2024, Prof. Ram Mohan, Illinois Wesleyan University, Bloomington, USA, Visited Dept. of Chemistry, IIT Indore, Delivered Lectures and Research Collaboration with the research group of Prof. Chelvam Venkatesh.

Projects

Project	Sponsored	Consultancy
New Projects	13	Nil
Ongoing Projects	23	Nil
Completed	06	Nil

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	Nil	02	Nil	93

Department of Mathematics

About the Department

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.

Academic Programs

The Department currently offers PhD, MSc programs in Mathematics and B.Tech programme in Mathematics and Computing. The department envisages other master programs in allied fields, such as statistics and applied computing.

Number of Faculty	18
Professor	04
Associate Professor	02
Assistant Professor Grade-I	12
Assistant Professor Grade-II	02
No. of Post Doctoral Fellows	05

Programs	Student Intake	Degree Awarded
MSc (Mathematics)	20	19
PhD	6	4
B.Tech	39	NA

Notable R&D Activities

- INSA Distinguished Lecture Fellow 2024 (the only recipient in Engineering & Technology Sectional Committee (M. Tanveer)
- Conducted a High-End workshop on "Statistical Modelling in Ranking and Selection", funded by the SERB under the Karyashala scheme from January 18-24, 2024 (Dr. Mohd Arshad)
- Organized an International Conference on Applied Mathematics and Mechanics (ICAMM 2023) October 18-20, 2023 at IIT Indore (Dr. Santanu Manna)

Projects

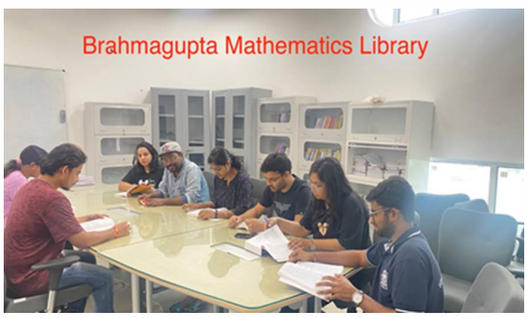
Project	Sponsored	Consultancy
New Projects	01	Nil
Ongoing Projects	20	Nil
Completed	22	Nil

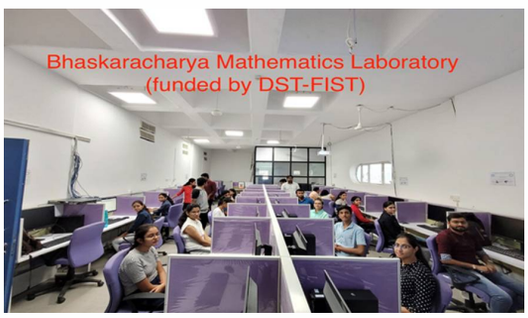
Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	08	09	25	42

DST-FIST support

Bhaskaracharya Mathematics Laboratory
Brahmagupta Mathematics Library





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 16 faculty with three members as Honorary Professor, Distinguished Visiting Professor and Visiting Professor. A total of 65 PhD students are currently working on exciting projects and research problems, and 3 students have already been recommended for admission in the year 2024. 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 namely PhD and MS (Research). PhD program comprises of course work and 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.

Number of Faculty Members	
Professor	3
Associate Professor	4
Assistant Professor Grade-I	8
Assistant Professor Grade-II	1

Notable R&D Activities

1. Prof. Nirmala Menon has been selected as an Affiliate Research Professor with the University of Oxford for a period of two years.
2. Dr. Ashok Kumar Mocherla held a Visiting Fellow Position at the Coventry University, U.K., March 2024.
3. Prof. Ruchi Sharma has been selected as IPR Chair Professor under the scheme for Pedagogy and Research in IPRs for Holistic Education and Academia (SPRIHA), formulated by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India.

4. Dr. Ashok Kumar Mocherla published "Democratization of Indian Christianity Hegemony, Accessibility, and Resistance." 2024. London: Routledge. (Edited Volume).
5. Dr Ananya Ghoshal was nominated by the US Embassy and received funding from the US Dept. of State to participate in an OPEN course on teaching climate change.
6. Prof. Pritee Sharma organized the first of its kind, National Level Workshop on "environmental Humanities for Sustainability: Interdisciplinary Dimensions", during February 14-16, 2024.
7. Dr Thapasya and Dr Sansuma organized a workshop on "Documentation of Language: Techniques and Technologies", February 19-21, 2024.
8. Prof. Ruchi Sharma organized two GIAN courses, on, The Strategic Use of Intellectual Property Rights (IPR) by Firms from 4-8 December 2018, with Prof. Christian Helmers; another on Intellectual Property Rights (IPR), Innovation and Economic Development from 6-10 November 2023 with Prof. Walter G. Park, American University, Washington DC.
9. The SPARC Committee has given approval to fund two research projects: Prof. Nirmala Menon's Multilingual Literature Research (MLR) Database Development, with International Co-PI: Prof Pieter Francois, Oxford University and Alan Turing Institute, UK, National Co-PI: Prof. Abhishek Srivastava, Dept of CSE, IIT Indore; and Prof. Ruchi Sharma's Patent policy and innovation: A case of the Indian pharmaceutical industry, International Co-PI: Prof. Walter G Park, American University, Washington DC, National Co-PI: Prof. Madan Dhanora.
10. Among our PhD students, Jitamitra Behera has been awarded the Bi-nationally supervised Doctoral Degree / Cotutelle 2024-25 research grant by the DAAD German Academic Exchange Service; Mr. Manivendra Kumar has been awarded the Charles Wallace India Trust Scholarship of the British Council, UK; Ms. Monika received the "Supervisor Service Fellowship" and was appointed as a Visiting PhD Student at the Dept. of Sociology, Boston University, USA for 1 year from 1 Oct 2023-30 Sept 2024; Ms Monika was also selected for a project for Asian and International Relations by Harvard University from 9-11 February 2024 with a partially funded scholarship; Ms. Jyothi Justin received Computational Literary Studies (CLS) INFRA Transnational Access Fellowship (TNA) funded by the EU at UNED, Madrid, Spain for 9 weeks; Ms. Sadaf Khan received the Best Paper Presentation Award in the Research Scholars Category for presenting a paper on the Impact of Medium of Instruction on Professional Trajectories.
11. Dr Kalandi Charan Pradhan and Dr Mohanasundari Thangavel were awardees of the Young Faculty Research Catalysing Grant Scheme (YFRCG) 2023-24, IIT Indore. They will conduct a project entitled, Assessing the socioeconomic, cultural, institutional, and climatic variability impact on livelihood of tribal people: A study of selected districts and households of Madhya Pradesh, India.
12. Dr Sansuma Brahma received financial assistance under the Young Faculty Research Seed Grant Scheme, 2023-24 to work on project titled The Bodo Language of BTR, Assam: Linguistic Variation.
13. Dr Dishari Chattaraj received financial assistance under the Young Faculty Research Seed Grant Scheme (YFRSG) 2023-24, IIT Indore to conduct a project titled Food Literacy in Indian School Curricula: A Case of CBSE Schools.

Projects

Project	Sponsored
New Projects	11
Ongoing Projects	17
Completed	14

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	1	24	33	61

Center Profiles

Centre for Entrepreneurship Education and Development (CEED)

About the Centre

Centre for Entrepreneurship Education and Development (CEED) is one of the recently established centers 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.

Academic Programs

CEED offers an open elective course on Foundation for Entrepreneurship for all bachelors / masters / PhD students from Autumn 2022. The main scope of this course is to develop innovation and entrepreneurship skills among the students through experiential learning. Apart from regular class room lectures, invited lectures on different topics will be given by domain experts, startup founders, professors from IIT / IIM, angel investors, etc. Students will also be asked to prepare a business plan towards their startup idea as a team by providing seed funds, which will be further evaluated by an expert committee.

People:

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

Major Achievements:

- 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 75 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, IIT Indore in association with IITI Advanced Centre for Entrepreneurship (ACE) Foundation organized 2 Startup Bootcamps, where our experts engaged in delivering 6 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 bootcamps were conducted for SICA College (57 student) students and Ujjain Engineering College students(100 students).

Glimpses of Events

1st Awareness Programme on
MSME Design Scheme

2nd Awareness Programme on
MSME Design Scheme

Startup Bootcamp for
Students of SICA College

Startup Bootcamp for Students of
Ujjain Engineering College

Startup Bootcamp for Students of
Ujjain Engineering College

Sophisticated Instrumentation Center (SIC)

About SIC:

The Sophisticated Instrumentation Centre (SIC) was established in September 2011 to accelerate 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 application in cutting-edge research. The high-value instruments are accommodated under one roof to provide the highest quality of data analysis to its stakeholders. SIC provides analytical services to all departments within the Institute and to external academic and industry users. SIC is constantly striving to support and foster research in all branches of science and engineering at IIT Indore.

SIC is currently striving to become a self-sustained center by generating funds through services provided to external users.A significant advantage of the SIC facility is its easy accessibility to the students and faculty, with a favorable ratio of students to available instruments.The following departments within the Institute have been actively using the SIC's instruments to enhance their research and development activities: Bio-sciences and Biomedical Engineering, Chemistry, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Metallurgical Engineering and Materials Science, and Physics.

Vision, Mission and Objectives:

1. To provide high end instrumentation facility 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 talks, seminars, and workshops on the usage and application of various SIC Instruments for researchers 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.
5. To provide services to other educational institutes and industries with nominal charges.

Prof. Apurba K. Das
Professor In-Charge SIC
Email: head-sic@iiti.ac.in

Prof. Krushna R Mavani
Co-Convener SIC
Email: krushna@iiti.ac.in

Mr. Ghanashyam Bhavsar
Technical Superintendent

Mr. Kinny Pandey
Technical Superintendent

Dr. Ravinder
Junior Technical Superintendent

Mr. Atul Singh
Junior Technical Assistant

Ms. Kajal Chaudhari
Junior Technical Assistant

Mr. Ranjeet Raghuvanshi
Administrative Staff

Facilities available with SIC

SIC includes various instruments which can be categorized such as:

1. Spectroscopy
2. Chromatography
3. Microscopy & Imaging
4. Thermal Analysis
5. X-Ray Diffractometers
6. Other Instruments

Spectroscopy		
400 MHz NMR & 500 MHz NMR (DST-FIST-Chemistry)	UV-Visible Spectrometer	UV-VIS-NIR Spectrometer
Time-Correlated Single Photon Counting (TCSPC)	Circular Dichroism (CD)	Spectrofluorometer
Fourier Transform Infrared Spectrometer (FT-IR)	Photoluminescence (PL)	Polarimeter

Chromatography		
High Resolution - Mass Spectrometry (HR-MS)	Gas Chromatography - Mass Spectrometer (GC-MS)	Reverse Phase - High Performance Liquid Chromatography (RP-HPLC)
Preparative - High Performance Liquid Chromatography (Prep-HPLC)	Normal Phase – High Performance Liquid Chromatography	

Microscopy & Imaging		
Field-Emission Scanning Electron Microscopy (FE-SEM)	Atomic Force Microscopy (AFM)	Confocal Laser Scanning Microscopy (CLSM)
Total Internal Reflection Fluorescence Microscopy (TIRFM)		

Thermal Analysis	
Thermogravimetric Analyzer (TGA)	Differential Scanning Calorimetry (DSC)

X-Ray Diffractometers		
Single Crystal XRD (SCXRD)	Powder XRD (PXRD)	Energy Dispersive X-Ray Spectroscopy (EDS/EDX)
Wavelength Dispersive Spectroscopy (WDS/WDX)	X-ray Absorption Fine Structure (XAFS)	

Other Instruments		
Lyophilizer	Surface Area Analyzer (BET)	Rheometer
CHNSO Analyzer	Spectro Electro-Chemical Cell (SEC)	Dual Ion Beam Sputtering Deposition System (DIBSD)
CyclicVoltammetry	Microwave Synthesizer	

Glimpses of Major Facilities in SIC



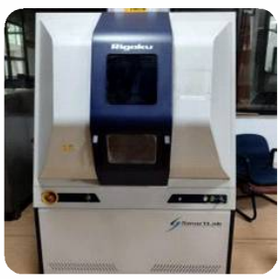












Notable delegates visit at SIC

1	Dr. K. Sivan	Chairman BOG IIT Indore and Former Chairman ISRO
2	Prof. Volker Epping	President of Leibniz University Hannover, Germany
3	Lt. Gen K H Gawas VSM	Commandant MCTE, Mhow
4	Dr. J. Kole	Senior Vice president R&D, JSW Cement Limited

Technological Talks Organized by SIC

1	Dr. A. D. Giddings (Devin)	Application Scientist for CAMECA Instruments, Germany
2	Mr. Prashant Chaudhari	Application Specialist Thermo Fischer
3	Anand Gunjotikar	Application Specialist JEOL
4	Dr. Atanu Shingaroy	Application Specialist Carl ZEISS

Selected external Users

Industries	Academics
1. Navin Fluorine, Dewas	1. Devi Ahilya Vishwavidyalaya, 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. Shriniwas 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. Hari Singh Gour University, Sagar
15. Mahle Engine Components India Pvt.	15. Govt. P.G. College, Tikamgarh
16. Life First Farma Pvt. Ltd., Phithampur	16. Central Institute of Agri. Eng. Bhopal
17. Rajveer Chemical, Indore	17. Nirmala College Ujjain
18. Gufic Bioscience Ltd., Indore	18. K.N. Modi University, Newai, Rajasthan
19. SRF Packaging Films Business, Pithampur	19. Sri Aurobindo Institute of Medical Science, Indore
20. Dewas Hydroquip Pvt. Ltd., Dewas	20. SKUAST Kashmir
21. Omnibrx Biotechnologies, Ahmedabad	21. Institute of Chemical Technology, Mumbai
22. Libra Biotech, Pithampur	22. NISER, Bhubaneshwar
23. Touch and Glow, Palghar	23. Cochin University of Science and Technology, Kochi-Kerala

Role of SIC in Institute Research Activity till inception

	Publications: With providing support to more than 5943 publications SIC has been catering the research needs of institutional faculties & research scholars.
	Patents: 66 Patents were granted and 165 patents were filed using SIC data.
	Technological Transfer: 3 Technologies were transferred to Industries, and 8 Technologies were incubated with help of SIC.
	SIC supported around 614 projects worth 450 Cr in value.

Highlights: Samples analyzed on key instruments in 2023-24

Instrument	No. of samples
NMR (400 and 500 MHZ)	19530
HR-MS	8150
FE-SEM	2722
CLSM	3478
GC-MS	2669
BET	454
TGA	772
CD	882
AFM	404
UV-VIS	1313
UV-VIS-NIR	904
FLUORESCENCE	2093
LYOPHILIZER	352
PREP-HPLC	207
LN2	18844 Ltr
MILLIQ WATER	817 Ltr

Revenue generated from External Academia, Industries and International users was INR 1.13 Cr since inception while for current FY 2023-24 it was 11.66 lakh.

Group Photograph

Center for Advanced Electronics (CAE)

About the Department

The Centre 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 CAE is honored 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 Centre 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 Centre 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	12
Professor	09
Associate Professor	02
Ramanujan Fellow	01

Programs	Student Intake	Degree Awarded
PhD	01	-

Notable R&D Activities

- The Centre 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.
- 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.
- Work on fabrication and characterization of Ge based THz emitters is started in collaboration with Prof. S. S. Prabhu, TIFR Mumbai. THz emitters on sputtered Ge are fabricated and tested. Currently we are analysing the data and optimising the device parameters.
- A collaboration with CeNSE, IISc Bangalore is established for the growth of Ge films using CVD.

- A startup company, THz Innovations Private Limited has been incorporated to commercialize the THz emitters and related products and technology coming from our research work. It is a DPIIT recognized startup incubated at ACE Foundation, IIT Indore. The company has received the seed fund from the Startup India Seed Fund Scheme.
- Fabricated chemi-resistive sensor for the detection of ethanol using organic-inorganic nanohybrid.
- Electronic Structure of Point Defects, Surfaces, and Interfaces in Compound Semiconductors and their Impact on the Electrical and Magnetic Properties using First-Principles Calculations.
- Nanomaterial Science and Engineering, Defects in Materials, Single Wall and Multi Wall Carbon Nanotubes (CNT), Multi-layers Graphene and 2D and 3D Materials Engineering.
- 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, CO_2 and CO Capture and H_2 storage.
- Optoelectronic Nanodevice Research Laboratory led by Prof. Mukesh Kumar has developed a technology on semiconductor heterojunctions for chip-scale photonic devices for optical communication, data centres and health care applications.
- Optoelectronic Nanodevice Research Laboratory has demonstrated a nanophotonic resistive switch for optically readable resistive RAM (ACS Photonics, DOI: 10.1021 / acsphotonics.3c01289).

Projects

Project	Sponsored
New Projects	2
Ongoing Projects	6
Completed	-

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals	Patent
Total	-	-	3	16	3 (1 Field & 2 Published)

Outreach Activities

S. No	Date	Activities
1	May 16, 2024	Celebrated International Day of Light under the flagship of IEEE Photonics Society, OPTICA, and the Ministry of Electronics & IT.

Faculty Profile of CAE

Prof. Vivek Kanhangad
(Professor In-Charge, CAE)

Research Interests:

- Biometrics
- Digital Signal and Image Processing

Prof. Mukesh Kumar

Research Interests:

- Integrated Optoelectronics
- Silicon Photonics
- Nanoelectronics
- Integrated CMOS Photonics
- Device Fabrication & VLSI Technology
- Bio-chemical Sensors
- Nano-scale devices

Prof. Shaibal Mukherjee

Research Interests:

- Low-cost HEMTs / HFETs for DC-to-DC converters
- Heterogeneously integrated RRAMs for image processing and neuromorphic computation
- Next-generation ultrathin and low-cost photovoltaic
- Flexible and low-cost bio-chemical sensors for agriculture, water, and air
- High-performance UV detectors

Prof. Vimal Bhatia

Research Interests:

- AI / ML for Communications and Optics
- 6G and 7G communication Systems
- Performance Analysis and Optimization
- Signal and Image Processing Algorithm
- Mathematical Analysis and Computing
- Software Implementations

Faculty Profile of CAE

Prof. Santosh Kumar Vishvakarma

Research Interests:

- SRAM Design and Architecture
- Reliable, Secure and Energy-Efficient Circuit Design
- Digital ASIC / SoC Design
- In-Memory Computing
- SoC / FPGA based CNN Hardware Accelerators
- NAND Flash Memory Device
- Advanced MOS Devices
- Device Circuit Co-Design

Dr.. Ajay Kumar Kushwaha

Research Interests:

- Anti-Corrosion Coatings
- Nanomaterials
- Energy Harvesting and Storage

Prof. Rajesh Kumar

Research Interests:

- Nanomaterials & nanodevices
- Electronic and electrochromic devices
- Device physics, Raman Spectroscopy & Microscopy
- Natural Biomaterials

Prof. Vinod Kumar

Research Interests:

- Nanomaterial
- High Entropy Alloys
- Magnetic Materials
- Corrosion and coating
- Structure-Property Correlations,
- Microstructural Characterization,
- Thermo-mechanical Processing of Light metal alloys and Steels
- Failure Analysis
- Building Materials
- Energy Materials

Faculty Profile of CAE

Prof. Apurba K. Das

Research Interests:

- Biomaterials
- Peptide and nucleobase-based nanostructured materials
- Systems chemistry
- Supramolecular electronics
- Organic-inorganic hybrid materials

Dr.. Srimanta Pakhira

Research Interests:

- Theoretical Condensed Matter Physics
- Computational Material Science
- Quantum materials
- Renewable Energy Technology
- Surfaces, and Interfaces in Compound Semiconductors and their Impact on the Electrical and Magnetic Properties using First-Principles Calculations

Prof. Ram Bilas Pachori

Research Interests:

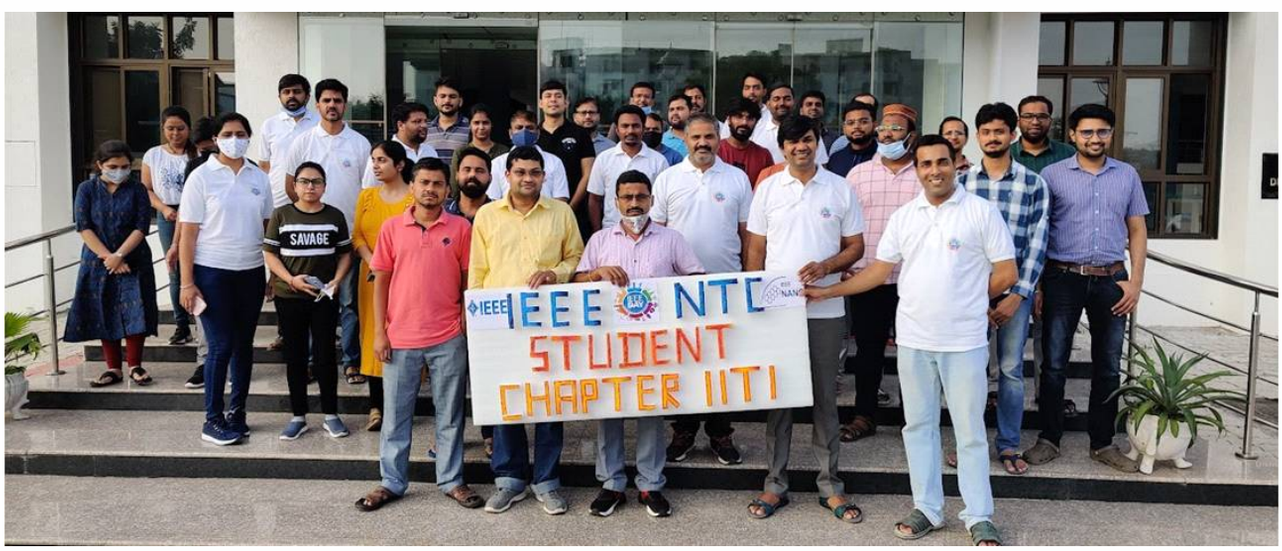
- Signal and Image Processing
- Biomedical Signal Processing
- Non-stationary Signal Processing
- Speech Signal Processing
- Brain-Computer Interfacing
- Machine Learning
- AI in Healthcare
- Signal Processing for Vedas

Dr. Abhishek Singh (Ramanujan Fellow)

Research Interests:

- Photonic terahertz technology: THz generation, detection and application
- Optoelectronics
- GaAs, Ge, and Ge/Si based semiconductor devices for ultrabroadband THz technology
- Terahertz spectroscopy
- Ultrafast optics
- Ge based high-speed photodetectors
- Nano-scale and micro-scale device fabrication using lithography

International Day of Light : May 16, 2024



Computer and Information Technology Center (CITC)

CITC Building

Data Center

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

Network Connectivity: CITC provides 10 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.

Data Centre: The data center developed at the CITC building is equipped with redundant UPS and 320 KV DG facility.CITC is hosting servers, storage, network equipment, and a high-performance computing (HPC) facility in the data center. There are 7 InfiniBand Linux clusters hosted in CITC, a total of more than 3500 CPU cores, and 500 TB of storage. DGX NVIDIA cluster is also hosted in data center for computer science and engineering department..

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 i.e. ERP (HRMS and MMS Module), File Tracking System (FTS), Web-based telephone directory, 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, personal homepage hosting services and open-VPN for users. 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. Prof. Neminath Hubballi, Professor In-charge & Head, CITC
2. Mr. Genius Sanjog, System Manager
3. Mr. Yogendra Singh, Deputy System Manager
4. Mr. Jitendra Gupta, Technical Superintendent
5. Mr. Dhiraj Vijayvargia, Junior Technical Superintendent
6. Mr. Subhash Soni, Junior Technical Superintendent
7. Mr. Chattar Singh, Junior Technical Superintendent
8. Ms. Princy Awadhiya, Application Developer
9. Ms. Manju Ghorse, Application Developer
10. Mr. Prahalad Singh Panwar, System Analyst
11. Mr. Shailesh Kaushal, Tech. Superintendent
12. Mr. Subha Jana, Tech. Superintendent

IITI DRISHTI CPS Foundation

About the Department

IITI DRISHTI CPS Foundation, a Technology Innovation Hub (TIH) established at IIT Indore under the aegis of National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS), is working along the technology vertical of System Simulation, Modelling and Visualization. DRISHTI CPS is committed to fostering technology development and commercialization, skill development, startup support, and employment creation in the field of Cyber-Physical Systems. It is closely working with faculty members, researchers and students from across the country for bringing relevant technologies from laboratory to market. We involve relevant industries, state government departments, line ministries, PSUs and startups in our ecosystem.

Program Updates:

Affiliate Program	Total Affiliate Members: 203
Technology Development and Fellowship Program	Student Fellowship-63 Faculty Fellowship-33 Total Amount Sanctioned-Rs. 11.6 Cr
Technology Business Incubation Program	CPS-Seed Support- • No. of incubated startups-29 CPS-PRAYAS- • No. of incubated startups-10 CPS- EIR- • No. of incubated startups-5 Total Fund Sanctioned- Rs. 8.56 Cr **SHAKTI-** Under this pre- incubation program, 18 shortlisted budding female entrepreneurs will delve into the fundamentals of entrepreneurship through immersive sessions, personalized mentoring, monthly fellowship stipend and practical training led by experts from the industry. **BUILD-** In collaboration with iTIC, IIT Hyderabad, DRISHTI CPS is supporting undergraduate students and recent graduates through mentorship, guidance, and resources to shape their ideas into functional prototypes and fostering a culture of entrepreneurship and innovation among young minds in India. **HDFC Parivartan-** The hub received HDFC Parivartan Grant of Rs. 35 Lacs to support Tech Driven High Impact Startups focusing on Agriculture and Sustainable Rural Economy. Under this program, the hub shortlisted two startups KY Innovations and Bhusatyam Technologies for incubation. **Startup India Seed Fund Scheme (SISFS)-** The hub has been granted Rs. 5 Crore under the Startup India Seed

	Fund Scheme (SISFS) for startup investment and operations for the next 3 years.
Skill Development Program	Total No. of Skill programmes- 17 Domain areas- Cloud, Industrial Simulation and Automation, IoT Simulation and Hardware Total no. of persons trained- 2242 Total no. Employment Generation-1181
International Collaboration	An international collaboration with Belgium's UCLouvain in association with the NGO Louvain Cooperation for their Ingenieux Sud project. DRISHTI CPS is moderating student exchange program with UCLouvain and IIT Indore on Waste Management. Supported 4 Entrepreneurs in the first cohort working in areas like Agriculture and Smart Cities (EV) under Business Ideas for Development Program, Germany (BID-GIZ).

Team Strength

- Total Team Size - 46
- Technical Team -22
- Startup Team -06
- Operational Team -16
- Consultant -02

Notable R&D Activity

IITI DRISHTI CPS Foundation, a Technology Innovation Hub (TIH) established at IIT Indore under the aegis of National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS), is working along the technology vertical of System Simulation, Modelling and Visualization. DRISHTI CPS is committed to fostering technology development and commercialization, skill development, startup support, and employment creation in the field of Cyber-Physical Systems. It is closely working with faculty members, researchers and students from across the country for bringing relevant technologies from laboratory to market. We involve relevant industries, state government departments, line ministries, PSUs and startups in our ecosystem.

DRISHTI CPS has established a state-of-the-art research and skill development center at IIT Indore, named Charak Center for Digital Healthcare.The center aims to revolutionize India's healthcare landscape, driving the advancement of technologies through Digital Twin as the foundation. The center will bridge the gap between technology developers and users by bringing together entrepreneurs, academicians, healthcare professionals, and end users to collectively accelerate the development, adoption, and commercialization of cutting-edge solutions in digital healthcare.

Research Grant received from external entities-

From Indian Council of Medical Research

Project: Development of risk management and health monitoring system on ventilated neurotrauma patients using the concept of digital twins and probabilistic modelling

Collaborators: IIT Indore and AIIMS, New Delhi

Funding: Rs. 1.5 Cr

From Royal Academy of Engineering

Project: Critical Care digital twin for affordable healthcare

Collaborators: IIT Indore, University of Cambridge, UK and AIIMS, New Delhi

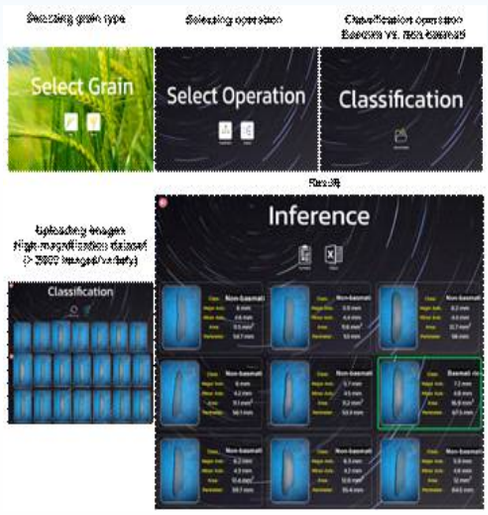
Funding: GBP 66000

Events and Programs

DESCRIPTION	IMAGE
The hub organized a technology exhibition "SETU" (Stakeholder Engagement in Technology Upgradation) on July 16, 2023, in Indore, India. This exhibition showcased cutting-edge innovations in the Cyber-Physical Systems (CPS) domain, aiming to bridge the gap between technology developers and end-users across various industries	 **SETU 2023**

DESCRIPTION	IMAGE
The hub organized a mega event, ATMAN (Agri sTartup deMo And fuNding),in collaboration with Technology Innovation Hubs of IIT Bombay, IIT Kharagpur, and IIT Ropar in September 2023. Experts recommended 24 agritech startups from a pool of 55. Financial and technical support was provided to these startups to accelerate promising ideas and technologies.	 **ATMAN 2023**
The hub organized SETU 2024 in collaboration with AIIMS New Delhi with the theme Digital Twin in Healthcare. The program brought together stakeholders from 8 AIIMS institutions, various IITs, NITs/IIITs, and experts from medical and engineering institutes.	 **SETU 2024**
The hub organized an Accelerator Program in February 2024 to offer support to startups in the field of Digital Healthcare & Smart Manufacturing, fostering the growth of India's deep-tech startup ecosystem. 24 tech-based startups in Digital Healthcare & Smart Manufacturing participated and received guidance mentors, business experts, and investors on various topics such as Unit Economics, Value Proposition Development, Startup Branding and many more.	 **Startup Bootcamp for Business & Funding Accelerator Program, February 2024**
The hub inaugurated its Charak Center for Digital Healthcare on 17 February 2024 in the esteemed presence of Prof. Abhay Karandikar, Secretary, DST. This dedicated hub is set to propel translational research in digital healthcare.	 **Inauguration of Charak Centre for Digital Healthcare, February 2024**
The hub through its Charak Center for Digital Healthcare organized an event, Charak Connect in April 2024 at IIT Indore. A diverse group of medical experts from Govt and Private Medical and Research Hospitals, IIT Indore Faculties, entrepreneurs, and healthcare professionals visited Charak Centre for Digital Healthcare. The program was enriched with insightful technology demonstrations, fostering engaging discussions on potential collaborative projects.	 **Charak Connect, April 2024**

Research Area and Highlights

PROJECT / STARTUP DETAILS	TECHNOLOGY IMAGE
Name of the Technology: AI-guided portable system for adulteration and dilution detection in Basmati rice-GRAIN PRO **TRL Stage: TRL 6** **Description:** The similarity in appearance of different varieties of Basmati rice (and therefore the difficulty in distinguishing them), and the significant price difference leads to both intra-basmati rice and inter-rice adulteration by fraudulent dealers. This project is developing a machine vision system-based device that will enable the classification of 8-10 classes of Basmati rice in the Indian context. A robust dataset of 20,000+ high-resolution, high-magnification images spread across 10 varieties of Basmati rice in the Indian context is being prepared which will be used to put forth an optimized deep learning-based model which will ensure a high classification accuracy of > 98% at a low image resolution (< 1 MP) for Basmati rice classes.	
Name of the Startup: BramhAnsh Technologies Pvt. Ltd. **Product Name:** Migraelief **Domain:** Healthtech **TRL Stage:** TRL 7 **Description:** Startup has developed a drug-free wearable neurostimulation device, Migraelief, providing immediate relief and prevention for migraines, ensuring headache relief and deep sleep. Migraelief is a drug-free treatment that can help people to get relief from migraine attacks. This simple-to-use medical device works effectively to cure acute migraine attacks and prevent future occurrences. Migraelief gets to the root of the problem by impact of sound as a vibration wave of acoustic signal through the skull, tissues and cells of the brain.	

Center for Indian Scientific Knowledge Systems (CISKS)

About the Department:

The Center for Indian Scientific Knowledge Systems (CISKS) at the Indian Institute of Technology Indore was founded in June 2021to focus on understanding, preserving, teaching, and adapting the science and technology heritage of India. The center will focus exclusively on the scientific and technological 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 will not focus on the language studies, humanities, or social science aspects of Indian knowledge systems.

Academic Programs:

The academic programs include the Certificate Course in Sanskrit Language (CCSL) and the Diploma Course in Sanskrit Language (DCSL). The courses are open to everyone on the campus or outside the campus.

Our vibrant group of faculty members aspires to create an ambience for the smooth pursuit of scholarly activities in Sanskrit research as well as training on the science and technology heritage of India.

Number of Faculty Members:	11
Professor	04
Associate Professor	06
Assistant Professor Grade-I	01
Assistant Professor Grade-II	Nil

Programs	Student Intake	Degree Awarded
Certificate course in Sanskrit Language (CCSL)	100	53
Diploma course in Sanskrit Language DCSL (ongoing)	100	0

Projects

Project	Sponsored	Consultancy
New Projects		Nil
Ongoing Projects	4	Nil
Completed		Nil

Notable Activities:

Non-formal Sanskrit Education (NFSE) centre of Central Sanskrit University classes

Organized Panchatantra workshop led by Dr. Bharat Dash on March 08, 2024.

Organized Exhibition in Fluxus 2024 on Puzzle games and other activities related to Indian History.

Organized four days of Faculty Development Programon "Arthashastra and Nitishastra" from June 11-14, 2024.

Organized an online talk on Indian Research Methodologies by HS Sudarshan titled, "How did our ancestors think?" on April 25, 2024, conducted by NFSE.

. A three-day Faculty Development Programwas held from July 1-3, 2024, titled "Agriculture, Water Management and Botany," and a two-day Faculty Development Program on "Temple Architecture" was held fromJuly 4-5, 2024.

Center of Futuristic Defence and Space Technology (CFDST)

This center is committed to providing a platform to students and researchers for their contribution to "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 country's premier laboratories of defense institutions, such as the Defense Research and Development Organization (DRDO). The center is also planning to offer specialized and dedicated M.Tech / MS Researchand Ph.D. programs in the broad area of defence and space in the near future.

Dr. Indrasen Singh (Head CFDST), and Mr. Balkrishna Vishwakarma are handling the Center.

Members in CFDST

• Prof. Neelesh Kumar Jain	• Dr. RamSajeevan 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 'The role of technology in national security and comprehensive national power'.
- One-day workshop on opportunities for research and development in armament establishments (ARMREB-2020) held on August 26, 2020.

Faculty Profile of CFDST

Bodhisatwa Mazumdar

Associate Professor
Cryptography, Hardware Security
bodhisatwa@iiti.ac.in

Research Area and Highlights:

My present research focuses on identifying fault-based vulnerabilities in cryptographic primitives, especially block ciphers, stream ciphers, and lightweight cipher suites. Precisely stating, we are presently working on pinpointing hotspots in the algorithms of such cryptographic primitives, which have increased vulnerabilities against such attacks. This work imparts stress on the design and implementation of lightweight countermeasures for minimal system overhead for such systems. We are also working on logic synthesis approaches for masking IP designs with provable security.

Prof. Somaditya Sen

Professor
sens@iiti.ac.in
PhD, Jadavpur University

Research Area and Highlights: Specialized in structure correlated physical properties analysis on some modified simple and complex oxide materials.

His research interests include Ferroelectricity, Multiferroicity, Magnetism, Semiconductors, Devices, Nanomaterials, and Bio-applications. The research target of his group is to synthesize single phase chemically modified oxide materials to study the structure correlated opto-electronic, magnetic, ac/dc transport, energy research, dielectric, ferroelectric, resonating antenna, and bio-applicable 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, antibacterial, wound healing, algae growth, seed germination properties, etc.

Significant contribution for the period 2023-24 :

- 10 publications in reputed journals
- Regularization of CESP committee

Sanjram Premjit Khanganba

Associate Professor
Cognitive Human Factors & Ergonomics, Safety and System Design, System Resilience
sanjrampk@iiti.ac.in

Research Area and Highlights: His scientific research investigates aspects of applied cognition in system development, design, and evaluation. He is strongly dedicated to addressing issues related to human-system interaction in the pursuit of technological innovation, improvement, and optimal utilization of human capabilities. He employs experimental investigation in the laboratory as well as fieldtesting involving analysis of gaze and electro physiological data.

Center for Rural Development (CRDT)

About the Department

The Institute established the Center for Rural Development and Technology (CRDT) in April 2020 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.

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 and 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 AgroEcological Systems, Sensors for agriculture, Sustainable Construction, Sustainable rural healthcare, Sustainable Techniques for Food Storage and VLSI Circuit and System Design.

Number of Faculty Members:	13
Professor	10
Associate Professor	02
Assistant Professor Grade	01

Sl. No	Number of Students Enrolled in PhD	Name of Supervisor
1	Mr. Habtamu Melesse Dicha(Under Ministry of Education, Ethiopia and Ministry of Innovation and Technology Joint Integrated Phd Programme from Arba Minch University, Ethiopia)	Prof. Sandeep Chaudhary
2	Mr. Satish Dabe	Prof. Sandeep Chaudhary
	Elective Courses: 02	
	Design Thinking For Rural Application (RDT 301 / 401 / 601)	
	Immersion For Rural Technology Development (RDT 201)	

Notable R&D Activities:

Sl. No	Name of event	Date	No. of Participants	Associate organization
1	Revolutionizing Agriculture through Artificial Intelligence and Machine Learning	August 25, 2023	45	ICAR-Indian Institute of Soybean Research (ICAR-IISR), Indore
2	Innovations Towards Rural Development Best Idea Presentation Competition	September 29, 2023	14	-
3	Skill development training program	October 3-5, 2023	06	Nimar Abhyudaya Rural Management and Development Association (N.A.R.M.A.D.A.)
4	Nurturing Sustainability in Agricultural Startups	October 27, 2023	40	ICAR-Indian Institute of Soybean Research (ICAR-IISR), Indore
5	Rural Innovators Conclave	January 5-6, 2024	100	Science and Engineering Research Board
6	Skill development training programs for school & college students under "Skill India Programme- Skill Hub Initiative (SHI) under Pradhan Mantri	February 7-13, 2024	216	PM Shri Kendriya Vidyalaya, IIT Indore
	Kaushal Vikas Yojana (PMKVY) 4.0"			

External Funding for Conference/Seminar/Symposia (SSY)

Name of Conference/ Seminar/ Symposia	Date	Name of Funding Agencies	Grant	No. of Participants	No. of Invited talks	No. of startup presentations	No. of Product Display	No. of New Technologies Presented
Rural Innovators Conclave	January 5 To 6, 2024	Science And Engineering Research Board (SERB)	2 Lakh	100	05	04	10	06

Projects

Projects	Internal Project	External Sponsored Project
New Projects	20	01
Ongoing Projects	13	02
Completed	-	-

Internal Project

Thirteen Centre-funded projects are underway under the aegis of CRDT in collaboration with CIAE Bhopal, and **Twenty projects** are ready for approval.

Ongoing Projects (13)				
Sl. No	**Project Title**	**PI (IIT Indore)**	**Co-PI (IIT Indore)**	**Co-PI (CIAE Bhopal)**
1	Development of bioplastic utilizing cellulose extracted from corn-stalk	Dr. Apurba K. Das	-	Er. Harsha Wakudkar, Dr. Sandip Mandal
2	Sustainable management of organic waste stream comprising fecal, municipal, and agro wastes employing resource recovery approach	Dr. Ashootosh Mandpe	-	Dr. Sandip Gangil
3	Assessing the Farm Mechanization and its impacts on farmers' Economic	Dr. Kalandi Charan Pradhan	Dr. Mohanasundari Thangavel	Dr. Kaushik Prasun Saha
4	Real-time detection of diseases in paddy/ Soyabean using via memristive crossbar array-based image	Prof. Shaibal Mukherjee	Prof. Ram Bilas Pachori	Dr. Manoj Kumar, Dr. Deepak Singh, Yogesh Rajwade
5	Assessment of Soyabean based probiotics to combat antimicrobial resistance Helicobacter pylori growth and disease pathogenesis	Dr. Hem Chandra Jha	-	Dr. Samlesh Kumari
6	Development of economic super absorbent Agri-gel for studying and soil, water and nutrients retention properties	Dr. Mrigendra Dubey	-	Dr. K V Ramana Rao
7	Deep CNN-based estimation of Above-Ground Biomass of corn crop using variable magnification UAV images.	Dr. Ankur Miglani	Dr. Pavan Kumar Kankar	Dr. Yogesh Rajwade
8	Design and development of cost-effective manually operated rice transplanter	Dr. Jayaprakash Murugesan	-	Dr. Rahul Rajaram Potdar
9	Development of Cost-Effective Photo Active Soft Materials for Efficient Removal and Degradation of Pesticides from Contaminated Ground Water	Dr. Tushar Kanti Mukherjee	-	Dr. Abhishek M. Waghaye
10	Development of Mobile app for farmers to help them in Agricultural activities: Krishi Sewa	Prof. Aruna Tiwari	_	Dr. Shashi Rawat
11	Sustainable Production of Polylactic Acid (PLA) using Agro-Industrial Waste for PLA based bioplastic Formulation.	Prof. Sampak Samanta	-	Dr. Manoj Kumar Tripathi
12	Development of Hybrid Sodium-Ion Capacitors by Compositing Agricultural Waste Derived Carbon with Doped-NASICON Materials	Dr. Dhirendra Kumar Rai	-	Dr. Vinod Kumar Bhargav
13	Porous Organic Polymers (POPs) in Water Remediation by Removal of Agricultural Toxic Chemicals	Prof. Suman Mukhopadhyay		Dr. K. V. Ramana Rao

Upcoming Projects (20)					
Sl. no.	**Project title**	**Project PI**	**Co-PI (IIT)**	**Co-PI (External)**	**Area/ Collaboration Institute**
1	Holistic Approach to Water Management: Indigenous Water Utilisation Practises, Oral Narratives and Nesu Nadi Festival in Nandurbar, Maharashtra	Dr. Aratrika Das	-	-	YOGAK, Nadurbar, Maharashtra
2	Development of Sustainable-cost effective Fertigation setup: Converting Solid Organic Fertilizer into Liquids for Direct Root Fertilization during irrigation	Dr. Ashish Rajak	-	-	1. Shivganga, Jhabua, Madhya Pradesh 2. Ohm Sanatan Gau Utpad
3	Development of a Smart Low-Cost Weather Station with Integrated Weather Forecasting	Dr. Saurabh Das	-	-	YOGAK, Nadurbar, Maharashtra
4	Development of Room Temperature Ethylene Gas Sensing to Mitigate Fruit Spoilage in the Storage Containers.	Dr. Pravarthana Dhanapal	-	-	-
5	Low-cost power generators for rural development (Low-cost generators)	Dr. Sumit Gautam	Dr. Devesh Mishra Mr. Sandeep Prajapati Project lead (Project SawYaan)		-
6	Advancing Hydrogen Storage and CO2 Capture for Decentralized Energy and Agriculture: Empowering Rural Sustainability	Dr. Srimanta Pakhira	-	-	Vasumitra Life Energies Pvt. Ltd.
7	Investigating the impact of abiotic stresses and carbon sequestration on plant physiology and soil carbon dynamics	Prof. Kiran Bala	-	-	Vasumitra Life Energies Pvt. Ltd.
8	Documentation and Preservation of Jhab Wali: A Dialect Dictionary for Jhabua, Madhya Pradesh	Dr.Thapasya J	-	-	Jhabua, Madhya Pradesh
9	Monitoring plant abiotic stress using remote sensing	Dr. Unmesh Khati	-	Dr. Manoj Semwal Computational Biology Department, Central Institute of Medicinal and Aromatic Plants	Vasumitra Life Energies Pvt. Ltd.

10	Echoes of Jhabua: Documenting the Folk Music Heritage of Madhya Pradesh	Dr. Ananya Ghoshal	Dr. Shomik Dasgupta	-	Shivganga, Jhabua, Madhya Pradesh
11	An app for Patient Record Management System for rural area surrounding to Indore	Prof. Aruna Tiwari	Prof. Avinash Sonwane	-	Nagrath Charitable Trust
12	Efficient Solar Air Dryer using synthetic jet impingement for Agricultural Products	Dr. Harekrishna Yadav	-	-	Ecosense Sustainable Solutions Pvt. Ltd.
13	Pioneering weed management through Rotary Drum composting followed by vermicomposting	Dr. Mayur Shirish Jain	-	-	YOGAK, Nadurbar, Maharashtra
14	Design and Development of Low cost environmental friendly Tribo Piezo Hybrid flexible smart flushing systems for Low water sanitation	Prof. Palani I A	Dr. Hitendra Kumar	-	YOGAK, Nadurbar, Maharashtra
15	Exploring Tribal Art Heritage: A Study of Indigenous Art Forms in Jhabua District, Madhya Pradesh	Dr. Shomik Dasgupta	Dr.Ananya Ghoshal	-	Shivganga, Jhabua
16	Improving the use of cow dung cake as fuel by converting it into biogas and by	Dr. Jayaprakash	-	-	YOGAK, Nadurbar,
	making cow dung logs	Murugesan			Maharashtra
17	Revitalizing Agriculture through Halma Heritage: Cultural and Socio-Economic Impact Study in the Jhabua & Alirajpur Districts of Madhya Pradesh	Dr. Dishari Chattaraj	Dr. Mohanasundari T	-	Shivganga, Jhabua, Madhya Pradesh
18	Improving rural hygiene by developing low-cost bio-sanitation solution	Dr. Ashootosh Mandpe	-	-	NARMADALAY
19	A low-cost weather station with weather forecasting & data digitalization	Prof. Biswarup Pathak	-	-	YOGAK, Nadurbar, Maharashtra
20	Revitalizing Traditional Agriculture: Introducing Multipurpose Solar Electric Power-Driven Tractors for Sustainable Farming	Dr. Dan Sathiaraj	Dr. Vivek Singh Dr. Anand Petare		

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; (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.
- Technology Dissemination of Compressed Colored Composite for a wide range of products to support sustainable rural infrastructure, INR 5940000, 2023-2025, DST, GOI, Collaborator-TIET Patiala, India.

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals	Patent
Total	-	-	-	1 (1 in minor revision stage)	3 Filed

Papers In Journals

- Electrochemical performance of a Li+-enriched metallohydrogel as an electrolyte and electrode material for supercapacitors, Yeeshu Kumar, Moupia Mukherjee, Manish Kumar Dixit, Abul Kalamb and Mrigendra Dubey, Sustainable Energy & Fuels, 2024 https: / / doi.org / 10.1039 / d4se00096j

Patent

- A portable kit for visible light photodynamic inactivation of microbes - an alternative to Cold storages Filed 2024:202421010243 Niladri Sekhar Roy & Debayan Sarkar
- Cow dung-based lightweight construction materials and method thereof, Filed 2024:202421010279 Sanchit Gupta & Sandeep Chaudhary
- A portable dispenser of food grains, pulses, millets, and nuts and method thereof Filed 2024:202421019969 Ankur Miglani& Pavan Kumar Kankar

Memorandum of Understanding

- MoU between CRDT, IIT Indore, and CSIR-National Environmental Engineering Research Institute.
- MoU between CRDT, IIT Indore, and ICAR-Indian Institute of Soybean Research (ICAR-IISR), Indore

Name of Activity - Expert Talk			
Sl. No	**Date**	**Name of Speaker**	**Title**
1	June 23, 2023	Dr Vikram Pattarkine, Pennsylvania, USA	Environmental Sustainability through Lifestyle Choices Based on Process Engineering Principles
2	August 25, 2023	Dr. Shashi Rawat, ICAR-CIAE Bhopal	Revolutionizing Agriculture through Artificial Intelligence
3	August 25, 2023	Dr. Milind Ratnaprkhe, ICAR-IISR	Machine Learning and Roundtable with renowned agricultural scientists, industry leaders, and representatives from non-governmental organizations (NGOs)
4	September 5, 2023	Prof. Sameer Khandekar, Department of Mechanical Engineering, IIT Kanpur	Creating Social Capital via Institutional and Individual Efforts
5	September 8, 2023	Dr. Gajanan Dange, President, YOJAK Centre for Research and Strategic Planning for Sustainable Development	Samvaad: Dialogue on retrospection of our developmental journey and the way ahead
6	February 6, 2024	Prof. Sadanand Sapre, former Professor in Electronics, MANIT, Bhopal	Bhartiya Gyan Parampara (Indian Knowledge Systems)

Name of Activity - Field visit as part of the academic course Design Thinking for Rural Application (RDT 301/401/601)		
Sl. No	**Date**	**Place**
1	March 3-5, 2024	Karanjali, Sonpada, Borchak, Nimboni and Varsatra villages of District Nandurbar, Maharashtra
2	March 16, 2024	Rakhadiya, Thehsil – Meghnagar, Shivganga Gurukul Dharampuri, and Hathipava District Jhabua

Organizational Structure of CRDT

Professor In-Charge

Dr. Debayan Sarkar

Research Interests:

- Visible Light Deactivation of Microbes
- Vegetable Storage employing Visible Light Photodynamic Inactivation of Microbes
- Isolation and application of Bioactive Natural Products

Agriculture, Forestry and Environment

Prof. Pritee Sharma

Research Interests:

- Agricultural Economics (Economics of Land, Water and Forests)
- Development Economics (Rural Poverty and Trade Concerns of Developing Countries

Prof. Ganti S. Murthy

Research Interests:

- Bioprocess development and scaleup for production of value added bioproducts and biofuels
- Biological and bioprocess modeling, control and multicriteria optimization
- Systems analysis using technoeconomic analysis, life cycle assessment and resource assessment
- Resilience and sustainability at the nexus of nutrient-energy-water-land

Dr. Mohanasundari Thangavel

Research Interests:

- Agricultural Economics
- Resource Economics: Energy, Water and Agroforestry
- Environmental Economics: Climate Change Adaption and Impact Studies
- Urban and Rural Consumption Pattern
- Farmer Producer Organizations

Rural Healthcare

Prof. Avinash Sonawane

Research Interests:

- Role of Mycobacterium tuberculosis glycoproteins and glycolipoproteins in modulation of host immune responses
- Epigenomics of stem cells during M. tuberculosis infection
- Host antimicrobial peptides in anti-mycobacterial immunity
- Drug delivery
- Development of L-asparaginase based therapy for the treatment of primary and relapse acute lymphatic leukemia

Dr. Hem Chandra Jha

Research Interests:

- COVID-19 biology
- Biological and bioprocess modeling, control and multicriteria optimization
- Host-pathogen interaction- Epstein-Barr virus and Helicobacter pylori associated co-infection in cancer progression
- Epigenetic regulation- Pathogens derived pathogenesis in cancer
- Pathogens burden during viral infection of Gastric Cancer, Head and Neck Cancer and Multiple Sclerosis
- Drug discovery in cancer and infectious agents derived diseases
- Genetic Engineering

Technology Development and Skill Development

Prof. Sandeep Chaudhary

Research Interests:

- Structural Engineering
- Sustainable Construction Practices
- Composite Bridges
- Novel Bricks and Blocks
- Microstructure and Durability of Concrete
- Advanced Characterisation Techniques
- Waste management in building construction materials

Prof. Rajesh Kumar

Research Interests:

- Nanomaterials & nanodevices
- Electronic and electrochromic devices
- Device physics, Raman Spectroscopy & Microscopy
- Natural Biomaterials

Prof. Shaibal Mukherjee

Research Interests:

- Low-cost HEMTs / HFETs for DC-to-DC converters
- Heterogeneously integrated RRAMs for image processing and neuromorphic computation
- Next-generation ultrathin and low-cost photovoltaic
- Flexible and low-cost bio-chemical sensors for agriculture, water, and air
- High-performance UV detectors

Prof. Santosh Kumar Vishvakarma

Research Interests:

- 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

Prof. Pavan Kumar Kankar

Research Interests:

- Fault Diagnosis of Mechanical Components
- Condition Based Maintenance
- Machine Learning
- Signal Processing

Outreach and Gender Equality

Prof. Nirmala Menon

Research Interests:

- Digital Humanities
- Postcolonial Literature and Theory
- Globalization Studies
- World literatures in other languages in translation
- Institutionalization of Postcolonial Literature

Prof. Neelima Satyam D.

Research Interests:

- Geotechnical Earthquake Engineering
- Dynamic Soil Structure Interaction Analysis
- Liquefaction Hazard and Mitigation
- Epigenetic regulation- Pathogens derived pathogenesis in cancer
- Environmental Geotechnics
- Landslide Research
- Rock Mechanics and Underground Structures

JP Narayan National Centre of Excellence in the Humanities

About the Department:

The Jaya Prakash Narayan (JPN) National Centre of Excellence in the Humanities was established in October 2022 at IIT Indore by the Ministry of Education to initiate research, academics, and outreach activities focusing on two areas, namely- Digital Humanities and Environmental Humanities. The centre will function as a nodal place that fosters collaborative initiatives at the intersections of language, literature, and technology and will model the highest standards of digital scholarship. In doing so, the centre will offer scholars a unique environment for extending the boundaries of traditional research using digital technologies.

Convener JPN Centre	**Prof. Nirmala Menon**
Co-convener JPN Centre	**Prof. Pritee Sharma**
JPN Centre Steering Committee Members	
Prof. Nirmala Menon	**Convener & Member, Steering Committee School of Humanities and Social Sciences, IIT Indore**
Prof. Pritee Sharma	**Co-Convener & Member, Steering Committee Humanities and Social Sciences, IIT Indore**
Prof. Biswarup Pathak	**Member, Steering Committee, Department of Chemistry, IIT Indore**
Prof. Abhishek Srivastava	**Member, Steering Committee, Computer Science & Engineering, IIT Indore**
NO. OF FACULTY MEMBERS	**02**
NO. OF POST-DOCTORAL FELLOWS	**02**
RESEARCH ASSOCIATE	**02**

Academic Programs:

The Digital Humanities Centre is strategically positioned to cultivate a robust environment for academic activities and training programs, catering to both scholars and staff. Through a combination of innovative initiatives, the centre aims to enhance scholarly engagement and provide valuable training opportunities for continuous academic development. The Centre convened a "Curriculum Development Workshop" in November 2023, bringing together national and international advisory committees to deliberate and finalize the course curriculum for the MA and PhD programs in Digital Humanities and Environmental Humanities. The Centre has initiated its PhD program for Autumn 2024-25 and will commence its MA program in the 2025-26 academic year.

In the year 2023, the following academic activities were undertaken:

1. Hands-on Digitization Training programme- December14-15, 2023
2. Curriculum Development Workshop- November 3-4, 2023
3. Language Documentation Techniques andTechnologies Workshop – February 19-21, 2024
4. Capacity Building Workshop On Environmental humanities for Sustainability Interdisciplinary Dimension – February 14-16, 2024

Notable R&D Activities:

The JPN National Centre of Excellence in the Humanities is dedicated to fostering cutting-edge research at the intersection of technology and the humanities. Our initiatives encompass a wide range of interdisciplinary projects aimed at exploring innovative ways to analyze, preserve, and disseminate cultural heritage in the digital age. The Centre promotes and invites research projects annually to support the development of researchers and educators in fulfilling their research initiatives.

JPN Centre Funded Projects:

Year	PROJECT RECEIVED	SANCTIONED
2023-24	47	10
2024-25	40	19

Projects Led by Centre Faculty:

Year	PROJECT RECEIVED	
2023-24	03	

Outreach Activities of the Centre:

The outreach activities of the centre aimed to raise awareness and encourage public engagement through various programs. One such initiative is the Writing Centre project funded by JPN, which led to various activities fostering community engagement, participation, and collaboration. The Centre's activities are regularly updated on its website(https: / /jpnnationalcentre.com /) and social media handles. Following is the list of activities undertaken:

1. Writing Food-Workshop by Dr Ishita Dey on September 9, 2023
2. Writing about classroom observationsby Dr. Dripta Piplai (Mondal) and Ms Lekshmi R. on September 20, 2023
3. Dimensions of a Field Reportby Dr. Bornini Lahiri and Ms Vani Sirkeck on September 20, 2023.
4. Writing to publish - an inside lookby Debraj Mookerjee and Dr Tapasya Narang on October 4, 2023
5. Academic and Non-Academic Writing by Ms Soma Wadhwa on October 28, 2023, and November 4, 2023

Research Area and Highlights

Professor Nirmala Menon

Research Interests:

- Digital Humanities
- Text Mining and Natural Language Processing (NLP)
- Digital Editions and Digital Publishing
- Digital Archiving and Preservation
- Virtual and Augmented Reality
- Spatial Humanities and GIS
- Partition Studies
- Bibliometric Studies
- Translation Studies

Professor Pritee Sharma

Research Interests:

- Agricultural Economics (Economics of Land, Water and Forests)
- Development Economics (Rural Poverty and Trade Concerns of Developing Countries)
- Environmental Humanities

DST-Centre for Policy Research

About the Centre:

Established in 2023, the Center has twin goals: focusing on technological and policy dimensions for integrated water resource management and governance and understanding various facets of Science, Technology, and Innovation Policy. We plan to utilize big data applications and harness data from intellectual property rights documents alongside traditional field surveys. The Centre aims to deliver industry-relevant model outputs and policy notes for the State. The Centre's activities will strengthen local water and climate resilience, disaster risk reduction, and resilience agendas by enabling an effective policy-planning-practice interface with Science and Technology innovations.

Number of Faculty Members	16
Professor	09
Associate Professor	04
Assistant Professor	02
Research Associates	03
Project Associates	02
Technical Assistants	01
Field Assistants	01

Notable R&D Activities:

1. Water Policy One-Day Workshop

The "Water Policy: Issues, Challenges, and Ways Forward" one-day workshop on October 7, 2023, at IITIndore convened experts, policymakers, and stakeholders to address critical water resources management issues. The event featured panel discussions and interactive workshops, emphasizing the significance of collaboration, adaptability, data-driven decision-making, sustainable practices, and community engagement in crafting effective water policies. The following experts were included in the event:

- Shri Avinash Mishra, NITI Aayog
- Prof. Anil K. Gupta, NIDM
- Prof. Manish Kumar Goyal, IIT Indore
- Prof. Ruchi Sharma, IIT Indore
- Prof. Pritee Sharma, IIT Indore

2. Agriculture Entrepreneurship: Policy and IPR, Part 1

A three-day training program was completed successfully during 18-20 Jan 2024 with 31 participants. The program was conducted to benefit the regional youth, agriculturally based enterprises, and concerned stakeholders in enhancing the regional agriculture-based economy through utilizing innovative technologies and conserving the farming-based community's intellectual property rights (IPRs). The list of the resource persons for the event is as follows:

- Mr. Jappreet Sethi, CEO, HexGn
- Prof. Manish Kumar Goyal, IIT Indore
- Prof. Ruchi Sharma, IIT Indore
- Mr Vikas Asawat, Attorney
- Prof Preeti Sharma, IIT Indore

3. Agriculture Entrepreneurship: Policy and IPR, Part 2

A three-day training program was completed successfully from 22-24 Jan 2024 with 33 participants. The program was conducted to benefit the regional youth, agriculturally based enterprises, and concerned stakeholders in enhancing the regional agriculture-based economy through utilizing innovative technologies and conserving the farming-based community's intellectual property rights (IPRs). The list of the resource persons for the event is as follows:

- Prof. Anil A. Kulkarni, Vice Chancellor of SAGE University
- Prof. Manish Kumar Goyal, IIT Indore
- Prof. Ruchi Sharma, IIT Indore
- Prof. Devendra Deshmukh, IIT Indore
- Prof. Abhirup Datta, IIT Indore
- Dr. Unmesh Govind Khati, IIT Indore
- Prof. Preeti Sharma, IIT Indore
- Dr. Mohanasundari Thangavel, IIT Indore
- Dr. Juhee Singh, Prestige University Indore

4. World Water Day Celebration

The DST-Center for Policy Research, Indian Institute of Technology (IIT) Indore hosted a comprehensive workshop titled "Water for Future" on March 22, 2024, aimed at addressing critical water-related issues and exploring sustainable solutions on the occasion of World Water Day. The event, held at the Mini Conference Room, Learning Resource Centre, witnessed a gathering of experts, scholars, and enthusiasts passionate about securing a water-secure future.The list of the resource persons for the event is as follows:

- Dr. Dinesh Kumar, Institute for Resource Analysis and Policy
- Prof. Pranab Mohapatra, IIT Gandhinagar
- Prof. Manish Kumar Goyal, IIT Indore
- Prof. Ruchi Sharma, IIT Indore

5. World IP Day Celebrations

World Intellectual Property Day is celebrated every year on April 26th. This year's theme was "IP and the SDGs: Building our Common Future with Innovation and Creativity." IIT Indore commemorates World IP Day through a series of engaging sessions, discussions, and capability-building exercises.The list of the resource persons for the event is as follows:

- Dr. Akhilesh Gupta, DST
- Prof. Sujit Bhattacharya, CSIR-NIScPR
- Mr. Prateek Kanaujia, Xlscout
- Mrs. Suvarna Pandey, RNA, IP Attorneys

Publications

	Books Published	Chapters in Books	Papers in Conference	Papers in Journals
Total	0	0	0	1+4 (policy notes)

Research Area and Highlights

Prof. Manish Kumar Goyal
Professor IIT Indore

Research Area and Highlights (50-75 words):
Agriculture, Climate, Water, AI, and GIS-remote sensing, Climate Extremes, Environment, Wetlands Paper Award.

Prof. Manish Kumar Goyal, a Chair Professor-BIS Standardization at IIT Indore, is a JSPS Fellow, Commonwealth Fellow, Erasmus Fellow, P.E.(Int), Indo-US WARI Fellow, and Inspire Fellow. He is the Dean of Infrastructure Development and has been recognized among the top 2% of scientists globally by Stanford University consecutively in the last 04 years. Prof. Goyal has received numerous prestigious awards, including the Prof S N Gupta Memorial Lecture Award, Best Researcher of the Year Award, and ASCE's Best Theoretical-Oriented Paper Award.

Prof. Manish Kumar Goyal
Professor IIT Indore

Research Area and Highlights (50-75 words):
Agriculture, Climate, Water, AI, and GIS-remote sensing, Climate Extremes, Environment, Wetlands Paper Award.

Prof. Manish Kumar Goyal, a Chair Professor-BIS Standardization at IIT Indore, is a JSPS Fellow, Commonwealth Fellow, Erasmus Fellow, P.E.(Int), Indo-US WARI Fellow, and Inspire Fellow. He is the Dean of Infrastructure Development and has been recognized among the top 2% of scientists globally by Stanford University consecutively in the last 04 years. Prof. Goyal has received numerous prestigious awards, including the Prof S N Gupta Memorial Lecture Award, Best Researcher of the Year Award, and ASCE's Best Theoretical-Oriented Paper Award.

Learning Resource Centre

Computer & IT Centre

Abhinandan Bhavan

Sports Complex

Health Centre

Hostel Accommodation

भारतीय प्रौद्योगिकी संस्थान इन्दौर
Indian Institute of Technology Indore

Khandwa Road, Simrol, Indore-453552, Madhya Pradesh, India

Website: www.iiti.ac.in

द्वादश दीक्षांत समारोह प्रतिवेदन

12th Convocation Report

2023-24

Volume - II

Faculty Profiles

भारतीय प्रौद्योगिकी संस्थान इन्दौर

Indian Institute of Technology Indore

Contents (Volume-II: Faculty Profiles)

Faculty Profiles

Department of Astronomy, Astrophysics and Space Engineering

Prof. Abhirup Datta

Professor and Head of the 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) Square Kilometre Array - Data Processing and Key Science Working Group
4) Techniques: Aperture synthesis, Calibration Effects, and Imaging in Radio Interferometry;
5) Space Weather and Ionosphere: Using GNSS, NaVIC and low-frequency radio astronomy;
6) Multi-wavelength observations of the Radio Deep-fields, Multi-messenger Astronomy AstroStatistics;
7) Machine Learning and Big Data

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) Tentative detection of complex Magnetohydrodynamics effects in the largest structures through pressure.

Dr. Bhargav Vaidya

Associate Professor
bvaidya@iiti.ac.in
PhD., Max Planck Institute for Astronomy, Heidelberg, Germany

Details of Research Area:

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 supermassive Black Hole.

Dr. Suman Majumdar

Associate Professor
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 Kilometer Array, Simulations of CD-EoR and Large Scale Structures, N-body Simulations, Statistical Inference, Low Frequency RadioInterferometry, Search for Extra Terrestrial Intelligence (SETI).

Details of Research Highlights:

1. We have developed comprehensive fast simulations for the Line Intensity Mapping (LIM) of the early galaxies and the intergalactic medium (IGM) from the Cosmic Dawn, to be observed via far infrared (e.g. COMAP, COMCERTO, FYST, CCAT-p) and radio (e.g. GMRT, MWA, LOFAR and SKA) experiments.
2. We have demonstrated that it is possible to distinguish the physical processes and the nature of the sources during the Cosmic Dawn through the 21-cm signal bispectrum measured through SKA.
3. We are the first to demonstrate that one can improve the constraints on Cosmic Dawn parameters through 21-cm bispectrum compared to its power spectrum.
4. We have developed fast emulators for the 21-cm power spectrum and bispectrum using Artificial Neural Networks and Bayesian Neural Networks. This has speed up the estimation of signal statistics which is further used in a Bayesian inference pipeline for parameter estimation.
5. We have demonstrated that the cross-correlation between the CII / CO and 21-cm LIMs of Cosmic Dawn will allow us to better recover the reionization history, compared to the auto-correlation of these signals.
6. We have further shown that the topology, estimated via Largest Cluster Statistics of the 21-cm LIM from Cosmic Dawn, can distinguish between inside-out or outside-in reionization scenarios.
7. The first DAASE article on the Search for ExtraTerrestrial Intelligence (SETI) has been published in 2024 in the Monthly Notices of the Royal Astronomical Society, with significant contribution from our research group, attracting significant attention from the national and international media.

Dr. Saurabh Das

Associate Professor
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 MoES. In collaboration with ISRO, Ka band signal propagation under rainy conditions, retrieval of ocean wind from satellite scatterometer and prediction of extreme weather conditions using GNSS / NavIC signals are other important areas of my research. Our group is actively involved in applications of AI / ML and Big data in atmospheric and space science problems.

Details of Research Highlights:

We are working on understanding and nowcasting extreme weather events using Numerical Weather Prediction and Doppler Weather radar, like the case of extreme rainfall events that led to Kerala floods in 2018 and 2019. The impact assessment of collisional drop-break up on radar-based Quantitative Precipitation Estimation (QPE) in the orographic rain region were also attempted. The ongoing studies over the Polar region suggest an increase in thunderstorms and lightning activities in the Arctic region. We also worked on the understanding of the coupling mechanism between the lower and upper atmospheres, where extreme events like thunderstorms result in perturbations in the atmosphere. We also explored machine learning to space weather forecasting, like, predicting solar wind propagation delays from L1 to Earth, which can impact satellite systems and telecommunications.

Dr. Manoneeta Chakraborty

Associate Professor
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-I
unmesh.khati@iiti.ac.in
PhD, Indian Institute of Technology Bombay

Details of Research Highlights: Spaceborne tomography at X- and P-band for vertical structure determination. Assessment of ecosystem science product algorithms for NISAR mission. Using polarimetric and interferometric products for applications in forestry, change mapping, global carbon dynamics, crop phenology and agriculture domains. Global remote sensing product generation using cloud computing platforms like ESA-NASA Multi-Mission Analysis and Algorithm Platform (MAAP). UAV photogrammetry, UAV sensor integration and applications in surveying, target detection and recognition, classification and monitoring.

Dr. Priyanka Singh
Assistant Professor Grade-I
psingh@iiti.ac.in
PhD, Raman Research Institute Bangalore

Details of Research Highlights: : Circumgalactic medium, Sunyaev-Zel'dovich effect and X-ray emission, Galaxy evolution in extreme environments, Cosmological simulations. The primary areas of our research group include circumgalactic medium and its role in galaxy evolution, constraining cluster cosmology and astrophysics with hydro-dynamical simulations and galaxy quenching in dense cluster environments using multi-wavelength datasets.

Department of Biosciences and Biomedical Engineering

Prof. Amit Kumar

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

Research Area and Highlights: Molecular Structural Biology, Target Identification and Drug Discovery for different diseases

The Molecular and Structural Biology Research Group, led by Prof. Amit Kumar, focuses on secondary structure of nucleic acids as a potential cellular and molecular target for various diseases including cancer, infectious diseases and neurological disorders. The group's research also extends to study disease mechanism and identify potent drug molecules for neurological disorders, cancer and infectious agents including protozoans, bacteria, and viruses.

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. He has developed abionanotechnology based tool for the combined chemo and photo thermal therapy of cancer.

Prof. Prashant Kodgire

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

Research Area and Highlights: Molecular Immunology; Antibody Diversity Mechanism; Host-Pathogen Interactions

Prashant Kodgire's ongoing research is broadly in the area of 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.These studies are important for determining how the varied repertoire of antibody genes is created with the potential to react against any foreign antigenic substance, including tumor cell antigens.

Prof. Kiran Bala
Professor
kiranb@iiti.ac.in
Ph.D., GJUST Hisar

Research Area and Highlights: Environmental Biotechnology, Water and wastewater treatment, Algal technology, Bioenergy, Bioplastics, Remediation of Emerging contaminants Algal Ecotechnology and Sustainability group led by Dr. Kiran Bala focuses on various environmental issues to develop tools for management of our water and energy resources with the support of algae and bacteria. Group is working to develop and refine different bioprocesses to target biodiesel, bioplastics etc.

Prof. Mirza S Baig
Professor
msb.iit@iiti.ac.in
Ph.D. from CSIR-Central Drug Research Institute Lucknow

Research Area and Highlights: The MSB Lab, led by Dr. Mirza S. Baig, is focused on cell signaling networks in macrophages during various pathophysiological conditions that lead to chronic inflammatory diseases. His research group studies the regulatory mechanisms that control inflammatory response initiation, quality, and intensity.

Prof. Hem Chandra Jha
Associate Professor
hemcjha@iiti.ac.in
Ph.D., BITS Pilani

Research Area and Highlights: Virus-bacteria co-infection in cancers, neurological disorders, post-COVID complications on various organelles, therapeutics for infection induced diseases.
The Infection Bioengineering Research Group, led by Dr. Hem ChandraJha, focuses on infection and co-infection of viruses (DNA- Epstein Barr Virus, RNA- SARS-CoV-2 VoCs) and bacteria (Gut and oral) in gut/lung/oral and brain compartment. Co-infection induced cancers and neurological complication in various organelles axis evaluating through various modern biology / biophysical/ biochemical / computational and AI based approaches.

Dr. Parimal Kar
Associate Professor
parimal@iiti.ac.in
Ph.D., Michigan Technological University, USA

Research Area and Highlights: Computational Biophysics, Structural Dynamics of Biological Macromolecules, Computer-Aided Drug Design

The Computational Biophysics Group, led by Dr. Parimal Kar, focuses on the development and application of physics-based computational approaches for biomolecular simulations to understand the structure and thermodynamics of biomoleculesand elucidate the molecular basis of ligand recognition by target proteins. One of our long-term goals is to study the structure and molecular recognition of glycans by proteins, nucleic acids, and membranes elucidating the host-pathogen interactions. A deep understanding of the molecular recognition of carbohydrates is expected to be critical in developing practical therapeutics.

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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 at 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.

Prof. 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).

Prof. 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'sgroup 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 research with the goal of developing biomedical implants for musculoskeletal tissue regeneration.Towards this end, Dr. Boda and his group are developing novel cell instructive coatings and bio-inspired tissue sealants/ bioadhesives for soft tissue attachment to percutaneous osseointegrated metallicprostheses. In another context, Dr. Boda's group is 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.

Dr. Sivaraj Mohana Sundaram

Assistant Professor
sivarajms@iiti.ac.in
PhD, International Graduate School of Neuroscience, Ruhr University, Germany

Research Area and Highlights: Brain metabolism, rare neurodevelopmental disorders & gene therapy.

The Neurobiology research group, led by Dr. Sivaraj Mohana Sundaram, investigates metabolic signaling pathways in the hypothalamus that regulate energy balance, aiming to understand their impact on obesity and metabolic disorders. Using cellular, molecular, and electrophysiological techniques, his research group explores the connection between the hypothalamus and peripheral organs to develop effective treatments. Additionally, his group collaborates with clinicians throughout the nation to study the pathophysiology of rare neurodevelopmental disorders.

Dr. Hitendra Kumar

Assistant Professor
hitendra@iiti.ac.in
PhD, University of British Columbia

Research Area and Highlights: Biofabrication, Biomaterials development, Microfluidics, Organ-on-a-chip, Diagnostic platforms, Wearable sensing

The Biofabrication Laboratory, led by Dr. Hitendra Kumar focuses on developing bioactive materials, bioprinting and miniature bioreactor systems. His group is currently working on developing biomaterials for improved bioprinting, improved cell growth, wearable sensing and functionality in extreme environments. These biomaterials are also targeted for modulating the cell behavior in 3D microenvironment by external stimulation. The bioprinted structures paired with perfusion bioreactor systems are being explored for simulating different physiological conditions like high shear flows and altered gravity.

Dr. Lokesh Basavarajappa

Assistant Professor
lokeshb@iiti.ac.in
PhD, IIT Madras

Research Area and Highlights: Biomedical ultrasound imaging, Quantitative ultrasound, Liver disease, Ultrasound mediated drug delivery.

His research group (Ultrasound Research and Therapy Laboratory) focuses on developing single-channel ultrasound devices and clinical translatable technologies readily integrated into the existing ultrasound systems. His group is also working on clinical translation aspects of ultrasound-mediated drug delivery.

Dr. Sourav Chandra

Assistant Professor
schandra@iiti.ac.in
PhD, IIT Madras

Research Area and Highlights: Neuro Robotics, Neuro-rehabilitation technology, Brain-machine interface, Haptics. BioMedical Instrumentation, Signal processing, Mathematical modeling of physiological systems, Wearable Devices.

The Neurorobotics Research Group, led by Dr. Sourav Chandra, focuses on understanding and neural control of movements in healthy human subjects and their deficits in neurological diseases and disorders. He utilizes high-density, non-invasive recordings to probe and identify the properties of the neural and neuromuscular system, developing non-invasive tools for disease diagnosis and neurorehabilitation. Specifically, his research group is working on wearable devices, i.e., hybrid EMG and IMU-based systems, to improve the accuracy of the therapeutic outcome assessments for hand rehabilitation.

Department of Chemical Engineering

Dr. Abhilasha Maheshwari

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

Research Area and Highlights: Process Optimization, Smart Water Infrastructure, AI / ML for Chemical Engineering, Water-Energy Nexus, ZLD systems

Research at Sustainable Process Systems Engineering Lab (SPSE) focuses on Systems Scale Modelling, Optimization and Control Approaches for Water and Energy Systems towards Sustainable Development. We develop Decision Support Systems that include various computational frameworks and models, including reactive-transport modeling, large-scale optimization formulations for network systems, augmented intelligence with data-driven modeling, AI / ML techniques and first-principles calculations for Water Quality and Energy management.

Dr. Gaurav Chauhan

Assistant Professor
gaurav@iiti.ac.in
PhD, The University of Tennessee Knoxville

Research Area and Highlights: Phase separation of biopolymers, computational enzyme engineering for biofuel production

The research work in the lab of Dr. Gaurav Chauhan focuses on understanding the role of phase separation on biochemical reactions in the cellular milieu. The lab uses molecular modeling tools rooted in statistical mechanics to study control of reactions via phase separation. Using molecular modeling, the lab also works on designing enzymes for increasing the efficiency of biofuel production.

Dr. Rajan Singh

Assistant Professor
rsingh@iiti.ac.in
PhD, IIT Delhi

Research Area and Highlights: Heterogeneous catalyst, Reaction kinetics and reactor design, CO_2 capture and conversion, Hydrogen production, thermochemical water splitting

In catalysis and sustainable energy lab, we work on catalyst and material development for CO_2 capture and its conversion to fuel and chemicals. The work includes in depth characterization of the material and developing structure activity relationship and reaction kinetic model for the reaction. Further, we also work in hydrogen production from biomass pyrolysis.

Department of Civil Engineering

Dr. Abhishek Rajput

Assistant Professor Grade-I and Head of the Department
abhishekrajput@iiti.ac.in
PhD, Indian Institute of Technology 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.

Prof. Sandeep Chaudhary

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

Research Area: Core research area: Sustainable construction materials, Building product engineering and structural engineering.

New materials developed: Cow dung foaming agent (GOBAiR); solar cell waste based foaming agent;
New products developed: Compacted rubber bricks; Lightweight bricks prepared with GOBAiR; Slip and Fall Event Reducing (SAFER) concrete flooring; Stabilized cow dung bricks (GoBricks); PARVAT (IoT device for accident prevention in hilly areas)

Prof. Neelima Satyam D.

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

Research Area: Prof. Neelima Satyam's research encompasses Geotechnical Earthquake Engineering, Dynamic Soil-Structure Interaction Analysis, Liquefaction Hazard and Mitigation, Environmental Geotechnics, Landslide Research, and Rock Mechanics and Underground Structures. Her work focuses on seismic impacts, soil-structure interactions, liquefaction prevention, environmental concerns, landslide prediction and mitigation, and the stability of underground constructions, significantly advancing the field of geotechnical engineering.

Prof. Manish Kumar Goyal

Professor
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PhD, Indian Institute of Technology Roorkee

- Climate change impacts on water systems, including rivers, snow, wetlands and key biodiversity areas (KBAs).
- Earth and Atmospheric Sciences, encompassing atmospheric rivers and aerosol pollution.
- Hydro-climatic extremes, soil carbon, and carbon storage to understand effects on wetlands and Key Biodiversity Areas (KBAs).
- Integrating smart city concepts to enhance urban resilience to climate change impacts.

Dr. Lalit Borana

Associate Professor
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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
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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
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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.
- Development of a machine learning models for road health monitoring

Dr. Priyansh Singh

Assistant Professor Grade-I
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PhD, Indian Institute of Technology Delhi

Research Area:

- Pavement materials characterization
- Modeling pavement behavior
- Innovative materials and technologies
- Binder's Rheology
- Recycling and maintenance

Dr. Gourab Sil

Assistant Professor Grade-I
gourabsil@iiti.ac.in
PhD, Indian Institute of Technology Bombay

Research Area:

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

Dr. Mayur Shirish Jain

Assistant Professor Grade-I
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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
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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-I
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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

Dr. Akshay Pratap Singh

Assistant Professor Grade-II
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PhD, Indian Institute of Technolog, Roorkee

Research Area:

- Numerical Modeling in Geomechanics
- Analysis of Slopes, Retaining walls, Sheet Piles, Shallow Foundations,
- Pile Foundations
- Lower and Upper Bound Methods in Limit Analysis
- Geotechnical Earthquake Engineering
- Liquefaction

Dr. Ramu Baadiga

Assistant Professor Grade-II
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PhD, Indian Institute of Technology, Hyderabad

Research Area:

- Geosynthetic Engineering
- Pavement Geotechnics
- Ground Improvement
- Geotechnical Engineering
- AI-ML for Geotechnical Engineering
- Nature Inspired Geotechnics

Dr. Ravinder

Assistant Professor Grade-II
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PhD, Indian Institute of Technology, Delhi

Research Area:

My research focus areas are machine learning-aided structural design, multiscale material modeling, structural health monitoring, physics-informed machine learning, graph neural networks, dynamic fracture and crack propagation on ballistic impact, molecular dynamics, and peri dynamics.

Dr. Sridharan Balakrishnan

Assistant Professor Grade-II
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PhD, Indian Institute of Technology, Madras

Research Area:

- Computational hydraulics
- Open channel and free surface flow
- Dam break flow modeling
- Coastal and estuarine flow simulation due to induced storm surges
- Stormwater & urban flood simulation
- Pipe flow analysis
- Flood Control Operation of Multiple River-Reservoir Systems

Department of Computer Science and Engineering

Prof. 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, and Game Artificial Intelligence (AI).

Prof. Abhishek Srivastava

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

Research Area and Highlights: The broad area of my research is service-oriented systems most commonly realized through web-services. More recently, my group has been interested in applying these ideas in the realm of Internet of Things. The ideas explored include coming up with technology agnostic solutions for seamlessly linking heterogeneous IoT deployments across domains. Further, we are 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.

Prof. Aruna Tiwari

Professor
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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.

Prof. Anirban Sengupta
Professor
asengupt@iiti.ac.in
PhD., Toronto Metropolitan University

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
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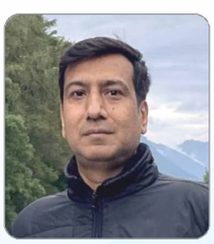
PhD., IIT Kanpur

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.



Prof. Kapil Ahuja
Professor
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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, Economics of Networks, Numerical Linear Algebra, and Optimization. My current emphasis is on machine learning algorithms for plant and cancer studies; game theoretic approaches to poverty reduction; data-driven linear solvers & model reducing algorithms for climate modelling on exascale machines; and IoT & drone trajectory optimizations.

Dr. Gourinath Banda

Associate Professor
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PhD., Roskilde University, Denmark

Research Area and Highlights:

- He researches in fundamentals and applications of Autonomous systems, Formal Verification, Cyber Physical Systems, Blockchain, Embedded Realtime Kernels, Digital Transformation.
- Most of his research finds relevance in modern times and is always ahead of the industry, because he solves problems of societal importance.
- He is a TuV certified I4.0 auditor
- He heads the Autonomous Cyber Physical Systems Group at the Department of Computer Science and Engineering.

Prof. Neminath Hubballi

Professor
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PhD., IIT Guwahati

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

Dr. Bodhisatwa Mazumdar

Associate Professor
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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.

Dr. Puneet Gupta
Associate Professor
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PhD., IIT Kanpur

Research Area and Highlights: He has worked on biometric authentication, facial expression analysis using deep learning, non-contact measurement of human vital parameters, cross-modal learning, hyperspectral imaging, and enhancing deep learning architectures with adversarial defenses, benefiting security, affective computing, and healthcare. His research has been published in top venues like IEEE-TGRS, IEEE-TIM, IEEE-TAC, IEEE-TIE, Computers in Biology and Medicine, ICCV, WACV, and EMBC. He received the Best Research Paper Award 2024 at IIT Indore.

Dr. Nagendra Kumar
Assistant Professor
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PhD., IIT Hyderabad

Research Area and Highlights: Natural Language Processing, Social Network Analysis, Machine Learning, Computer Vision, Deep Learning, Data Mining

Dr. Ranveer Singh
Assistant Professor & Head
ranveer@iiti.ac.in
PhD., IIT Jodhpur

Research Area and Highlights: Algorithmic Graph Theory, Computational Complexity, Determinant vs. Permanent, Expanders and 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 domain.

Dr. Ayan Mondal
Assistant Professor
ayan@iiti.ac.in
PhD., IIT Kharagpur

Research Area and Highlights: Internet of Things (IoT); Edge Intelligence; Next-Generation Networks

Highlights:

- Elected as IEEE Senior Member, 2024.
- Faculty Counsellor, IEEE Student Branch Chapter, IIT Indore.
- Member, IEEE India Council Awards Committee, 2024.
- Track Chair, Selected Areas in Communications (SAC) - E-Health, IEEE ICC 2025, Montreal, Canada.

Received the IEEE TCSC Outstanding Ph.D. Dissertation Award, 2022.

Dr. Aniruddha Singh Kushwaha
Assistant Professor
aniruddha@iiti.ac.in
PhD., IIT Bombay

Research Area and Highlights: His research interest is in computer networks focusing on network programmability, Software-Defined-Networking (SDN) and the application of AI / ML in networking.

Dr. Sidharth Sharma
Assistant Professor
sidharth@iiti.ac.in
PhD., IIT Bombay

Research Area and Highlights: Network Softwarization, Network Management, Performance Modelling, Machine Learning for Networks, Network Verification

Dr. Soumi Chattopadhyay
Assistant Professor
soumi@iiti.ac.in
PhD., Indian Statistical Institute

Research Area and Highlights: Services Computing, Recommendation Systems, Machine Learning, Reinforcement Learning, Data Analytics, Automated Reasoning, Artificial Intelligence, and related fields.

Dr. Subhra Mazumdar
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PhD., Indian Statistical Institute Kolkata

Research Area and Highlights:
Blockchain, Distributed Systems, Applied Cryptography

Dr. Venkata Sai Sasank Mouli Gali
Assistant Professor
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PhD., University of California San Diego

Research Area and Highlights:
Theoretical Computer Science, Proof complexity, Algebraic proof systems

Department of Electrical Engineering

Prof. Vivek Kanhangad

Professor and Head of the Department
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PhD., The Hong Kong Polytechnic University

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 security and surveillance applications. Recently, we developed a deep learning model for weakly-supervised crowd counting. Our end-to-end crowd counting pipeline – Crowd Former 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 regression head estimates the crowd counts.

Prof. Abhinav Kranti

Professor
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PhD., University of Delhi

Research Area & Highlights: Capacitorless DRAM, Steep switching devices, vertically stacked transistors, Material-device-circuit co-design, Cryogenics, Quantum Phenomenon.

Low Power Nanoelectronics Research Group (LPNRG) has developed a methodology for minimizing disturbance-induced refresh time degradation in a capacitorless DRAM array with nanowire transistors. The group has also contributed towards understanding the influence of process variations and quantum confinement in ultralow power circuits with junction less nanowire transistors

Prof. Amod C. Umarikar

Professor
amodu@iiti.ac.in
PhD., Indian Institute of Science

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

Research Area & Highlights: Perceptual cognitive analysis, Multimedia quality assessment, psychovisual modeling, Image and video processing, and Display technology. Mathematical modeling is based on statistical analysis and machine learning methods.

Prof. Mukesh Kumar
Professor
mukesh.kr@iiti.ac.in
PhD., Tokyo Institute of Technology

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.

Prof. Prabhat Kumar Upadhyay
Professor
pkupadhyay@iiti.ac.in
PhD., Indian Institute of Technology, Delhi

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 a Visiting Professor at the Department of Electronics, Information and Bioengineering (DEIB), Politecnico di Milano, Italy during April-July 2023.He has beenawarded the 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) (13 completed &2 ongoing), and BTech (29 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.

Prof. Ram Bilas Pachori
Professor
pachori@iiti.ac.in
PhD., Indian Institute of Technology, Kanpur

Research Area & Highlights: His research interests include Signal Processing, Biomedical Signal Processing, Non-stationary Signal Processing, Speech Signal Processing, Brain-Computer Interface, and Machine Learning. He has authored the textbook titled "Time-Frequency Analysis Techniques and their Applications" (CRC Press, 2023). He has 337 publications, including journal papers (211), conference papers (89), books (10), and book chapters (27), with approximately 17000 citations (H-index=70). He has also eight patents: 01 Australian patent (granted) and 07 Indian patents (Published).

Dr. Rinkee Chopra
Assistant Professor
rinkee@iiti.ac.in
PhD., Indian Institute of Technology, Bombay

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 end fire 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

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 the Applied Electromagnetics Laboratory at the 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

Prof. Santosh Kumar Vishvakarma
Professor
skvishvakarma@iiti.ac.in
PhD., Indian Institute of Technology, Roorkee

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, an 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.

Prof. Shaibal Mukherjee
Professor (F-JSPS, FInstP, F-IETE)
TIH-IoT CHANAKYA Faculty Fellow, IIT Bombay
shaibal@iiti.ac.in
PhD., University of Oklahoma, USA

Research Area & Highlights: He has published 130+ research articles in peer-reviewed journals, 110+ international conference proceedings, 11 book/book chapters and 12 patents (Granted: 9 and Filed/Published: 3). He is the recipient of various prestigious awards such as "2024 Microelectronic Engineering Journal Middle Career Investigator Award and Lectureship", "2023 Japan Society for the Promotion of Science (JSPS) Invitational Fellowship Award", "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 the founding Chair of IEEE Madhya Pradesh (MP) Section Electron Devices Society (EDS) chapter. He is also the Director, Co-Founder and Mentor, QuanTechL2M Innovations Pvt. Ltd.

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) IoT-enabled and portable agricultural, environmental and water sensors; (d) UV photodetectors.

Prof. Srivathsan Vasudevan

Professor
svasudevan@iiti.ac.in
PhD., Nanyang Technological University

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
PhD., Indian Institute of Technology, Kharagpur

Research Area & Highlights: (1) Power system protection, (2) Operational resilience in power systems, (3) Machine learning applications in power system monitoring, (4) Coordinated control and protection of microgrids using digital twins.

Dr. Subhadeep Paladhi is leading the research in the area of 'Power System Protection' in the Department of Electrical Engineering at IIT Indore. 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. The objective of his research group 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.

Dr. Sumit Gautam

Assistant Professor
sumit.gautam@iiti.ac.in
PhD., University of Luxembourg

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 GLOBECOM, IEEE ICC and IEEE VTC. He has also been supervising dissertations toward Ph.D. (03 ongoing + 03: yet to join), M. Tech. (02 ongoing, 01 completed), and B. Tech. (10 completed &12 ongoing) degrees.

Dr. Swaminathan R
Associate 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 2023-24, our research group has published 7 International Journal articles, including 4 IEEE Journals / Transactions / Letters, 3 OSA Journals, and 9 IEEE National / International conference articles. As of now, 3 sponsored research projects (as a PI) are ongoing. Mr. Narendra Vishwakarma, the first PhD Student under the PMRF fellowship from our group, has successfully defended his PhD thesis. Our research group is also collaborating with some of the leading research groups at NTU Singapore, the University of Aizu, Japan, and the University of Thessaloniki, Greece.

Prof. Trapti Jain
Professor
traptij@iiti.ac.in
PhD., IIT Kanpur

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 grids.

Our research group is working towards the 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

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.

Prof. Vimal Bhatia
Professor
vbhatia@iiti.ac.in
PhD., The University of Edinburgh (QS-15), UK

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

The research group has 400+ peer-reviewed publications with more than 110+ IEEE Journals with 36+ IEEE Transactions. Group has been granted 9-patents. Coordinator for 5-internatinal MoUs. He has been listed in the world's top 2% scientists with collaborations with the US, UK, Finland, Sweden, Czech Republic, Slovakia and Taiwan.

Prof. Vipul Singh
Professor
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PhD., Kyushu Institute of Technology, Japan

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 the 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 are typically suited for biomedical applications.

Dr. B. Prathap Reddy
Assistant Professor
bprathap@iiti.ac.in
PhD., Indian Institute of Technology, Hyderabad

Research Area & Highlights: The research interests are in Magnet-less Machine Design, Multiphase Machines, Pole Phase Modulated Machines, Electric Vehicles, Electrical Drives, Power Electronics, EV Charging Solutions, Multilevel Inverters, Converter Design and Analysis.

Dr. Prathap Reddy and his research group focus on the design of innovative machines with advancements in power electronics for sustainable transportation. The research group mainly works on hardware developments to execute cutting-edge research priorities of electric vehicles and sustainable systems. He is a recipient of the INAE Young Engineer for the year 2022 and he has both academic as well as industry experience.

Dr. Dibbendu Roy
Assistant Professor
droy@iiti.ac.in
Joint-PhD., The University of Melbourne and
Indian Institute of Technology, Kharagpur

Research Area & Highlights: Dr. Dibbendu Roy specializes in developing Optimization and AI based Communication Systems for 6G and next-generation networks. His research interests involve (but not limited to) use of Optimization, Game theory, Causal Inference and Reinforcement learning for 6G use cases such as resource allocation and scheduling for uRLLC, Industry 5.0, Extended Reality, and Digital Twins. He has active collaborations with KTH Royal Institute of Technology, Sweden, and The University of Melbourne, Australia.

Dr. Lokesh Kumar Dewangan
Assistant Professor
lokesh@iiti.ac.in
PhD., IIT Bombay

Research Area & Highlights: Converter interaction analysis, Dynamics and control of hybrid AC/DC systems, Overlay of the HVDC grid, MMC interconnection to unbalanced and weak systems, Robust controller design for MMC.

Dr. Lokesh Kumar Dewangan specializes in the control and dynamics of HVDC systems/grids. His major research focuses on modeling, stability analysis, and controller design within future multi-vendor power electronics-based power systems. He actively collaborates with ECN Nante, France, and KU Leuven, Belgium. His team works on model development and stability scanning techniques for black-box-based hybrid power systems.

Dr. Sharad Kumar Singh
Assistant Professor
sharad@iiti.ac.in
PhD., Indian Institute of Technology, Madras

Research Area & Highlights: Dr. Sharad Kumar Singh is a researcher specializing in various fields including Game Theory, Robotics, Control Theory, Optimization Techniques & Operations Research, and Multi-agent Systems. He has both academic expertise and industrial experience, particularly in the areas of Robotics and Optimization. He is leading the research in the area of “Control and Optimization” in the Department of Electrical Engineering, IIT Indore.

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, Professor and Director of IIT Indore, has a PhD from IIT Bombay and previous positions at Tata Motors, Georgia Tech, and the University of Illinois. He served as Head of Mechanical Engineering and Dean of Alumni and Corporate Relations at IIT Bombay. His research focuses on machining difficult materials, micro-machining processes, and laser micro-machining. Prof. Joshi holds multiple patents in electric discharge machining.

Prof. 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.

Prof. Ritunesh Kumar

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

Research Area and Highlights: Open Absorption cooling system, heat transfer at microscale, renewable energy and Building HVAC systems.

With a specialization in Thermal Engineering, Prof. Ritunesh Kumar has made significant contributions to the field. He has successfully guided several Ph.D. students in their research, focusing on topics such as heat transfer in microchannels, thermal hydraulic performance enhancement methods for microchannel heat sinks, and the development of high-performance falling film plastic towers for liquid desiccant applications.

Prof. Santosh Kumar Sahu

Professor
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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.

Prof. Satyajit Chatterjee

Professor
satyajit@iiti.ac.in
PhD., Indian Institute of Technology, Kharagpur

Research Area and Highlight: Surface Technology Coatings Tribology Solid Lubrication

Dr. Satyajit Chatterjee, 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.

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Prof. Neelesh Kumar Jain

Professor (HAG)
nkjain@iiti.ac.in
PhD., Indian Institute of Technology, Kanpur

Research Area and Highlights: Micro-Plasma Arc-based and Solid State Additive Manufacturing of high-melting point alloys, advanced gear manufacturing, and sustainable machining processes, including modeling, simulation, and optimization.

Prof. Neelesh Kumar Jain, with a PhD and MTech from IIT Kanpur, joined IIT Indore in 2010. Previously at IIT Roorkee, he received the BOYSCAST Fellowship and has over 200 publications. His research spans micro-plasma arc and solid-state additive manufacturing, biocompatible metallic materials, advanced gear engineering, hybrid machining, and autogenous joining techniques. He established the Center of Excellence in Gear Engineering and 6 state-of-the-art labs in his domain at IIT Indore.

Prof. Kazi Sabiruddin

Professor
skazi@iiti.ac.in
PhD.,, Indian Institute of Technolog,y Kharagpur

Research Area and Highlights: Surface Engineering; Wear & corrosion resistive coatings, TBCs, Bio-active coatings, Explosive coatings

The research group led by Prof. Kazi Sabiruddin focuses on deposition of various coating materials by advanced technologies on metallic substrates and characterization of the same for tribo-mechanical, thermal barrier and biological applications. He has successfully deposited phase-stabilized Alumina-based coatings on steels for improved tribological properties. Recently, the group has successfully synthesized pure Hydroxyapatite powder from Indian clam seashell and deposited the same on Ti-alloys for bio-implant applications. He has also developed a novel explosive coating set up in the laboratory.

Prof. I.A. Palani

Professor
palaniia@iiti.ac.in
PhD., Indian Institute of Technology, Madras

Research Areas and Highlights: Mechatronics system Design 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 focuses on the development of Smart systems and Devices. He is closely working with ISRO and DRDO for developing SMA based CRyogenicsyensors and TENG based micro -energy harvesters. A micro 3d Printing developed in-house at IIT Indore and TENG integrated shoe sole has been selected as one of the best 75 Technologies among all IIT's.

Prof. Bhupesh Kumar Lad

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

Research Area and Highlight: Modeling 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.

Prof. 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.

Prof. 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: : 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.

Prof. Pavan Kumar Kankar
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 focuses on using model-based and data-driven methods to forecast the functioning behavior of mechanical systems like bearings, hydraulic systems 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
indrasen@iiti.ac.in
PhD., Indian Institute of Science, Bangalore

Research Area and Highlights: Computational solid mechanics Metallic glass, NanoglassFrature 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.

Dr. Satyanarayan Patel's work focuses on bulk lead-free ceramics (piezoelectric and ferroelectric) for energy storage, conversion and caloric effects for solid-state refrigeration. The current research is focused on pyroelectric energy harvesting and pyrocatalysis in lead-free ceramics. Dr. Patel also works on the simulation study on energy harvesting and solid-state refrigeration.

Dr. Harekrishna Yadav
Assistant Professor
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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), Additive Manufacturing, Micro, Nano- machining of MEAs and HEAs Surface modification Engineering (SMAT, Laser Shot-peening, etc) Mechanical and functional property 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
Assistant Professor
sandeeps@iiti.ac.in
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

Associate 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
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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.

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. Dhirendra Kumar Rai
Associate Professor
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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 micro-structural 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
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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
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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
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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 Sajeevan Maurya
Assistant Professor
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PhD, Indian Institute of Technology, 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.

Prof. Rupesh Shivaji Devan
Professor
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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.

Prof. Santosh Sattappa Hosmani
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
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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
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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.

Dr. Ranjith Kumar Poobalan
Assistant Professor
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PhD, Indian Institute of Science

Research Area and Highlights: Thin films and Multilayer coatings, Energy harvesting materials, Protective Coatings, Nanomaterials, Optical Materials.

Dr.Khushubo Devi
Assistant Professor
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PhD, Indian Institute of Technology Kanpur

Research Area and Highlights: Sustainable metallurgy and materials, Green Steel, Hydrogen plasma-based / Directreduction of iron ores, In-situ Heating TEM, Environmental In-Situ TEM, Phase Transformation, Nanomaterials.

Dr. Vivek Verma
Assistant Professor
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PhD, Indian Institute of Technology Kanpur

Research Area and Highlights: Diffusion in Metals and Multicomponent solids (Theoretical and Experimental), Phase Equilibria, High Entropy Alloys (HEAs), Light Weight Alloys.

Department of Physics

Prof. Preeti Anand Bhobe

Professor and Head of the Department
pbhobe@iiti.ac.in
PhD, Goa University

Research Area and Highlights: Quantum Materials & Magnetism, Magneto-transport in Heuslers, Spintronics, X-ray Absorption Spectroscopy

Prof. Bhobe's research group carries out study of the magnetic and structural properties of various intermetallic 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.

Prof. Bhobe played the role of lead PI in submitting an institute level project proposal worth 100 Cr under the recently announced National Quantum Mission, by DST India.

Prof. 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 his group 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 through the observation of gravitational waves.

Mr Dhruv Ringe, a final year Ph.D. student in the group, has been awarded the best talk in theoretical physics at the Moscow International School of Physics 2024, which was selected to be published in the Bulletin of the Lebedev Physics Institute.

Prof. Krushna R Mavani

Professor
Krushna@iiti.ac.in
PhD, Saurashtra University

Research Area and Highlights: Experimental Condensed Matter Physics

Prof. Krushna R Mavani was appointed as a postdoctoral researcher and was awarded by 'Wakastayoshiki' research project fund as Principal Investigator by Japan Society for Promotion of Science (JSPS) at Kyoto University, Japan. Before this, she worked as a Research Fellow at Osaka University, Japan and 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.

Prof. Mavani's research group has recently assembled a terahertz spectroscopy set up at IIT Indore and produced results on thin films of double perovskite. The work was accepted for ORAL PRESENTATION in the 6th international conference on 'Microwave and Terahertz Science and Applications 2024', Copenhagen, Denmark.

Prof. 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.

Prof. Jalan has been awarded the WISER project with Dr. Mehrnaj Anvari from Fraunhofer Institute for Algorithms and Scientific Computing (SCAI), Germany and VAJRA project titled "Self-organized and emergent phenomena in adaptive networks" with Prof. Stefano Boccaleti from CNR Institute for Complex Systems, Italy.

She is the organizer for NetSciX 2025 along with Prof. Hiroki Shyama from Brimhangan University USA, an annual winter flagship conference by NetSci society, USA at IIT Indore during 14-17 January 2025. She has also co-organized a mini-symposia along with Mehrnaz Anvari, Fraunhofer Institute for Algorithms and Scientific Computing (SCAI), Germany on "Coupled phase oscillators: Fundamentals to applications in Brain and Power Grid" during Dynamics Days Europe 2023, September 3-8, Naples Italy and "Concepts from complex systems – networks, synchronization, recurrence", during 70th Birthday celebration of Jurgen Kurths, NDA 23, March 15-17, 2023 Potsdam, Germany, with M Carmen Romano from Institute for Complex Systems and Mathematical Biology (ICSMB), University of Aberdeen.

Prof. Rajesh Kumar

Professor
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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.

Prof. Rajesh is the Member- Editorial Advisory Board (ACS Appl. Opt. Matter) and he awarded the Top Cited Paper Award (2023) by IoP (Inst. Of Physics) publication.

Prof. Sudeshna Chattopadhyay

Professor
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PhD, Saha Institute of Nuclear Physics, India

Research Area and Highlights: Experimental Condensed Matter Physics

Prof. Sudeshna Chattopadhyay was 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. Her selection was made by Materials Research Society®, based on the competitive proposal acceptance all over the world. She was 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) from 2019-2023.

Prof. Sudeshna Chattopadhyay has received STARS, MoE research funding of sanctioned funding amount: INR 100 lakhs or 1 Crore, on battery research in collaboration with two faculty members from IIT (BHU) Varanasi, jointly, for May 2024 - May 2027. She is honored to be a symposium organizer, 2023 Materials Research Society® (MRS) Fall Meeting & Exhibition at Boston, USA with 7000 participants. She was also invited to chair a scientific session of 2023, MRS Fall Meeting, Nov 26 - Dec 1, 2023 at Boston.

Prof. Raghunath Sahoo

Professor
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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-IndiaCollaboration, a high-energy physics collaboration of 14-Indian universities and intuitions comprising of almost 100 scientists and engineers.

Prof. Sahoo has been awarded the INSA Associate Fellow-2024, and Excellence in Research Award-2024 (IIT Indore's 15th Foundation Day). Besides, he is the Expert Member, Technical Evaluation Committee of DST on Phase II of Scientific Collaboration with ISIS neutron and muon source at Rutherford Appleton Laboratory, UK, and Expert Member, Technical Evaluation Committee of DST on Phase III of Indian Beamline at Photon Factory KEK, Tsukuba, Japan.

Prof. Ankhi Roy

Professor
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PhD, IIT Bombay

Research Area and Highlights: Experimental High Energy Physics, QGP Phenomenology

Prof. Ankhi Roy studies theproduction, fragmentation, hadronization of Heavy Flavours with ALICE experiment at CERN. Her research also involved study of Heavy Flavour and Jets with Electron Ion Collider (EIC) experiments at BNL, USA, and Small-x physics with Forward Calorimeter (FoCAL) in ALICE.

Prof. Pankaj R Sagdeo

Professor
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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.

The technology developed by Prof. Sagdeo's research group which characterizes semiconductor material as a function of temperature has been published in the handbook of Ideas, Innovations & Technology of IIT Indore in February 2024.

Prof. Somaditya Sen

Professor
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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, Multiferroicity, Magnetism, Semiconductors, Devices, Nanomaterials and Bio-applications.

The research target of his group is to synthesize single phase chemically modified oxide materials to study the structure correlated opto-electronic, magnetic, ac/dc transport, energy research, dielectric, ferroelectric, resonating antenna, bio-applicable 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, antibacterial, wound healing, algae growth, seed germination properties etc.

Dr. Manavendra Mahato

Associate Professor
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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. Srimanta Pakhira

Associate Professor
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PhD, IACS and Jadavpur University, Kolkata

Research Area and Highlights: The broad research works cover theoretical condensed matter nanoscience, computational materials science, theoretical condensed matter physics, material science & engineering 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.Pakhira along with his student, Lokesh Yadav was awarded the Best Research Paper Award, IIT Indore (February 2024); for their work on Platinum-adsorbed Defective 2D Monolayer Boron Nitride: A Promising Electrocatalyst for O2 Reduction Reaction. This work is also published in a the reputed scientific journal, Journal of Materials Chemistry C.

Dr. Dipankar Das

Assistant Professor
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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.

Dr. Debajyoti Sarkar

Assistant Professor
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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.

Dr. Sarkar was the organizer of the JulyPhy 2023 workshop on "Observable algebras in field theory and gravity", held at IIT Mandi. He was also the national organizing committee member of the Indian Strings Meeting (ISM 2023).

Dr. Onkar Game

Assistant Professor
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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.

Dr. Alestin Mawrie

Assistant Professor
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PhD, IIT Kanpur

Research Area and Highlights: Theoretical Condensed Matter

Dr. Mawrie's research group focuses on the phenomena of quantum transport in low-dimensional meso / nano-scale systems. These low-dimensional systems involve graphene and its derivatives, silicene, mesoscopic hybrid junctions, and Weyl semi-metal, to name a few. We are also giving our attention to systems that exhibit band inversion to form topological band structures

Dr. Mawrie is the recipient of SERB grant for his research work and his research work has been published in scientific journals of repute, viz. Journal of Physics D: Applied Physics, and Journal of Physics: Condensed Matter.

Dr. Naresh Kumar Kumawat

Assistant Professor
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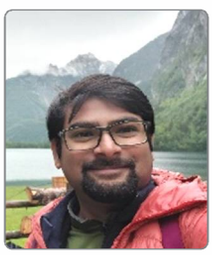
PhD, IIT Bombay

Research Area and Highlights: Experimental Condensed Matter Physics
His research focuses on solution-processed metal halide perovskite, organic, and metal oxide semiconductor thin films for energy technologies.

Dr. Kumawat has recently been awarded the SRG-SERB Research Grant 2023, with a project cost of 31 Lakh. He is the Reviewer for scientific journals viz. RSC Advances, Advanced Functional Materials, and Advanced Energy Materials.

Dr. Titas Chanda



Assistant Professor
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PhD, Harish-Chandra Research Institute, Prayagraj, India

Research Area and Highlights: Dr. Titas Chanda's current research works, heavily influenced by the recent ground-breaking advancements in quantum technologies, revolve around Quantum Information Theory and Theoretical Condensed Matter Physics. At present, he is working on various inter-disciplinary and inter-connected areas involving Quantum Many-Body Physics, Quantum Field Theory, Quantum Simulations using Ultra-Cold Atoms, Quantum Information Science, and Tensor Network Algorithms.

Dr. Chanda was the Invited speaker at (a) the Workshop on Quantum Simulators of the Future: From Dynamical Gauge Fields to Lattice Gauge Theories, ICTP, Trieste, Italy (Feb. 2024), (b) A meeting on Quantum Information Processing and Applications (QIPA-2023), Harish-Chandra Research Institute, Prayagraj, India (Dec. 2023), and (c) Emerging Topics in Quantum Technology (ETQT-2023), IIT Palakkad, India (Nov. 2023). He is the author of two open-source libraries for Quantum Technologies -- (a) QIClib: A C++ library for general purpose quantum computing and quantum information, (b) TenNetLib.jl: A tensor network library for quantum many-body problems.

Dr. Mritunjay Kumar Verma

Assistant Professor
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PhD, Harish Chandra Research Institute, Prayagraj

Research Area and Highlights:

Dr. Mritunjay Kumar Verma works in the field of string theory and related areas. At present, he is working on two main research directions. In the first direction, he is using the string perturbation theory to study the physics of higher spin massive string states. This includes, e.g., the study of chaos in string scattering. In the other research direction, he uses the AdS / CFT correspondence to study physics in the flat space by taking a suitable flat limit of AdS. The goal here is to understand the scattering amplitudes involving massive states in flat space using the AdS / CFT techniques.

Dr. Deepak Gupta

Assistant Professor
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Ph.D., Raman Research Institute, Bengaluru, India

Research Area and Highlights: Statistical Physics, Stochastic thermodynamics, Biophysics, Theoretical ecology, and complex systems.

Dr. Deepak Gupta has recently been granted the Special Research grant (BOF) from Hasselt University, Belgium, for a two-month research visit in the Department of Physics at Hasselt University (May-June 2024).

Dr. Bivas Dutta

Assistant Professor
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PhD, Institute Néel, CNRS, Grenoble, France

Research Area and Highlights: Dr. Dutta's current research interest lies in the experimental investigation of Quantum Transport in nano-electronic circuits, which broadly falls under experimental condensed matter physics. More precisely, his research group is interested in Quantum Heat Transport and Thermodynamics in nano-electronic quantum circuits, including quantum-dot circuits.
His research highlights include heat transport measurement in a single-electron-transistor (SET) with the demonstration of violation of the fundamental law of thermal conductance, for the first time in the community, development of the single quantum heat-valve using quantum-dot junctions. The highlights also include thermal probing of a non-abelian quasiparticle – the "Majorana" in the fractional Quantum Hall regime which is a promising candidate for topological quantum-computation, with the use of thermal noise measurements and quantum Hall thermal conductance measurements. His research work has been published in Science, which is a highly reputed scientific journal.

Department of Chemistry

Prof. Biswarup Pathak

Professor
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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
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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.

Prof. Rajneesh Misra

Professor
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Ph.D., IIT Kanpur

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. Rajnesh 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.

Prof. Anjan Chakraborty

Professor
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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.

Prof. Apurba Kumar Das

Professor
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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.

Prof. Suman Mukhopadhyay

Professor
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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.

Prof. Sampak Samanta

Professor
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Ph.D., Indian Association for the Cultivation of Science, Jadavpur

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.

Prof. Tushar Kanti Mukherjee

Professor and Head of the Department
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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.

Prof. Shaikh M. Mobin

Professor
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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.

Prof. Satya S. Bulusu

Professor
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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.

Prof. Sanjay Kumar Singh

Professor
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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.

Prof. Chelvam Venkatesh

Professor
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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
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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
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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
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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 Achyutrao Kshirsagar

Associate Professor
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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
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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
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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 Dhanpal'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.

Department of Mathematics

Prof. Niraj Kumar Shukla

Professor and Head of the Department
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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.

Prof. Sk. Safique Ahmad

Professor
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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 component wise 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 or {1, 1}-QS matrices to investigate its condition numbers. Apart from that we work on the sensitivity analysis of reduced biquaternions. Reduced biquaternions are a four-dimensional commutative number algebra, introduced by Serge in 1892. The main obstacles when deriving algorithms for matrices of reduced biquaternions are the existence of non- invertible non-zero elements, and the need to consistently define some basic linear algebra concepts in this setting. Based on some existing algorithms, we present new efficient algorithms for the QR factorization and eigenvalue and singular value decompositions of both types of matrices. We also present applications to computation of various types of matrix generalized inverses and image analysis. The algorithms are efficiently implemented using the multiple-dispatch feature of the programming language Julia. The work on RBQ work is with the collaboration with Prof. Slapnicar University of Split, Croatia.
Specialization: Numerical Linear Algebra
Research Interests: Numerical Linear algebra, stably analysis for Des / SDEs, Quaternionic Linear Algebra, Inverse Eigenvalue Problems, Operator Theory and applications.

Prof. Swadesh Kumar Sahoo

Professor
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PhD, Indian Institute of Technology Madras

Research Area and Highlights:

Our broad research area is Complex Analysis which includes Univalent functions, Harmonic mappings, Hyperbolic-type metrics, and 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 geometriesassociated 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.

Prof. V. Antony Vijesh
Professor
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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 zeros of some class of special functions. In addition, we also develop finite difference method to solve nonlinear partial differential equations. Recently, our group also started to work on convergence analysis of a few stochastic iterative methods.

Dr. Mohammad Aquil Khan
Associate Professor
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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
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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 <= 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.

His research group is working on unifying the proof of end point estimates and certain weighted L^p estimates of the totally geodesic k-plane transform on constant curvature spaces for radial functions.

Dr. Vijay Kumar Sohani
Assistant Professor Grade-I
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PhD, Harish-Chandra Research Institute Allahabad

Research Area and Highlights: We obtain the fractional product rule for the harmonic oscillator for $s>0$ using the norm equivalence of Hermite-Sobolev space $W_{H}^{s,p}(\mathbb{R}^{n})$ and Hermite Triebel-Lizorkin space $H_p^{s,2}(\mathbb{R}^{n})$ introduced by Epperson (Triebel-Lizorkin spaces for Hermite expansions, Studia Mathematica, Volume 1, 87- 103 (1995)). As an application to our primary findings, we prove local well-posedness for the semilinearSchr\"{o}dinger equation associated with the Hermite operator having polynomial-type nonlinearity and Cauchy data in the Hermite-Sobolev space $W_{H}^{s,2}(\mathbb{R}^{n})$.

Dr. M. Tanveer
Associate Professor
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PhD, JNU, New Delhi

Research Area and Highlights:

Dr. M. Tanveer has played a significant role in enhancing the research facilities at IIT Indore. He has established two state-of-the-art labs: the OPTIMAL research and EEG signal recording labs. These labs support advanced research in developing cutting-edge artificial intelligence (AI) and machine learning (ML) models, particularly Randomization-based deep and shallow learning algorithms and Hyperplane-based classifiers to revolutionize healthcare solutions.

Our focus extends beyond scientific discovery to tangible outcomes that positively impact society, doctors, and researchers. We enhance diagnosis techniques, particularly in neurological disorders such as Alzheimer's disease (AD), Parkinson's disease (PD), Brain age prediction, and EEG signal classification. Our work has been featured in esteemed publications, including Nature Mental Health, further solidifying our impact

Dr. Tanveer has published over 150 referred journals and 25 conference papers of international repute. His publications have over 6400 citations with an h-index 40 (Google Scholar, June 2024). He has been listed in the top 2% of scientists worldwide in a study conducted by Stanford University, USA, for three consecutive years. He is the recipient of the INSA Distinguished Lecture Award for 2024, INNS Aharon Katzir Young Investigator Award for 2023, IIT Indore Best Research Paper Award for 2023, Asia Pacific Neural Network Society Young Researcher Award for 2022, 29th ICONIP Best Research Paper Award for 2022.Moreover, he was elected as an Associate Fellow of the Indian National Science Academy (INSA) in 2023 and to the Board of Governors of the Asia-Pacific Neural Network Society (APNNS) for the 2023-2024 term.

Furthermore, our commitment to knowledge dissemination, global collaborations with medical institutions, providing accessible open-source access to developed software and technology (https://github.com/mtanveer1), and public awareness efforts ensure broad access to our smart healthcare solutions, fostering innovation and equitable healthcare access

Dr. Sanjeev Singh
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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. Bapan Ghosh
Assistant Professor Grade-I
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PhD, IIEST, Shibpur, West Bengal

Research Area and Highlights: The main research areas of our group are: Applied Dynamical Systems, Delay Differential Equations and Population Ecology. We proposed a population model under time delay and concluded that time delay could destabilize the system's dynamics. However, time delay is beneficial to enhance stock of predator population.

We also worked on fractional differential equations and established the fact that fractional order systems may not be often useful in modeling real world problems due to their dimensionally inconsistency.

Using discrete dynamical systems theory and numerical computation we uncovered Arnold tongues and Shrimp structure. The period of these Arnold tongues often follow the Fibonacci sequence.

Dr. Santanu Manna
Assistant Professor Grade-I
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PhD, IIT (ISM) Dhanbad

Research Area and Highlights: Applied Mathematics, Elastodynamics, Wave Propagation Aspects, Solid Mechanics, Elasticity, Earthquake statistics

Highlights: Dr. Santanu Manna's research lab is devoted as a research facility to work on Applied Partial Differential Equations and Mathematical Modeling of Geomechanics including analytical, and asymptotic analysis modelling of physical systems, integral transfer (FT, FFT, CFFT), wave propagation, continuum mechanics, theoretical seismology and earthquake statistics. Our team is working on the development, numerical and analytical study for solving large-scale scientific and engineering problems on advanced methods. Moreover, our team is working on earthquake statistical analysis and AI-ML of the extensive earthquake data in order to get the most efficient earthquake forecasting analysis.

Dr. Vinay Kumar Gupta
Assistant Professor Grade-I
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PhD, RWTH Aachen University, Germany

Research Area and Highlights: Mathematical modelling and numerical simulations of rarefied gas flows, Kinetic theory, Granular flows, Wave-structure interaction problems. The research group, led by Dr. Vinay Kumar Gupta, focuses on developing mathematical models for non-equilibrium rarefied ideal gases and granular gases through kinetic theory and on developing mesh-free numerical techniques for simulating rarefied gas flows. The group also focuses on investigating problems of interaction of waves with structures.

Dr. Bibekananda Maji
Assistant Professor Grade-I
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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
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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
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PhD, IIT Kanpur

Research Area and Highlights : The research group "Statistical Modelling & Simulation (SMS)", led by Dr. Mohd. Arshad focuses on developing the theory and applications of Ranking & Selection, Copula Modelling, Estimation Theory and Data Science. The SMS group is developing new copulas and studying their mathematical structure, dependence range, etc. Several new bivariate / multivariate distributions have been proposed by the group members. This group is actively working on clinical trial designs, especially drop-the-losers design.

Dr. Sourav Mitra
Assistant Professor, Grade-I,
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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.

Dr. Priyamvada
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PhD, Indian Institute of Technology Delhi

Research Area and Highlights: Graph theory and graph algorithms. My research interest lies in the structural and algorithmic study of variations of graph optimization problems. I have investigated the computational complexity of the decision problems associated with some variations of graph coloring, namely, neighbor-sum-2- distinguishing edge- weighting, injective coloring, exact square coloring and injective edge coloring. Since the considered problems are NP-complete on general graphs, it is natural to study these problems for graph classes with restricted structures. I have designed polynomial time algorithms for certain restricted graph classes and have also strengthened the NP- completeness results of these problems on bipartite graphs and chordal graphs by showing that these problems are NP-complete on their proper subclass. Moreover, I have also studied these coloring for graphs resulting from some standard well-studied graph operations and products and obtained tight bounds. I am also interested in the study of Dynamic graph algorithms, where edges and vertices of a graph may be added or deleted over time.

Dr. Sumit Chandra Mishra
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PhD, Emory University, USA

Research Areas and Highlights: Broadly, I am interested in algebra, algebraic geometry and number theory. Specifically, I am interested in algebraic groups and their local-global principles, quadratic forms, field patching, commutators and products of conjugacy classes in finite groups and algebraic groups generation in finite groups and algebraic groups, Ruled Residue theorem type results for function fields of curves, and word maps for groups and algebras.

Dr. Dibyendu Mondal
Assistant Professor Grade-II
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PhD, Indian Institute of Technology Mumbai

Research Area and Highlights: My research interests lie in Commutative Algebra and its interaction with Algebraic Geometry. More specifically, I am interested in problems related to factorization properties of commutative rings, minimal number of generators of dual modules, properties of derivation modules over commutative rings and extension of analytic varieties. I am also interested in various questions related to Affine Algebraic Geometry. These questions broadly connect to cancellation problems, Jacobian conjecture and Zariski-Lipman conjecture.
Research Area: Commutative Algebra and Affine Algebraic Geometry

School of Humanities and Social Sciences

Prof. 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, IPR Chair Professor, 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 has been a member of national level committees concerning Science, Technology, and Innovation.

Professor 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.

Prof. Pritee Sharma

Professor
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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.

Dr. C. Upendra

Associate Professor [Philosophy]
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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 Khanganba

Associate Professor
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PhD, IIT Bombay
Research Area and Highlights: Human-System Interaction & Cognition.

Dr. Sanjram Premjit Khanganba 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 electrophyisiological data.

Dr. Akshaya Kumar

Associate Professor
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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
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PhD, King's College London, University of London
Research Area and Highlights: Intellectual History and the History of Political Thought; Economic, Social, and Business History of Modern India

Dr. Shomik Dasgupta 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). He teaches undergraduate and postgraduate courses on Political, Economic, Art and Business History and is the recipient of IIT Indore's Best Teacher award (2021). He is a Fellow of the Royal Historical Society, UK (FRHistS). He is also an affiliate faculty at the Centre for Entrepreneurship Education and Development (CEED).

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 leads 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. She is an 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. Ashok Kumar Mocherla

Associate 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: 2024). 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. Kalandi C. Pradhan

Assistant Professor
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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; and female labour force participation. He has published more than 20 research papers in reputed journals. Additionally, he has published one book and one book chapter. Dr. Pradhan has completed two research projects as Co-PI, funded by Indian Council of Social Science Research (ICSSR) with the collaboration of IIT Roorkee, IIT Kharagpur and Banaras Hindu University.

Dr. Mohanasundari Thangavel

Assistant Professor
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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, Environmental Economics, Climate Change Adaptation and Impact Studies in addition to Food Policy. She is also a Research lead of Agricultural Resource Policy lab. Dr. Mohanasundari is currently working on various issues related to Agricultural and Resource Economics. She has published 17 journal articles and 6 book chapters. She is doing a project on Economic Estimation of Loss and Damage of NTFP due to Forest Fire which is funded by SANDEE-ICIMOD, Nepal. She has been awarded the prestigious RBI scholarship for working on the performance of Farmer Producer Organization in Tamil Nadu. The scholarship was awarded by RBI, Mumbai.

Dr. Thapasya J

Assistant Professor
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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 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. She has also been successful in obtaining a Young Faculty Research Seed Grant from IIT Indore.

Dr. Aratrika Das

Assistant Professor
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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 Research Seed Grant Scheme 2022-24 IIT Indore, India Foundation for the Arts Research 2023-25, and JPN Center IIT Indore 2023-25.

Dr. Kedarmal Verma

Assistant Professor
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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 and decision-making. 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, NAoP, ISSR).

Dr. Sansuma Brahma

Assistant Professor
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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
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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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