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DIRECTOR'S CONVOCATION REPORT

Honourable Shri Sanjay Malhotra, Governor of the RBI, honourable Chairperson, Board of Governors of the Indian Institute of Technology Kanpur, Members of the Board of Governors, Members of the Academic Senate, all graduating students and their family members, and the members of faculty, alumni, staff and student community: I heartily welcome you all to the fifty-eighth convocation of the Indian Institute of Technology Kanpur. I would also like to congratulate the graduating students and their families on this joyous occasion.

ACADEMIC ACTIVITIES

The Institute is committed to maintain its high-quality teaching, well-respected academic programs, highly regarded faculty, advanced research facilities, and centers. It continues to nurture bright minds with intellectual skills, courage, and integrity to take on the biggest challenges faced by humankind. I am honoured to share a glimpse of our achievements and activities for this year.

I am happy to inform you that the total number of PhD degrees awarded at this Convocation is 302. In our efforts to encourage outstanding scholars, the Senate has approved the provision for an additional Master's degree to be awarded along with a PhD, subject to fulfilling a defined set of academic requirements. I am glad to inform you that 29 students are graduating in this Convocation's seventh batch of MTech and PhD Joint Degrees. Additionally, 2 students are graduating with a joint MDes and PhD Degree, and 2 students are graduating with a joint MSR and PhD Degree in this Convocation. I am also happy to convey that the third batch of 361 students of the e-Master's program will be conferred a degree today in this 58th Convocation. In all, a total of 2848 degrees are being awarded at this Convocation with the following details:

GRADUATION DATA

Degree	Number of Recipients
PhD	269
MTech-PhD (Joint Degree)	29
MDes-PhD (Joint Degree)	2
MSR-PhD (Joint degree)	2
MTech	480
MBA	145
MDes	20
MS (by Research)	83
PGPEX-VLFM	40
MSc (2-yr)	194
e-Masters	361
Double Major	26
Dual Degree	93
MS-PD (MS part of the Dual Degree)	26
BTech	874
BS	204
Total	**2848**

In keeping with the flexibility that the IIT Kanpur's academic Programme is known for, 192 students are graduating with one Minor, whereas 90 students are graduating with two Minors and 30 graduating students are graduating with three Minors. You will be delighted to know that 3 graduating students are graduating with four Minors, 1 student is graduating with five Minors. In all, 479 Minors are being awarded. In addition, by spending one additional year at the Institute, 93 undergraduate students are graduating with a Master's degree and their Bachelor's while 26 of our undergraduate students are graduating with a Second Major. 33 of our postgraduate students are graduating with an additional Master's and PhD degree by earning extra credits. Out of 1197 students of the Bachelor's and Bachelor's-Master's dual degree programmes who are being awarded the degree today, 239 students are graduating with a Distinction (CPI of 8.5 and above). To keep pace with the evolving knowledge in science, technology, and other areas, 57 new undergraduate courses and 144 new postgraduate courses were approved from June 1, 2024 to May 30, 2025.

It is a great pleasure to share that the degrees are being awarded to graduating students at the 58th Convocation today, both in the physical and digital modes. The degrees in the online mode are being shared through an in-house blockchain-driven technology developed at our Institute under the National Block- chain Project. The digital degrees are also being uploaded to the National Academic Depository.

NEW INITIATIVES

Center For Educational Research and Teaching Excellence (CERTEX)

On January 5, 2025, IIT Kanpur's Board approved the Centre for Educational Research and Teaching Excellence (CERTEX) to advance a research-backed, technology-driven educational environment. CERTEX's charter includes: 1) Driving education research to enhance pedagogy, study diverse student needs, and analyze learning technologies' impact; 2) Developing advanced facilities like lab simulations and AI/ML tools, maintaining a teaching resource repository; 3) Providing

periodic staff training to uphold high standards; 4) Promoting outreach through conferences, seminars, publications, and an online repository, positioning IITK as a global leader in education while fostering innovative teaching practices.

Interface Office of Translational Activities (IOTA)

IIT Kanpur, a leader in innovation with its Startup Incubation & Innovation Center (SIIC), Centers of Excellence in AI/ML, MedTech, Drones, 5G/6G, and Cybersecurity, and Technopark@iitk, established the Interface Office for Technology and Applications (IOTA). IOTA aims to elevate technologies from our labs to TRL 7+ to address national challenges. It will source external problem statements, match them with suitable research groups, and facilitate fundraising and industry connections to drive impactful, indigenous solutions, further strengthening IIT Kanpur's innovation ecosystem.

Director's Council

The Director's Council of IIT Kanpur is established as a high- level advisory body that provides strategic counsel to the Director and assists in shaping the long-term vision and direction of the institute. This Council comprises prominent alumni, donors, and key institutional stakeholders, bringing together their expertise to drive IIT Kanpur's continued leadership in education, research, and innovation.

The members of the Council will provide guidance on critical institutional priorities, fostering excellence in Fundraising & Industry Relations, Academics, Fundamental & Translational Research, Government Relations, and Innovation & Entrepreneurship, ensuring IIT Kanpur remains at the forefront of academia, technological and scientific advancements.

ACADEMIC INITIATIVES

Academic initiatives undertaken this year are likely to strengthen our educational programs, and several others are in the pipeline.

Wadhwani School of Advanced Artificial Intelligence & Intelligent Systems (WSAIS)

IIT Kanpur took a historic step toward strengthening India's leadership in cutting-edge research and innovation with the launch of the Wadhwani School of Advanced Artificial Intelligence and Intelligent Systems for advanced AI, cyber-security, robotics and AI policy, and nurturing interdisciplinary teams of faculty, researchers, and students in state-of-the-art laboratories. Under WSAIS, a UG program in Intelligent Systems has been approved. This initiative, supported by the Wadhwani Foundation, promises to create world-class education and research centers on campus and empower a network of 50 partner hubs across India. It will also be a SuperHub, enabling and supporting "research capacity building" through research and innovation programs and activities at research institutes in the Wadhwani Innovation Network.

NEW PROGRAMMES & DEPARTMENTS

MTech program in "Artificial Intelligence for Sustainability"

The MTech program in "Artificial Intelligence for Sustainability" under the Kotak School of Sustainability has been approved. It aims to train manpower that can take on global and local challenges in sustainability. In India, we have many educational programs on traditional science and engineering disciplines, as well as some programs on sustainability, but none addresses climate change and sustainability issues using AI.

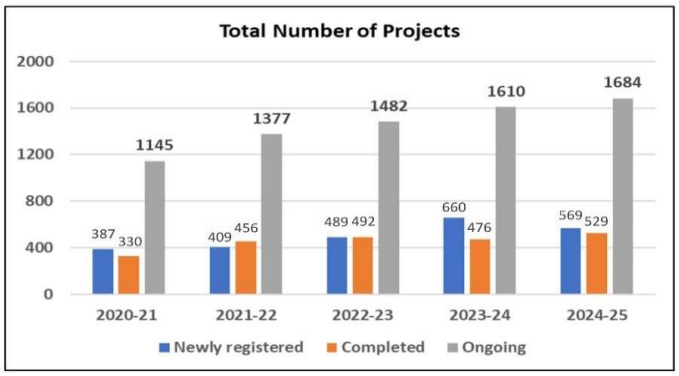
RESEARCH & DEVELOPMENT

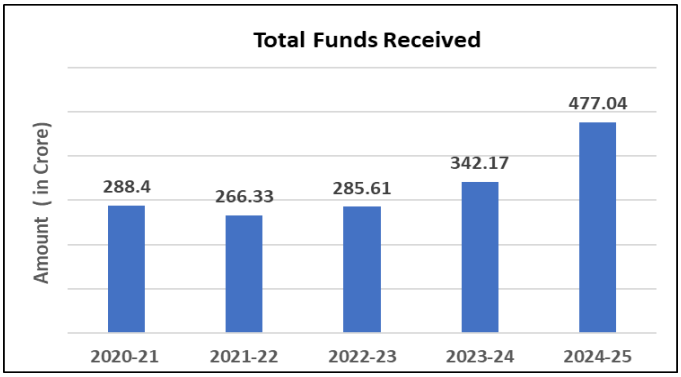
IIT Kanpur has registered steady growth in its research and development activities this year.

Research Highlights:

- 1684 externally funded projects are ongoing with a total sanctioned amount of Rs. 1791.46 crore.
- 304 sponsored projects worth Rs. 633.98 crore sanctioned during 2024-25.
- 265 consultancy projects worth Rs. 107.38 crore sanctioned during 2024-25.
- During 2024-25, total funds received for sponsored projects are Rs. 363.43 crore, and for consultancy

SPONSORED RESEARCH





LEADING FUNDING AGENCIES

Funding Agency	Amount Sanctioned (In Crore)
Department of Science & Technology	₹269.93
National Mission for Clean Ganga	₹ 47.12
Department of Biotechnology	₹19.89
National Security Council Secretariat	₹16.38
Samagra Shiksha, Department of Education, Govt of Uttarakhand	₹9.20

Table capturing five major funding agencies with sanctioned amount

LEADING FUNDING PARTNERS FROM INDUSTRY

Hindustan Zinc Limited Udaipur, GE India Industrial Private Limited, Chittaranjan Locomotives Words (CLW), Indian Railways, Unilever Limited and Moswave Russia.

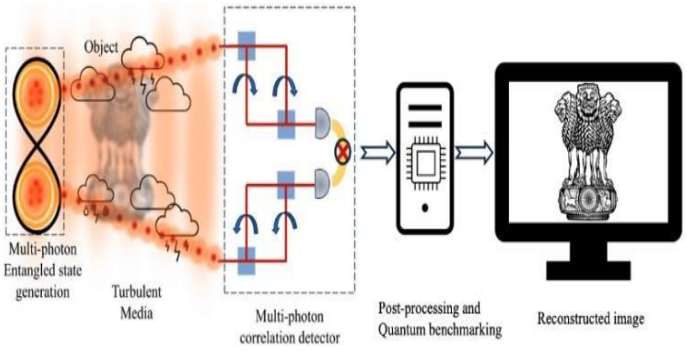
MAJOR PROJECTS SANCTIONED

Mission Coordination Cell, National Quantum Mission funded by the Department of Science and Technology

The Mission Coordination Cell (MCC), established at IIT Kanpur, is designated as the coordinating body for the National Quantum Mission (NQM). NQM aims to build indigenous quantum capabilities and position India among global leaders in quantum technology. The MCC, with its main office at IIT Kanpur's Outreach Centre in Noida, oversees collaboration between Technical Hubs (T-Hubs), ministries, industries, and other stakeholders. It also aligns NQM with national initiatives like Digital India and Make in India. Through effective communication with the Mission Secretariat, DST, MCC at IIT Kanpur seeks to foster the necessary coordination at all levels to ensure the success of the National Quantum Mission.

Design and development of quantum entanglement-enhanced imaging systems

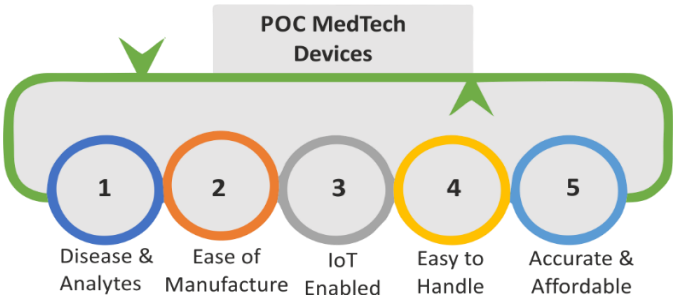
The project is to develop quantum-entanglement-enhanced imaging systems. This project has funding of about 94 crores with 8 PIs across 4 different institutions. The main objective of this project is to design and develop enhanced imaging and microscopy systems that are based on harnessing the quantum correlations of entangled photons. Such quantum-enhanced imaging and microscopy systems are expected to provide increased imaging resolution and sensitivity, enhanced signal-to-noise for low-light level imaging, improved methods for non-invasive imaging, and enhanced imaging capabilities in the presence of turbulent and scattering media.



Point-of-Care Devices in Healthcare Technologies funded by the Ministry of Education (under the SPARC program)

Technological advancements in the field of MedTech devices are transforming diagnostics into a crucial role for rapid and accurate screening, prognosis, and patient monitoring. Point-of- Care (POC) devices offer verifiable data & integrated healthcare to clinicians for effective treatment. The following objectives are being pursued through collaborative efforts with the Faculty of Medicine, Dentistry, and Health Sciences, University of Melbourne, Australia, and Amrita Vishwa Vidyapeetham, Coimbatore, India.

- IoT Enabled Clinical/Physiological Analyzers
- Biosensing Modules for Patient Care
- AI-Powered Handheld MedTech Devices: Sepsis, Cancer, Neurodegeneration
- Compilation of a monograph on POC devices in healthcare



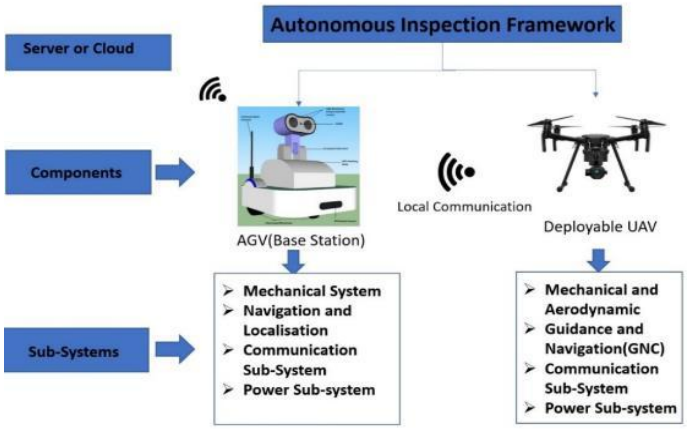
Electronics & ICT Academy Scheme - Phase II, funded by Ministry of Electronics and Information Technology

Electronics & ICT Academy (EICTA) Phase II is a joint initiative of the Indian Institute of Technology Kanpur and the Ministry of Electronics & Information Technology (MeitY) as a continuation of the earlier EICTA Phase I (2015-2024). EICTA II, in continuation of its earlier mandate, is tasked with designing, developing & delivering specialized, highly subsidized Faculty Development Programs (FDP) in emerging technologies/ niche areas/ specialized modules for specific research areas for Faculty in Higher Education Institutions (HEI). In addition to this, FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains,

covering a broader spectrum of engineering and non-engineering colleges, polytechnics, ITIs, and PGTs educators, are to be conducted. The mode of delivery is specific to IITK's EICTA, which is set by the ministry in synchronous, asynchronous, and hybrid modes.

Design and Development of an Integrated Inspection Framework Comprising of UGVs (Unmanned Ground Vehicle) with Deployable UAVs (Unmanned Aerial Vehicle) for Critical Power Infrastructure Inspection funded by Central Power Research Institute

Operational efficiency and preventive maintenance are essential to ensure smooth and uninterrupted functioning of components of the power infrastructure. In order to achieve this, an effective autonomous inspection framework that inculcates autonomous robots (UGVs + UAVs), which can continuously monitor the environment and inspect the components for failure, is essential. AI-based algorithms can detect the faults occurring in the critical infrastructure using the sensory data obtained by the robots.



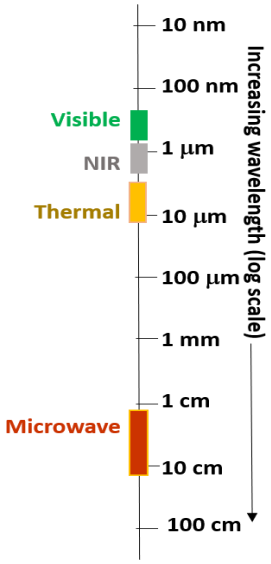
The proposed system consists of two essential collaborative robots that form the backbone of the integrated framework of the Non-destructive inspection of critical infrastructure. An autonomously guided vehicle (AGV/UGV) acts as a base station from where an Unmanned Aerial Vehicle (UAV) can be deployed as the task demands. Further, there will be two such sets of collaborative robots to create a swarm-like environment and distribute the inspection work in case of urgent failure.

Methods of Artificial Intelligence and Magneto-electric Effects in the Dynamics and Motion Control Problems of Telecommunication Spacecraft funded by the Department of Science & Technology

The proposed research aims to study efficient translation and attitude control using geomagnetic forces for satellite swarms, focusing on coordinated control. The project explores the orbital and attitude motion control of charged spacecraft interacting with Earth's magnetic field, employing mathematical models to capture spacecraft dynamics. Various control strategies will be tested through simulations to optimize satellite performance.

Next, the research focuses on developing control algorithms for seamless coordination between satellites in a swarm. Artificial intelligence (AI), including reinforcement learning and deep learning, will be integrated into the control system to improve decision-making, reduce communication requirements, and enhance adaptability in uncertain conditions. These AI techniques will allow satellite swarms to adjust to dynamic mission demands autonomously. The research is expected to contribute significantly to space missions, providing innovative methods for satellite operations, including on-orbit maintenance and space exploration.

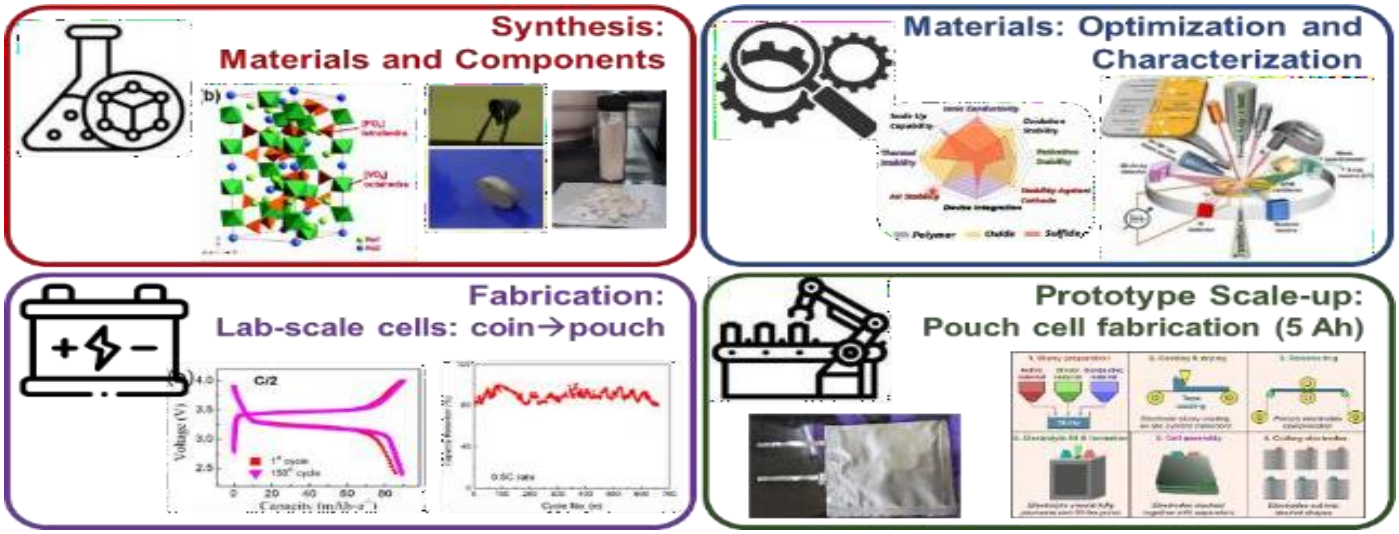
Multispectral Stealth Solutions Covering Visible, Near Infrared (NIR), Thermal, and Microwave Ranges Using Coating and Patterned Surfaces funded by DIA-COE



Military reconnaissance was conducted using various techniques that use different frequencies of electromagnetic radiation. This necessitates multi-spectral stealth solutions to protect the infrastructure from damage. In this project, funded by DRDO under the DRDO Industry Academia Centre of Excellence, an electromagnetic frequency range spanning the visible, near-infrared (NIR), thermal, and microwaves is chosen for building stealth solutions. This is an extensive range of wavelengths and will be covered by preparing specialty surfaces by the use of multiple coatings of required thickness and patterns of suitable sizes on chosen substrates. The objective is to achieve the required frequency-selective response, which ensures that the object present behind the specialty surface is not recognizable, though it is present within the field of view. This project has Defence Material and Stores Research and Development Establishment (DMSRDE), Kanpur, as a collaborating laboratory for testing defence applications.

Flexible Solid-Electrolyte Alternative chemistry Batteries (Flex SEA Bat) funded by Defence R&D Organization

Sodiumion batteries (SIBs) present a promising alternative due to their abundance, lower cost, and electrochemical properties similar to lithium, making them a viable option for next-generation energy storage. This project, supported by DRDO and in partnership with DMSRDE-DRDO Kanpur, aims to develop high-energy density and low-cost SIBs using earth-abundant active materials and a solid-state electrolyte.

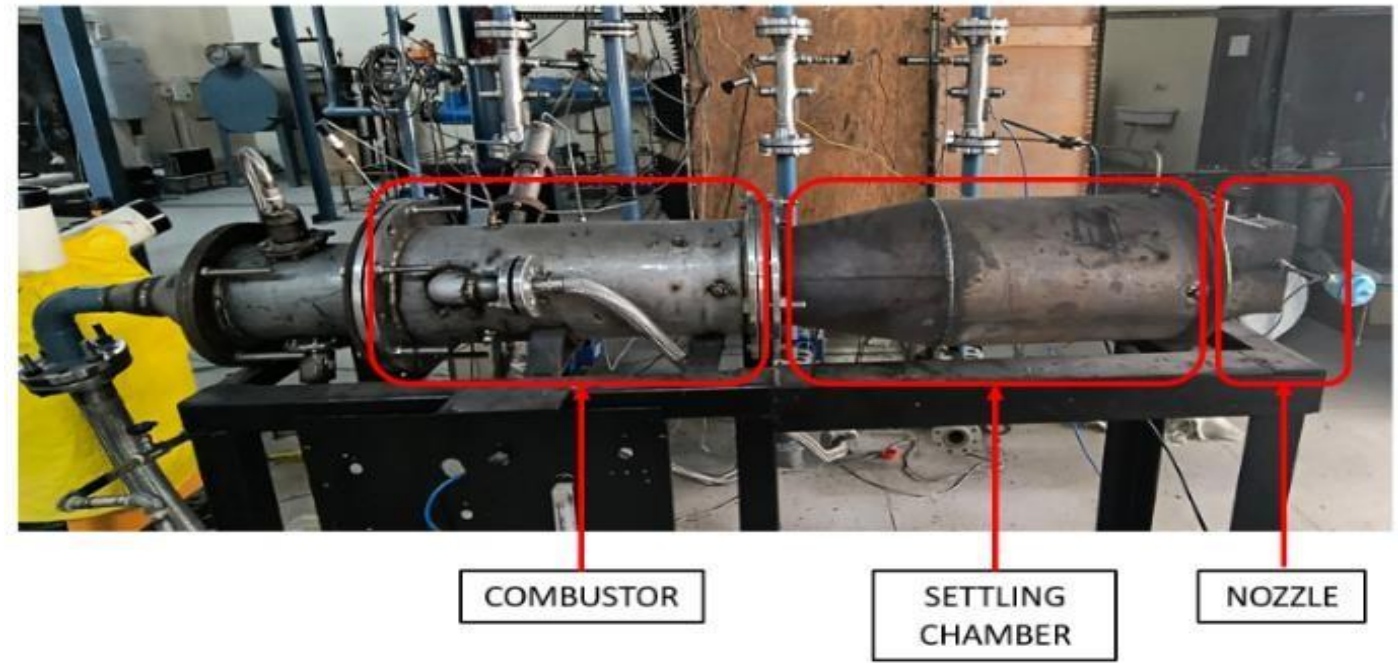


The proposed prototype cells (TRL level 5) are capable of powering (up to 5 Ah) military devices such as drones, unmanned underwater vehicles (UUVs), portable energy storage/backup devices EVs, and grid-storage for renewables integration.

The project also envisages the establishment of a pilot-scale battery fabrication facility for advanced material synthesis planned for scaling domestic manufacturing to support India's Net Zero goals.

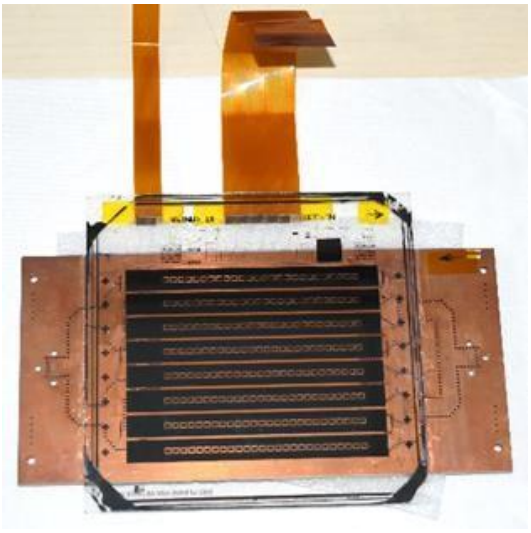
Cyclic Thermal Testing of TBC Coated Superalloys in a Burner Rig funded by Aeronautics Research & Development Board (ARDB)

Superalloy turbine blades use Thermal Barrier Coatings (TBCs) and internal cooling to withstand higher temperatures. Assessing TBC performance requires exposing test samples to hot, corrosive environments to understand contamination and damage mechanisms. This project experimentally simulates Gas Turbine engine conditions in a specially designed gas turbine combustor rig, burning ATF, to assess the oxidation and hot corrosion behavior of TBC coatings on nickel-based superalloys. The test samples will be conducted at 0.3 Mach following a specified cycle. The samples will be thermocouple instrumented to read the metal temperature captured by a thermal camera. An optical Pyrometer will measure the gas temperature just upstream of the test item, and the species concentration will be measured using an emission analyzer. TBC coatings will be inspected, and vane weights recorded every 10 cycles, continuing until failure. The cycles to the first crack and first failure will be documented.

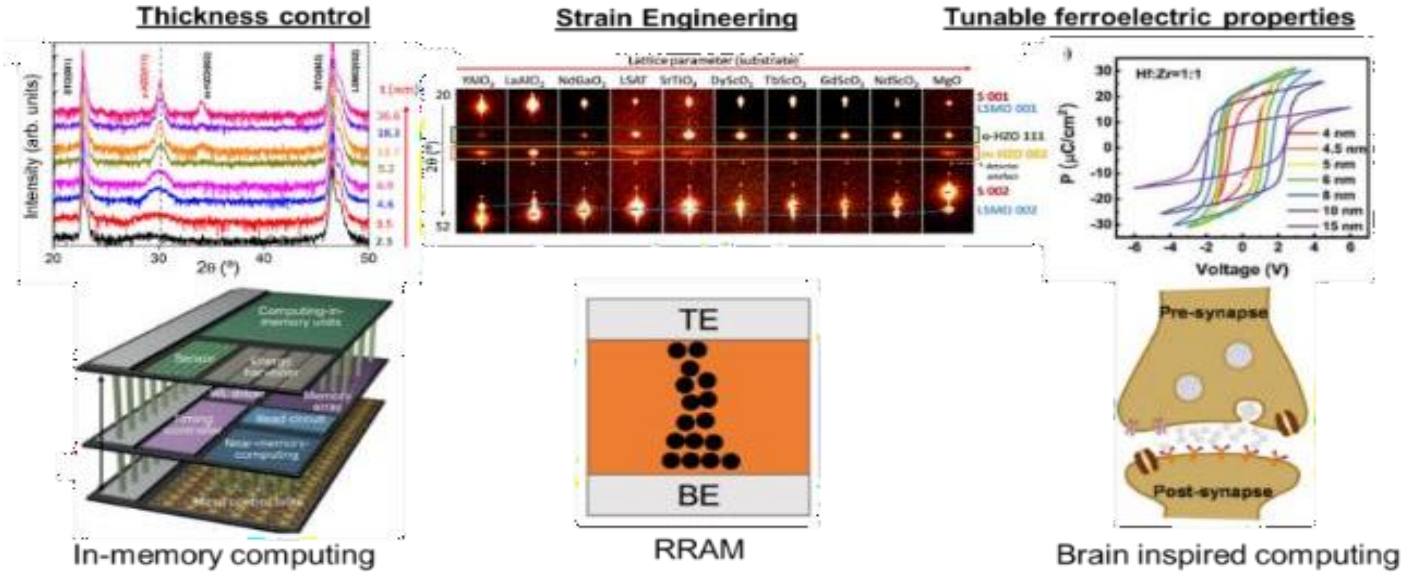


Processing of TFT Array and Liquid Crystal Layer and their Integration with Metasurface Antenna funded by Indian Space Research Organization (ISRO)

Space Application Centre (SAC)-ISRO is developing a reconfigurable flat-panel meta surface antenna (MSA) that utilizes thin film transistor (TFT) array technology as a backplane to change the capacitance of the liquid crystal (LC) based capacitors that are electromagnetically excited by the meta surface-based waveguide array antennas, designed for Ka-band and Ku-band satellite terminals. Changes in the capacitance of liquid crystal media will enable continuous electromagnetic (EM) beam steering of meta surface-based array antennas. The National Centre for Flexible Electronics (NCFlexE) at IIT Kanpur is running a robust program for the fabrication of TFT-based circuits for flexible electronics. SAC-ISRO and NCFlexE are actively collaborating to develop flat panel MSAs with potential applications in the field of high throughput satellite communication.



Hafnium Oxide (HfO_2) based ferroelectrics for low power memory applications funded by the Airforce Office of Scientific Research



Ferroelectric memory technology, particularly the discovery of ferroelectricity in HfO_2 thin films, presents a promising solution due to its complementary metal-oxide-semiconductor (CMOS) compatibility and robust electric dipoles at nanoscale thicknesses. However, these films have increased operating voltages and reduced endurance due to high retention polarization (Pr) & high coercive fields (Ec). To address this challenge, this study aims to investigate the effect of thickness on Ec in CMOS-compatible FE HfO_2 and HZO thin films, considering strain and surface energy effects.

The project will leverage strain engineering, interface engineering, elemental doping, and phase composition variation to achieve thin films with low Ec, high Pr, high endurance, and low thickness. This research contributes to the development of low-power ferroelectric memory devices by advancing our understanding of thin film ferroelectric properties and facilitating the design of innovative materials and devices for future data storage applications.

Bharat-GPT A Suite of Generative AI Tech for India funded Department of Science & Technology

BharatGen, powered by the repository 'Bharat Data Sagar' is a multimodal large language model initiative to develop Generative artificial intelligence (GenAI) tailored to India's linguistic, cultural, and socio-economic diversity. By integrating text, speech, and images, BharatGen aims to build accessible AI technologies across key sectors like law, agriculture, education, and healthcare.

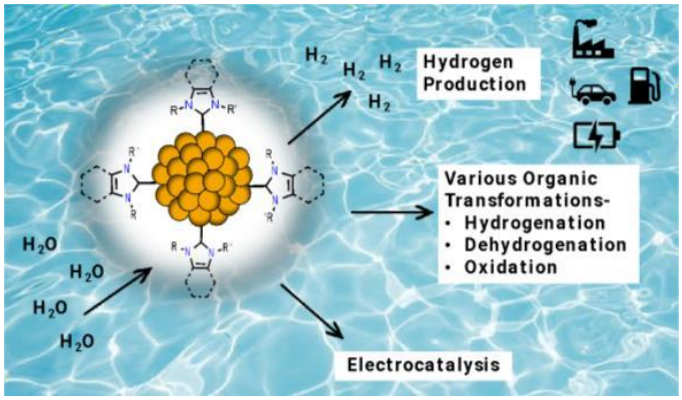
In addition to Generative AI for legal text models for question- answering, summarization, case retrieval, statute retrieval, and rhetorical role identification, among others, for multiple Indian languages and English are being created. Models aware of IKS (Indian Knowledge System) will also be built. More details are available at: https://bharatgen.tech.

Information Security Education and Awareness (ISEA) Project Phase-III, funded by the Ministry of Electronics and Information Technology

IIT Kanpur has undertaken several impactful initiatives under the Information Security Education and Awareness (ISEA) Project Phase-III, which aims to strengthen the national capabilities in hardware security. This year, a successful bootcamp titled "Hands-On FPGA-Based System Design & Side Channel Analysis", was organized for cyber-commandos to upskill them in addressing real-time cyber and hardware-based threats. A three-day Faculty Development Program (FDP) was conducted at Amrita Vishwa Vidyapeetham, covering advanced topics such as post-quantum cryptography, PUFs, acoustic side-channel attacks, and secure multiparty computation.

Through these initiatives, the project aims to build a strong foundation in cybersecurity and hardware security to equip the next generation of cyber defense professionals with the skills, knowledge, and practical experience required to safeguard critical digital infrastructure against evolving threats.

Hydrogen Production from Water Catalyzed by Functionalized N-heterocyclic carbene (NHC) stabilized Nanoparticles and beyond funded by the Department of Science & Technology

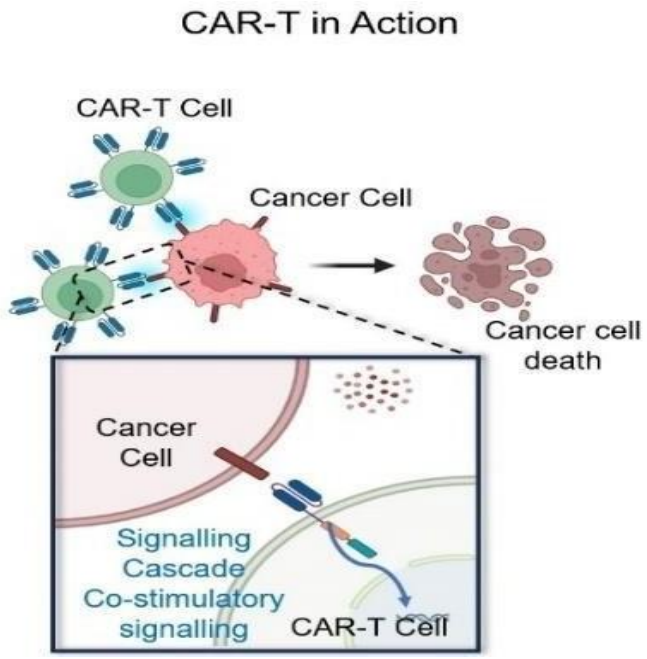


Hydrogen production is a preferred alternative to fossil fuels, with advantages as a clean energy carrier due to its ultra-light nature, storability, and the highest energy content per unit weight among common fuels. This project focuses on utilizing N-heterocyclic carbene (NHC)-stabilized metal nanoparticles as efficient catalysts, (tunable electronic properties, strong σ-donating ligands, and ability to prevent aggregation, robust metal-ligand interactions for hydrogen production. The appended Lewis acid or Lewis base NHC-metal carbenes facilitate hydrogen production by activating water on the surface of metal nanoparticles, thus enhancing catalytic efficiency improve hydrogen evolution reaction (HER) rates. This approach seeks to create more stable, cost-effective catalysts for sustainable hydrogen generation, addressing critical challenges in energy conversion and storage.

Switchable tandem CAR-T cells targeting tMUC1 and ROR1 for breast cancer immunotherapy funded by Indian Council of Medical Research

Triple-negative breast cancer (TNBC) is an aggressive subtype affecting up to one-third of Indian breast cancer patients. CAR-T cell therapy offers a promising immunotherapeutic strategy by harnessing tumor-specific targeting and enhanced T cell function to improve survival rates in TNBC.

The project aims to develop a proof of concept on the generation of bi-specific CAR-T cells combined with knockout of PD-1 immune checkpoint protein to overcome immune suppression of T cells in the tumor microenvironment and promote TNBC tumor killing and to incorporate the safety switch (suicide gene) RQR8 into our CAR molecule, which will allow for the selective removal of administered CAR- T cells in the event of toxicity.



COLLABORATIONS THROUGH MOU

IIT Kanpur has signed a technology transfer MoU with **Prompt Equipments Pvt. Ltd**., a leading dairy technology company, to market Lateral Flow Immunoassay Strip for the Detection of Mastitis in Bovines.

Startup Incubation and Innovation Centre, IIT Kanpur, has signed an MoU with **Canara Bank** with the aim to provide comprehensive support to entrepreneurs, including funding, promotion, and knowledge-sharing.

C3i Hub, IIT Kanpur launched the Cyber Security Vocational Program in collaboration with **Chhatrapati Shahu Ji Maharaj University, Kanpur (CSJMU)**, and Chhatrapati Shahu Ji Maharaj Innovation Foundation (CSJMIF), by signing an MoU at IIT Kanpur.

Mr. Bhadresh Shah, Founder and Managing Director of **AIA Engineering Limited** and distinguished alumnus (BT/MME/1974), has formalized a generous philanthropic contribution towards the construction of a new hostel tower in Hall of Residence-16, by signing an MoU with Prof. Manindra Agrawal, Director IIT Kanpur.

IIT Kanpur signed an MoU with the National Health Authority (NHA) in New Delhi in the presence of Union Health Secretary Shri Apurva Chandra. Under the Ayushman Bharat Digital Mission, this MoU aims to revolutionize artificial intelligence (AI) in health research with innovative data platforms.

In a significant development aimed at leveraging cutting-edge technology for societal benefits, IIT Kanpur and **Bhaskaracharya National Institute for Space Applications and Geo-informatics** (BISAGN), under the Ministry of Electronics & Information Technology, Government of India, have signed an MoU in New Delhi.

IIT Kanpur signed an MoU with the **Ministry of Statistics and Programme Implementation** to develop software for implementing seasonal adjustments for important economic indices like the consumer price index.

An MoU has been signed between the **University of Technology Sydney (UTS)** and IIT Kanpur to promote academic and research collaboration. This will include student and faculty exchanges and joint participation in international research projects.

An MoU has been signed with **Mars Antennas & RF Systems Pvt Ltd.** to collaborate on the design, development, fabrication, and testing of Smart Electric Vehicle Chargers and Smart Hybrid Inverters for Energy Storage System applications.

IIT Kanpur signed an MoU with the **Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India**, for the establishment of a Census Data Research Workstation at its Computer Centre.

R&D EVENTS

IInvenTiv-2025

IInvenTiv-2025, the third edition of the R&D Innovation Fair of Higher Education Institutes of India, was held at IIT Madras on 28th February and 1st March 2025. Dr. Sukanta Majumdar, the Hon'ble MoS for Education, formally inaugurated the event, highlighting the efforts towards technological self-reliance with the verarching theme of "One Earth, One Family, and One Future". 23 IITs, 31 NITs,7 IISERS, 6 IIITs, IISc, and the top 50 NIRF engineering institutes show- cased technologies under different themes such as AI/ML Technologies, Aviation, Defence & Space, Marine Technology, Medical/Healthcare Engineering, Rural Technology, Smart Cities & Infrastructure, Advanced Manufacturing (Industry 4.0+/5.0), and Circularity & Sustainability (Energy & E-mobility) from startups and academia.

IIT Kanpur showcased a shape-morphing quadcopter drone with a gripper, a contactless Automated Crack Extension Measurement (ACEM) system, and an auxiliary metal cutting retrofit assembly with advanced safety controls alongside innovativetechnologies from startups like ScaNxt (BhuParikshak), VU-Dynamics, Hacklab Solutions, H2Power Energy, and Simactricals Solutions.

PAN-IIT Global Technology Summit (PIWOT-25)

IIT Kanpur participated in the PIWOT-25, held in January 2025 at the Jio World Convention Centre, Mumbai. The institute showcased its C3i Center and innovations, including the Haptic Smartwatch for the Blind and Visually Impaired developed by Prof. Siddhartha Panda's team, and the Soil Sensing Device presented by Mr. Rajat Vardhan of ScanNXt Technologies, incubated at SIIC. The event featured participation from Prof. Manindra Agrawal, Director IIT Kanpur, Prof. Raja Angamuthu, Associate Dean of Research & Development IIT Kanpur, Prof. Siddhartha Panda, Ms. Swagat Bhandari, OSD, underscoring the institute's commitment to cutting-edge research and technologies.

IIT Kanpur's Tableau in "Amar Ujala" event

IIT Kanpur received Second Prize in the "Best Tableau Design" competition organized by Kanpur Nagar Nigam and Amar Ujala as a part of the Independence Day Celebrations. The winning tableau showcased innovative technologies of four start-ups, Lenek Technologies Medantrik, xTerra Robotics, and Endure Air Systems, which were incubated at SIIC IIT Kanpur.

RESEARCH INFRASTRUCTURE

Electrical Safety Test Facility

A cutting-edge EMI/EMC and Electrical Safety Test Facility, funded by BIRAC, has been inaugurated at IIT Kanpur to address the region's limited testing infrastructure. It is fully equipped to conduct both pre-compliance and compliance testing, following internationally recognized standards such as IEC 60601-1, IEC 60601-1-2, IEC 61000-4-3, IEC 61000-4-6, IEC 61010-1, CISPR 11, CISPR 14, CISPR 15, CISPR 32, and CISPR 35.

This facility will provide affordable and high-quality testing solutions to industries and start-ups, ensuring the development of safe and reliable electronic and medical devices that meet global safety and performance standards. This initiative will not only enhance India's testing infrastructure for electrical and medical devices but also strengthen its dominance in the rapidly expanding MedTech sector.

Jeet Bindra PG Research Lab

The Jeet Bindra PG Research Lab at the Department of Chemical Engineering was inaugurated with the help of a generous support grant from our esteemed alumnus, Mr. Jagjeet Singh Bindra (BT/CHE/1969). The state-of-the-art facility is dedicated to advancing postgraduate research in Chemical Engineering. This lab marks a significant milestone in our commitment to providing students with world-class resources and a collaborative environment for pioneering research.

National Cryo-EM Facility

The National Cryo-EM Facility at IIT Kanpur was inaugurated by Prof. Abhay Karandikar, Secretary of the Department of Science and Technology, Government of India. Established with the support of the Science and Engineering Research Board (SERB), now a part of Anusandhan National Research Foundation (ANRF), this state-of-the-art will utilize the Cryo-Electron Microscopy (Cryo-EM). This revolutionary technology enables the visualization of biological molecules, such as proteins and viruses, in their near-native states with remarkable resolution. As one of the four such high-end facilities strategically located across India, the facility, with its cutting-edge technology, will help in research on Structural and Chemical Biology, particularly in studies involving membrane proteins, drug discovery, and drug target identification with significant implications for addressing challenges related to neurodegenerative disorders and developing solutions for cancer.

NEW INITIATIVES

SAHAJ Centre for Bio-Sensing Technologies, funded by the Department of Biotechnology

The Department of Biotechnology has funded a project at IIT Kanpur's Centre for Nanosciences under the SAHAJ program to provide cutting-edge research solutions to develop strategies for the Point of Care (POC) biosensors. This project aims to establish a comprehensive biosensor platform to develop biosensor prototypes and their translation from research to market. In addition, this initiative also aims to establish state-of-the-art resources across the country and to create skilled manpower in this emerging field.

Centre of Excellence in Specialty Chemicals, funded by the Ministry of Chemicals and Fertilizers

Specialty chemicals, such as surfactants and polymeric coatings, are vital for applications in-home care, agrochemicals, and CO_2 sequestration. The Indian surfactant industry relies heavily on imported advanced specialty surfactants, making it vulnerable to global market

changes. To tackle these issues, the Department of Chemicals and Petrochemicals, under the Ministry of Chemicals and Fertilizers, has established a Centre of Excellence (CoE) for specialty chemicals, the first of its kind, at IIT Kanpur. The CoE aims to connect industry and academia to address the sector's needs, develop green and innovative surfactants with local production methods, create Digital Twin platforms for advanced surfactant design, and conduct fundamental and applied research on specialty chemicals.

Centre of Excellence in Antimicrobial Resistance, funded by the Department of Science & Technology

The Centre of Excellence in Antimicrobial Resistance will investigate multipronged approaches focused on "Leads to Pre-Clinical Studies", with machine learning aiding the development of new drug-like entities, antibiotic formulation, and controlled antibiotic delivery, drug-resistant gram-negative and gram-positive pathogen microbiology, including a sharp focus on host-derived targets and therapies, and diagnostics and development of POC (microfluidic) devices for automated detection and pathogen quantification in clinical settings.

Centre of Excellence for BioFuels, funded by the National Sugar Institute (NSI)

IIT Kanpur signed an MoU with the National Sugar Institute (NSI) to create a Centre of Excellence for Biofuels at NSI Kanpur to boost biofuel production from biomass, focusing on ethanol, methanol, Bio-CNG, Aviation Fuel, and Green Hydrogen.

Centre of Excellence in Point of Care Diagnosis Facility funded by Gangwal School of Medical Sciences and Technology (GSMST), Indian Council of Medical Research, and Department of Science and Technology

This facility has been established at the Mehta Family Centre for Engineering in Medicine with support from the seed grant obtained from GSMST and partial financial support from ICMR and DST, GoI. The facility is co-coordinated by interdisciplinary departments of IIT Kanpur, clinical collaborators from SGPGI, Lucknow, and industrial collaborators from eSniff Technologies.

It is an electrochemical biosensing chip fabrication and testing facility that houses platforms and instruments for fabricating and evaluating the efficiency of electrochemical biosensing chips using non-invasively collected biofluids. It has instruments such as electrometers, femtoamp remote sourcemeter and digital multimeters, and a portable read-out unit. Centre has already generated biosensing platforms such as CoRAPS, SP^2-sensor, C-Sensor, T-Sensor, and readout units like PRuCSor (Portable readout unit for Chemiresistive Sensor), a portable handheld, battery-operated device of ~180 g weight with dimensions <10 cm and resolution of 50.3 µV best suited for remote site sensing in rural settings. The center's facilities are available to members of IIT Kanpur and industries on the basis of suitable user charges.

INNOVATION AND INCUBATION

IIT Kanpur has filed for 156 IPRs in the financial year 2024-25, setting a new record for the highest IPRs filed by the institute in a single year. This remarkable achievement highlights the institute's dedication to pioneering research and marks the fourth consecutive year of surpassing its milestones in IPR filings.

Among the 156 IPRs filed, the different prospects include 123 Indian patents, 15 design registrations, 2 copyrights, and 6 trademark applications, along with 6 US, 1 Taiwan, 1 China, 1 Malaysian, and 1 European patent. A total of 148 IPRs have been granted in the financial year 2024-25, and 6 technologies have been licensed.

IIT Kanpur has not only achieved the consecutive milestone of filing a century of patents in a financial year but has also reached a total of 1240 Intellectual Property Rights (IPRs) over time. The exceptional licensing rate of around 12.33 % to date, out of which 871 have been granted so far, along with 153 technologies licensed for commercialization, bear testimony to the flourishing and dynamic R&D ecosystem of the Institute.

TECHNOLOGIES LICENSED (2024-25)

Technology Transfer to Prompt Equipments Pvt. Ltd., a dairy tech company

A technology titled "*Lateral Flow Immunoassay Strip and Method for Detection of Mastitis in Bovines*" helpful in the area of animal health developed by Prof. Siddhartha Panda (ChE & NCFlexE) and Dr. Satyendra Kumar (Sr. Proj. Scientist, SCDT) at the National Centre for Flexible Electronics (NCFlexE) at IIT Kanpur, has been licensed to "Prompt Equipments Pvt. Ltd", a leading dairy tech company having its business in 70,000+ villages across the country. The Indian Patent Office has granted the technology an Indian Patent no. 455232.

A Convertible School Bag, Re-licensed to PROSOC Innovators Pvt. Ltd.

IIT Kanpur has re-licensed the technology titled "*School Bag Convertible to Study Table*", having Design Registration No. 287945, to Prosoc Innovators Pvt. Ltd. The novel school bag is developed by Mr. Eshan Sadasivan (DP), Prof. Shantanu Bhattacharya (ME), Prof. Mainak Das (BSBE), Mr. Toshib Bagde (DP), Mr. Abhinav Basak (DP) at IIT Kanpur. This unique invention integrates a foldable, height-adjustable study table within a school bag. Already benefiting over 3,50,000 students across 19 Indian states, DESKIT has received support from

numerous government bodies, corporates, and NGOs and has partners including the governments of J&K and Telangana, CSR partners like Wells Fargo, ONGC, and Aditya Birla, and NGO collaborators such as United Way, JSPL Foundation, and Diya India. By re-licensing this innovation to PROSOC, IIT Kanpur continues to champion accessible, design-led solutions that make quality education more inclusive and equitable.

Technology Transfer of a non-invasive, Oral Cancer Detection Device

The unique technology, "*Munh Parikshak*", invented by Prof. Jayant Kumar Singh and his team from the Department of Chemical Engineering, IIT Kanpur, is a portable device for detecting oral cancer. The technology is protected by Indian Patent Application No. 202411015420. The technology has been licensed to Scangenie Scientific Pvt. Ltd. It uses special lights and a camera to examine the mouth. It provides instant results by analyzing mouth images and categorizing them as normal, pre-cancerous, or cancerous. The results are displayed on a smartphone app and stored on cloud servers for continuous updates, making it ideal for self-testing.

Transfer of the 'Soil Nutrient Sensing Device' to ScaNxt Scientific Technologies Pvt. Ltd., aiming to take this Made-in-Bharat innovation to global markets.

IIT Kanpur has licensed its innovative "Soil Nutrient Sensing Device" to ScaNxt Scientific Technologies Pvt. Ltd. Developed by Prof. Jayant Kumar Singh and his team from the Department of Chemical Engineering, this patent-pending technology (Indian Patent Application No. (02311039511) offers a pocket-sized, smartphone-compatible tool for real-time soil nutrient analysis. Designed for portability and ease of use, the device can assess multiple soil parameters simultaneously, storing data on a cloud server with a single charge supporting up to 250 tests. ScaNxt plans to introduce this Made-in-Bharat innovation internationally, aiming to empower farmers globally. Additionally, a joint MoU between IIT Kanpur & ScaNxt Scientific Technologies Pvt Ltd. was signed to foster collaborative research on advanced soil testing technologies, focusing on integrating micro and secondary nutrient analysis into ScaNxt's BhuParikshak device using NIR Spectroscopy, IoT, and AI/ML.

Trademark licensed to Alcraftist

For the first time in the history of IIT Kanpur, a trademark bearing the IIT Kanpur logo (Registered Trademark No. 3555542, Class 16) has been licensed to a company named Alcraftist.

AWARDS

IIT Kanpur bags National Intellectual Property Award 2024

IIT Kanpur, breaking the records in patent filing, has secured a position of honor with the prestigious “National Intellectual Property (IP) Award 2024 for Indian Academic Institution - Patents”. The award ceremony took place at Bharat Mandapam, New Delhi, on 26th March 2025.

PRODUCT LAUNCH

IIT Kanpur launches Analakṣhya, a revolutionary metamaterial cloaking system licensed to Meta Tattva Systems Pvt. Ltd.

‘Analakshya’, a stealth technology introduced in a public launch event on 26th Nov 2024, has been collaboratively developed and licensed to an industry partner, Meta Tattva Systems Pvt. Ltd., with an aim to transform defense systems worldwide. The technology based on textile metamaterials has primary applications in military aircraft, ships, and missiles, which act as a shield using absorbing layers to cover & make an object invisible to opponents. By offering near-perfect wave absorption across a broad spectrum, Analakṣhya MSCS significantly enhances the ability to counter Synthetic Aperture Radar (SAR) imaging and will also give adequate protection from missiles that use radar guidance. Tailored for modern warfare, this cutting-edge innovation strengthens operational capabilities, providing India’s armed forces with advanced tools to maintain strategic superiority and ensure national security. Its advanced design is tailored for operational imperatives, making it a crucial asset in modern warfare and surveillance.

IIT Kanpur Launches Phase-Change Material-Based Thermal Management System, Empowering Cold Chain Logistics and Local Vendors

IIT Kanpur is proud to announce that one of its latest technologies, a Phase Change Material-Based Thermal Management System, has been launched as a product in the market.

Prof. Sri Sivakumar has developed the novel technology with IPA No. 202511003401 from the Department of Chemical Engineering, IIT Kanpur. This PCM-based thermal management system was unveiled at Abhivyakti'25, an event held on 17th January 2025 at IIT Kanpur. This innovative technology is designed to ensure energy efficiency and sustainability by offering higher thermal conductivity and energy storage density, making it ideal for applications such as ice cream storage, food preservation, and refrigeration.

STARTUP INCUBATION & INNOVATION CENTRE IIT KANPUR

EVENTS AND PROGRAMS

SIIC IIT Kanpur executed a broad spectrum of strategic and capacity-building activities and events during FY 2024–25. These efforts, spanning acceleration programs, international collaborations, innovation showcases, and policy dialogues, collectively advanced India's startup ecosystem and enhanced SIIC’s impact at national and global levels.

- AIIDE CoE Investor Connect Program (May 30th, 2024, Noida): Hosted investor sessions for AI/ML startups under the third cohort, enabling strategic investments and reinforcing the AIIDE CoE’s five-year vision.
- Launch of UDAAN – Drone Acceleration Program (May 31st, 2024): Drone Acceleration Program (May 31st, 2024): Initiated in collaboration with the Drone

Federation of India, UDAAN supports UAV startups through mentorship, advanced labs, and government support.

- Biotechnology Industrial Training Program (May 14th – June 4th, 2024): Hands-on biotechnology exposure for Fergusson College students, including lab training, DNA analysis, and interaction with SIIC startups.
- Healthcare Innovation Program – Clinical Immersion (June 10th, 2024): Fellows explored clinical challenges at Sree Chitra Tirunal Institute, developing prototypes for improved healthcare delivery.
- India at ASEAN Scale Hub 2024 (July 3rd–5th, 2024, Bali): Forty startups represented India in Bali, building ties with the ASEAN industry.
- Leadership Dialogue with Chief Secretary, GoUP (July 24th, 2024): The Director, IIT Kanpur, met the Chief Secretary to discuss sustainable development and institutional partnerships.
- Indo-Korean Startup Knowledge Exchange (July 30th, 2024): Facilitated a dialogue between Indian and Korean startups on IP frameworks and market access strategies.
- SIIC at Global Bio-India 2024: Networking and showcase of Biotech innovations.
- UP International Trade Show (September 25th, 2024): SIIC startups, including EndureAir and Gudhgrams, gained recognition from top government officials.
- CAD Design Workshop for MedTech Startups (September 26th, 2024): Equipped startups with design and prototyping skills using AutoDesk Inventor.
- India Mobile Congress 2024 (October 15th–18th, 2024): Seven SIIC-backed startups showcased IoT and AI technologies, attracting investor attention.
- 65th Foundation Day–Defence Startup Showcase (November 2nd, 2024): 23 startups demonstrated innovations in defence tech; DRDO project sanction letters were distributed.
- CITI Social Innovation Lab 2.0 Workshop (November 11th– 13th, 2024): Supported 75 cleantech and agritech startups with deep tech sessions and commercialization strategy.
- Healthcare Symposium with La Trobe University (November 19th, 2024): Promoted Indo-Australian collaboration and showcased Medantrik's healthcare innovations.
- ASEAN-India Startup Festival (November 28th–30th, 2024): Engaged 100+ startups in pitch contests and cross-border networking.
- FICCI FLO Women Entrepreneurs Visit (December 2024): 30 women entrepreneurs interacted with founders and explored SIIC's inclusive ecosystem.
- National Startup Day Webinar on Equity Sharing (January 2025): Dr. Avijit Bansal provided practical guidance on equity distribution for founders.
- Abhivyakti 2025–Flagship Innovation Festival (January 17th–19th, 2025): 100+ startups participated in demos and panels celebrating emerging innovations.
- Startup Gateway for Garbage-Free Cities – Cohort 2: Onboarded 38 waste management startups in partnership with MoHUA for sustainable city development.
- Mahakumbh 2025 Security Review (360° Review): Prof. Deepu Philip led disaster readiness efforts for the Mahakumbh event.
- AIIDE CoE Visit by Shri Anurag Yadav: Principal Secretary, GoUP, reviewed AI startup innovations, emphasizing state support.
- Skill Development Programs for MSMEs (Feb–Mar 2025): Trained 250+ stakeholders in legal, agri-tech, and sustainable enterprise development.
- Launch of AIIDE CoE Cohort-4 (February 2025): Expanded the AI/ML startup pipeline with institutions across India.
- Drone Capability Assessment Workshop (February 24th– 25th, 2025): National experts discussed UAV advancements and policy during a strategic workshop with MP- IDSA.
- Launch of AMRIT – Pharma Innovation Initiative (February 27th, 2025): Joint effort with NIPER and Boehringer Ingelheim to translate pharma research into ventures.
- Lab-to-Market Webinar – National Science Day (February 28th, 2025): Highlighted how startups at SIIC convert academic research into viable commercial products.

INCUBATOR HIGHLIGHTS

- Expansion of AIIDE CoE with Cohorts 3 & 4 and state government engagement
- Launch of UDAAN for UAV/Drone startups
- Continued support to Healthcare Innovation, Cleantech, AgriTech, and Women-led startups: SIIC nurtured startups in high-impact sectors, including partnerships through CITI Lab and initiatives promoting gender inclusion.

- Collaborations with La Trobe University, Drone Federation of India, NIPER, and MoHUA.
- The second cohort of the Startup Gateway for Garbage Free Cities program launched & collaborated to support 38 sustainability-oriented startups.
- Robust participation in national/international events (ASEAN, Shark Tank, IMC, etc.)
- Successfully hosted a Capability Assessment Workshop on Drones and Autonomous Systems in collaboration with MP-IDSA, bringing together key stakeholders from the Government of Uttar Pradesh, CSIR-NAL, DGCA, NAQAS, DGQA, ADB, the Air Force, Army, Navy, MHA, DACIDS, ADE, BSF, DRDO, and various drone-tech startups, to position IIT Kanpur as India's premier integrated drone technology hub.
- Sectoral focus in MedTech, Defence, Drones, Agri-Tech, and Cleantech: Dedicated programs, funding access, and technical support ensured tailored growth for startups in emerging sectors.

STARTUP SUCCESS STORIES AT SIIC, IIT KANPUR

- LCB Fertilizers launched an organic fertilizer unit in Madhya Pradesh, partnering with FPOs in Uttar Pradesh and collaborating with ICAR-IIPR on bio-decomposers, biofertilizers, and nano-technology. The company showcased its innovations at the Amar Ujala Krishika Expo 2024, earning praise from dignitaries, including the Chief Minister of Uttar Pradesh and the Principal Scientific Adviser to the Government of India.
- Royal Bengal Greentech secured a ₹2 crore deal for 10% equity on Shark Tank India Season 4, backed by four investors, for their patented BhavisyaPlast—100% biodegradable plastic made from agri-waste—and the GREEZY range of eco-friendly, petroleum-free lubricants. They signed an NDA with Berger Paints India to explore bio-plastic emulsion paints and supplied GREEZY lubricants for development. Their innovations earned them the second runner-up position at the Grand Idea Hunt by Maruti Suzuki and IIM Calcutta.
- Primary Healthtech successfully organized a Safexpress- sponsored health camp from August 5th to 12th, screening 382 individuals and conducting 5,730 tests.
- Life and Limb, a startup developing advanced prosthetics, received funding from Portescap India to make their state- of-the-art prosthetic hands accessible globally.
- Apeiro Energy emerged as one of the five winners of AVINYA'25 – The Energy Startup Challenge, was recognized by Gujarat's Chief Minister as an emerging renewable energy player, and was featured in Renewable Watch Magazine for its innovative 10 kW iWind Hygrid microgrid powering a village near Mumbai.
- Chimertech, an agri-tech startup, partnered with Milky Mist Dairy to launch "Quadmastest," a reagent-free device for early mastitis detection and successfully secured an investment of ₹1.25 crore on Vijay Television's Startup Singam.
- Medantrik Medtech organized a free health camp on World Asthma Day (7th May) for IIT Kanpur campus residents in collaboration with GSVM and Kcare Hospital.
- Treacle Technologies secured Rs 4 crore in pre-seed funding led by Inflection Point Ventures.
- Aereo raised $15 million in its Series B funding round led by 360 ONE Asset, with participation from Startup Xseed Ventures and Navam Capital.
- Brela Innovation secured first place in both the Medtech Open Challenge Program (OCP) and the TiE Women Global Pitch Competition.
- Gudhgrams won the Agritech Vendor of the Year award at the ASEAN India Scale Hub 2024.
- Mild Cares, on World Menstrual Hygiene Day, made Aminabad, Uttar Pradesh's first "sanitary pad-free village" by distributing GynoCup menstrual cups.
- Genomiki Solutions was awarded the title of Emerging Precision Medicine Startup of the Year at the Precision Med India Awards on 31st March 2025.
- Paving+ won the Best 60-second pitch for transforming waste into high-quality construction materials. Additionally, this startup also won the Sustainability Vendor Award for its commitment to sustainable practices.
- ScaNxt Technologies licensed a novel soil nutrient sensing device from IIT Kanpur, enabling real-time, chemical-free soil analysis via smartphone. Selected under Operation Dronagiri, part of the National Geospatial Policy 2022, the startup is driving impactful advancements in agriculture through geospatial technology.
- F2DF, a pioneering agritech startup featured on Shark Tank India, was selected for the third cohort of the Citi India–IIT Kanpur Social Innovation Lab
- CodeMate® AI, in collaboration with Qualcomm, showcased AI-assisted programming at the Snapdragon X India Launch, enabling offline natural language coding on Snap- dragon X Series AI PCs—demonstrating seamless, lag- free development powered by 45 TOPS built-in NPU support.

- Dream Aerospace raised ₹3 crore in pre-seed funding from Inflection Point Ventures and won the 1st Special Award at TiE Global Summit 2024, along with a cash prize of ₹1 Lakh.
- MooRakshak BioSciences earned prestigious accolades at both national and international competitions. Recognized by organizations such as CII, Tata Social Enterprise Challenge, GITEX Global, MeitY, IIM Visakhapatnam, Low Car- bon Earth Accelerator, Headstart, and BIRAC.
- RF Nanocomposites has successfully raised ₹6 crores to develop stealth and EMI shielding composite materials for India's defense and industrial sectors.
- Ensect Farm has secured a prize of INR 2 lakhs at Eureka! 2024, the flagship business model competition of IIT Bombay.
- Devnullx Technologies was selected for Startup Nexus Cohort #20, a prestigious program by the U.S. Embassy in New Delhi, running from February 3rd to April 4th, 2025.
- OpenSpectrum AI successfully launched its smart farming solution, AgroTrace, in Palla Village, Delhi. The device monitored key soil health parameters and optimized water and nutrient use, leading to notable yield improvements.
- Simactricals completed the PoC handover of their Wireless EV Charger to Toyota Tsusho India Pvt. Ltd., Gurgaon.
- Airth, a climate tech startup supported by SIIC and IIT Kanpur, secured funding on Shark Tank India from Aman Gupta and Vinita Singh for its innovative AC filters that significantly enhance indoor air quality.
- Terraqua UAV Solutions Terraqua UAV Solutions, selected under Operation Dronagiri, launched a flood disaster response initiative in Kanpur with support from NTT DATA's CSR program.
- KAFFA KUWWA INNOVATIONS won the "Best Product & Stall" award at StartUp Expo 2024, sponsored by NABARD.
- Arc Robotics is part of UNICEF's "Summit of Our Future" campaign.
- NadiPulse Prognostics signed an MoU with AIIA, New Delhi, under the ICAINE (Incubation Centre for Ayurveda Innovation and Entrepreneurship) for the clinical validation of our Nadi Parikshan equipment, nPulse, on the 5th of July 2024.
- Pacing Grass secured first place in the SIDBI Cluster Intervention Program under the Indo-Israel Agritech Co-Incubation Program.
- Agronxt participated in the "Impact Harvest Forum" at the United Nations Conference Centre (UNCC) in Bangkok, Thailand.
- Deep Algorithms Solutions was awarded a patent for its innovative System, Method, and Device for Continuous User Authentication and Verification.
- Water and Spices, registered as e-Panipuri Kartz, successfully obtained a patent for their state-of-the-art technology, the "Automatic Panipuri Flavour Dispensing Machine.
- Aerosys Aviation was awarded a certificate by the Directorate General of Civil Aviation, Government of India, for the design, specification, construction, and performance of their unmanned aircraft system 'Vedansh'.
- Grid-India Power System Award (GIPSA) was awarded to exceptional research in the power systems sector to Doctoral and Master's students facilitated by SIIC-IIT Kanpur.
- Cybersecurity Startups - SIIC, IIT Kanpur, and C3i Hub launched products from six innovative cybersecurity startups—SecureDApp, Hommi, Level 7 Infosec Pvt. Ltd., Cyber Chakra Technology, Ansh Tech Labs, and xIoTz Private Limited—at the Conference on Emerging Trends in Cybersecurity.
- Genesis scheme SIIC joined the GENESIS scheme by the MeiTy to boost startup innovation in Tier 2 and Tier 3 cities across Uttar Pradesh.
- YourNest Venture Capital, incubated at IIT Kanpur's Noida Extension Centre, launched the deep tech accelerator program in collaboration with SanchiConnect and SIIC IITK as an ecosystem partner.
- IIT Kanpur's BFI-Biome Cohort, in collaboration with Blockchain for Impact, announced its inaugural awardees recognizing significant advancements in medical technologies.
- VU-Dynamics and Cyethack Solutions were pivotal in addressing key challenges at Prayagraj Maha Kumbh 2025.
- Ekarigiri (Krishi Mandi) and Stillsweb were selected under Operation Dronagiri, part of the National Geospatial Policy 2022.

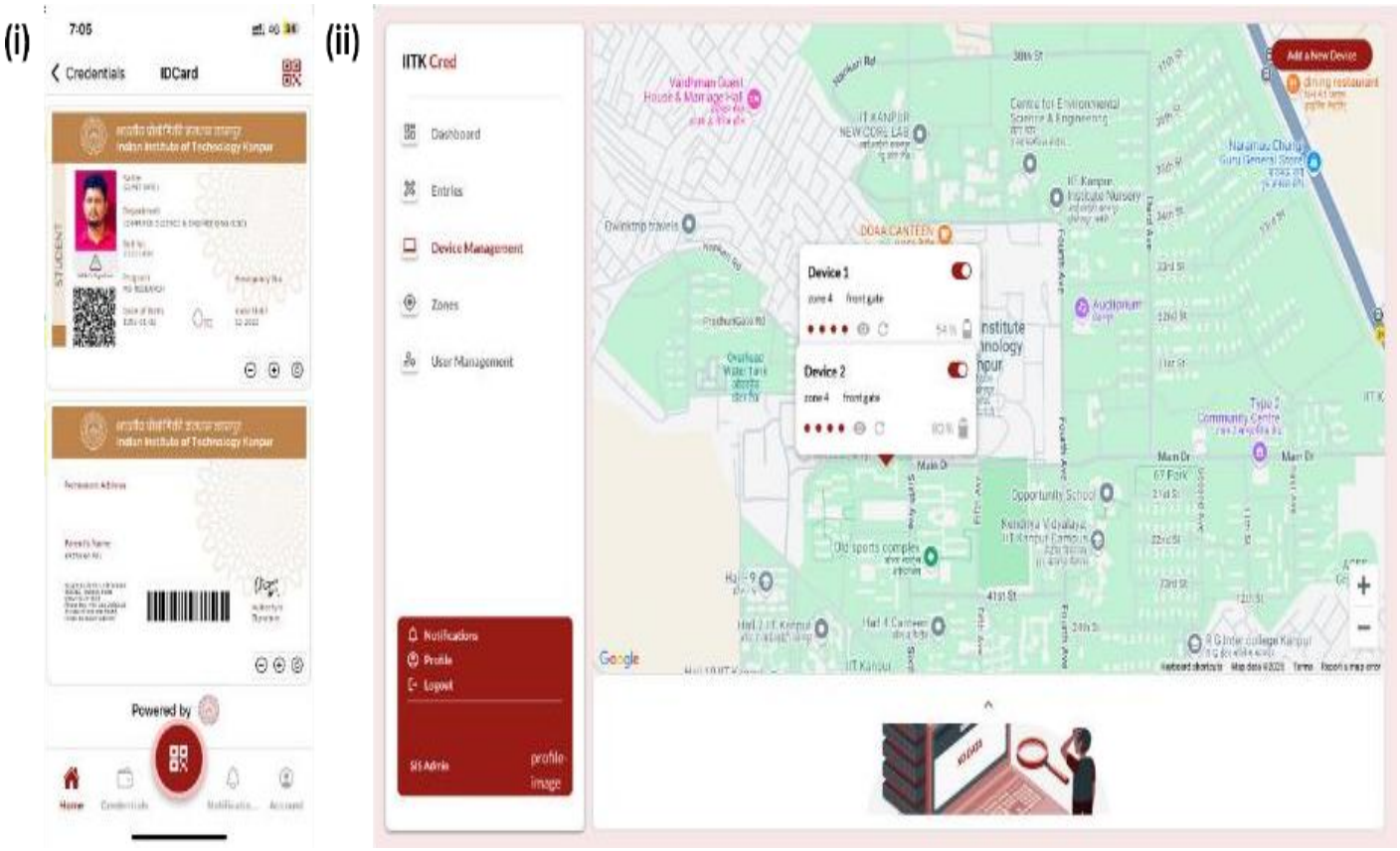
C3i HUB

C3iHub (Cybersecurity and Cybersecurity for Cyber-Physical Systems Innovation Hub) is a Technology Innovation Hub established at IIT Kanpur in 2020, funded by the Department of Science and Technology, Government of India, under the National Mission of Interdisciplinary Cyber-Physical Systems.

This year has been a tremendous year for C3iHub, as it has achieved upgradation to Technology Translation Research Park (TTRP) by the Department of Science & Technology, GoI. As TTRP, C3iHub will focus on the advancement of cybersecurity technologies in emerging risk areas and promote deep-tech start-ups while facilitating strong industry-academia partner- ships.

In the past year, C3iHub has secured a prestigious order for installing the IT-OT Security Operations Centre (SOC) at Bhilai Steel Plant, SAIL, and a centralized SOC at the Indian Ports Association (IPA) for monitoring major Indian Ports. C3iHub piloted sector agnostic Cyber Security Capability Maturity Model (CSCMM) with NCIIPC at different critical sector organizations across India throughout the year, paving the stage for the launch of the model. C3iHub is also developing automated tools for maturity level assessment.

C3iHub has deployed Blockchain SSI (Self-Sovereign Identity) based Employee ID Cards and Entry-Exit Management System for IIT Kanpur. This innovative system enables seamless entry of students and employees into hall premises and research laboratories without requiring physical ID cards.



i) SSI Employee ID card, and (ii) SSI Credentials-based entry-exit system deployed at IIT Kanpur Campus

Additionally, C3iHub-developed SSI Airworthiness Certification for Centre for Military Airworthiness & Certification (CEMILAC), which was launched in March 2025, is empowering regulators, manufacturers, and airlines to access real-time verifiable certificates securely, leading to efficient aviation management.

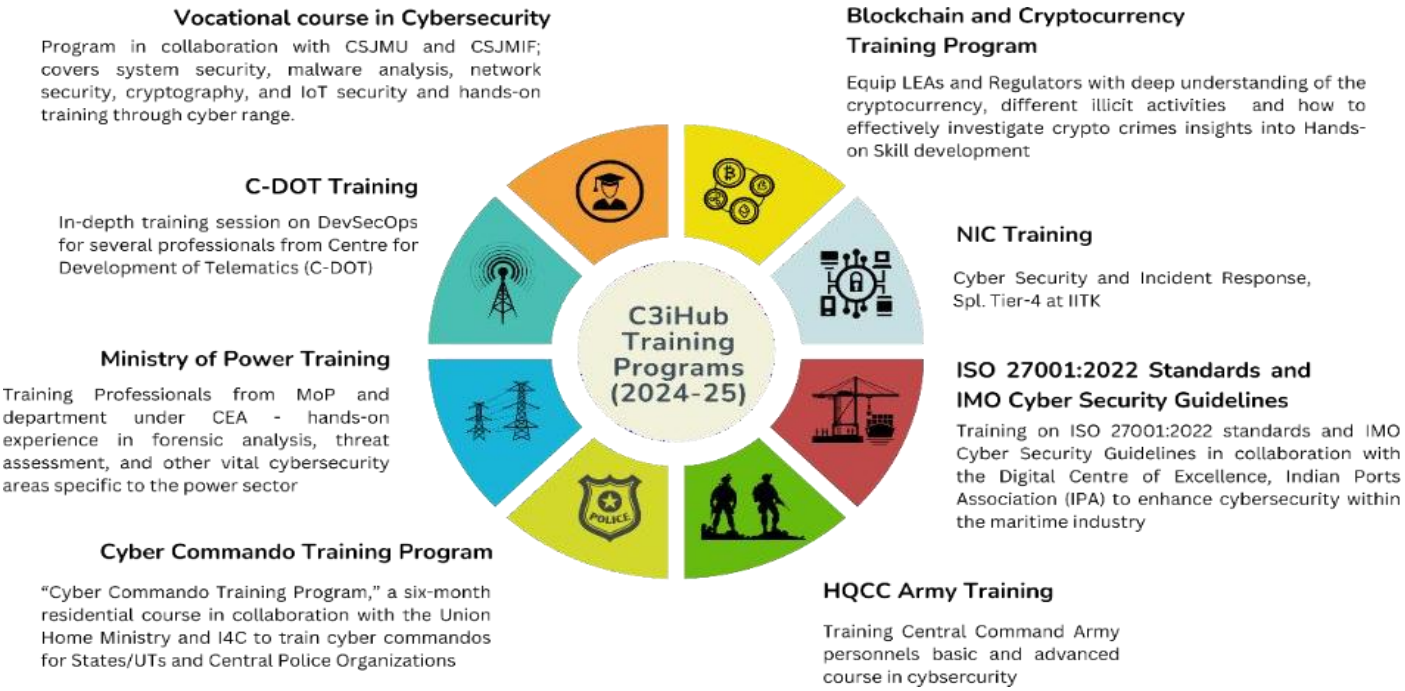
Two technology inventions have been granted patents: System for Extracting Malware Capabilities and Method Thereof (Patent No. 563203, 2025) and System and Method for Cybersecurity Risk Management (Patent No. 564763, 2025).

In the past year, C3iHub has provided cybersecurity audit services to industries of diversified sectors, including IPA, Sud Life Insurance, BIT Mesra Institute, Bhilai Steel Plant, Headquarters Central Command, Lucknow, etc.

C3iHub organized an international conference on emerging trends in cybersecurity (CCETC 2024) at IIT Kanpur from October 22nd to 25th, 2024. This aimed to foster in-depth discussions on emerging cybersecurity trends and threats while exploring innovative solutions and protection strategies for real-world security incidents. The conference focused on four key domains: Electronic Warfare, Post-Quantum Cryptography, Supply Chain Security, and Advanced Persistent Threats. This event featured distinguished keynote speakers from George Mason University, MITRE Corporation, and New York University.

Six start-ups launched products during this conference: Strotapanga by Ansh Tech Labs, Chakra Imager by Cyber Chakra, AccuRecon Module by Level 7 InfoSec, SecureWatch by SecureDApp, Smart Home Ecosystem by Hommi Technovation, Cloud Security Posture Management by xIoTz.

C3iHub has organized several training initiatives throughout the year 2024 - 2025 in online as well as offline mode. Several important training programs are mentioned in the schematic.



C3iHub organized a cybersecurity hackathon from December 2024 to February 2025 for awareness among youth. The hackathon enabled students across India to demonstrate their skills and innovative solutions against the real-world cybersecurity challenges designed by C3iHub researchers & start-ups. The solution track opened for UG/PG students focused on IT Security, Cybercrime Investigation, and Web3 Security, whereas the Start-up Track, open for aspiring entrepreneurs, focused on areas of IT Security, Web3 Security, Mobile Security, Privileged Access Management, Automotive Security, Security of AI-ML, and Cybercrime Investigation. Over 7,000 registrations were received, and 201 finalists from 54 teams in the Solution Track and 11 shortlisted start-ups in the Start-up

Track finally competed for the winning prizes. The grand finale of the Cybersecurity Hackathon was organized by C3iHub from February 16 to 18, 2025, at IIT Kanpur. It was sponsored & partnered by eminent organizations, e.g., BEL, SBI, AWS, Siemens, L&T Technology Services, etc. The HACK IIT Kanpur Cyber Security Hackathon, organized by C3iHub, inspired students to tackle cybersecurity risks and invent solutions to mitigate those.

IIT KANPUR RESEARCH AND TECHNOLOGY PARK FOUNDATION

Technopark@IIT Kanpur, since its inception in 2019, has actively engaged with a broad spectrum of enterprises across diverse sectors and leading industry bodies. Simultaneously, it has cultivated strong ties with internal stakeholders—faculty, researchers, students, and institutional R&D groups—enabling companies to align their innovation strategies with cutting-edge academic research.

The year 2024-25 was a milestone for Technopark@IIT Kanpur as it shifted its operations to its new Phase 1 facility located within the IIT Kanpur campus. The state-of-the-art facility is spread over two and a half lakh square feet of space and is solely dedicated to driving transformative partnerships, enabling research translation, and building a future-ready industrial landscape rooted in academic excellence. The facility currently houses R&D centers of 23 companies - 15 fully operational and 7 in the setting up stages.

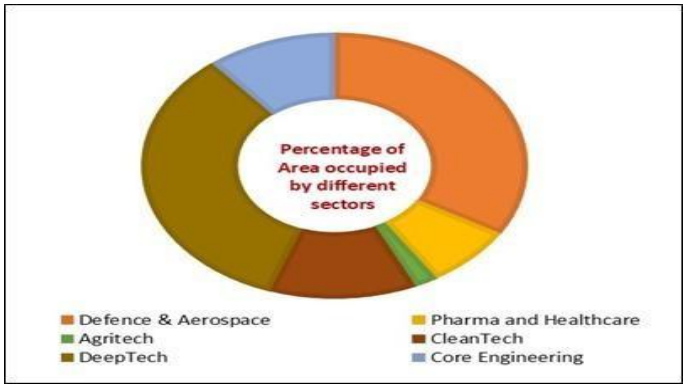
HIGHLIGHTS 2024-25

Portfolio Growth

- The trend highlights growing interest from Kanpur-based and outstation industries to co-locate at Technopark@IIT Kanpur to harness IIT Kanpur's research expertise. Of the 25 current member companies, 10 joined in 2024–25; based on the nature of the engagement model, the companies are categorized into Innovators (I) (residential), Pioneers (P) (virtual), and Enablers (E) (CoEs/Testing Labs.).
- **AVPL International (I)** is a global leader pioneering the future of agriculture with innovative drone technology, comprehensive training, and fostering entrepreneurship. The company has set up its R&D office (1680 sq. ft.) in Technopark@IIT Kanpur to conduct collaborative research on Drone Communication Systems and SWARM Drone Technologies for agricultural applications.
- **RMV Group of Companies (I)** is the first Kanpur-based resident partner of Technopark@IIT Kanpur, working in high-end manufacturing in defence, firearms, and automotive technology. Three of the RMV Group Companies (Capital Airgun Manufacturing, RMV Machines and Tools Industry, and RVB Shorlube) will have their presence in Technopark@IIT Kanpur (2898 sq. ft.) and establish a NABL- certified laboratory to meet the material testing requirements of both researchers and industry stakeholders.
- **Invariance Automation (I)** is developing AI- and ML-integrated high-precision machinery for SMT manufacturing. Initially incubated at IIT Kanpur, the company is now advancing to Technopark@IIT Kanpur for the next phase of its growth by setting up a cutting-edge R&D center (1620 sq. ft.).
- **Axiot Informatics (I),** through its R&D presence in Technopark (285 sq. ft.), the company plans to initiate collaborations in embedded systems, motor controllers, railway sensors & isolators, & clean energy.
- **Treacle Technologies (I)** is working in the areas of deception technology, active defence, detection of ransomware, APTs & active hackers in the network at the earliest stage post-intrusion and early warning system of the network.
- **DREAM Aerospace (I)** is collaborating with IIT Kanpur to develop clean and efficient propulsion methods and state- of-the-art testing facilities to ensure optimal performance under real and simulated space conditions.
- **Lenek Technologies (I)** is developing an AI-enabled handheld X-ray imaging system for Tuberculosis detection. The project is a collaboration between the Indian Council of Medical Research (ICMR) and IIT Kanpur.
- **Airawat Research Foundation (E)** is a Centre of Excellence in Artificial Intelligence for Sustainable Cities initiated by the Ministry of Education under the mission 'Make AI in India, Make AI work for India' by the Ministry of Housing and Urban Affairs, GoI. The center is focused on developing AI-driven technologies for air quality, urban mobility, flood forecasting, critical infrastructure monitoring, and energy optimization.
- **NMTronics Centre of Excellence for Electronics Manufacturing and Skills Development (E)** is planned in Technopark@IIT Kanpur to facilitate development in semiconductor technologies, embedded systems, Internet of Things (IoT), and Artificial Intelligence (AI), translating manufacturing concepts into a tangible reality.
- **JK Fenner (India) Limited (P)** is actively engaging with IIT Kanpur through CSR-funded research project internships for high-performing 3rd and 4th year B.Tech. students, hackathons, and collaborative R&D.

R&D Impact Generated

Staying true to its sole vision of fostering strategic R&D partnerships between IIT Kanpur and industry, Technopark@IIT Kanpur strictly measures the R&D impact generated on the IIT Kanpur ecosystem by its member companies through various modes of engagement that can vary from consultancy and sponsored research projects to faculty to internships and fulltime placements to IIT Kanpur students.



Projects Sanctioned	4
Research Articles published	2
Patents Applied	1
Internships offered	29 (MTX Labs, 3; Merai Newage, 8; Maraal Aerospace, 1; SkyAI Technologies, 2; Dream Aerospace, 8; Treacle, 4; Lenek, 3)
Full-time Hirings	33 (Merai Newage, 29; TSTS, 1; Maraal Aerospace, 3)

In addition to its member companies, Technopark@IIT Kanpur actively engages with every organization that approaches it with serious R&D objectives. Over the past year, Technopark@IIT Kanpur has engaged with **nearly 30 companies**, facilitating around **50 interactions** between industry partners and IIT Kanpur faculty members.

International Partnerships

Technopark@IIT Kanpur has partnered with NMexus™, an SPV (Special Purpose Vehicle) between New Mexico Partnership and Stup LLC. A platform for every independent commercial entity working within the IIT Kanpur ecosystem to enter the U.S. market via the NMexus Centre in Albuquerque.

Growth Stories

MTX Labs *(member company since 2019)*

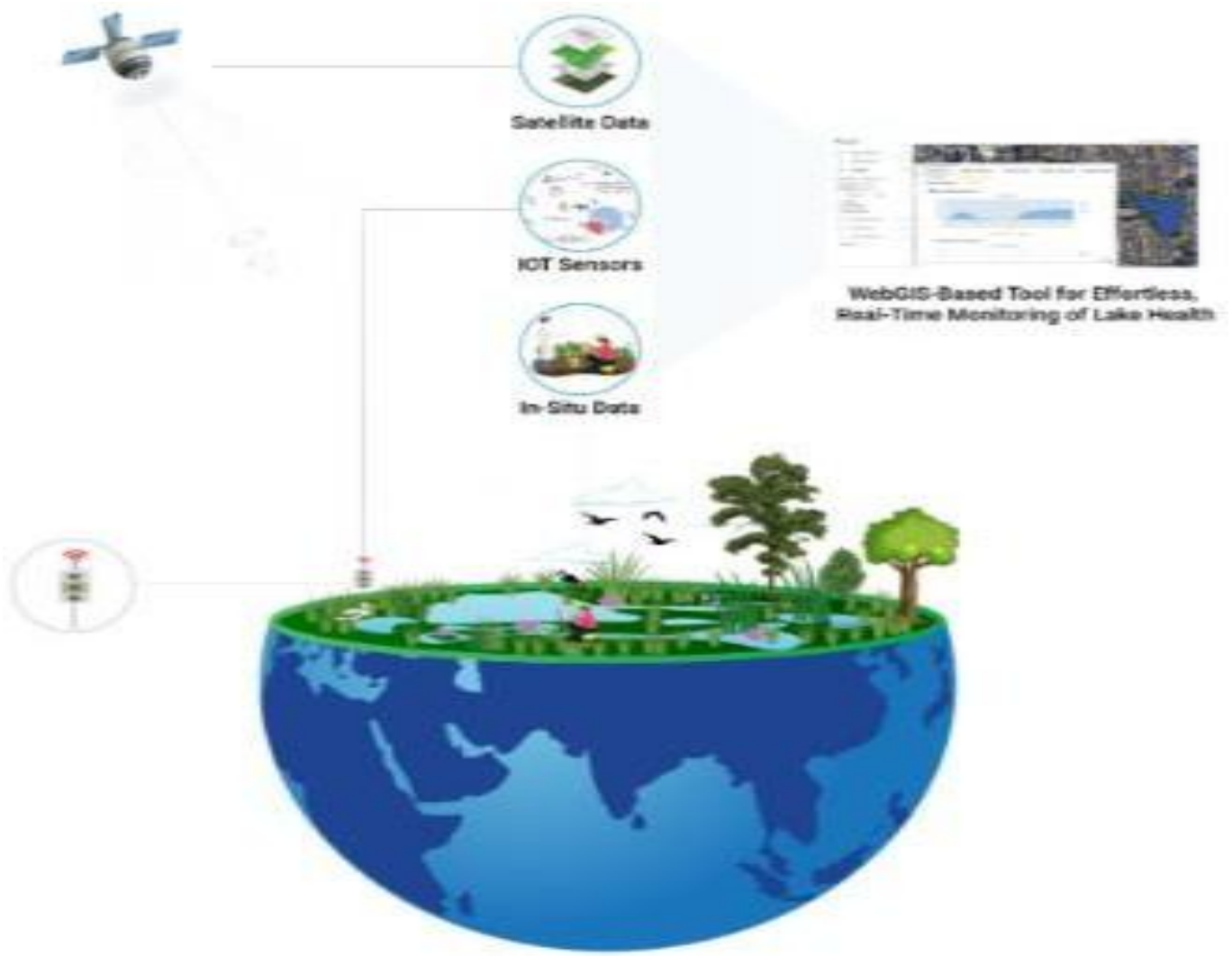
- Launched MedPstat 1.0, a state-of- the-art handheld potentiostat and electrochemical analyzer developed in collaboration with IIT Kanpur in May 2024.

SkyAI Technologies *(member since September 2023)*

- Filed a joint patent with Prof. Indranil Saha from the Department of Computer Sciences titled “System for detection and localization of drones in real-time and method thereof” (Patent application Ref. No/202411038247; Dated: 19-06- 2024)

Geo Climate Risk Solutions *(member since August 2020)*

- Implemented its flagship product, LAMAS (Lake Management System), which has been developed in collaboration with IIT Kanpur in Ayodhya in collaboration with the Uttar Pradesh government authorities.



- Selected for Cohort 6 of ImagineH2OAsia and 2024 Cohort of the prestigious Standford Seed Transformation Programme.
- Winner of the India Water Pitch-Pilot Scale Challenge, organized by the Ministry of Housing and Urban Affairs (GoI), Amrut 2.0.

AVPL International *(member since April 2024)*

- Announced a $12 million investment over the next two years to scale up drone training, innovation, and manufacturing.
- Announced establishment of 50 Drone Aero-Vision Labs (in partnership with All India Council for Technical Education AICTE), onboarding 30 Remote Pilot Training Organisations (RPTOs).
- Laid the foundation stone for two new drone manufacturing facilities, including a ₹15-crore unit in Bihta, Bihar, besides building India's largest drone training center in Hisar, Haryana.

KOTAK SCHOOL OF SUSTAINABILITY (KSS)

The Kotak School of Sustainability (KSS) at IIT Kanpur, a collaboration with Kotak Mahindra Bank, is a beacon of excellence in sustainability education and research. The vision of the school is to provide thought leadership and solutions towards sustainability actions and prepare future generations to lead the cause of sustainable development. Launching its M.Tech. in Artificial Intelligence for Sustainability in August 2025 with 20 seats, KSS focuses on data science, machine learning, and applications in climate modeling, water management, and environmental challenges. A PhD program is slated for January 2026. KSS has already hired about half a dozen highly talented & trained faculty (at both entry and senior levels) from top institutions and is continuing with this effort. The school also has amongst its faculty eminent practitioners who bring rich experience from government and industry. Housed in a LEED Platinum-rated building by late 2026, it hosts the National Centre of Excellence in AI for Sustainable Cities under the Airawat Research Foundation, addressing urban pollution, mobility, and governance.

DRDO-INDUSTRY-ACADEMIA CENTRE OF EXCELLENCE AT IIT KANPUR (DIA COE IIT KANPUR)

Indian Institute of Technology (IIT) Kanpur and the Defence Research & Development Organisation (DRDO) have collaborated to establish a DRDO-Industry-Academia Centre of Excellence at IIT Kanpur (DIA CoE IIT Kanpur) for interdisciplinary research in next generation defence technologies. The DIA CoE IIT Kanpur aims to build an ecosystem that facilitates technology development in the academic environment through experienced faculty and bright scholars through harnessing and synergizing the strengths of academia, student community, research scholars, niche technology industries, and DRDO scientists.

DIA CoE IIT Kanpur is mandated to spearhead focused research in identified research and development verticals, including Flexible Electronics and Substrates (FES) to build devices and systems based on thin films for strategic applications; Sensing, Stealth and Surface Protection Nano Materials and Meta Materials (SSSP) to provide fundamental contribution to material selection and design; Accelerated Material Design and Development (AMDD) to reduce the number of actual trial experiments while reaching optimal solution via high throughput experiments; High Energy Systems (HES) to focus on the modelling of high-performance explosives and performance prediction of metalized explosives; Bio- Engineering and CBRNE Applications (CBRNE) to develop technologies for applications ranging from sensing hazardous agents to wound healing and Software Defined Radio and Military Communication Technologies (SDRMC) to develop flexible, reprogrammable radios and secure, resilient, interoperable communication system.

Since the establishment of the CoE, a total of ninety-two project proposals worth Rs. 461.56 cr have been submitted on a diverse range of topics for the consideration of DRDO. Six projects worth Rs. 240.3 cr were sanctioned, eight projects worth Rs. 272.23 cr have been approved, and 32 projects worth Rs. 1764.91cr are under review. The relevant details, as of May 1st, 2025, are as under:

RV	Proposals Submitted	Cost (lakh)	Projects Sanctioned	Cost (lakh)	Projects Approved	Cost (lakh)
1	12	5214.15	1	886.00	2	811.61
2	23	9448.52	3	958.00	1	667.43
3	13	12686.23	1	323.00	0	
4	10	4279.44	0		3	935.71
5	21	8845.00	1	236.00	2	307.61
6	5	4364.65	0		0	
Other	8	1317.57	0		0	
Total	**92**	**46155.56**	**6**	**2403.00**	**8**	**2722.36**

Table: Research Vertical wise compilation

DIA CoE IIT Kanpur drives cutting-edge research across six key verticals, and a concise overview of each vertical, their thrust areas, and key projects are detailed below:

Flexible Electronics and Substrates (FES)

- Thrust Areas: Multi-element sensors, ultra-thin flexible electronics, conductive transparent coatings, packaging, and applications like stealth, flexible antennas, and energy harvesting.
- Projects Sanctioned: Flexible Solid-Electrolyte Batteries (Flex SEA Bat).
- Projects Approved: Antennas for SDR and SATCOM, flexible encapsulation for photovoltaics.

Sensing, Stealth, and Surface Protection (SSSP)

- Thrust Areas: Nano-material-based sensors, multi-spectral stealth, marine coatings, high-entropy materials, and scalable production of nano/meta-materials.
- Projects Sanctioned: Multispectral stealth coatings for visible, NIR, thermal, and microwave ranges.
- Projects Approved: Super-omniphobic marine coatings, metamaterial antennas for X- and Ku-band.

Accelerated Material Design and Development (AMDD)

- Thrust Areas: Integrated Computational Materials Engineering (ICME) for advanced metals, super-alloys, naval steel, and AI/ML-driven material design.
- Project Sanctioned: ICME for near-alpha Tialloy blisks.

High Energy Systems (HES)

- Thrust Areas: Scalable additives, life prediction of energetic materials, modeling warhead chemical structures, green synthesis, and internal ballistics.
- Projects Approved: Shock attenuation in heterogeneous targets, green catalytic synthesis of TATB.

Bioengineering and CBRNE Applications (CBRNE)

- Thrust Areas: Tissue regeneration, assistive devices, wearable sensors, CBRNE threat detection, decontamination, and AI-based prosthetics.
- Project Sanctioned: AI-driven broad-spectrum antivirals.
- Project Approved: Indigenous porcine collagen for corneal/bone regeneration, AI-based powered prostheses.

Software Defined Radio and Military Communication Technologies (SDRMC)

- Thrust Areas: Waveform design, wireless systems, spread spectrum analysis, cognitive radio waveforms, and efficient SDR hardware.
- Projects Under Review: Formally verified micro-kernel, UWB antenna arrays, compact UWB antennas, and cableless active array antenna units for AEW&C radar.

In addition, the Centre also received proposals outside its designated research verticals, including a dynamic suspension- based space robotics platform and high-entropy ultra-high-temperature materials. These proposals have been forwarded to relevant DIA Centers of Excellence for further consideration.

GANGWAL SCHOOL OF MEDICAL SCIENCES AND TECHNOLOGY AT IIT KANPUR

Gangwal School of Medical Sciences and Technology (GSMST) at IIT Kanpur is dedicated to advancing medical education, research, and innovation. Established with a vision to bridge the gap between engineering and medicine, GSMST integrates cutting-edge technology with medical sciences to address contemporary healthcare challenges.

GSMST, over the past academic year, has initiated partnership research initiatives with the aim of providing a robust platform for interdisciplinary research and collaborative projects. It reflects the School's continued commitment to transformative medical education, cutting-edge healthcare technology, and its mission to bridge the gap between science and clinical practice for improved public health outcomes.

COLLABORATIONS

MoU with the Department of Medical Health and Family Welfare, Government of Uttar Pradesh, for Digital Health Stack

GSMST at IIT Kanpur and the Department of Medical Health and Family Welfare, Government of Uttar Pradesh, signed an MoU to revolutionize healthcare delivery and advance telemedicine facilities in the state through the power of artificial intelligence on February 27th, 2024.

MoU with Centro Nazionale di Adroterapia Oncologica (CNAO) Pavia, Italy

An MoU signed with Fondazione CNAO - Centro Nazionale di Adroterapia Oncologica in Pavia, Italy, on March 7, 2024, to establish a joint research program. GSMST will collaborate with CNAO on a "Capacity Building Program" for Hadron Therapy in India.

MoU with ICICI Foundation for Inclusive Growth

GSMST, IIT Kanpur, and ICICI Foundation for Inclusive Growth (ICICI Foundation), the CSR arm of ICICI Bank, signed an MoU to work together on a Digital Health Stack project on September 17th, 2024.

The ICICI Foundation, through its CSR initiative, has supported the establishment of a state-of-the-art Pathology Laboratory on the IIT Kanpur campus.

UP Government & IIT Kanpur collaboration on State-of-the- art health app designed to bridge the gap in Medical Services

The Uttar Pradesh Government, in collaboration with IIT Kanpur, is introducing a state-of-the-art health app designed to bridge the gap in medical services, especially in rural areas. This innovative app will provide real-time updates on doctor availability, including private practitioners, and allow users to receive prescriptions and medicines directly through the app or even via WhatsApp.

MoU with Armed Forces Medical Services, Ministry of Defense

GSMST, IIT Kanpur signed an MoU with the Armed Forces Medical Services on April 18th, 2024. This collaboration focuses on joint R&D for technologies suited to soldiers in difficult terrains, including AI-based tools and co-development of biomedical solutions. A *capsule course (ARONAV)* was also conducted for AFMC cadets.

MoU with IIM Lucknow

GSMST, IIT Kanpur signed an MoU with IIM Lucknow to offer an academic Postgraduate Joint Degree Program on "Healthcare Management". This MoU was signed on September 26, 2024.

MoU with NSite Medical, Stanford (Dr. Michael J Gardner, Stanford, CA, USA)

Nsite Medical signed an MoU with GSMST, IIT Kanpur, to collaborate on cutting-edge software development initiatives in April 2025.

COLLABORATIVE BIOMEDICAL RESEARCH

Faculty exchange program - This collaboration aims to explore opportunities for interaction among members of faculty between IIT Kanpur and AFMS institutions.

Joint Academic Activities and Events - AFMS and IIT Kanpur will formulate joint academic activities such as short courses, seminars, workshops, and conferences based on mutual interests and available expertise in the institutions.

OUTREACH

Various workshops, international research symposiums, and lecture series were organized, which are listed below:

- Symposium on Emerging Technologies and Materials in Medicine (ETMM-2024)
- Bansal Workshop Series on Bansal Workshop Series on Clinical & Community Medicine - GSMST, IIT Kanpur and Faculty of Medicine, Dentistry, and Health Sciences (FDMHS), University of Melbourne
- Workshop on Innovations in NeuroTech, Showcasing Synergies Between Clinical Neuroscience, Computation, and Engineering
- International Research Symposium on "Advancements in Precision Healthcare Robotics and Assistive Technology"
- SPARC Symposium "Point-of-Care Healthcare Devices" & Pant Workshop Series on Medical Technology & Future Medicine
- Jalan Distinguished Lecture Series in MedTech Innovation
- Joneja Colloquium Series in Clinical Medicine

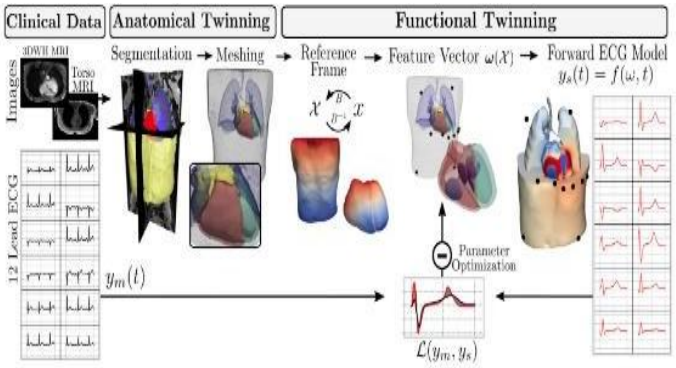
GLOBAL AND NATIONAL ENGAGEMENT

- Economic Times Healthcare Conclave 2025 GSMST participated in the Healthcare Conclave 2025, centered around the theme: "Catalyzing Healthcare Transformation: Innovation, Accessibility.
- In November 2024, GSMST, IIT Kanpur, joined the Global Consortium of Innovation and Engineering in Medicine (GCIEM). The GCIEM is an international public-private- government collaborative serving the world as the premier global network to advance medicine through engineering and innovation.

GSMST RESEARCH HIGHLIGHTS:

Cardiac Digital Twin

As a complementary approach, a demonstration project on Cardiac Digital Twin is under-way. The project is working to detect ablation targets within a few hours, saving time for patients suffering from ventricular arrhythmias and other cardiac anomalies and need to undergo ablation.

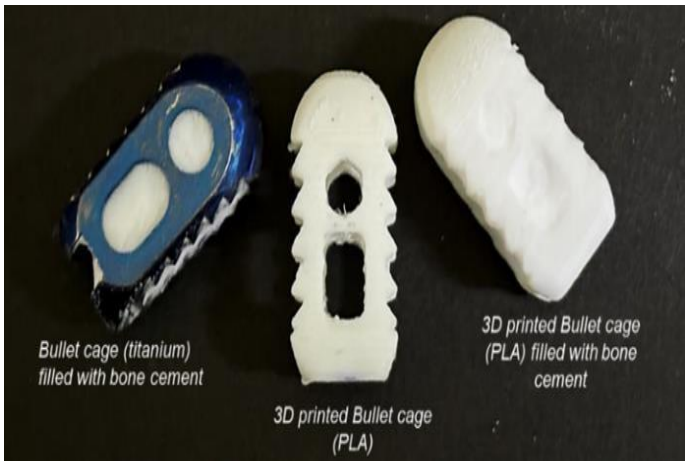


Self-navigating smart wheelchair

A group of faculty and student innovators with expertise in robotics and automation, linear and nonlinear controls, wide area control, and dynamical control systems in biology, computer vision, neural networks, and guidance of autonomous vehicles have developed an escalator climbing IOT-enabled wheelchair, which is ready for field trials.

3D-printed porous interbody spacer for spinal deformity

A group of faculty members and scientists with expertise in bio- materials, tissue engineering, and advanced material processing, along with a group of orthopedic surgeons, are developing a 3D-printed porous interbody spacer for spinal deformity. Designed for spinal deformities, this novel biomaterial incorporates antimicrobial hydrogels, fusion screws, and anti-slip features to enhance stability and healing.



VISIT TO GSMST

Major General Dharmesh, Armed Forces Medical Services (AFMS)

A team from the Armed Forces Medical Services (AFMS), led by Major General Dharmesh, Additional Director General AFMS (Medical Research, Health & Training), visited IIT Kanpur for an interaction with the Director and faculty members on May 27, 2024. This visit aimed to explore possible areas of collaboration between the two institutions, building upon the MoU signed earlier this year.

GSMST IN NEWS

Cover Page feature in The Week Magazine, June 2024 edition

Featuring path breaking technological advancement and impactful initiatives by the upcoming Gangwal School of Medical Science and Technology.

State-of-the-art health app designed to bridge the gap in Medical Services

The Uttar Pradesh Government, in collaboration with IIT Kanpur, is revolutionizing healthcare by introducing a state-of-the- art health app designed to bridge the gap in medical services, especially in rural areas.

MEHTA FAMILY CENTRE FOR ENGINEERING IN MEDICINE

In the 2024-2025 academic year, IIT Kanpur's Mehta Family Centre for Engineering in Medicine (MFCEM) achieved significant recognition, with its faculty being elected to prestigious academies for groundbreaking research and numerous patents being filed/awarded. MFCEM hosted the Pan-IIT Meeting and Research Conference on Engineering in Medicine from December 6th -8th, 2024, focusing on Regenerative, Molecular, and Digital Medicine, with participation from 31 institutes. The event was inaugurated by Shri Ranjan Kumar (IAS), with Shri Rahul Mehta as a guest of honor. Responding to the demand for skilled biomedical engineers, the Department of Biological Sciences and Bioengineering (BSBE), MFCEM, and Gangwal School of Medical Sciences and Technologies (GSMST) launched a unique M.Tech program in Biomedical Engineering starting July 2024. This program, a first of its kind, includes "clinical immersion" at esteemed medical schools to enhance practical training.

Pan-IIT Meeting and Research Conference on Engineering in Medicine, December 6-8, 2024

HIGHLIGHTS

Faculty: Honours, Awards, Recognitions	5
Academy Member	6
Grants	9
Patents	16
Student/Post-doc Achievement	26
Peer-reviewed Publications	81
MFCEM Events	12

AWARDS/RECOGNITION/ HONORS

- Prof. Bushra Ateeq was awarded the TATA Innovation Fellowship 2023 - 24, DBT India.
- Prof. Ashok Kumar was conferred an honorary doctorate in the field of technology, DSc (Tech), from Aalto University, Finland.
- Prof. Bushra Ateeq was felicitated for the Rajib Goyal Prize conferred by the Kurukshetra University, Kurukshetra, on September 6th, 2024.
- Prof. Bushra Ateeq was invited for an "At Home" ceremony hosted by the Honorable President Smt. Droupadi Murmu at the Rashtrapati Bhavan, New Delhi, on 15th August 2024.
- Prof. Bushra Ateeq was awarded the inaugural edition of the Grihshobha Inspire Award in the STEM category, conferred by Delhi Press, a Member of the Academy.

FELLOW OF ACADEMY

- Prof. Ashoke De has been elected as a Fellow of The American Society of Mechanical Engineers (ASME) for exceptional engineering achievements and contributions to the engineering profession and ASME.
- Prof. Ashok Kumar has been elected as a Fellow of the International Academy of Medical and Biological Engineers (IAMBE), class of 2024.
- Prof. Ashok Kumar has been elected Fellow of the Indian National Academy of Engineers (INAE) for the year 2024.
- Prof. Ashok Kumar has been elected Fellow (2024) of the National Academy of Medical Sciences (NAMS), Ministry of Health and Family Welfare, Government of India.
- Prof. Bushra Ateeq has been selected for the World Academy of Sciences (TWAS)- UNESCO Award (2026) in Medical & Health Sciences.
- Prof. Bushra Ateeq has been elected Fellow (2024) of the National Academy of Medical Sciences (NAMS), Ministry of Health and Family Welfare, Government of India.
- Prof. Ashok Kumar was conferred with an honorary membership in the Romanian Society of Biomaterials during the 10th BiomMedD 2024 held in Romania.

POSITIONS/ CHAIRS

- Prof. Ashok Kumar was selected for Poonam and Prabhu Goel chair
- Prof. Dhirendra S. Katti has been appointed as Director of IIT Goa.

GRANTS

- Prof. Bushra Ateeq received a grant from CSIR-ASPIRE, Council of Scientific and Industrial Research. Government of India, for "Liquid biopsy-based diagnostics for circulating biomarkers in prostate cancer".
- Prof. Saravanan Matheshwaran received a grant from the Department of Science & Technology (DST), Gov. of India- Technology Development, for the "Centre of Excellence in Antimicrobial Resistance".
- Prof. Saravanan Matheshwaran received a grant from the Department of Biotechnology (DBT) for Title: DBT-Frontiers in Biotechnology for: Deciphering the role of Ustilago maydis SWR1 chromatin remodeler in melanin biosynthesis, morphogenesis, and virulence mechanism".
- Prof. Saravanan Matheshwaran received a grant from SERB, Gov. of India, for "Deciphering the role of LexA-family transcription regulator induced mutagenesis and AMR of MDR strain of Acinetobacter baumannii".
- Prof. Appu Kumar Singh (PI) and Rakesh Kumar Majhi (Co-PI) received a grant from the Indian Council of Medical Research, ICMR Intermediate Grant for "Augmenting NK cell immunotherapy for Oral Squamous Cell Carcinoma by genetic and pharmacological modulation of a calcium-permeable TRP channel Period".
- Prof. Sandeep Verma received a grant from the U.P. government for the "Promotion of Equitable Access to Affordable Healthcare in Uttar Pradesh".
- Prof. Bushra Ateeq received a grant from the Department of Biotechnology Tata Innovation Fellowship for "Fabrication of low-cost microfluidic device for improved molecular diagnostics and assessing treatment response of Prostate Cancer Patients".
- Prof. Jayandharan G Rao received a grant from Scientific and Useful Profound Research Advancement (SUPRA), Anusandhan National Research Foundation (ANRF), DST, for "Next-generation genome engineering and chemo-genetic platform technologies for gene therapy of ocular disorders".
- Prof. Debanjan Dasgupta received two two-year grant under the Ignite Life Science Foundation Award 2025 for "Revealing Circuit Biomarkers in Alzheimer's Disease using Olfactory Stimulation".

MFCEM EVENTS

Conference

- The Pan-IIT Meeting and Conference 2024 on Engineering in Medicine was held from 6th to 8th December at IIT Kanpur.
- A one-day conference on metabolic disorders was organized on 27th September 2024
- The Rice-IITK Workshop was held on NeuroTech Innovations to develop innovative solutions for neurological and psychiatric care.
- Indian National Science Academy (INSA)- and ACS-sponsored workshop for the PhD students under INSA Kanpur local chapter (30th-31st December 2024).

MFCEM Lecture series

- Dr. Umrao Monani, De Vivo Prof. of Neurology, Columbia University Medical Centre, delivered a lecture on “Mechanisms underlying infantile-onset spinal muscular atrophy: Clues from a novel disease modifier”.
- Prof. Arabindo Nath Bose Endowed Lecture titled “Discovery of Bedaquiline and Its Impact on the Global TB Land- scape” was delivered by Dr. Anil Koul, VP & Head, Global Public Health Discovery, J&J & a member of the Board of Directors of Janssen Pharmaceuticals.

MFCEM Workshop

- Dr. Sanjay Kumar Mishra, Senior Advisor, Dept of Biotechnology, Government of India, conducted a workshop on Funding and Career Opportunities in STEM in India.
- An interactive session with Ms. Mihikaa Jain on Biomedical Entrepreneurship was held on 28th September 2024.
- Mr. Jacob Koshy, Deputy Science Editor of The Hindu, conducted the workshop on Science Journalism.
- Workshop by Dr. Prince Kumar Lat on Python for Biologists.
- Workshop by Dr. Vanshika Singh, product content specialist at Cactus Communications, on Scientific Writing in the AI Era: A Systematic Approach for Academic Excellence.
- MFCEM Connect with Alumni Dr. Ram Prakash Gupta [PhD, BSBE, IIT Kanpur 2014], Deputy General Manager (Manufacturing), Laurus Labs, India, on the BioTech industry in India.

CHANDRAKANTA KESAVAN CENTRE FOR ENERGY POLICY AND CLIMATE SOLUTIONS

CHANDRAKANTA KESAVAN LECTURE SERIES 2024–25

Eight distinguished lectures delivered by leading figures from academia and industry, each contributing deep insights into contemporary sustainability challenges. The series addressed a diverse yet interconnected set of themes, including advanced climate modeling, emerging sustainable technologies, strategic pathways to Net-Zero emissions, innovative approaches to wastewater treatment, frameworks for environmental governance, and India’s evolving energy transition. Collectively, these lectures not only broadened scholarly understanding but also fostered critical discourse on the interdisciplinary imperatives of sustainability in the Indian and global context.

List of Speakers

- Mr. Chandrashekhar Chincholkar, Director - Corporate Advisory at CES India Pvt Ltd, Pune
- Mr. Manish Chourasia, Managing Director of Tata Cleantech Capital
- Mr. Ajay Phatak, Trustee, The Ecological Society, Pune
- Prof. Husain Kanchwala, Assistant Prof. in the Centre of Automotive Engineering and Tribology at IIT Delhi
- Dr. Sudhanshu Shukla, Senior Researcher at Interuniversity Microelectronics Centre (IMEC), Belgium
- Dr. Asit Kumar Mishra, Research Engineer, Marie Sklodowska-Curie fellow
- Dr. Virender K. Sharma, Prof. at the Department of Chemical, Environmental, and Material Engineering at the University of Miami, Florida
- Mr. Manojit Sengupta, Delivery Centre Head - Eastern Region, TCS

Conferences/Workshops/Symposiums

Schmidt Sciences Conference

Title: *"Energy Technologies for India’s Decarbonization"*

A high-impact two-day conference bringing together national and international experts to deliberate on cutting-edge innovations and policy frameworks essential for accelerating India’s energy transition.

NetZero Dialogue – 4th Edition

Title: *"Socio-ecological Considerations for Renewable Energy Projects"*

This one-day workshop explored the intersection of renewable energy development with social and ecological sustainability, fostering dialogue between researchers, policymakers, and practitioners.

Sustainable Geo Communities Workshop

A two-day workshop focused on community-led sustainability solutions and decentralized energy systems, emphasizing the role of geospatial approaches and stakeholder engagement in rural and peri-urban contexts.

Faculty Research Support

- Customized EV Drive train test setup
- Multi-carbon Product (C2+) Synthesis through Photo-Electrocatalic CO_2 Reduction (C2-PECR)
- Improving Emergency Services Preparedness for Urban Floods in India
- Lamination of Blade-Coated Semi-transparent Perovskite Solar Cells

STUDENT ACTIVITIES

Student participation in various conferences & workshops was encouraged, such as the 5th International Conference on Materials: Advances in Material Innovation, Switzerland, and the Sustainable GeoCommunities Workshop, Noida.

One of our PhD Students attended an advanced course on Vehicle Dynamics in the Professional Development Program at IIT Madras.

Chandrakanta Kesavan Best Research Thesis Award for Master's Degree – 2024

- Siddharth – Dept. of Sustainable Energy Engineering
- Gudelli Shivakumar – Dept. of Sustainable Energy Engineering
- C. Navya Nirmala – Dept. of Chemical Engineering
- These awards recognize outstanding postgraduate research contributions in the domain of sustainability and energy.

INFRASTRUCTURE CREATION

- Field Emission Scanning Electron Microscope (FESEM), for microstructural characterization of materials, Manufacturer: Thermo Fisher Scientific Apreo 2C
- X-Ray Diffractometer (XRD) for structural analysis of materials, Manufacturer: Rigaku SmartLab SE
- BET Surface Area Analyzer, for surface area analysis of nanomaterials, Manufacturer – Autosorb
- Stylus Profilometer, for thickness measurement in devices, Manufacturer: Bruker Dektak

SAMTEL CENTRE FOR DISPLAY TECHNOLOGIES AND NATIONAL CENTRE FOR FLEXIBLE ELECTRONICS

VISION AND OBJECTIVES

Samtel Centre for Display Technologies: The Samtel Centre for Display Technologies, known more popularly as Samtel Centre or SCDT, is a multi-disciplinary research and development center that caters to prototype building and eventual productization of technology related to Flexible Electronics. The areas of focus broadly include large area electronics, which are typically printable and are likely to be built on an organic electronics base. The ideas explored at the center are necessarily linked to a real-world application with some practical value. The prototype building and productization are carried out primarily at its industry outreach arm - which is the National Centre for Flexible Electronics (FlexE Centre) - typically with active involvement and participation of industry partners right from the early stages of development and product conception.

National Centre for Flexible Electronics: The National Centre for Flexible Electronics (NCFlexE, also known as the FlexE Centre) was set up as a Centre of Excellence at the Indian Institute of Technology (IIT) Kanpur in 2014 with financial support from the Ministry of Electronics and Information Technology (MeitY), Government of India, and IIT Kanpur. The vision of this Centre is to catalyze the development of domestic industry in the field of large area flexible electronics, and this vision is being executed with the Centre serving as a bridge between the academic ecosystem and the industrial ecosystem.

The second phase of NCFlexE has been sanctioned for a five- year tenure starting from November 2023.

HIGHLIGHTS

Sl No.	Particular	No.
1.	Patents filed	09
2.	Publications	10
3.	NDA and MoU with Industries	11
4.	Ongoing Projects	03

TECHNOLOGY TRANSFER

IIT Kanpur transferred a technology developed at NCFlexE for the detection of mastitis in bovines on 27th Jun 2024, titled 'Lateral Flow Immunoassay Strip and Method for Detection of Mastitis in Bovines', to Prompt Equipments Pvt. Ltd. To facilitate its widespread adoption, IIT Kanpur signed a technology transfer MoU with Prompt Equipments Pvt. Ltd.

OUTREACH ACTIVITIES

Participation and exhibition on the following events

- 51 Dairy Industry Conference & Exhibition 2025, hosted by Indian Dairy Association (IDA) at Samrat Ashoka Convention Centre (Gyan Bhawan), Patna, India, 6th-8th March 2025.
- International Electrotechnical Commission (IEC) in Munich, Germany, 25th -27th February, 2025.
- Innovations Display organized by Society for Information Display (SID) at India Habitat Centre, New Delhi on 10th January 2025.
- Conference on Advances in Chemistry for Energy and Environment at TIFR, Bombay, from 16th – 20th December 2024.
- Inter Dairy 2024, organized by VA Exhibitions Pvt. Ltd. in collaboration with the Indian Dairy Association (West Zone) at Bombay Exhibition Centre, Mumbai, India, 5th-7th December 2024.
- DAE-BRNS 10th Interdisciplinary Symposium of Materials Chemistry (ISMC-2024), BARC, Mumbai 4th-7thDecember, 2024.
- Panel discussion on "Tech4Good – Advancing Disability Solutions through Innovation" at the 11th National Conference on Disability at Sarthak Global Resource Centre, Gurugram on 7th December 2024.
- Panel Discussion on "IT, Electronics & Semiconductors Sector" at the Global Manufacturing Summit, India International Science Festival 2024 at IIT Guwahati on 2nd December 2024.
- Participation in Samanvay 2024, November 2024, International Electrotechnical Commission's General Meeting (IEC GM) in Edinburgh, UK, October 2024, and SEMICON India 2024, Greater Noida, Delhi, India, September 2024.

Annual Short-Course, Industry Meet organized by NCFlexE

- Virtual short Course on Flexible and Printed Electronics: from 25th-27th July 2024, covering various aspects of Flexible Electronics technologies such as OLEDs, TFTs, PV, sensors, etc.
- Virtual "Industry Meet-2024" on 13th Dec 2024.

SCDT-FlexE Centre Webinar Series (launched in 2021 and is on-going since)

SCDT and FlexE Centre hosts a monthly Webinar Series bringing together scientists, engineers, researchers, students, entrepreneurs, and industry players involved in different aspects of flexible electronics from around the country (and sometimes outside India as well) on a common platform. This forum helps improve interactions between the different stakeholders in technology as it evolves. More details can be found at https://www.IITKanpur.ac.in/scdt/webinars.html.

NATIONAL AEROSOL FACILITY

The National Aerosol Facility (NAF) at IIT Kanpur, in collaboration with Bhabha Atomic Research Centre (BARC) under Dept. of Atomic Energy (DAE), is a state-of-the-art, multi-purpose research Centre dedicated to study aerosol behavior under conditions simulating severe nuclear reactor accidents. The major objectives of NAF include generating an extensive database on aerosol retention factors in representative PHT (Primary Heat Transport) piping systems for various thermal-hydraulic conditions during typical post-severe accident scenarios, both dry and wet conditions. This database is used for the validation and development of nuclear accident codes. In April 2022, NAF completed its setup and commissioning activities for nuclear reactor safety research on Indian PHWRs. Recent developments have seen the initiation of a project in collaboration with the Reactor Safety Division (RSD) of BARC, titled "Aerosol Transport Behaviour Experiments at National Aerosol Facility in Context of Nuclear Reactor Accidents," and two new projects are submitted to BRNS, DAE by RSD, BARC.

Following are the wide array of projects and initiatives registered under NAF. The funding agencies and title of the projects are mentioned below.

- **Ministry of Education, GoI** (2024-2025): Centre of Excellence in Artificial Intelligence for Sustainable Cities in PoC stage. Forecasting and modeling for Urban sustainability under 4 tracks viz. Air Quality, Energy, Mobility and Governance.
- **Ministry of Earth Sciences (MoES), GoI** (2023-2027): Ice Nucleating Particle and Cloud Condensation Nuclei Properties in the North-Western Himalayas (Ice-Crunch).
- **Open Philanthropy** (2022-2026): To Support the Rural Air Quality Monitoring Project.
- **Clean Air Fund** (2023-2025): Dynamic Hyper-Local Source Apportionment for Real-Time Policy Action.
- **Clean Air Fund** (2023-2025): Atman-Centre of Excellence: Core Support Grant.
- **Clean Air Fund** (2024-2025): Supporting Indigenous Development of Low-Cost Sensors.
- **Klenviron Technologies Pvt Ltd, Mumbai** (2024-2027): Testing the Efficacy of Air Purifier Modules Under Outdoor and Room Conditions: To test the performance of their air purifier.
- **Bhabha Atomic Research Centre** (2023-2025): Aerosol Transport Behaviour Experiments at National Aerosol Facility in Context of Nuclear Reactor Accidents.
- **Autotronics Innovation Pvt Ltd** (2024-2025): Testing the Efficacy of Air Purifier Modules Under Room Conditions.
- **GE India Industrial Private Limited** (2024-2026): Collecting Airborne Dust Samples from Various Airports Across India.
- **Swati Energy & Projects (P) Ltd** (2024-2027): Joint Collaboration with Swati Energy for Knowledge Sharing.

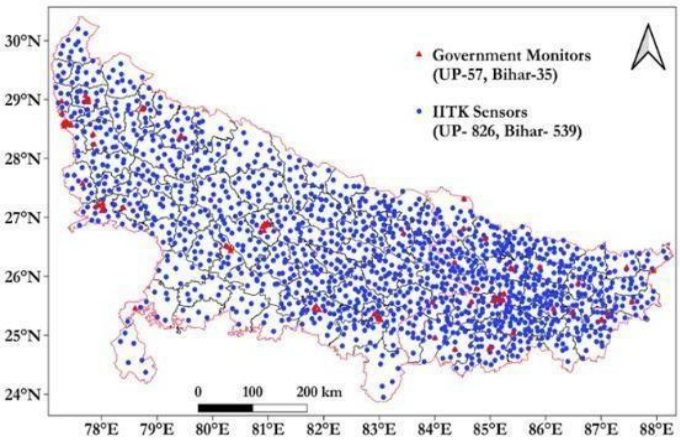
Dynamic Hyper-Local Source Apportionment for RealTime Policy Action

The project seeks to establish a novel technique called Dynamic Hyper-local Source Apportionment (DHSA) for real-time and low-cost Source Apportionment (SA). Mobile AQM laboratory housing sophisticated instruments (like Aerosol Mass Spectrometer (AMS), Xact, Scanning Mobility Particle Analyzer (SMPS), Aethalometers, E-Bam, Optical Particle Sizer (OPS), along with the portable sensor units) was developed for testing the technique across Lucknow and Kanpur. The mobile laboratory has completed the last cycle of sampling across different category sites in Lucknow and Kanpur in this period.

NAF incubated a section-8 company as a part of the Airawat Research Foundation. In this project, the PI of the National Aerosol Facility will be acting as Project Director. A mobile van for DHSA has been deployed in Delhi to monitor air quality in various locations in collaboration with the Delhi Pollution Control Committee (DPCC).

Ambient air quality Monitoring of Rural Areas using Indigenous Technology (AMRIT) project

IIT Kanpur established a network of 1400 Sensor Ambient Air Quality Monitors (SAAQM) across 539 and 826 block development offices in Bihar and Uttar Pradesh, respectively. Partnerships with Bihar (BSPCB, Rural Development Dept.) and Uttar Pradesh governments (Environment, Forest and Climate Change Dept., UPPCB, Rural Development Dept.) facilitate monitoring and mitigation. Hyper-local air quality data collection began in April 2023. IIT Kanpur also set up three unique co-location



calibration facilities to evaluate 280-300 SAAQMs simultaneously.

Air Quality Disparities: The SAAQM network mapped fine- scale pollution across urban, suburban, small-town, and rural areas in Uttar Pradesh and Bihar.

Air-Shed Detection: Data-driven analysis identified five consistent airsheds in Bihar, with three in the north and two in the south of the Ganges.

Exposure and Health Risks: Northern Bihar districts showed PM2.5 exposure levels 1.4 times higher than southern districts.

Network Optimization: Sensor placement is optimized using a heuristic approach and greedy algorithm, factoring in population density and PM2.5 emission data per sq. km.

Hotspot Detection: XGBoost and RT-RF advanced machine- learning models identified key factors influencing PM2.5 distribution in spatial data.

NATIONAL CENTRE FOR GEODESY

The National Centre for Geodesy (NCG) at IIT Kanpur was established on July 1, 2019, with support from the Department of Science and Technology (DST), Government of India. It is the first center in India dedicated to supporting education and research in Geodesy. NCG addresses the national-level education opportunities in Geodesy and allied areas, which very few institutes in India offer. NCG's primary goal is to promote geodesy education, capacity building, and R&D. As a hub of excellence at national and international levels, NCG supports PG programs, organizes training courses, conferences, and workshops, develops educational resources, conducts R&D projects with high-precision geodetic infrastructure, processes and analyzes geodetic data, and collaborates with national and international organizations.

Significant achievements of the Centre (2024-2025):

- Five training programs and workshops were organized to impart knowledge in geodesy and related areas (> 100 persons trained).
- NCG supported 7 PhDs, 7 MS(R)s, 3 DIITs and 9 interns
- Five corner reflectors have been installed to calibrate upcoming NISAR mission data in collaboration with SAC (ISRO).
- 15 MoUs have been signed with various organizations/institutes.
- NCG members have been invited to participate in the governing and advisory boards of the International Association of Geodesy's Global Geodetic Observing System and International Gravity Field Service, respectively.

Outreach Activities:

- Prof. Onkar Dikshit delivered a lecture at the National Workshop on 'Precision Mapping: Geodesy, DGPS, and Drones for Surveying and Mapping', organized by the Regional Centre for Geodesy (RCG) at IIST from October 22nd-24th, 2024.
- Prof. B. Nagarajan was invited to deliver the lectures at the Winter School on Advanced Geospatial Data Gathering and Management Techniques for Sustainable Smart City Development, held at Chennai Institute of Technology, Kundrathur, Chennai, from November 04-24, 2024.
- Dr. Sushant Shekhar and Dr. Somalin Nath were invited for the guest lectures ATAL FDP on "Advancing Sustainable Development: Integrating Remote Sensing and GIS Technologies" held on 15th and 20th December 2024 at Tula's Institute, Dehradun.
- Prof. B. Nagarajan was invited to deliver a lecture at the CSIR-CSIO International Workshop, "Observing Ground Deformation from Space and in the Field, from December 16-19, 2024.
- Prof. B. Nagarajan was invited to deliver the lectures in STTP on "Advances in GNSS/GPS and open-source solutions for GIS and other applications" at the Regional Centre for Geodesy (RCG) MANIT Bhopal.

Student Achievements

- Arnab Laha (PhD student) has been awarded the Ernst Mach Scholarship - Worldwide for 6 months at TU Wien, Austria (Jan - Jun 25).
- Shivani Singh (PhD student) has been awarded the Ernst Mach Scholarship - Worldwide for 6 months at TU Wien, Austria (Jan - Jun 25).
- Arnab Laha (PhD student) has been awarded the ETH4D Doctoral Mentorship Scholarship for a period of one year with a 3 month (July - Sep 25) stay at the Institute of Geodesy and Photogrammetry, ETH Zürich (Oct 24 - Sep 25).
- Vikas Kumar (PhD student) has been awarded the Raman- Charpak Fellowship 2024.

Key R&D initiatives

- With support from DST, NCG established Regional Centres for Geodesy (RCG) at six academic institutions to promote geodesy at the regional level.
- A CORS network with eight academic institutions has been established, and real-time GNSS data processing at NCG ensures the seamless sharing of raw and processed data. This data is also shared with the national CORS network established by the Survey of India.

Ongoing R&D Projects

Map generalization; Geoid using airborne gravimetry; DORIS for Ocean Monitoring and Climate Studies; Calibration/Validation for upcoming NASA-ISRO (NISAR) mission data; Calibration of NISAR Data with GNSS-IR Derived Soil Moisture for Precision Soil Moisture Retrieval; Impact of geoid on hydrodynamic and landslide studies; Ionospheric Coupling Processes due to Earthquakes & Space weather effects; Climate and Tectonics driven assessment of Landslide Susceptibility in the Northwestern Himalaya.

OFFICE OF INTERNATIONAL RELATIONS (OIR)

NEW PARTNERSHIPS

During the academic year 2024–25, IIT Kanpur signed 12 new partnership agreements with leading universities across Asia, Europe, and North America. These new partnerships include:

In Asia – (i) Nara Women's University, Japan, for cooperation in the areas of faculty and student exchange, joint research activities, and exchange of academic materials and publications;

(ii) National Institute for Materials Science (NIMS), Japan for cooperation in the areas of faculty and student exchange; (iii) International Cooperative Graduate Program Agreement with NIMS, Japan; (iv) Osaka University, Japan for collaborative research, lectures, symposiums; (v) Osaka University, Japan for student exchange; and (vi) Kyoto University, Japan for exchange of students based upon existing General Memorandum for Academic Cooperation and Exchange between two universities.

In Europe – (i) Johannes Gutenberg University Mainz, Germany; (ii) University of Nottingham, UK, for cooperation in the areas of faculty and student exchange, joint research activities, and exchange of academic materials and publications; (iii) Financial University, Moscow for collaboration in academics and research; and (iv) Financial University, Moscow for student exchange agreement.

In North America – (i) Johns Hopkins University, USA, for shared research and industry engagement in the areas of engineering, science, medicine, humanities, and business; and (ii) Dept. of Mechanical Engineering FAMU-FSU College of Engineering, USA for research and educational activities such as exchange of faculty and researchers, exchange of students, short-term academic programs and joint research activities.

Establishment of joint research seed grant awards with the University of Alberta, Canada

In January 2024, IIT Kanpur and the University of Alberta (UAlberta) signed an agreement that established a framework for collaborations, specifically in the areas of sustainable energy, climate change, and health sciences, and for a joint degree program for doctoral students.

The "University of Alberta-IIT Kanpur Seed Grant Fund," established in 2024, awarded seed grant up to ₹ 15,00,000 to IIT Kanpur while the the UAlberta awardees received funding of up to CAD 25,000. List of faculties who received the seed grant from IIT Kanpur are Prof. Raju Kumar Gupta and Prof. Sudarshan Narayanan (Sustainable Energy Engineering), Prof. Tarun Gupta (Civil Engineering), Prof. Debabrata Goswami (Chemistry), Prof. Lalit Pant (Sustainable Energy Engineering), Prof. Ashish Garg and Prof. Srinivas Yadavalli (Sustainable Energy Engineering), Prof. Raghavendra Ragipani (Chemical Engineering), Prof. Chunendra Sahu (Civil Engineering) and Prof. Rahul Mangal (Chemical Engineering).

IIT Kanpur- University of California Santa Cruz joint research symposium

In March 2024, IIT Kanpur and the University of California Santa Cruz (UCSC) signed an agreement setting out the framework for stronger ties between the two institutions. In July 2024, ten faculty members from the departments of Electrical Engineering and Computer Science & Engineering at IIT Kanpur visited UCSC for a joint symposium on 'Artificial Intelligence, Machine Learning, and Cybersecurity'. The three- day symposium was held from 15th-17thJuly at UCSC's Main Campus and the Silicon Valley campus. The symposium involved introductory presentations outlining the ongoing research at both institutions, round table discussions about generative AI and cyber security, and panel discussions on Responsible AI and the Intersection of AI and Cybersecurity.

ASEAN-India Network of Universities (AINU) FACULTY EXCHANGE

Under the AINU, IIT Kanpur signed an agreement for a Faculty Exchange Program between IIT Kanpur and any AINU institution from the ASEAN Member States. Prof. Mousami Prasad from the Dept. of Management Sciences was selected by AINU for a faculty exchange visit to the University of Malaya, Malaysia. Prof. Prasad will be

involved in teaching and collaborative research at the University of Malaya.

VISITS OF FOREIGN DELEGATIONS TO IIT KANPUR

Several foreign university delegations visited IIT Kanpur in 2024-25 to discuss possibilities for academic and research collaborations. Many of these have led to fruitful relationships between IIT Kanpur and the university partner abroad, and some of them are part of an ongoing collaboration.

From Asia: A delegation from National Yang Ming Chiao Tung University (NYCU), Taiwan; National University of Singapore, Singapore; and Chiang Mai International Engineering School, Thailand, visited for discussions on how to enrich the partnership and implement new activities.

From Australia: A delegation from the Royal Melbourne Institute of Technology, Australia, visited IIT Kanpur for potential collaborations.

From Europe: A delegation from Cardiff University, UK, visited to explore academic ties in Cybersecurity.

From France: A delegation from the French Institute in India and the French Embassy in India visited IIT Kanpur. Their visit was aimed at strengthening the academic and scientific collaboration between India and France. A session with the students was also organized on “Study and Research Opportunities in France”.

From the USA: Delegations from the US Embassy in New Delhi, the University of Minnesota, Rice University, New York University, Office of Naval Research Global, University of Miami, and Yale University visited IIT Kanpur to explore potential research collaborations and to strengthen the existing relationship with IIT Kanpur.

OVERSEAS VISITS OF IT KANPUR DELEGATION

Thailand: As a part of IIT Kanpur outreach in South- east Asia, Prof. Ashish Garg, Head of Sustainable Energy Engineering, visited several universities in Thailand: Chulalongkorn University, Asian Institute of Technology, and Mahidol University and Chiang Mai University, Maejo University, Rajabhat University between November 27th and December 4th, 2024.

USA: A delegation comprising Prof. Manindra Agrawal, Director; Prof. Vinod K. Singh, Institute Chair Prof.; Prof. Braj Bhushan, Deputy Director; Prof. Bushra Ateeq, Dean of International Relations; Mr. Kapil Kaul, CEO of the IIT Kanpur Development Foundation; and Mr. Rajat Sharma, Vice President of the IIT Kanpur Development Foundation, visited Washington D.C., Chicago, Johns Hopkins University, and Purdue University, exploring opportunities for joint research projects, exchange programs, and innovative initiatives in science and technology USA from October 7th to October 17th, 2024 to explore various avenues of collaboration.

JAPAN-INDIA Universities Forum: On 19th October 2024, Prof. Bushra Ateeq, Dean of International Relations, and Prof. Deepu Philip, Prof.-in-Charge of Incubation and Innovation at the Startup Incubation and Innovation Centre (SIIC), participated in the 3rd Japan-India Universities Forum. The event aimed at strengthening collaboration between Indian and Japanese universities in science, technology, and innovation. As an outcome of this forum, IIT Kanpur signed six new partnerships with different universities in Japan this year.

JAM Waiver for Foreign Students

With growing interest among foreign students in pursuing an MSc at IIT Kanpur, OIR has put forward a proposal for the waiver of the JAM exam requirement for foreign students for admission into this program. The Senate, IIT Kanpur, has recently approved the proposal, allowing foreign national admissions in MSc programs at IIT Kanpur from the 2025-26 academic year onward.

All IIT International Relations Conclave 2024

IIT (ISM) Dhanbad hosted the All IIT International Relations Conclave 2024 on 12th -13th December 2024 on the theme 'Study in India'. The program included plenary sessions on internationalization strategies, discussions on funding schemes, and exchange of ideas and best practices.

Happy Hour for International Students

OIR started monthly Happy Hour get-togethers for foreign students at IIT Kanpur in 2024. Two interactive events in September 2024 and February 2025 were conducted.

Festival Celebrations

OIR organizes festival celebrations to acquaint international students with the culture and practices of India. In 2024-25, celebrations for Holi, Christmas, Diwali, and Eid festivals with simple activities (such as diya-lighting and rangoli-making) were organized by OIR. Students were served traditional food on these occasions.

Hindi Classes for Foreign Students

In January 2025, the OIR started Hindi language classes for the second batch of foreign students. The classes are taught by experts at the Shivani Centre for Nurture & Reintegration of Hindi & Other Languages, IIT Kanpur. These classes aim to enhance the everyday experience of foreign students and smoothen their interaction with the local community.

Foreign Students at IIT Kanpur

IIT Kanpur hosted 69 foreign students in 2024-2025, with 56 of them pursuing a post-graduate degree at IIT Kanpur and 13 pursuing internship programs.

The 56 students pursuing a post-graduate degree are from countries such as Bangladesh, Jordan, Indonesia, Syria, Ethiopia, Iran, Nepal and Myanmar. The degrees being pursued by these 56 students are as follows:

- 27 are pursuing a Ph.D. degree and
- 29 are enrolled in a Master's program
- In addition to this, IIT Kanpur has hosted 13 internship students from the UK, Japan, and Nepal.

IIT Kanpur Student Mobility Overseas

- 35+ students from IIT Kanpur were nominated for semester exchange at partner universities in 2024-25
- Over 34 IIT Kanpur students were accepted for internships at foreign universities.

Short-Term Courses for Foreign Working Professionals

In 2024-25, IIT Kanpur organized three courses under the Indian Technical and Economic Cooperation Program (ITEC), the leading capacity- building platform by the Ministry of External Affairs, Government of India.

ITEC courses at IIT Kanpur in 2024-25 are listed below:

- Spacecraft Dynamics & Control (June 2024) – Course taught by Prof. Dipak Giri
- Robotics (March 2025) – Course taught by Prof. Ashish Dutta
- Industrial and Electronics Waste Recycling and Management (March 2025) – Course taught by Prof. Arunabh Meshram

These short-term courses were aimed specifically at working professionals from ITEC partner countries such as Kazakhstan, Uzbekistan, Ethiopia, Thailand, Paraguay, Bhutan, and Peru. Over 70 students participated in these courses held in face-to-face mode at IIT Kanpur.

DEAN OF RESOURCES & ALUMNI

Out of the total amount of ₹ 265.24 crore pledged by donors in FY 2024-25, a sum of ₹ 159.70 crore has already been received, as compared to ₹ 156.90 crore received in the FY 2023- 24, and the balance is expected to be received based on the milestones achieved as set by the donors in the next 2-3 years.

Major Initiatives in FY 2024-25

Major Initiatives	Amount in Crore
Gangwal School of Medical Sciences and Technology	₹ 47.49
Construction of New Hall of Residence for Students	₹ 20.25
Kotak School of Sustainability	₹ 17.59
Translational and Transformative Training and Investigations Lab at CSE	₹ 10.38
Social Innovation Lab 3.0	₹ 5.75
The Mehta Family Centre for Engineering in Medicine	₹ 4.38
Scientific Research	₹ 4.38
Opportunity School Building	₹ 4.26
Social Innovation Lab	₹ 3.50
The Humanities-Technology Bridge: A Tribute to Prof. Mahajan & Prof. Dhanagare	₹ 2.13
ICICI Foundation Digital Health Stack	₹ 2.10
Moisture Resistant Paper Packaging Solutions	₹ 1.99

Soma and Manas Mandal Chair	₹ 1.68
Manas Mandal Student Scholarship	
Manas Mandal Best PhD Thesis Award	
Om Prakash Gautam Faculty Chair in CHE	₹ 1.55
Rajeev and Joyce Gautam Student Travel Grant in CHE	
Pawan Tewari Goldman Sachs Endowment Towards AI for Social Good	₹ 1.15
The Pawan Tewari Goldman Sachs Scholarships	
Jainendra Navlakha (1974) Chair	₹ 1.32
Dr. T. B. Singh Scholarship	₹ 1.30
Smt. Kusum Singh Scholarship	
Satya and Rao Remala Foundation chair	₹ 1.31
Post Graduate Research Lab in CHE	₹ 1.19
Jeet Singh Bindra Centre of Excellence in Specialty Chemicals	
IIT Kanpur Development Foundation	₹ 1.00

IITK Samanvay 2024

IITK Samanvay 2024 is a groundbreaking initiative by IIT Kanpur designed to bridge the existing gap between industry and academia. Held on November 28-29, 2024, at IIT Kanpur's iconic campus, it unites industry leaders, academicians, and innovators for open dialogue. The event drives innovation by addressing future challenges through thought-provoking discussions, networking, and research partnerships. With participation from top industry figures like the Chairman of ONDC and Mahindra Agri, Samanvay 2024 inspires new ideas and solutions, positioning IIT Kanpur as a hub for progress. Key highlights of the event included showcasing unique platforms such as the SIDBI Innovation and Incubation Center (SIIC), emerging departments like Cognitive Science and Sustainable Energy Engineering, and national research facilities, including the Wind Tunnel and Animal Testing Facility.

IIT Kanpur's Distinguished Alumni Meet (DAM)

This meeting fosters collaboration, knowledge sharing, and mentorship between alumni, students, and faculty. The first DAM in India, held from August 30th September to 1st October 2024 in Goa, featured notable alumni like Dr. Mahesh Gupta and Prof. U.B. Desai, emphasizing translational research and teaching excellence. In the USA, the event was organized in New York on 9th Oct 2024 to chart the next steps in IIT Kanpur's journey toward global excellence in education, research, and innovation. These meets strengthen IIT Kanpur's global alumni network and are inspiring.

Other Major Initiatives

Initiative	Pledged Amount in crore	Realized Amount in crore
Kaira Karmakar Memorial Student Scholarship	₹ 1.59	₹ 0.39
IIT Kanpur Swastibhavatu Lecture Series supported by Rawat Family Trust	₹ 1.50	₹ 0.75

Donations received by the Gangwal School of Medical Sciences & Technology till March 31, 2025

Donor/Organization Name	Pledged Amount		Realized Amount in crore
	in million	in crore	
Mr. Muktesh Pant (BT/CHE/1976)	$ 2.50	₹ 19.00	₹ 19.00
Dr. Dev Joneja (BT/ME/1984)	$ 2.50	₹ 19.00	₹ 20.04
Mr. Anil Bansal (BT/MME/1977)	$ 2.50	₹ 19.00	₹ 10.59
Mr. Rakesh Gangwal (BT/ME/1975)	$ 13.50	₹ 100.00	₹ 108.70
Dr. Deepak Mohan Narula (BT/EE/1985)	$ 0.60	₹ 5.00	₹ 5.00
Mr. Hemant Jalan (BT/CHE/1977)		₹ 18.00	₹ 18.00
IBM		₹ 59.66	₹ 59.11
JK Cements		₹ 60.00	₹ 35.00
REC Foundation		₹ 14.40	₹ 11.88

HDFC Bank		₹ 20.00	₹ 19.97
Sutwala Family		₹ 0.41	₹ 0.41
Mr. Vikram Tannan		₹ 10.00	₹ 4.50
Dr. Vijay Parikh (BT/CHE/1982)		₹ 0.20	₹ 0.20
Mr. Manoj Gupta		₹ 0.44	₹ 0.44
Total	**$ 21.60**	**₹ 345.11**	**₹ 312.84**

Major Donations received towards fundraising campaigns

Name of the Campaign	Goal Amount in crore	Received Amount in crore
P. T. Narasimhan Fund for Performing Arts	₹ 1.00	₹ 0.81
Prof. N. Sathyamurthy Endowment Lecture Series	₹ 0.25	₹ 0.25 (Target achieved)
Late Prof. Kanwar Singh Nalwa Memorial Scholarship	₹ 0.25	₹ 0.25 (Target achieved)
Annual Giving	₹ 2.00	₹ 2.15 (Target achieved)
Prof. Vinod K. Singh Distinguished Lecture Series	₹ 0.25	₹ 0.18
V. Srinivasan Memorial Fund	₹ 0.25	₹ 0.26 (Target achieved)

Major donations received towards Endowment Activities in FY 2024-25

Faculty Chairs	Amount in crore
Om Prakash Gautam Chair	₹ 1.25
Jainendra Navlakha (1974) Chair	₹ 1.24
Soma and Manas Mandal Chair	₹ 1.25
Satya and Rao Ramala Chair	₹ 1.28
Fellowships	
Cherian and Vigny Mathew Faculty Fellowship for AI	₹ 0.45
Pradeep Jotwani Young Faculty Fellowship	₹ 0.45
Scholarships	
Manas Mandal Student Scholarship	₹ 0.27
Sqn Ldr Sudhanshu Mohan Scholarship	₹ 0.25
Awards	
Prof. J. L. Bansal Best PhD Thesis Award	₹ 0.25
Distinguished Lecture Series	
IIT Kanpur Swastibhavatu Lecture Series Supported by Rawat Family Trust	₹ 0.75
Departmental Fund	
Bridging Horizons: The confluence of Technology and Humanities	₹ 2.00

Class Fund in FY 2024-25

Class	Pledge Amount in crore	Realized Amount in crore	Initiatives Supported
1967 (Get together)	NA	₹ 0.30	Scholarship
1999	₹ 13.60	₹ 3.01	Batch Fund
1985	₹ 1.05	₹ 0.27	Batch Fund
1975	₹ 5.00	₹ 0.71	Batch Fund
1980	₹ 4.20	₹ 4.10	Support Hall 3, Girls Hostel and Batch Fund
1965	₹ 1.00	₹ 0.54	Pioneering Research Excellence and Innovation Award

Top Donors in FY 2024-25

Name/Degree	Category	Amount in crore	Purpose
Mr. Bhadresh Kantilal Shah (BT/MME/1974)	Alumni	₹ 9.00	Construction of New Hall of Residence for Students
The Mehta Family Foundation	Non - Alumni	₹ 4.38	The Mehta Family Centre for Engineering in Medicine
Prof. Chandralekha Singh & Jeremy Levy	Non- Alumni	₹ 4.26	Opportunity School Building
Mr. Vikram Tannan	Non- Alumni	₹ 4.00	Gangwal School of Medical Sciences and Technology
Mr. Hemant Jalan (BT/CHE/1977)	Alumni	₹ 3.00	Gangwal School of Medical Sciences and Technology
Mr. Srinath Anantharaman (BT/EE/1980)	Alumni	₹ 2.34	1980 Class Fund
			The Humanities- Technology Bridge: A Tribute to Prof. Mahajan & Prof. Dhanagare
Mr. Manas Mandal (BT/CSE/1985)	Alumni	₹ 1.68	Soma and Manas Mandal Chair
			Manas Mandal Student Scholarship
			Manas Mandal Best PhD Thesis Awards
Dr. Rajeev Gautam (BT/CHE/1974)	Alumni	₹ 1.55	Om Prakash Gautam Faculty Chair in CHE
			Rajeev and Joyce Gautam Student Travel Grant in CHE
Dr. Deepak Mohan Narula (BT/EE/1985)	Alumni	₹ 1.49	Gangwal School of Medical Sciences and Technology
Prof. Jainendra Navlakha (MT/EE/1974)	Alumni	₹ 1.32	Jainendra Navlakha (1974) Chair
Mr. Rao Remala (MT/CSE/1975)	Alumni	₹ 1.31	Satya and Rao Remala Foundation Chair
Mr. Manoj Singh (BT/EE/1974)	Alumni	₹ 1.30	Dr. T. B. Singh Scholarship
			Smt. Kusum Singh Scholarship
Mr. Jagjeet S. Bindra (BT/CHE/1969)	Alumni	₹ 1.19	Jeet Singh Bindra Centre of Excellence in Specialty Chemicals
			Post Graduate Research Lab in CHE
Mr. Pawan Tewari (BT/EE/1988)	Alumni	₹ 1.11	Pawan Tewari Goldman Sachs Endowment Towards AI for Social Good
			The Pawan Tewari Goldman Sachs Scholarships
Mr. Ranodeb Roy (BT/CSE/1990)	Alumni	₹ 1.00	IIT Kanpur Development Foundation
Mr. Anil Bansal (BT/MME/1977)	Alumni	₹ 0.85	Gangwal School of Medical Sciences and Technology
Mr. Shishpal Singh Rawat (BT/EE/1979)	Alumni	₹ 0.74	IIT Kanpur Swastibhavatu Lecture Series supported by Rawat Family Trust
Yuva Unstoppable	Non - Alumni	₹ 0.62	Yuva Unstoppable Scholarship
Mr. Gopal Das Lakhani (PhD/MTH&S/1971)	Alumni	₹ 0.41	Gopal Lakhani Lead-ership Award for Community Services
			Gopal Lakhani Leadership Award for Professional Development Activities
			Gopal Lakhani Leadership Award for Sporting Event Organization
Dr. Pawan Kumar Goenka (BT/ME/1975)	Alumni	₹ 0.40	Pawan Kumar Goenka Chair

Karmakar Foundation	Non- Alumni	₹ 0.40	Kaira Karmakar Memorial Scholarship Program
Mr. Mukul Gupta (BT/CSE/1999)	Alumni	₹ 0.35	1999 Batch Fund
Mr. Satya P. Chauhan (BT/CHE/1968)	Alumni	₹ 0.34	Satya and Sudha Chauhan, Faculty Chair in SEE
Mr. Cherian V. Mathew (BT/CSE/2008)	Alumni	₹ 0.34	Cherian and Vigny Mathew Faculty Fellowship for AI
Mr. Rakesh Rawal (BT/ME/1978)	Alumni	₹ 0.31	Pritam Lal Shakuntala Rawal Memorial Scholarship
			Prof. N. Sathyamurthy Endowment Lecture Series
Mr. Prakhar Bansal (BT/CHE/1994)	Alumni	₹ 0.28	1994 Class Fund
			Prof. J. L. Bansal Best PhD Thesis Award in MTH&S
Prof. Chandra Mauli Agrawal (BT/ME/1982)	Alumni	₹ 0.27	Sqn Ldr Sudhanshu Mohan Scholarship
Late Dr. Rathin Datta (BT/CHE/1970)	Alumni	₹ 0.26	Biochar Project
Mr. Rohit Kumar Toshniwal (BT/CSE/1999)	Alumni	₹ 0.25	1999 Batch Fund

ALL TIME DONORS

Mr. Rakesh Gangwal (BT/ME/1975)

Mr. Narayana Murthy (MT/EE/1969)

Dr. Dev Joneja (BT/ME/1984)

Mr. Muktesh Pant (BT/CHE/1976)

Mr. Anil Bansal (BT/ME/1977)

Mr. Sudhakar Kesavan (BT/CHE/1976)

Mr. Hemant Jalan (BT/CHE/1977)

Late Dr. Ranjit Singh (BT/MME/1965)

Mehta Family Foundation (non-alumni)

Mr. Bhadresh Shah (BT/MME/1974)

Mr. Vikram Tannan (non-alumni)

PRINCIPAL DONORS

Prof. Chandralekha Singh & Jeremy Levy (non-alumni)

Mr. Jagjeet S Bindra (BT/CHE/1969)

Mr. Lokvir Kapoor (BT/ME/1987)

Ms. Asha Jadeja Mot-wani (non-alumni)

Dr. Prabhu Goel (BT/EE/1970)

Ms. Nirmala Govindan (non-alumni)

MAJOR DONORS

Mr. Pawan Tewari
(BT/EE/1988)

Mr. Ranodeb Roy
(BT/CSE/1990)

Mr. Deepak M
Narula (BT/EE/1985)

Mr. Rajiv Batra
(BT/EE/1982)

Mr. Ajay Dubey
(BT/CHE/1980)

Dr. Devendra Shukla
(BT/CE/1967)

Mr. Ashish
Karandikar
(BT/EE/1995)

Mr. Kal Shastri
(MSC2/PHY/1976)

Mr. Kushal C Sacheti
(MT/CHE/1971)

Mr. Sudhir M Mittal
(BT/CHE/1970)

Mr. Alok Agarwal
(BT/EE/1979)

Dr. B V R Mohan
Reddy
(MT/ME/1974)

Prof. Jainendra
Navlakha
(MT/EE/1974)

Mr. Manas Mandal
(BT/CSE/1985)

Dr. Rajeev Gautam
(BT/CHE/1974)

Mr. Rao Remala
(MT/CSE/1975)

Mr. Srinath
Anantharaman
(BT/EE/1980)

Mr. Pawan Kumar
Goenka
(BT/ME/1975)

Mr. Manoj Singh
(BT/EE/1974)

Corporate Partners in FY 2024-25

Name	Amount in crore	Purpose
IBM India Pvt. Ltd.	₹ 28.11	Gangwal School of Medical Sciences and Technology
Kotak Mahindra Bank Ltd.	₹ 17.59	Kotak School of Sustainability
AIA Engineering Ltd. Mr. Bhadresh Shah (BT/MME/1974)	₹ 11.25	Construction of New Hall of Residence for Students
Citadel Securities India Markets Pvt. Ltd.	₹ 10.38	Translational and Transformative Training and Investigations Lab at CSE
Citibank	₹ 9.25	Social Innovation Lab
		Social Innovation Lab 3.0
J K Cement Ltd. Mr. Yadupati Singhania (BT/CE/1977)	₹ 5.00	Gangwal School of Medical Sciences and Technology
The Mehta Family Foundation	₹ 4.38	The Mehta Family Centre for Engineering in Medicine
HDFC Bank	₹ 3.00	Gangwal School of Medical Sciences and Technology
ICICI Foundation for Inclusive Growth	₹ 2.10	ICICI Foundation Digital Health Stack
ITC Ltd.	₹ 1.99	Moisture Resistant Paper Packaging Solutions
REC Foundation	₹ 1.24	Gangwal School of Medical Sciences and Technology
Portescap India Pvt. Ltd.	₹ 1.14	Scientific Research
Tower Research Capital Markets India Pvt. Ltd.	₹ 0.61	Scientific Research
Suraj Logistix Pvt. Ltd.	₹ 0.53	Scientific Research
Nmtronics (India) Pvt. Ltd.	₹ 0.49	Scientific Research
IPM India Wholesale Trading Pvt. Ltd.	₹ 0.46	Design & Development Centre at Rozi Shiksha Kendra
In Covid Support Fze Llc	₹ 0.42	BFI - Biome Network grants for biomedical in-novators
TCS Fellowship	₹ 0.39	Scientific Research
RIICO Ltd.	₹ 0.23	Centre of Excellence for Innovation in Basic Education (STEM labs)
Adani Enterprises Ltd.	₹ 0.21	Scientific Research
4E Software Pvt. Ltd. Mr. Mahendra Yadav (BT/ME/1999)	₹ 0.20	1999 Batch Fund
Khanna and Khanna Ltd.	₹ 0.20	Scientific Research
Airbus India Pvt. Ltd.	₹ 0.18	Airbus-IIT Flying Start Programme
Raramuri Technology Pvt. Ltd.	₹ 0.15	Bhu Parikshak 2.0
		Scientific Research
Saraswati Heart Care & Research Centre Pvt. Ltd. Mr. Surendra Kumar Garg (BT/EE/1972)	₹ 0.15	1972 Golden Jubilee Legacy Project
MacDermid Alpha Electronics Solutions India Pvt. Ltd.	₹ 0.15	Scientific Research

Government of Uttarakhand	₹ 0.15	Support from Dept. of Higher Education, Government of Uttarakhand
ANSYS Software Pvt. Ltd.	₹ 0.13	Promote education among PG students Scientific Research
Sahasra Electronics Pvt. Ltd. Mr. Ajit Chakravarti (BT/EE/1972)	₹ 0.12	1972 Golden Jubilee Legacy Project
Hindon Filters Pvt. Ltd. Mr. Madan Gopal Agarwal (BT/ME/1974)	₹ 0.12	Class of 1974 Legacy Fund
Faiveley Transport Rail Technologies India Pvt. Ltd.	₹ 0.12	Scientific Research
ZN Tech Solutions Pvt Ltd	₹ 0.11	Bhu Parikshak 2.0
Qualtech Consultants Pvt. Ltd.	₹ 0.11	Project Solar concentrator in SPASE
Zopsmart Technology Pvt. Ltd.	₹ 0.10	Bhu Parikshak 2.0
Pradeep Metals Limited	₹ 0.10	Class 1978 legacy project
Sethi-Sethi Comf Mr. Satish Sethi (BT/EE/1975)	₹ 0.10	1975 Class Fund
Humboldt Wedag India Pvt. Ltd.	₹ 0.10	Pioneering Research Excellence and Innovation Award
Frontier Alloy Steel Ltd.	₹ 0.10	Scientific Research
CSI Engineering Software Pvt. Ltd.	₹ 0.09	NICEE
Logic Fruit Technologies Pvt. Ltd.	₹ 0.09	Gangwal School of Medical Sciences and Technology
Credex Technology Pvt. Ltd. Mr. Pradeep Arya (MSC2/MTH&S/1999)	₹ 0.09	1999 Batch Fund
Rahman Industries Ltd.	₹ 0.08	Antaragni 24
Audify Tech. Pvt. Ltd.	₹ 0.08	Scientific Research
Omidyar Network India Advisors Pvt. Ltd. Mr. Siddharth Nautiyal (BT/CSE/1999)	₹ 0.07	1999 Batch Fund
Hytech Professionals India Pvt. Ltd. Mr. Damnish Kumar (MSC5/MTH&S/2000)	₹ 0.07	1999 Batch Fund
Fashion Suitings Pvt. Ltd.	₹ 0.06	Scientific Research
TVM Signaling and Transportation Systems Pvt. Ltd.	₹ 0.05	Campus School Development Fund
Prachi Leathers Pvt. Ltd Mr. Anil Gupta (BT/ME/1978)	₹ 0.05	Class 1978 legacy project
Aeron Systems Pvt. Ltd.	₹ 0.05	Gangwal School of Medical Sciences and Technology
Hexa Tours and Travels Pvt. Ltd.	₹ 0.05	Udghosh
Bharat Forge Ltd.	₹ 0.05	Team Motorsports Fund
Integra Micro Systems Pvt. Ltd.	₹ 0.05	Scientific Research
Wonder Illuminate Service of Education Pvt. Ltd.	₹ 0.05	Opportunity School
Apollo Heat Exchangers Pvt. Ltd. Mr. Naresh Shah (BT/ME/1974)	₹ 0.05	Class of 1974 Legacy Fund Hall 1 Renovation

AlphaGrep Securities Pvt Ltd.	₹ 0.05	AlphaGrep Scholarship
PNC Infratech Ltd.	₹ 0.05	Scientific Research
PN International Pvt. Ltd.	₹ 0.05	Scientific Research
My Home Industries Pvt. Ltd.	₹ 0.04	Pioneering Research Excellence and Innovation Award
Bright 4 Wheel Sales Pvt. Ltd.	₹ 0.03	Scientific Research
Tellapur Technocity Pvt. Ltd.	₹ 0.03	Pioneering Research Excellence and Innovation Award
Continental Belting Pvt. Ltd.	₹ 0.02	Pioneering Research Excellence and Innovation Award
J. K. Fenner (India) Ltd.	₹ 0.02	Scientific Research
Rimjhim Ispat Ltd.	₹ 0.01	Team Motorsports Fund
Prem Jain Memorial Trust	₹ 0.01	Prem Jain Award for Excellence in Sustainability
Jjg Aero Pvt. Ltd.	₹ 0.01	For SPASE
Alkyl Amines Chemicals Ltd.	₹ 0.01	Annual Gift Programme
Evonik India Pvt. Ltd.	₹ 0.004	Annual Gift Programme
My Home Power Consultancy Services Pvt. Ltd.	₹ 0.002	Pioneering Research Excellence and Innovation Award
Surya Powerpacks Mr. Tarun Desai (BT/CHE/1978)	₹ 0.002	Class 1978 legacy project

ALUMNI IMPACT

Some of the major awards and honors received by our alumni in 2024-25 are listed below.

Award/ Honour	Name/Association with IIT Kanpur	Award Endowed by
Presburger Award	Dr. Pravesh K. Kothari (BT/EE/2010)	The European Association for Theoretical Computer Science (EATCS)
Listed in Forbes 30 under 30 Asia 2025	Mr. Krishna Gupta (BT/CHE/2020)	Forbes
Listed in Forbes 30 under 30 Asia 2025	Mr. Karttikeya Mangalam (BT/EE/2018)	Forbes
Fellow of the American Association for the Advancement of Science	Prof. Raj Singh (BT/MME/1967)	American Association for the Advancement of Science Council
Rashtriya Vigyan Puraskar	Dr. Digendranath Swain (PhD/ME/2018)	Ministry of Science & Technology, GoI
Charles A. Whitten Medal	Prof. Srinivas Bettadpur (MT/AE/1985)	American Geophysical Union
Arthur T. Winfree Prize	Prof. Mohit Kumar Jolly (BT/MT/BSBE/2010/2012)	The Society for Mathematical Biology
2024 Donald E. Knuth Prize	Prof. Rajeev Alur (BT/CSE/1987)	ACM Special Interest Group
IEEE-EDS 2024 Early Career Award	Dr. Nilesh Pandey (PhD/EE/2022)	IEEE Electron Devices Society
IEEE Fellow	Prof. Saikat Guha (BT/EE/2002)	IEEE Board of Directors
Eminent Faculty Award	Prof. Raj Singh (BT/MME/1967)	OKLAHOMA STATE UNIVERSITY
ACM India Doctoral Dissertation Award	Dr. Priyanka Golia (PhD/CSE/2023)	ACM India Council

Endowed Prof. ship of Joyce A. Yelencsics Rosevear '65 and Frederick M. Rosevear '64	Prof. Debanjan Chowdhury (MSC5/PHY/2010)	Joyce A. Yelencsics Rosevear and Frederick M. Rosevear
FAI Award	Dr. Abhilasha Tripathi (PhD/CE/2023)	Fertilizer Association of India (FAI)
Padma Shri	Prof. Ashutosh Sharma (BT/CHE/1982)	Ministry of Home Affairs, GoI
Padma Shri	Dr. Pawan Goenka (BT/ME/1975)	Ministry of Home Affairs, GoI
IEEE Fellow	Prof. Rajiv K. Varma (BT/PhD/EE/1980/1988)	IEEE Board of Directors
ACM Fellow	Dr. Satish Chandra (BT/CSE/1991)	The Association of Computing Machinery
ACM Fellow	Prof. Ashish Goel (BT/CSE/1994)	The Association of Computing Machinery
PECASE (Presidential Early Career Award for Scientists and Engineers)	Prof. Mohit Bansal (BT/CSE/2008)	The USA Government
AAAI Fellow	Prof. Mohit Bansal (BT/CSE/2008)	The Association for the Advancement of Artificial Intelligence
Wolf Prize in Physics	Prof. Jainendra Jain (MSC/PHY/1981)	The Wolf Foundation, Israel
Young Researcher Award R&D in HPC Applications (Dr. APJ Abdul Kalam HPC Awards 2025)	Prof. Navrose (BT-MT/PhD/AE/2010/2016)	Hewlett Packard Enterprise
2025 AACR Award for Lifetime Achievement in Cancer Research	Prof. Rakesh K. Jain (BT/CHE/1972)	American Association for Cancer Research (AACR)
Best Thesis Award in the Carbon Materials category at the INYAS National Competition for Research Excellence	Dr. Prerna Sinha (PhD/MSP/2023)	The Indian National Young Academy of Sciences (INYAS)
Visionary Leadership Best Practices Recognition 2025	Dr. Anil K. Rajvanshi (BT/MT/ME/1972/1974)	Frost & Sullivan Institute
Distinguished Academic Achievement Alumni Award	Prof. Pankaj Jalote (BT/EE/1980)	Siebel School of Computing & Data Science, University of Illinois Urbana-Champaign

Notable Professional Achievements by Our Alumni in FY 2024-25

Name/Association with IIT Kanpur	Position
Dr. Ajay Kumar (BT/EE/1984)	Director on Board of Sify Technologies, Ltd.
Mr. Sandeep Kishore Jain (BT/ME/1988)	President of the Federation of Indian Micro and Small & Medium Enterprises (FISME)
Dr. Sharat Sinha (MT/IME/1994)	CEO & Director, Airtel Business
Mr. Sanjay Malhotra (BT/CSE/1989)	Governor of the Reserve Bank of India (RBI)
Mr. Rakesh Gangwal (BT/ME/1975)	Chairman of Southwest Airlines
Mr. Atul Saxena (BT/CE/1997)	Managing Director & CEO of Stock Holding Corporation of India Ltd.
Prof. Sandhya S. Visweswariah (MSC2/CHM/1980)	President-elect of the International Union of Biochemistry and Molecular Biology (IUBMB)
Mr. Rahul Navin (BT/MT/CE/1990/1993)	Director of Enforcement Directorate, GoI
Mr. Amit Agrawal (BT/EE/1991)	Secretary of the Dept. of Pharmaceuticals, Ministry of Chemicals and Fertilizers, GoI
Mr. Vineet Joshi (BT/ME/1989)	Secretary Dept. of Higher Education, Ministry of Education, GoI
Mr. Rupesh Singh (BT/CE/1991)	Director (HR) at Engineers India Limited (EIL)
Mr. Gyanesh Kumar (BT/CE/1985)	Chief Election Commissioner
Prof. Pushpak Bhattacharyya (MT/CSE/1986)	Chairman of RBI's high- level committee
Mr. Ambarish Kenghe (MT/CSE/1998)	Group CEO of Angel One
Prof. Achyut Wagle (PhD/ECO/2018)	Vice Chancellor of Kathmandu University
Dr. Ajay Kumar (BT/EE/1984)	Chairman of the Union Public Service Commission (UPSC)
Mr. Abhishek Anand (BS-MS/CHM/2022)	selected to represent Japan in the Men's National Cricket Team 2025
Mr. Sandeep Fuller (BT/EE/1986)	Chief Executive Officer – Systems and PMC at SYSTRA
Mr. K. Ramakrishna Rao (BT/CHE/1987)	Chief Secretary of Telangana
Mr. Devendra Kumar (BT/CSE/1997)	Chief Information Officer (CIO) of Michael Baker International

Some notable entrepreneurial endeavors by alumni of IIT Kanpur in FY 2024-25.

Name of Startup	Name of Alumni	Startup Description
Jeevatva Biosciences	Dr. Pawan Kumar (BT/CHE/1999)	The startup is working on microbiome-based therapeutics for metabolic reprogramming, insulin resensitization, and inflammation reduction.
Indespace Robotics Pvt. Ltd.	Dr. Abhishek Verma (PhD/DES/2024)	The startup is developing a cervical softening and dilation device for incomplete cervical dilation in dairy cattle to treat dystocia.
Vettedcode Technologies India Pvt. Ltd.	Mr. Himanshu Gautam (BT/MT/ME/2016)	The startup's mission is to make Web3 safer and more accessible, combining expert security services with innovative products to foster a secure, inclusive, and community-driven blockchain ecosystem.
Maraal Aerospace Pvt. Ltd.	Dr. Vijay Shankar Dwivedi (MT/PhD/AE/2014/2021)	Maraal Aerospace is a deep-tech startup involved in the design, development, and manufacturing of Fixed Wing Solar UAVs & subsequently, High-Altitude Long Endurance Solar. They aim to provide applications in Intelligence, Surveillance, and Reconnaissance (ISR) missions.
Ananant Systems Pvt. Ltd	Dr. Chitranjan Singh (BT/EE/1998)	The startup is building a leading wireless semiconductor and systems company focused on advanced 5G and 6G in India, underpinned by an Atmanirbhar philosophy.
SuEng Tech Pvt. Ltd.	Mr. Chaitanya (BT/CE/1998)	SuEng-Tech (Sustainable Engineering through web- based Technology) is a technology-based platform to carry out the system engineering, financial modeling, and project management of renewable & sustainable projects.
Innovative Grid Services Pvt. Ltd.	Prof. Ankush Sharma (MT/PhD/EE/2001/2015)	The company deals in the business of commercializing power equipment, Smart Electric Meter Devices, and methods for enabling meter data communication, as well as an apparatus for micro-resolution phasor measurement and a method for parameter estimator of untransposed distribution cable.
Narottam Innovations Pvt. Ltd.	Prof. Vipul Arora (BT/PhD/EE/2009/2015) Mr. Shivam Pal (BT-MT/EE/2020)	The startup provides AI- powered transcription & translation of audio and video files, offering solutions that provide unmatched efficiency and accuracy in generating text transcriptions and translations from audio and video files.
Sarvshixiit Pvt. Ltd.	Prof. Amey Karkare (BT/CSE/1998)	The Company is dedicated to bridging skill gaps in remote villages by actively implementing NEP 2020. With a focus on holistic development, Sarvshixitt emphasizes skill development, hands- on activities, and tinkering. By providing a curriculum in Indian languages, Sarvshixitt aims to empower students with practical knowledge and equip them for the challenges of the 21st century.
Just- Data analytics Pvt. Ltd.	Prof. Pradip Swarnakar (PhD/HSS/2008)	The dedicated team employs cutting-edge methodologies to monitor field dynamics, policy developments, and technological innovations, providing timely and insightful analyses related to energy transition and other environment-related issues.

OUTREACH ACTIVITIES

Our alumni network is one of our greatest strengths. Their rich experiences and strong bonds with our institution make them essential allies in our pursuit of excellence. We actively encourage open dialogue and idea-sharing with our alumni, recognizing that their perspectives play a vital role in shaping the Institute's ongoing progress.

IITKarvaan - Singapore

The IITKarvaan held its very first event of the year 2024-25 in Singapore on May 11, 2024, bringing together over 80 esteemed alumni along with their spouses. The event was a grand success because of the dedicated efforts of alumni coordinators Mr. Ranodeb Roy (BT/CSE/1990) and Mr. Abhinaya Agrawal (MBA/IME/ 2010). Prof. Manindra Agrawal, Director of IIT Kanpur, Prof. Kantesh Balani, Dean of Resources and Alumni, and Mr. Kapil Kaul, CEO of the IIT Kanpur Development Foundation, represented IIT Kanpur.

IITKarvaan – USA

USA IITKarvaan was led by Prof. Manindra Agrawal. The delegation visited five major cities: New York, Washington DC, Chicago, Seattle, and the Bay Area. The purpose of the visit was to strengthen ties with IIT Kanpur alumni, expand the institute's network, build new connections, and explore potential collaborations to support the Institute's growth and development.

The journey began in New York on October 6th, 2024, where 150+ alumni attended a high-energy meet that recognized distinguished alumni, and robust discussions were held around the IIT Kanpur Foundation's role in global collaboration. IITKarvaan moved to Washington D.C on October 11th, 2024.

Chicago marked the third stop on our IITKarvaan tour in the USA. The Karvaan event was held on October 13th, 2024, where the Honourable Consulate General, Chicago, Mr. Somnath Ghosh, delivered the keynote address.

Seattle marked the fourth stop on the IITKarvaan tour in the USA, and the energy was unmatched.

Last but not least, the Bay Area edition of USA IITKarvaan was held on October 19th, 2024, with a focus on deepening ties with alumni in the Startup ecosystem and building innovation bridges between Silicon Valley and IIT Kanpur. A Fireside Chat with Mr. Dheeraj Pandey - Co-Founder & CEO of DevRev, was also the Centre of attraction.

IIT Karvaan - India Tour

The IIT Karvaan India Tour was successfully conducted in December 2024, covering three major cities—Mumbai, Bengaluru and Delhi. These alumni gatherings witnessed an enthusiastic participation of over 500 alumni, including prominent leaders from industry, government, and academia.

Mr. Shashidhar Sinha (BT/CE/1979), CEO of IPG Media brands India, and Mr. Amit Kumar Agarwal (BT/CE/2000), Co-Founder & CEO of NoBroker, delivered inspiring Keynote addresses in Mumbai and Bengaluru, respectively.

The events honored our shared roots, while conversations focused on collaborations for the future growth of IIT Kanpur.

IITKarvaan - Australia

The second edition of IITKarvaan Australia took place in Melbourne on March 15th, 2025. With an enthusiastic turnout of over 30 alumni, the event offered a perfect blend of nostalgia, networking, and vision sharing. Prof. Amey Karkare and Mr. Kapil Kaul represented the institute and the Development Foundation, respectively.

REUNIONS NOVEMBER 2024 – MARCH 2025

Reunions remain the most anticipated alumni engagement events at IIT Kanpur. During the 2024–25 academic year, the institute hosted 10 such gatherings, bringing together graduates across generations. The youngest batch to join the celebrations was the Class of 2014, marking their 10th reunion, while the Classes of 1975 celebrated the remarkable milestone of their 50th reunion, and the pioneering Class of 1965 celebrated their remarkable 60th reunion.

These events served as heartfelt platforms for alumni to reconnect, relive cherished memories, and renew their enduring relationship with the institute. Milestone reunions—be it the 10th, 50th, 35th, or beyond—offered natural occasions for class- mates to reunite, reflect on shared journeys, and celebrate personal and professional achievements.

Yet, the impact of reunions extended well beyond personal nostalgia. They created a meaningful two-way dialogue: IIT Kanpur shared its latest milestones, innovations, and vision for the future, reinforcing a sense of pride and ownership among its alumni. In return, alumni engaged deeply with the institute's initiatives—contributing through fundraising, mentorship, and various collaborative efforts.

INSTITUTE FACULTY

In the past year, the Institute has offered 38 faculty positions against 1,721 applicants through a rigorous selection. Out of these, 20 new faculty members have joined the Institute. The department-wise joining schedule for this duration is tabulated below.

Department	No. of new faculty
Aerospace Engineering	00
Biological Sciences and Bioengineering	02
Chemical Engineering	01
Chemistry	01
Civil Engineering	01
Cognitive Science	01
Computer Science and Engineering	03
Earth Sciences	00
Economic Sciences	01
Electrical Engineering	01
Humanities and Social Sciences	00
Dept. of Management Sciences	01
Materials Science and Engineering	02
Mathematics & Statistics	01
Mechanical Engineering	01
Physics	01
Space, Planetary & Astronomical Sciences & Engineering	01
Sustainable Energy Engineering	02

During the same period, the institute also offered a Postdoctoral fellowship to 92, a Visiting Prof. position to 19, an Adjunct Faculty position to 15, and a Visiting Prof. of Practice position to 07 candidates.

AWARDS & HONOURS

Our faculty members have played a significant role in pushing the frontiers of knowledge. This has been duly recognized in the form of various awards and honors, including fellowship of professional societies and editorship of international journals.

I am extremely happy to share with you the wonderful news that Prof. Ashutosh Sharma (CHE) was conferred with the Padma Shri 2025 by the GoI for his exceptional contributions to Science & Engineering. Prof. S. N. Tripathi (CE, SEE) has been awarded the Alexander von Humboldt Medal 2025 of the European Geophysical Union. Prof. Bushra Ateeq (BSBE) has been selected for the prestigious World Academy of Sciences (TWAS) Award in Medical & Health Sciences. Prof. Adimurthi Adi (MTH&S) was awarded the Rashtriya Vigyan Puraskar, Vigyan Shri for 2024.

Prof. D. H. Dethe (CHM) has been awarded the C. N. R. Rao National Prize for Chemical Sciences-2025 of the Chemical Research Society of India (CRSI). Prof. Avinash Agarwal (ME, Director IIT Jodhpur) has been selected to receive the 2025 ASME (American Society of Mechanical Engineers) Internal Combustion Engine Award. He has also received the 3rd IETI (International Engineering and Technology Institute) Ramesh Agarwal Lifetime Achievement Award. Prof. Animesh Biswas (EE) has received the Prof. G. K. Dube Memorial Lifetime Achievement Award - 2024 from IEEE, UP Section. Prof. Krishanu Biswas (MSE) has been selected to receive the MRSI (Materials Research Society of India) Medal for 2024. Prof. Wasim Ahmad (ECO) was awarded the prestigious Mahalanobis Memorial Medal – 2024.

Prof. Ashoke De (AE, SEE) has been elected as a Fellow of the American Society of Mechanical Engineers (ASME). Prof. Animangshu Ghatak (CHE) and Prof. S. P. Rath (CHM) have been elected to the Fellowship of the Indian National Science Academy (INSA). Prof. Jayant K. Singh (CHE) was elected to the Fellowship of the Indian Academy of Sciences - 2025. Prof. Siddhartha Panda (CHE) and Prof. Ashok Kumar (BSBE) have been elected as Fellow of the prestigious Indian National Academy of Engineering (INAE).

STUDENT AWARDS

The prestigious scholarships and awards received by our students have been a matter of pride and pleasure for us. To name a few, Vasa Abhirup, Archit Agarwal, and Inapakurti Rajesh received the prestigious Aditya Birla Scholarship; Arindom Bora, Goural Dureja, and Kuldeepak Dhar Dwivedi received the O P Jems scholarship; and 189 students received the Inspire Scholarship.

INSTITUTE COUNSELLING SERVICE

The Institute Counselling Service (ICS) at IIT Kanpur is dedicated to supporting students' mental, academic, and financial well-being. Its mission is to create a compassionate and supportive environment on campus. The ICS team consists of 9 professional counselors (3 of them joined this year) and 3 consultant psychiatrists, along with a strong network of student volunteers. This includes separate undergraduate and postgraduate wings. The undergraduate wing has 5 coordinators, 22 core team members, 225 student guides, and 185 academic mentors. The postgraduate wing consists of 18 core members, 187 student guides, and 28 orientation team members. Along with this, we have 80 Faculty Guides who are volunteering their service to support the in-distress first-year UG and PG students.

Students can seek counseling on their own or be referred by friends, faculty members, or the campus health Centre. Those facing academic stress are also encouraged to seek help. In case of emergencies, ICS coordinates with external clinics, and a Psychiatry & De-addiction Clinic is held every two weeks at the campus health Centre.

In the academic year 2024–25, ICS conducted 4,116 individual therapy sessions together with wing visits of halls, departmental presentations, and emergency interventions. The number of therapy sessions has increased by about 30% from the previous year.

The academic year began with a 10-day orientation program for Y24 UG and PG students. Over 1,500 PG and 1,215 UG students arrived on campus in July. They were warmly welcomed by the Director, Deans, Head of ICS, and student members. UG students also attended an inspiring session by IIT Kanpur alumnus and entrepreneur Prof. Ashok Jhunjhunwala. A separate session was held for over 2,700 parents of UG students. They got to learn about academics, student life, and mental health support from institute officials and psychiatrist Dr. Alok Bajpai. During the program, students were introduced to various clubs, activities, and support services such as counseling, internships, and exchange programs. There were also fun events like Zumba, DJ nights, science shows, and campus tours. To help new students settle in, ICS follows a mentor-mentee system where senior students guide and support small groups of freshers.

The ICS also promoted strong anti-ragging measures to keep the campus safe and welcoming by organizing an anti-ragging workshop. In August, an open mic event in collaboration with the Gender Cell provided a platform for students to express themselves through music, poetry, and personal stories, raising awareness about mental health. A special session on mental health and wellness was also held for students in the Design, BSBE, and CSE departments. ICS started peer-led support groups for students facing mental health challenges, helping them connect and share coping strategies.

On World Suicide Prevention Day, ICS hosted a talk by Prof. P. R. Bijwe, a noted author and a former professor at IIT Delhi, followed by a poetry performance by Mr. Shubham Shyam and a screening of the movie Inside Out. For World Mental Health Day, several creative events,

such as a T-shirt painting, a campus-wide family photo, and a decluttering contest, helped bring the community together. During Diwali, ICS organized a festive event called Hakuna Matata, which featured game nights, diya lighting, and sky lanterns. In a thoughtful gesture, sweets were distributed to security staff as a token of appreciation for their continued service.

To help staff members recognize and respond to students in distress, ICS conducted a Gatekeeper Training Program. A special session titled “Sneak-Peek into the Therapy Room” was also held to demystify counseling and encourage students to seek help without hesitation. Additionally, an awareness session on the government’s Tele-MANAS program was organized in collaboration with the District Mental Health Program (DMHP), featuring talks by a psychiatrist, a clinical psychologist, and a psychiatric nurse.

A new initiative called ‘Wellness Mandali’ was introduced this semester as an activity-based support group where students engage in group activities and learn techniques to manage stress together. ICS teams also visited residence halls regularly to check on students and offer support when needed. Academic mentors provided remedial classes and one-on-one mentoring for first-year undergraduates. Just before exams, motivational cards were distributed to students to help ease anxiety and promote a positive mindset.

To enhance outreach and awareness, this year, ICS launched a monthly Instagram campaign featuring motivational wallpapers, playlists, event calendars, and mental health resources.

In addition, the team published blogs and ran social media campaigns throughout the year. Students especially well received their internship-themed comic series and motivational posts during the placement season.

STUDENT ACTIVITIES

PRESIDENT, STUDENTS’ GYMKHANA OFFICE

The President’s Office of the Students’ Gymkhana undertook a diverse range of initiatives in the academic year 2024–25, focusing on student welfare, infrastructure, mentorship, industry exposure, community engagement, and the cultural vibrancy of the campus. Below are a few highlights:

Campus Infrastructure & Facility Development

- A proposal for a new Students’ Activity Centre near Hall 14 was presented, and it has been passed by the Institute Academic Council (IAC). The required space has been marked for development, with the funding expected through the IIT Kanpur Development Fund.
- A Users’ Committee was officially formed on October 19th, 2024, by the Director (vide DIR/IITK/2024/OO-119) for planning Halls 15 and 16. The committee ensures that student feedback and requirements are incorporated during the design and construction process from the initial stages.

Student Welfare & Well-being

- Emergency Medical Fund was launched in collaboration with DoSA and the CMO, the fund provides support in situations where TPA services or insurance coverage are unavailable.
- VendiHalt vending machines were installed in all Halls of Residence and the New SAC to ensure 24x7 access to snacks and beverages.
- A Suit Drive was conducted in collaboration with Raymond and a local distributor. Formal wear was offered at subsidized rates, and over 200 students benefited from this initiative.
- Cycle Auction Drive was conducted in two phases in October and November 2024; the auction verified and sold over 850 abandoned or unclaimed cycles.

Mentorship & Professional Exposure

- An MoU with Trumio Inc. enabled students to work on real-world projects in ESG, cybersecurity, and consulting— bridging academics with industry.
- A landmark proposal, ratified by the Students’ Senate and approved by the IAC, allows PhD students to act as “Co- Principal Investigators with viewing rights” on research projects—provided the funding agency's norms permit it.

Cultural, Festive & Legacy Events

- Events were conducted in a healthy and competitive environment at the General Championship,
- Farewell Fantasia (Y20) was a farewell event for the graduating batch.
- Over 1200 printed copies of the Y21 Yearbook were distributed to the graduating Y21 batch.

Governance & Representation

- A group of six students visited the new Parliament House at the invitation of the Hon’ble Vice President of India, with support from the DoSA Office.

Community Welfare Cell (CWC)

The CWC organized many community engagement activities throughout the year. To name a few, the celebration of Menstrual Hygiene Day, which included awareness and pad distribution in nearby Nankari village; Old Age Home Visit; Raksha Bandhan celebration with the SIS guards and Prayas children; installation of water bowls across the campus for birds and celebration of Basant Panchami.

Prakriti

To spread awareness about the environment and well-being, the Club celebrated events like World No Tobacco Day, the Plastic-free challenge, climate awareness sessions in local schools, organized competitions, field trips, and campus plantation drives.

Unmukt

Unmukt is a gender & sexual diversity forum. It launched blogs, podcasts (Voices Unbound), and Pride Fest IRIS. The members also participated in the Kanpur Queer Parade and IIT Delhi's Vibhinn.

Vivekananda Samiti

The Samiti arranges meditation programs, quizzes, spiritual talks, etc., for the campus junta on a regular basis. These events are very well received.

Raktarpan

The student body organized eight blood donation camps. The drives were held on major national days like Independence Day, Gandhi Jayanti, etc.

Prayas

For the benefit of the underprivileged, the student body organized cycle distribution drives, health and gender awareness sessions, and workshops in music, science, dance, etc.

Entrepreneurship Cell

Throughout the year, the Cell organized many events contributing to the entrepreneurial & innovation ecosystem of the institute. These include E-Summit'24, UpStart'24, and Alma- Konnect.

Vox Populi

Projects undertaken by the Vox Populi during AY 2024-25 explored and covered diverse topics of campus life such as campus culture, heritage projects like the time capsule, R.G. Kar silent march, Fursat Mandli play cancellation, and updates from Hall 13 and SPASE.

- Released satire and analysis through Resume Comics, cycle shop eviction reports, and NIRF infographics.
- Analyzed rankings and infrastructure, including QS performance and drainage issues.
- Launched the "As We Leave" series, maintaining the tradition of farewell letters from graduating students.

Outreach Cell

The Cell organized Monsoon Milan '24, where 100+ alumni and 100+ students networked for internships. 90+ alumni conducted mock interviews for 200+ interns at Mock-en-Joy.

Public Policy & Opinion Cell (PPOC)

The Cell organized various aspiring talks for the students, like talks by IAS officers Mr. Ashutosh Dwivedi, Mr. Himanshu Kishore and Mr. Pawan Kadyan (BT/EE) and IPS officer Mr. Aditya Srivastava (BT-MT/CSE/2019). Various competitions like Riwayat, a Policy-making competition, and Brahmastra, a national policy case competition that saw a participation of 1,727 teams, were conducted.

Election Commission

In the 2024–25, three Gymkhana elections were held at IIT Kanpur. The Mid-Term Elections in October 2024, The General Elections in January 2025, and By-Elections in March 2025. These elections ensured continued student representation and the smooth functioning of the Gymkhana.

ACADEMICS & CAREER COUNCIL

The PG Wing

- Orientation Sessions: Two sessions for incoming PG batches (Aug & Jan) with talks by Director Prof. Manindra Agrawal and senior faculty, distributing booklets to 750+ students on academic structure and resources.
- Institute Research Symposium (IRS): Flagship event with 150+ abstract submissions featuring keynote speeches by Prof. Ashutosh Sharma and Dr. Yogeshwar Nath Mishra, poster/oral presentations, and networking dinners.
- High-Impact Talks: Prof. Ajit Chaturvedi on scientific writing and Dr. Sanjeev Varshney on global research grants.
- Informative Sessions & Workshops: Sessions with Fulbright, ETH Zurich, and Ernst Mach fellowship

recipients; four online workshops for GRE/TOEFL/IELTS preparation.

The UG Wing

- Career Prep: Internship preparation series, profile-specific placement sessions, placement blog series, and CAT mock test for UG students.
- Career Connect 2025 (Mar 21-23): Three-day career fest with workshops on study abroad, product roles, and case studies.
- Alumni Talks & Portal: Talks by IIT Kanpur alumni at Harvard, Columbia, and Cornell; launched Foreign Exposure Portal.
- Lab Introduction: Introduced Y24 students to leading labs with Counseling Service.
- Engineers' Conclave '25: Inter-pool research competition with poster presentations and research analysis.
- Product Club: Summer projects for 150+ students on product fundamentals, marketing, and analytics; bootcamps and workshops for 200+ students with real-world startup projects.

Media & Cultural Council Highlights:

- Cultural Nexus (Aug, 2024): Freshers' Weekend event.
- Alfaaz (Oct, 2024): Literary festival with author talks, writing workshops, JAM sessions, book discussions, quizzes, and poetry.
- Antaragni (Oct, 2024): 59th edition with performances by Badshah, Ritviz, and Javed Ali.
- Inter IIT Cult Meet 7.0 (IIT Patna): IIT Kanpur's 230+ member contingent won 1st in the Dance Arts Cup and 2nd in Digital Arts and Filmmaking Arts Cups.
- Galaxy (Feb, 2025): 40th annual inter-pool competition with events in dramatics, music, dance, design, and literature.
- Cultural Extravaganza (Apr, 2025): Organized by various clubs, featuring diverse cultural events.

SCIENCE & TECHNOLOGY COUNCIL

- **SnT Summer Camp 2024 (May-Jul)**: Over 600 students engaged in 50+ hybrid-mode technical projects across 12 entities, with awards in Best Project, Research, Documentation, and Implementation.
- **Hack IITK (Jun-Jul)**: Focused on industry-level challenges from partners like Zelta Labs, Trumio, C3iHub, and Overlayy, preparing students for Inter IIT Tech Meet and national competitions.
- **SnT Pavilion (Aug)**: Introduced Y24 batch to Council entities through live demos and interactive projects.
- **TAKNEEK 2024 (Aug 27-Oct 02)**: Offline event with Multi- Day challenges (Innovate, Quest, Insight), On-Spot Problem Statements, and SnT Code, covering RC Plane Design, Astrophotography, LLM Manipulation, Deepfake Detection, and Game Theory.
- **Opportunity Open-Source Conference 2024**: Hosted at IIT Kanpur with 50+ institutes, 51 global speakers, and sponsors like Google, Canonical, and The Linux Foundation. Included a networking dinner for collaboration.
- **13th Inter IIT Tech Meet (Dec 2024, IIT Bombay)**: IIT Kanpur secured 6th place among 23 IITs, tackling problem statements from ISRO, Adobe, Dream11, and others.
- **Techkriti 2025 (Mar 27-30)**: Asia's premier tech festival with competitions, talks, exhibitions, and an Indian Armed Forces pavilion featuring CDS, Army, and Air Force Chiefs. Four high-energy pronites capped the event.
- **Astroventure 2025**: Astronomy Club's golden jubilee event with 1500+ participants and keynote talks.
- **Other Events**: SARAS AI Hackathon (computer vision and AI) and Electrovista 2025 (3-day workshop on IoT, Computer Vision, PCB Design). Outreach included NGO collaborations (Shiksha Sopan, SINSME), Kalam Labs, ARIES Observatory, and school workshops by Astronomy and Aeromodelling Clubs.

Team Achievements:

- **Team Aerial Robotics**: Developed a 5-drone swarm with ROS coordination, secured ₹50,000 funding, placed 5th at Inter IIT Tech Meet 13.0, designed a vision-based Mars landing system for ISRO's IRoC-U, and built a decentralized drone swarm for ICUAS 2025.
- **Team AUV-IITK**: Competed in Singapore AUV Challenge 2025.
- **Team ERA**: Qualified for RoboCup 2025 in El Salvador, ranked 7th globally, and top 3 in design sharing and video submission, becoming India's first team to reach the main challenge.

- **Team Humanoid**: Achieved 4th globally at FIRA HuroCup 2024, with podium finishes in Archery and Sprint, the only Indian team to qualify.
- **Team IIT Kanpur Motorsports (IITKMS)**: Won Overall Champion in Electrical Category at Formula Imperial 2024, secured 6 awards, and placed 9th at Formula Bharat 2025.
- **IITKRASET**: Launched a rocket reaching 600 ft in July 2024.

GAMES & SPORTS COUNCIL

Workshops

- Powerlifting & Weightlifting Workshop (Aug 17th -21st, 2024): Focused on talent scouting and strength training.
- Teacher's Day Event: Featured Gurbaksh Singh Sandhu, former Indian National Boxing Team coach, honoring IIT Kanpur coaches.
- Talk by Olympian Sudha Singh (Mar 5th, 2025): Shared in- sights to motivate athletes

Intra-Campus Sports Events

- Institute Phatta League (IPL, Aug 16th, 2024): 10-member team event with strong participation, backed by Champhunt.
- Fresher's Inferno 2024 (Aug 31st -Sep 8th): Included 16 events, introduced swimming.
- Intra-IIT Wall Climbing Competition: Featured speed and difficulty categories.
- Athletics Arena (Oct 26th, 2024): Included relays, shot put, and long jump.
- Institute Volleyball League (IVL, Feb 15th -16th, 2025): Inclusive event for men and women.

Sports Camps

- A 45-day Sports Conditioning Camp was conducted for Inter-IIT preparation, followed by a felicitation of top performers.
- Inter-IIT Team Trials were held from July 30th to August 1st, 2024, to select athletes for the main meet.
- Inter-IIT Aquatics Camp was held exclusively for aquatics team members from September 23rd –29th, 2024.
- A 40-day Winter Camp was conducted for team bonding and nutrition planning, with daily juices and high-protein diets.

Tournaments Achievements

- Sangram 2024 at IIT Roorkee witnessed exceptional performances from the IIT Kanpur contingent.
- Sportech 2024 at IIT Delhi saw enthusiastic participation from IIT Kanpur teams.
- Inter-IIT Aquatics Meet 2024 was held in IIT Indore.
  - Men's Swimming: 1 Silver, 3 Bronze
  - Women's Swimming: 1 Silver, 1 Bronze
  - Water Polo: 4th overall

Udghosh 2024

This year, IIT Kanpur celebrated the 20th edition of Udghosh, attracting immense participation nationwide. IIT Kanpur's contingent of 300+ athletes competed fiercely over three days, turning all sports grounds and courts into battlefronts.

Inter IIT Sports Meet 2024

The meet was hosted jointly by IIT Kanpur and IIT Indore; IIT Kanpur was ranked 5th overall among 23 IITs with 69.39 points.

Highlights:

- Gold: Badminton (Men), Lawn Tennis (Men)
- Silver: Athletics (Men), Table Tennis (Men), Swimming (Women), Weightlifting (Men)
- Bronze: Swimming (Men), Table Tennis (Women), multiple relay events
- Strong performances are also noted in Volleyball, Squash, Basketball, and Cricket.

Inferno 2024

Inferno is an Intra institute sports competition, which was held from April 3–14, 2025, featuring 20 men's and 15 women's events.

STUDENTS' PLACEMENT OFFICE

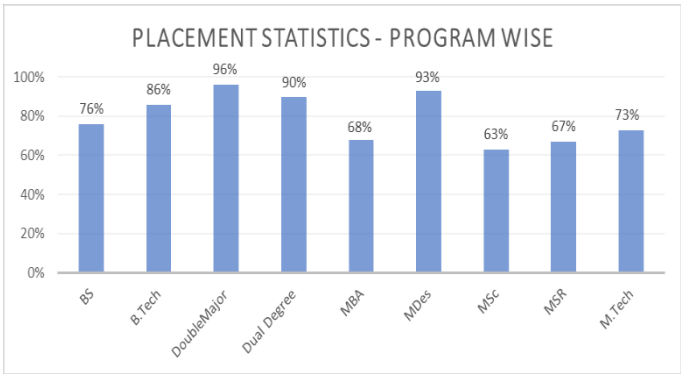
Campus Recruitment Drive 2024-25

The campus recruitment drive for the academic year 2024-25 was conducted in hybrid mode across two phases. Phase-1 officially began on December 1st, 2024, and continued until December 15th, 2024, with initial preparations and related activities starting in July 2024. Phase-2 of the campus recruitment commenced in mid-January 2025 and is currently ongoing. "One student one job" (single offer acceptance) policy, ensuring equal

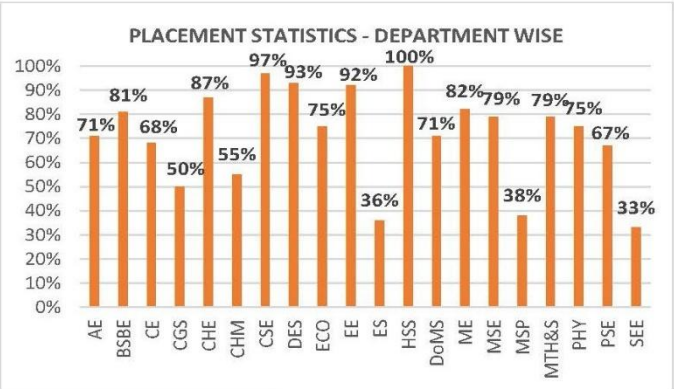
opportunity for all students registered with the Students' Placement Office (SPO), was continued this year as well.

As of May 10th, 2025, over 400 companies have participated in the campus placement process across both phases of 2024–25. Out of 1,530 registered students, 1,223 have been success- fully placed through the SPO, including 200 Pre-Placement Offers (PPOs) covering both undergraduate and postgraduate programs.

Notably, students from IIT Kanpur received 29 international offers, representing a significant 31% increase over the previous year. The overall placement rate stands at approximately 80%, underscoring the collective efforts and commitment of the SPO team—comprising student volunteers, faculty coordinators, and staff members.



In BTech, BS, Double Major & Dual Degree programs, 798 out of 937 registered students (~ 85%) secured placements. In MTech, MSR, MSc, MBA, MDes & PhD programs, 425 out of 593 registered students (~ 72%) were placed during the recruitment drive 2024-25 as of now. It should be noted that a significant number of graduating students may choose to pursue higher studies, entrepreneurship, or placements outside the campus recruitment drive. The numbers reported here pertain exclusively to students registered with the Students' Placement Office (SPO).



Apart from the regular placement drive, the Students' Placement Office successfully organized Shodhspandan, which is an exclusive recruitment for PhD scholars. The event highlighted the interdisciplinary strengths of IIT Kanpur's PhD candidates, covering diverse domains from engineering to humanities, and attracted participation from over 25 leading industries and academic institutions. As of now, 12 PhD students have secured positions through this dedicated drive.

In addition to the placement drive, the Students' Placement Office also conducted an internship drive, which began on August 3rd, 2024, and is currently ongoing. This year's internship drive has seen a notable surge in offers, with 551 students having secured positions so far.

EPILOGUE

Dear Graduating Students,

I congratulate you all on this momentous occasion in your life!

This day brings back the nostalgia of my own graduation from this very Institute.

I also take this opportunity to acknowledge the role of all the parents who have played a central role in their children's achievements throughout.

You have spent most of your life so far in training to meet the challenges of the world. Now is the time to put your training into practice. The technology space is undergoing an exciting transition, giving rise to great opportunities for new discoveries and applications of relevance to the world in general and India in particular. I am sure that with your abilities and training, you will have a significant role to play in this transition.

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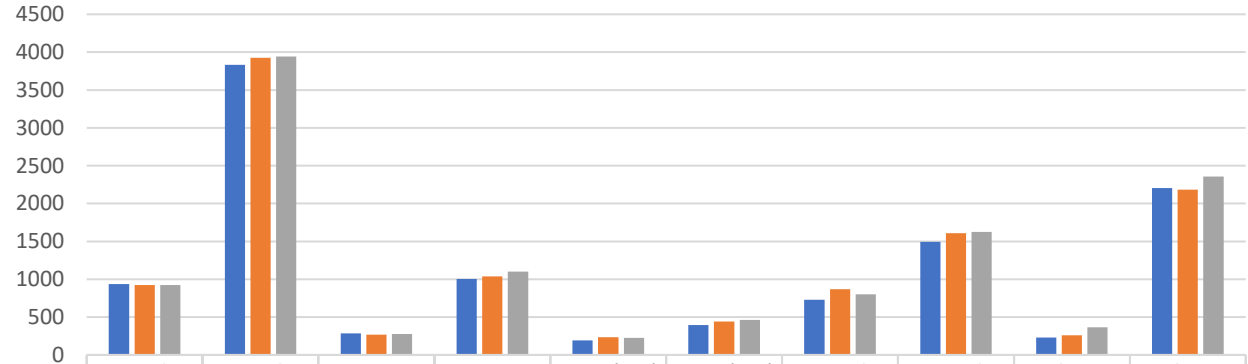
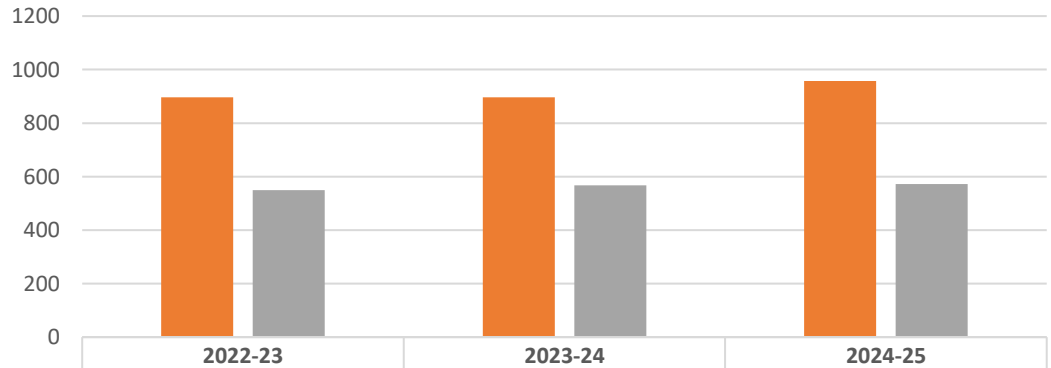
Students Strength



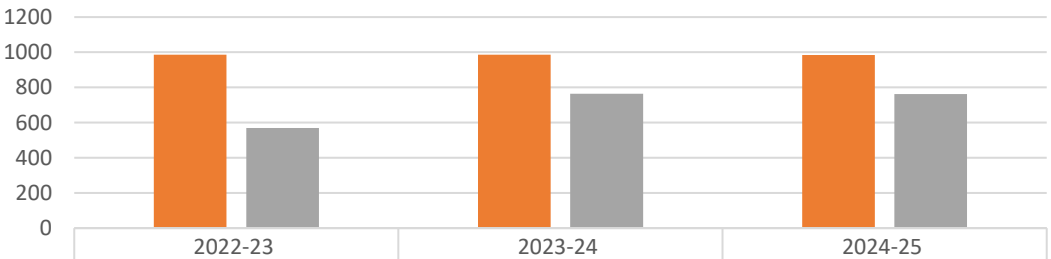
	B.Tech. Enrolled	B.Tech. Registered	B.S. Enrolled	B.S. Registered	M.Sc.(2Yr) Enrolled	M.Sc.(2Yr) Registered	M.Tech. Enrolled	M.Tech. Registered	Ph.D. Enrolled	Ph.D. Registered
2022-23	936	3832	286	1004	192	395	727	1493	231	2205
2023-24	925	3927	270	1037	233	440	867	1607	258	2184
2024-25	924	3944	275	1099	224	461	801	1625	367	2356

Faculty Strength



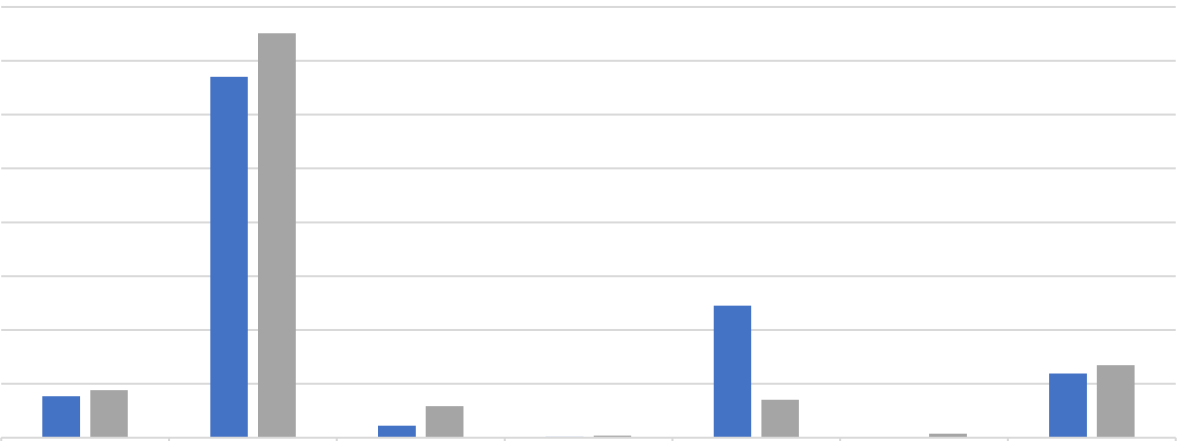
	2022-23	2023-24	2024-25
Sanctioned Strength	**896**	**896**	**957**
Total Faculty Strength (regular faculty as on 30 June)	**549**	**567**	**572**

Non-Teaching Staff Strength



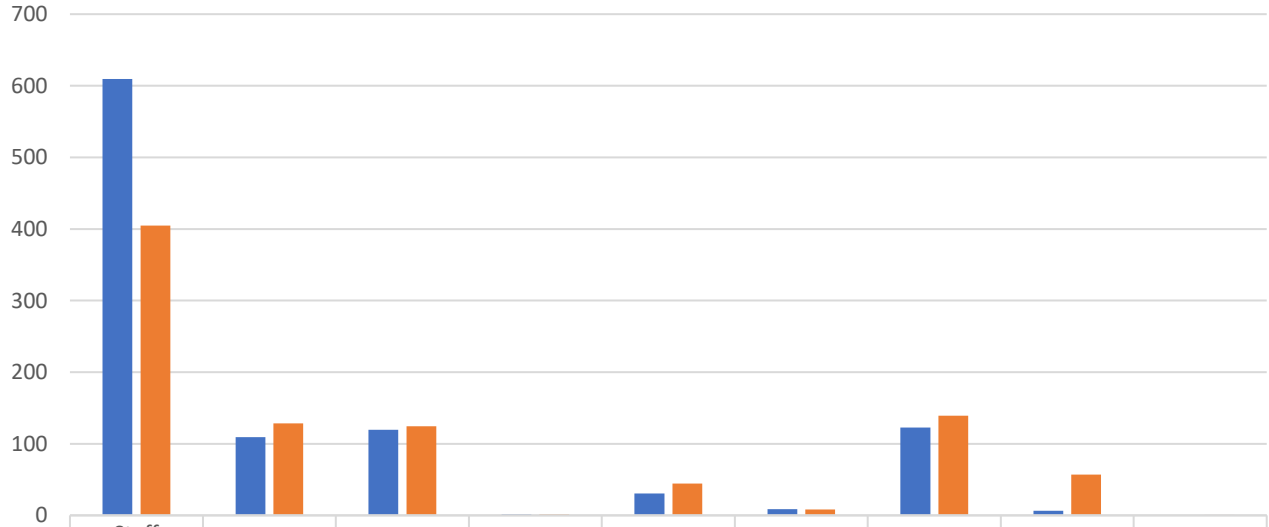
	2022-23	2023-24	2024-25
Sanctioned Strength	987	986	985
Total Faculty Strength (regular faculty as on 30 June)	570	764	763

Details of Income (Rs. in Crore)

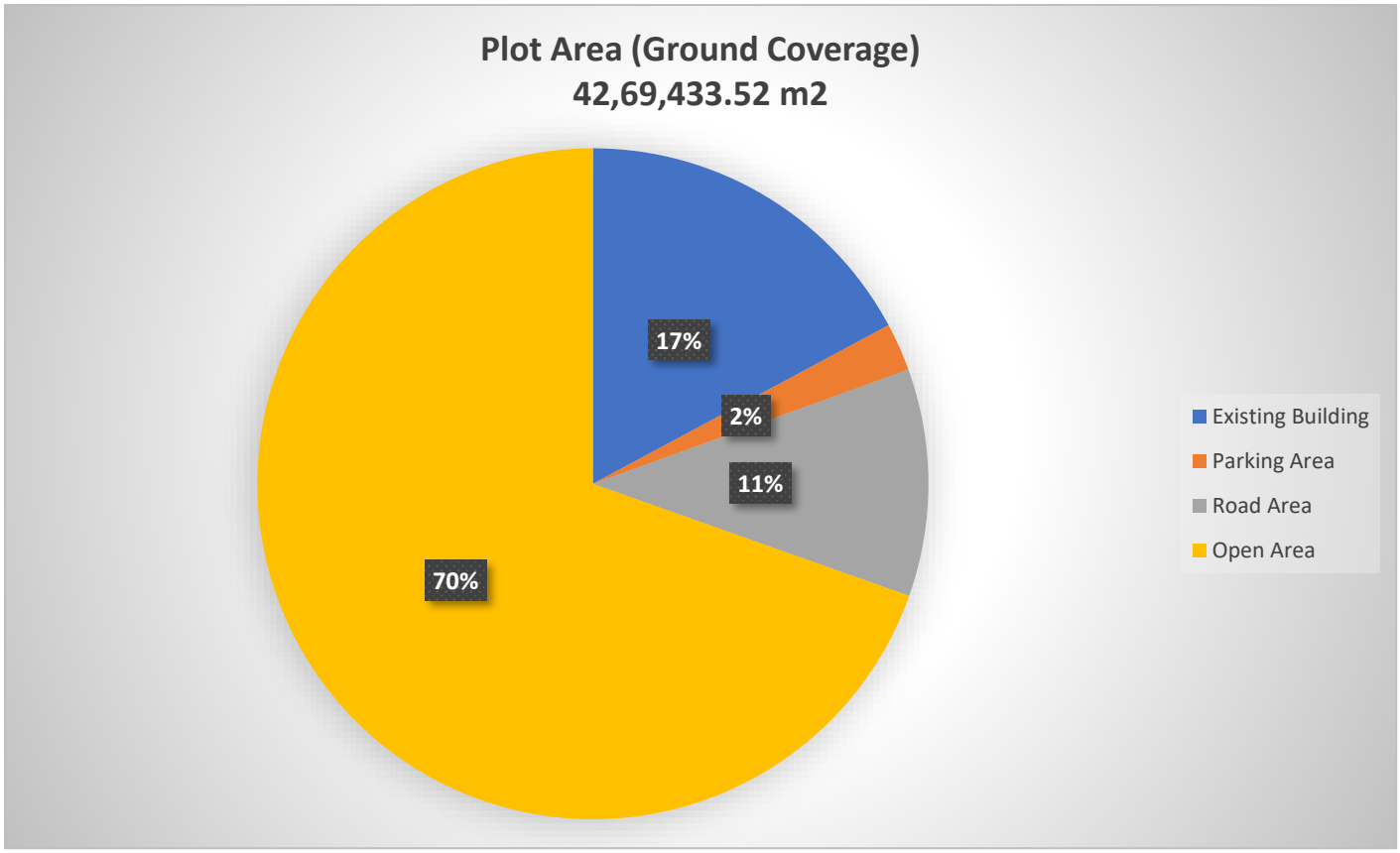


	Academic receipt	Grants / Subsidies	Income from Investments	Interest earned	other income	Prior period income	Deferred Revenue Income
2023-24	77.05	670.19	22.27	1.5	245.15	0	119.23
2024-25	88.52	751.22	58.88	4.2	70.78	7.3	134.84

Details of Expenditure (Rs.in Crore)



	Staff Payments Benefits (Establishment Expenses)	Academic Expenses	Administration and General Expenses	Transportation Expenses	Repairs & Maintenance	Finance Costs	Depreciation	Other Expenses	Prior period expenses
2023-24	609.6	109.23	119.69	1.67	30.79	8.69	122.54	6.25	0
2024-25	404.9	128.7	124.68	1.36	44.61	8.04	139.39	57.1	0.56


Plot Area (Ground Coverage)
42,69,433.52 m2
17%
2%
11%
70%
Existing Building
Parking Area
Road Area
Open Area

BOARD OF GOVERNORS

Chairman

Dr. K. Radhakrishnan [upto February 18, 2025]
Chairman, BOG, IIT Kanpur
Antariksh Bhavan
New B.E.L. Road
Bengaluru – 560 231

Prof. Manindra Agrawal [w.e.f. February 19, 2025]
Acting Chairman, BOG,
Indian Institute of Technology, Kanpur
Kanpur – 208 016

Members:

Prof. Manindra Agrawal
Director
Indian Institute of Technology, Kanpur
Kanpur – 208016

Council Nominees:

Smt. Saumya Gupta (Ex-officio)
Joint Secretary (Technical Education)
Ministry of Human Resource & Development
Shastri Bhawan, New Delhi – 110001

Dr. Saurabh Srivastava
Former Chairman, NASSCOM
Founder Chairman, Indian Angel Network
C-482, Defence Colony, New Delhi- 110024

Shri Pradeep Goyal
Chairman & Managing Director
Pradeep Metals Ltd.
Navi, Mumbai – 400 701

Dr. Manoj Gonuguntla
Senior Materials & Corrosion Engineer
Shell Technology Centre, Bangalore
26, 19th Cross, Laljinagar
Bangalore – 560 030

State Government Nominee:

Dr. Mahesh Gupta
Chairman & Managing Director
Kent RO Systems Ltd.
E-6, 7 & 8, Sector 59
Noida (UP) – 201 309

Senate Nominees:

Prof. R. Sankararamakrishnan
Department of Biological Sciences and Bioengineering
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. Shikha Dixit
Department of Humanities and Social Sciences
Indian Institute of Technology Kanpur
Kanpur – 208 016

Secretary:

Prof. Braj Bhushan [upto April 30,2024]
Officiating Registrar
Indian Institute of Technology Kanpur
Kanpur – 208 016

Mr. Vishwa Ranjan [w.e.f. May 01, 2024]
Registrar
Indian Institute of Technology Kanpur
Kanpur – 208 016

FINANCE COMMITTEE

Chairman

Dr. K. Radhakrishnan [upto February 18, 2025]
Chairman, BOG, IIT Kanpur
Antariksh Bhavan
New B.E.L. Road
Bengaluru – 560 231

Prof. Manindra Agrawal [w.e.f. February 19, 2025]
Acting Chairman, BOG,
Indian Institute of Technology, Kanpur
Kanpur – 208 016

Members

Prof. Manindra Agrawal
Director
Indian Institute of Technology, Kanpur
Kanpur – 208016

Smt. Saumya Gupta (Ex-officio)
Joint Secretary (Technical Education)
Ministry of Human Resource & Development
Shastri Bhawan, New Delhi – 110 001

Dr. Saurabh Srivastava
Former Chairman, NASSCOM
Founder Chairman, Indian Angel Network
C-482, Defence Colony, New Delhi- 110 024

Shri Sanjog Kapoor
Joint Secretary & Financial Adviser
GoI, Department of Higher Education
Ministry of Human Resource Development
Shastri Bhawan, New Delhi-110 001

Prof. Shikha Dixit
Department of Humanities and Social Sciences
Indian Institute of Technology Kanpur
Kanpur – 208 016

Secretary:

Prof. Braj Bhushan [upto April 30,2024]
Officiating Registrar
Indian Institute of Technology Kanpur
Kanpur – 208 016

Mr. Vishwa Ranjan [w.e.f. May 01, 2024]
Registrar
Indian Institute of Technology Kanpur
Kanpur – 208 016

BUILDING & WORKS COMMITTEE

Chairman

Dr. K. Radhakrishnan [upto February 18, 2025]
Chairman, BOG, IIT Kanpur
Antariksh Bhavan
New B.E.L. Road
Bengaluru – 560 231

Prof. Manindra Agrawal[w.e.f. February 19, 2025]
Acting Chairman, BOG,
Indian Institute of Technology, Kanpur
Kanpur – 208 016

Members

Prof. Manindra Agrawal
Director
Indian Institute of Technology, Kanpur
Kanpur – 208016

Er. Anil Kumar Jain,
Retd SDG CPWD,
Flat 9-B, Tower-X,
Meghdutam Apartments, Sector 50,
Noida – 201 301 (UP)

Prof. Neeraj Gupta,
Department of Architecture,
Central university of Rajasthan, Kishangarh,
Ajmer- 305 817 (Rajasthan)

Prof. R. Sankararamakrishnan
Department of Biological Sciences and Bio Engineering
Indian Institute of Technology Kanpur
Kanpur – 208 016 (UP)

Prof. Janakarajan Ramkumar
Dean of Infrastructure & Planning
Indian Institute of Technology Kanpur
Kanpur – 208 016 (UP)

Secretary:

Prof. Braj Bhushan [upto April 30,2024]
Officiating Registrar
Indian Institute of Technology Kanpur
Kanpur – 208 016

Mr. Vishwa Ranjan [w.e.f. May 01, 2024]
Registrar
Indian Institute of Technology Kanpur
Kanpur – 208 016

In the past one year, the Institute has offered 38 faculty positions against a rigorous selection from 1721 applicants. Out of these, 16 new faculty members have joined the Institute. The department-wise joining for said duration is tabulated below:

Department	Number of new faculty
Aerospace Engineering	00
Biological Sciences and Bioengineering	02
Chemical Engineering	01
Chemistry	01
Civil Engineering	01
Cognitive Science	01
Computer Science and Engineering	03
Earth Sciences	00
Economic Sciences	01
Electrical Engineering	01
Humanities and Social Sciences	00
Department of Management Sciences	01
Materials Science and Engineering	01
Mathematics & Statistics	00
Mechanical Engineering	01
Physics	01
Space, Planetary & Astronomical Sciences & Engineering	00
Sustainable Energy Engineering	01

During this period, we have also made 92 offers of Postdoctoral fellowships, 19 Visiting Professor, 15 Adjunct Faculty, and 07 Visiting Professor of Practice.

Department-wise faculty list is available at the link given below:

https://web.iitk.ac.in/july14dordn/data/Annual-Report-2024-25/Annual-Report-2024-25-Link-2.pdf

Department-wise Books, Conferences and Journal Articles are available at the link given below:

https://web.iitk.ac.in/july14dordn/data/Annual-Report-2024-25/Annual-Report-2024-25-Link-3.pdf

EDUCATIONAL GOALS

The aim of the Institute is to create, disseminate and translate knowledge in science, engineering and allied disciplines that will best serve society. It provides meaningful education, to conduct original research of the highest standard and to provide leadership in technological innovations.

It pursues excellence in education, research and innovation by enabling a creative and dynamic learning environment; developing sustainable research solutions for the benefit of the nation; building bridges between the academia, industry and society; fostering entrepreneurial spirit and skills, burturing leadership qualities with sense of commitment and accountability and inculcating values and ethics in thought, exression and deed.

While maintaining its teaching quality, academic programs, highly regarded faculty, advanced research facilities, and centers, it will continue to mold bright students with intellectual skills, courage, and integrity to take on the biggest challenges faced by humankind.

TEACHING PROGRAMMES

The Institute offers instruction in various science and engineering disciplines at undergraduate (UG) and postgraduate (PG) levels. These programmes are planned and implemented by the Academic Senate of the Institute. Micro-management of these programmes is carried out by the Senate Undergraduate Committee (SUGC) and the Senate Post-graduate Committee (SPGC). The development of these programmes is monitored by the recently introduced Senate Curriculum Development and Monitoring Committee (SCDMC). Apart from this, the programmes are subject to comprehensive review once every 10 years by the Academic Review Committee (ARC) constituted for this purpose. The latest recommendations have been implemented for UG programmes from 2022 and PG programmes in 2023. Such revisions bring changes that are critical for the academic system and at the same time give flexibility to the system enabling it to adapt to the changing academic landscape across the world.

To cater to the fast-changing world, the Institute is continuously evolving its academic offerings and is planning to introduce new courses in emerging fields to keep pace with advancements in technology and industry demands. The Institute is focusing on expanding courses in areas such as artificial intelligence, data science, robotics, sustainable energy, and interdisciplinary fields that integrate engineering with social sciences, business, and humanities. These new courses aim to provide students with cutting-edge knowledge and skills, preparing them for future challenges. IITK also encourages faculty to innovate and design new programs that align with global trends and the evolving needs of the job market.

A significant step toward changing the educational environment was taken with the establishment of the National Education Policy (NEP) 2020, which places a heavy emphasis on digital integration, transdisciplinary, holistic learning, and robust research culture. The curricula at the Institute are consistent with the recommendations of the NEP. The system's much-needed flexibility is a fundamental component of the redesign, allowing it to adapt to the shifting academic scene worldwide. It has been envisaged that by incorporating these characteristics, the Institute would become the chosen institute for its programs both domestically and internationally.

The Institute has one of the most flexible academic programs, with Double Major, Minor, and Dual Degree possibilities and the possibility of pursuing a Master's degree in a separate area. The revised curriculum will include additional degree alternatives such as the Honours degree and new inter-departmental degree programs. Teaching and pedagogy will be driven by technology to take learning to the next level.

The transformational undergraduate education template will include innovative and disruptive features such as new opportunities for student exchange across institutions for the Masters's part of the Bachelors-Masters Dual Degree program.

The granular grading mechanism of student evaluation envisions more routes for advice and counseling, with a heavy emphasis on ethics. The revamp will feature ground-breaking improvements in the laws governing the termination of undergraduate programs with an Exit Degree owing to poor student performance, following National Education Policy guidelines (2020).

Key takeaways from the implementation of NEP 2020:

- ✓ New degree options include Honours degrees and Inter-departmental degree programs.
- ✓ The scope of learning expanded to include Social-Sciences, Communication, Humanities, Economics, Management, and Environment (SCHEME).
- ✓ Direct admission to talented students via globally acclaimed Olympiads.
- ✓ Academic credits for approved entrepreneurial activities and learning in industry set-ups.
- ✓ Counting of online MooC courses towards credits.

- ✓ Exit Degree option is available for students with inadequate performance.

Undergraduate Programme

The Institute offers the following undergraduate programmes:

- Four-year BTech Programmes in Aerospace Engineering, Biological Sciences and Bioengineering, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Materials Science and Engineering, and Mechanical Engineering.
- Four-year BS Programmes in Chemistry, Earth Sciences, Economic Sciences, Mathematics & Scientific Computing, Physics and Statistics and Data Science.

The four-year undergraduate programme consists of two parts, having a duration of about four semesters each. The first part is primarily the Core Programme common to all students and is carefully planned to give the students a strong base of basic education in Mathematics, Physics, Chemistry, Technical Arts, and Humanities and Social Sciences. The second part of the undergraduate programme consists of Professional Courses and a project in the chosen branch of specialization.

Postgraduate Programme

The postgraduate programme is intended to prepare students to enter their professions with a perspective and breadth of knowledge related to the principal areas in their respective fields of specialization through courses as well as specialized research experience. A postgraduate student is typically enrolled for three or four courses each semester until he/she advances to a point where the principal requirements of the programme left to be fulfilled are research and thesis.

MTech Programme

The MTech Programmes are available in Aerospace Engineering, Unmanned Aerial Systems Engineering, Biological Sciences and Bioengineering, Biomedical Engineering, Civil Engineering, Chemical Engineering, Cognitive Systems, Computer Science and Engineering, Cyber Security, Earth Sciences, Electrical Engineering, Materials Science and Engineering, Management Sciences, Mechanical Engineering, Space, Planetary & Astonomical Sciences & Engineering and Sustainable Energy Enginering. In addition, there are MTech Programmes in interdisciplinary areas such as Photonics Science & Engineering, and Materials Science. The MTech students are chosen through an all-India examination known as GATE, and further written tests/interviews are conducted in some cases.

MBA Programme and Post Graduate Programme for Executives

The MBA Programme is offered by the Department of Management Sciences (DOMS). The students admitted to this programme are selected through an all-India examination known as CAT followed by the interview and group discussions. The department also offers Postgraduate Program for Executives for Visionary Leadership in Manufacturing.

MDes Programme

The MDes Programme is offered by the Interdisciplinary Programme in Design. The students are selected through the all-India examinations, CEED and/or GATE, followed by the written test/interview.

Doctor of Philosophy (PhD)

The academic programmes leading to the degree of Doctor of Philosophy (PhD) exist in Aerospace Engineering, Biological Sciences & Bio engineering, Chemical Engineering, Chemistry, Civil Engineering, Cognitive Science, Computer Science & Engineering, Design, Earth Sciences, Economic Sciences, Electrical Engineering, Humanities and Social Sciences, Interdisciplinary Programme on Materials Science, Management Sciences, Materials Science & Engineering, Mathematics, Mechanical Engineering, Photonics Science and Engineering, Physics, Space, Planetary & Astronomical Sciences & Engineering, Statistics, and Sustainable Energy Engineering.

The PhD programme culminates in research on a selected topic, leading to a thesis submitted in partial fulfillment of the requirements for the degree.

MS By Research

The Institute also offers a Postgraduate Programme known as MS (By Research) in the following disciplines: Aerospace Engineering, Chemical Engineering, Civil Engineering, Cognitive Science, Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Photonics Science & Engineering, Sustainable Energy Engineering. The objective of this programme is to promote research at the Masters level, including industry-sponsored research.

Two-Year MSc Programme

The Institute also offers Two-year MSc Programmes in Physics, Chemistry, Economics, Mathematics and Statistics, where students with undergraduate backgrounds are admitted through an all-India entrance examination known as JAM (Joint Admission Test to Master of Science) and/or interview at department level.

These programmes have been largely responsible for creating scientific manpower in Indian research institutes and universities.

MS-PhD Dual Degree

The Department of Physics offers MSc-PhD Dual Degree Programme. The admission is through JAM (Joint Admission Test to Master of Science), and the MSc students migrate to the PhD Programme after completing their MSc Programme.

MTech and PhD Joint Degree

The Institute has initiated the award of additional Masters with PhD, whereby an additional MTech/MDes degree is awarded to students with the PhD degree subject to the fulfillment of certain specified academic requirements. This provision has been introduced for candidates who join the PhD programme directly after BTech/BS/MSc and other bachelor's programmes.

The MTech, MDes, MSR, and PhD students receive financial support through research/teaching assistantships subject to fulfilment of institute norms.

RESEARCH ENVIRONMENT

Interdisciplinary collaboration will remain a key focus, encouraging partnerships between departments and fostering innovation. IIT Kanpur will further strengthen its global engagement through research collaborations and exchange programs with leading international institutions. In the domain of entrepreneurship, IIT Kanpur will continue supporting startups and nurturing entrepreneurial talent through its incubation centers and innovation labs.

IIT Kanpur has demonstrated its excellence in research in many areas. To cite a few areas: Finite Element Methods Using Domain Decomposition, Flow Induced Vibrations, Wind Tunnel Testing of Large Scale Prototypes, Computational Chemistry, Nano-materials and Nano-technology, Geometric Optimization of Large Organic Systems, Genomics and Bio-Informatics, Electronic Structure Calculations, Aggregation and Etching, Molecular Dynamics, Thin Film Dynamics, Optical / EM Field Calculations, Computational Fluid Dynamics and Heat Transfer, Computer Aided Design and Rapid Prototyping, Tomography, Robotics, Multi-Body Dynamics, Geo-seismic Prospecting, Stress Analysis and Composite Materials, Vibration and Control, Semiconductor Physics, Photonics, Neural Networks and Genetic Algorithms, Earthquake Engineering, Spin Fluctuations in Quantum Magnets, Quantum Computation and so on.

Some of the more recent research initiatives include Alternative Energy, 5G Telecom Technology, Real Time Data Transmission, Air Quality Monitoring Systems, Development of Indigenous Blockchain Platform, Unmanned Aerial systems, Aerospace Materials, Biodegradable Materials, Aircraft Engine Combustion Design, Wind Turbine Desin, Waste Water Treatment, Supramolecular Chemistry, Catalysis, Two Dimensional Materiasls, High Performance Computing, Corrosion, Himalayan Glaciers, Biomaterials, New Drug Delivery Systems and so on.

STUDENTS STRENGTH FOR LAST THREE YEARS

Students Strength for last three A.Y.	UG	PG	PhD	E-master
2024-25	5043	2126	2356	1311
2023-24	4964	2089	2184	827
2022-23	5231	1533	2205	295
UG includes	BT/ BS/ DD/ DM			
PG includes	MTECH/ MDES/ MSR/ MBA/ DIIT/ MSC-2/ VLFM			
Students Santctioned Strength for last three A.Y.	UG	PG	PhD	E-master
2024-25	1210	1650	1048	2500
2023-24	1210	1657	967	2500
2022-23	1210	1348	962	1500
UG includes	BT/BS			
PG includes	MTECH/ MDES/ MSR/ MBA/ DIIT/ MSC-2/ VLFM			
Students Fresh admission for last three A.Y.	UG	PG	PhD	E-master
2024-25	1199	1073	367	482
2023-24	1195	1151	258	532
2022-23	1222	767	231	295
UG includes	BT/BS			
PG includes	MTECH/ MDES/ MSR/ MBA/ DIIT/ MSC-2/ VLFM			

Details of admission data and graduation data are available at the link given below:

https://web.iitk.ac.in/july14dordn/data/Annual-Report-2024-25/Annual-Report-2024-25-Link-4.pdf

RESEARCH AND DEVELOPMENT

IIT Kanpur has registered steady growth in its research and development activities this year. The number of externally funded ongoing projects during 2024-25 has reached 1684 with a total sanctioned amount of Rs 1791.46 Crore. During 2024 - 2025, the Institute received sanctions for 304 sponsored projects worth Rs. 633.98 Crore and 265 consultancy projects of value Rs. 107.38 Crore.

Some of the major sponsoring agencies during the year 2024-25 are Department of Science and Technology (DST) with the total sanctioned amount of Rs.269.9 Crore, National Mission for Clean Ganga with the total sanctioned amount of Rs. 47.12 Crore, Department of Biotechnology (DBT) with the total sanctioned amount of 19.89 Crore, and Ministry of Fertilizers and Chemicals with the total sanctioned amount of Rs. 14.86 Crore.

delivered lectures to undergraduate students on topics related documentation of language contact, comparative

Some of the major industries which have funded projects this year include Hindustan Zinc limited Udaipur, GE India Industrial Private Limited, Chittaranjan Locomotives Words (CLW), India Railways, Unilever Limited and Moswave Russia.

During the Financial Year 2024 – 25, a total of 156 IPRs were filed by the Institute including 133 Indian Patent applications, 15 Design registrations, 6 Trademark application and 2 Copyrights, the total number of IPRs granted was 148 and 6 technologies were licensed to Industry Partners.

Till date, 1243 IPRs have been filed, out of which 875 have been granted so far along with 153 technologies licensed for commercialization.

A total of 198 companies are currently incubated at Startup Innovation and Incubation Centre (SIIC), IIT Kanpur and 252 have graduated so far.

IPRs filed, IPRs granted, Sponsored projects, consultancy projects, Institute lectures and MoUs are available at the link below:
https://web.iitk.ac.in/july14dordn/data/Annual-Report-2024-25/Annual-Report-2024-25-Link-5.pdf

OUTPUT STATUS OF MHRD FUNDED PROJECTS

Project Number: 2023271/P-2850

Project Title: Language Documentation, Digital Archiving and Application of Big-data in Language Contact and Variation Research

Project Investigator: Chaithra Puttaswamy

Co-Investigator(s): Usha Udaar (IITK); Anju Saxena (Uppsala University, Sweden); Lars Borin (University of Gotheburg, Sweden)

Industry Collaborators (if any): NA

Project Initiated on: August 2023

Project objectives:

- Creating a network of academicians working on digital archiving of language documentation material
- Exploring possibilities of utilising big-data tools aid language contact and variationist studies
- Brainstorming and training through workshops for young researchers on languages contact and variation studies
- IIT Kanpur students visiting Uppsala university for training
- Publications of monographs and journal articles

Progress Report:

Profs. Anju Saxena and Lars Borin visited IIT Kanpur from 15th February 2024 to 10th March 2024. They linguistics, and computational tools for analysis of linguistic data. Collaborative research to conduct fieldwork in the Himalayan region and the Nilgiri region was discussed with colleagues in IIT Kanpur.

A workshop on language documentation and archiving at IITK Outreach Center Nodia from 21-23 March 2024. The workshop saw participants from academic institutions across India being trained by leading experts of language variation, language archiving and areal linguistics.

in the second year of the project Profs Anju Saxena and Lars Borin visited India to discuss publication plans. An edited volume of research papers on language contact and variation has been initiated. This volume will contain papers by researchers at IIT Kanpur. in addition, a monograph on the Himalayan languages is preparation to be published in Summer 2025.

The IITK students are at Uppsala university for further training in using computational tools for linguistic analysis. They are also receiving training in research methods for studying language contact. The duration of their visit to Uppsala University is April-May 2025.

Highlights:

- Visit of the project collaborators from Sweden in Feb-March 2024 and December 2024.
- Workshop on Language Documentation and Archiving at IITK Noida Outreach Center
- IIT Kanpur research scholars, Ms Mrunmayee Amshekar and Mr Madan Mohan are visiting Uppsala University and University of Gothenburg

for training in research on language contact and computational methods for big data analysis in Linguistics.

Project Number: MHRD /EE /2024074

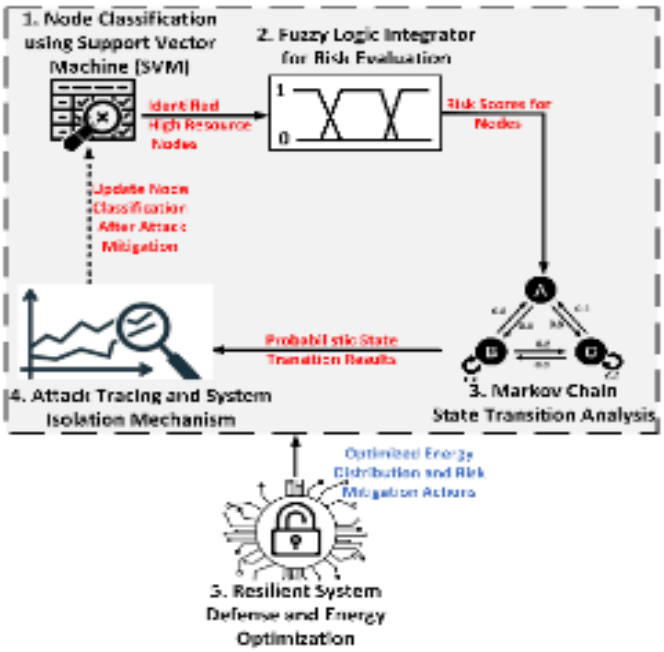
Project Title: Resilience and Cybersecurity Enhancement for an Optimized Distribution System Using Blockchain.
Project Investigator: Dr Gururaj Mirle Vishwanath
Co-Investigator(s): Dr Ankush Sharma
Industry Collaborators (if any): NA
Project Initiated on: 01/04/2024

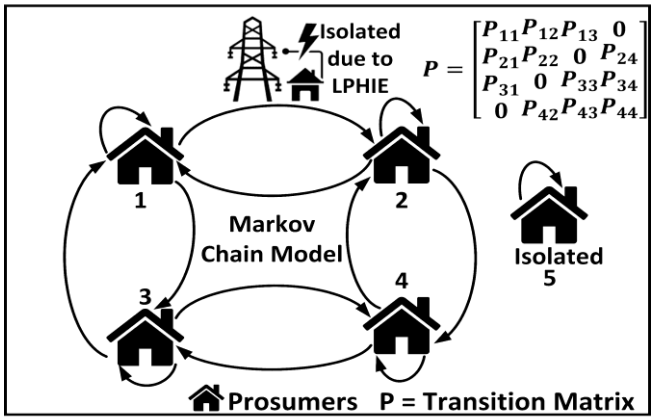
Project objectives:

- To develop a Markov chain based three layer optimization technique for improving the resiliency of the distribution system consisting of renewable and Electric Vehicles.
- Develop a cyber resilient communication layer to protect the energy and transactions using blockchain technology.
- Validating the proposed techniques using the PHIL (Power Hardware in the Loop) experimentation with the real hardware prototype consisting of renewable sources and the Electric Vehicles (EVs).

Progress Report:

Over the past quarter, the project has achieved significant milestones across its core workstreams. in the domain of pricing and resilience, we developed a novel price-discovery insurance scheme to safeguard energy management systems against outages, which has been published in IEEE Transactions on Industry Applications, and formulated a sustainable energy-trading model that balances prosumer incentives with carbon reduction, presented at ICRERA 2024; additionally, a three-tiered bidding framework designed to maximize customer satisfaction and grid resilience was documented in a Springer Lecture Notes chapter. Concurrently, our peer-to-peer trading research leveraged Markov-chain architectures to design a resilient energy-trading framework now accepted in IEEE TIA 2025, while integrated fairness-optimization algorithms effectively mitigated duck-curve challenges, as demonstrated at the 23rd National Power Systems Conference; three more manuscripts—focusing on congestion-based pricing, adaptive ensemble detection of price-manipulation attacks, and hybrid multi-vector energy scheduling—are currently under peer review. Our cross-institutional collaboration was strengthened by hosting Prof. Naveen from La Trobe University at IIT Kanpur during August and December 2024, who delivered intensive modules on smart-grid resilience and blockchain, catalyzing curriculum enhancements and planning for joint seminars and student exchanges. Looking ahead, we will integrate hydrogen, battery, and EV vectors into our simulations, consolidate findings into a comprehensive journal submission on fairness-driven P2P trading, and initiate a pilot demonstration with industry partners to validate performance in real-world settings. Also, one of the PhD students, Mr. .Mayank Arora has travelled to La-Trobe in Feb 2025 and is working towards the accomplishment of the project deliverables.





Highlights:

- **Innovative Pricing & Resilience Solutions:**

  Developed and validated a price-discovery insurance scheme for outage-resilient energy management (IEEE TIA, Mar–Apr 2024), proposed a sustainable energy-trading model balancing prosumer incentives with carbon reduction (ICRERA 2024), and co-authored a three-tiered bidding framework to maximize customer satisfaction and grid resilience (Springer ICEEE 2024).

- **Advanced P2P Trading & Fairness Optimization:**

  Designed a Markov-chain–based peer-to-peer trading framework for resilient smart grids (IEEE TIA 2025) and optimized fairness to tackle the duck-curve challenge (23rd NPSC 2025), with three more related journal papers currently under review.

- **Academic Collaboration & Knowledge Exchange:**

  Hosted Prof. Naveen from La Trobe University at IIT Kanpur to deliver specialized course modules, fostering cross-institutional collaboration and enhancing curriculum on smart grid resilience and energy trading.

Project Number: P2963

Project Title: The Socio-economic Costs of Tortious Surgeries in India - Evaluation of the Role of Exante and ex-post Policies

Project Investigator: Murali Prasad Panta

Co-Investigator(s): Praveen Kulshreshtha, Sabrina Gupta; Jency Thomas; and James Hutchison Boyd

Industry Collaborators (if any): NA

Project Initiated on: 23.08.2023

Project objectives:

• To study the socio-economic costs of tortious surgeries to evaluate *ex-ante and ex-post* policies on tortious surgeries in India; and

• To analyse the experiences on tortious surgeries in Australia.

Progress Report:

We have worked on the theoretical model of liability versus regulation within the purview of the objectives of our study. Collection of data on medical negligence cases from the selected consumer courts

is in progress. We will explore the possibility to collect relevant data from the selected medical ethics committees. in addition, we have conducted a workshop (online mode) on "*Techno-economic aspects of*

healthcare provider-beneficiary interactions on surgeries". The workshop focused on: (a). Surgical standards and the resources required for surgeries; and, (b). Healthcare service providers' experiences regarding the successes, and challenges of Surgeries, and Scope for improvement. However, we have limited to three prevalent surgical procedures. They are of: orthopedics, ophthalmologic, and caesarean section) to develop potential incentive mechanisms for both providers and beneficiaries. The counterparts in Australia are working on transferable learnings to improve the healthcare system in India. The colleagues from La Trobe University have visited IIT Kanpur for a fortnight and had deliberations on collection of data, review of literature and transferable learnings from Australia.

Highlights:

- Application the theoretical model of liability versus regulation to critical examine the medical negligence cases;
- Collection of data from the consumer courts; and,
- Transferable learnings from Australia.

Project Number: MoE-STARS/STARS-2/2023-0219

Project Title: Targeting oncogenic transcription factor ERG in prostate cancer by employing HBS-α-helicomimics technology.

Project Investigator: Prof. Bushra Ateeq, IIT Kanpur

Co-Investigator(s): Prof. Erode N Prabhakaran, IISc Bangalore

Industry Collaborators (if any): NA

Project Initiated on: 26-09-2023

Project objectives:

- Design, synthesis, and purification of ERG HBS-α-helicomimic libraries
- Validate the lead-optimised ERG HBS-α-helicomimics through in vitro DNA binding analyses
- Validation of ERG HBS-α-helicomimics mediated disruption of ERG cistrome and transcriptional activity
- Examine the anti-cancer effects of HBS-α-helicomimics using cell-based functional assays
- Examine the pharmacological dose and anti-tumorigenic activity of HBS-α-helicomimics using murine xenograft model

Progress Report:

Functional characterization of lead HBS-α-helicomimics for ERG:

To determine whether the synthetic lead HBS-α-helicomimics could inhibit ERG-mediated oncogenic properties in prostate cancer cell lines harboring ERG oncoprotein, we first checked the expression of endogenous TMPRSS2-ERG fusion product i.e., ERG, in a panel of prostate cancer (PCa) cell lines (Figure 1a).

Incorporation of TAT and NLS sequences for cellular uptake and nuclear localization:

To examine the disruption of ERG transcriptional activity through HBS-α-helicomimics, we have conjugated our helicomimics with a cell-penetrating peptide, i.e, transactivator transcription (TAT) sequence (YGRKKRRQRRR) derived from Human Immunodeficiency Virus (HIV) at C-terminus along with conserved SV40 T-antigen nuclear localizing signal (NLS) (PKKKRKV), thus ensuring their localization into the nucleus of the target cells. To enable observation within the cells, Rhodamine B (Rh-B) was tagged onto one of the lysine residues of the helicomimics. Additionally, GG spacers were introduced between the helicomimic, TAT, and NLS sequences to prevent functional interference, ensuring that each segment retained its intended role without disrupting the overall activity of the molecule.

ERG-NC-FNT-003: Ac- ERG sequence (Rh-B)-GG-NLS-GG-TAT-NH2

ERG-RP-FNT-001: Ac-REVERSE ERG sequence- GG-NLS-GG-TAT-NH2

ERG-H-FNT-003: Moc-ERG2 sequence(Rh-B)-GG-NLS-GG-TAT-NH2

Examine the anti-cancer effects of HBS-α-helicomimics using cell-based functional assays:

To determine whether the synthetic lead HBS-α-helicomimics could inhibit ERG-mediated oncogenic properties, we performed cell viability, proliferation, and Matrigel migration assays in VCaP cells. ERG-H-FNT-003 and ERG-RP-FNT-001 are potent lead molecules that exhibited cell cytotoxic effects, and ERG-NC-FNT-003 was designed as a negative control helicomimic (Figure 1 B-C). Further, ERG-H-FNT-003 and ERG-RP-FNT-001 treatment showed a decrease in cell proliferative ability and migration potential of the cells at two concentrations (A-C).

Characterize HBS-α-helicomimics-mediated disruption of ERG recruitment on its target loci:

We performed quantitative real-time PCR and immunoblot upon ERG-helicomimic treatment in VCaP cells, and examined the change in expression of ERG-regulated genes, such as PLAT, EZH2, DLX1, and AR (D-E).

Highlights:

Thus, the innovations in our work thus far are as follows:

- Identification of the critical role of helix elongation in DNA binding, elucidating the structural dynamics of ERG upon DNA interaction.

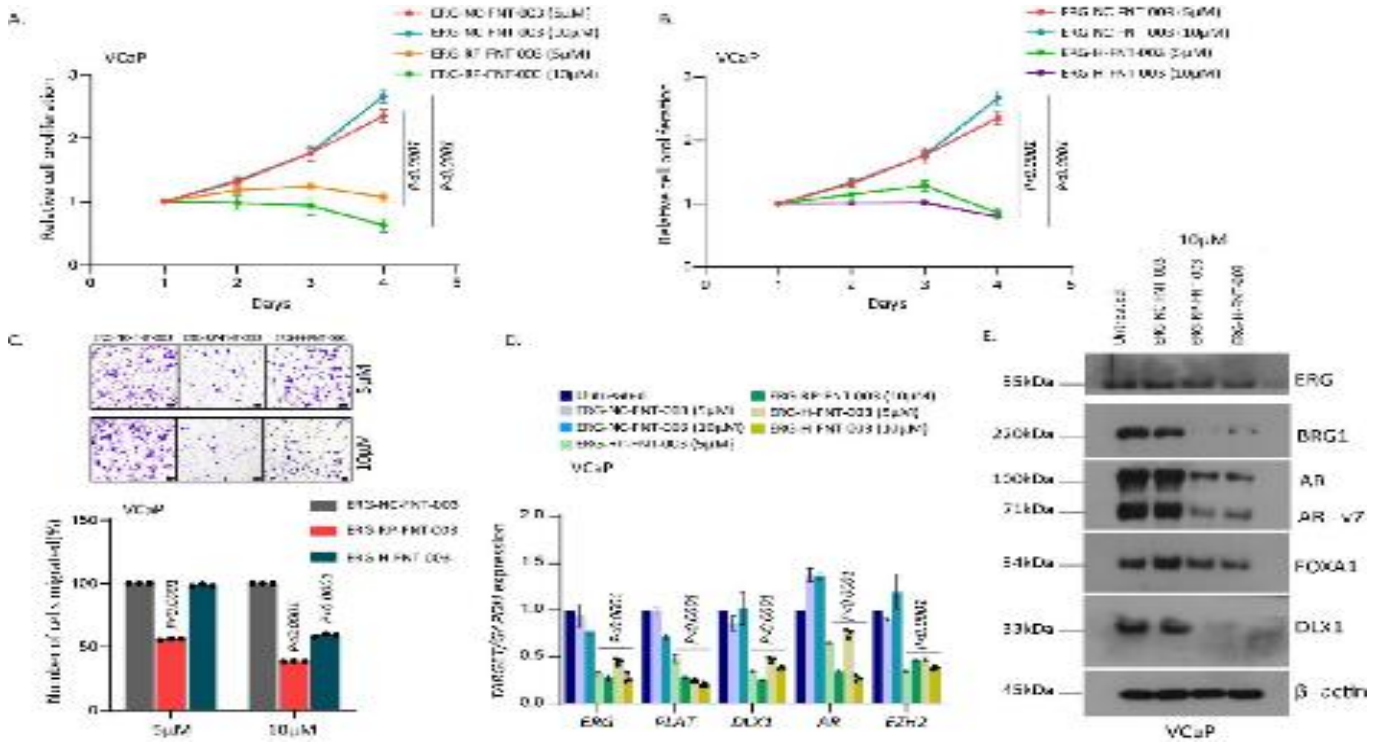


Figure: A-B. Cell proliferation assay using VCaP cells treated with different concentrations of ERG-helicomimics. C. Boyden Chamber Matrigel cell migration assay using VCaP cells treated with different concentrations of ERG-helicomimics. Representative images for panel C (scale bar 200 μm) are shown as inset. D-E. QPCR and immunoblot for ERG target genes.

- Designed and synthesized HBS-constrained helicomimics to mimic the DNA-binding helix of ERG, targeting specific DNA interactions.
- HBS-constrained helicomimics with functional tags (TAT and NLS) enter the cell nucleus and disrupt ERG binding to its target genes.
- Demonstration of the impact of sequence design on binding efficiency, emphasizing the critical roles of key residues (Arg, Lys, Tyr) in DNA interaction.
  - ERG-H-FNT-003 and ERG-RP-FNT-001 are potent lead molecules that exhibit anti-cancer effects and disrupt ERG recruitment to its target genes.

Project Number: MHRD/PHY/2024146 [STARS-2/2023-0814]

Project Title: Multiscale Approach for Understanding the Front Propagation of Swarming Bacterial Colonies

Project Investigator: Sivasurender Chandran, IIT Kanpur

Co-Investigator(s): Manas Khan, IIT Kanpur, Tapan Chandra Adhyapak, IISER Tirupati

Industry Collaborators (if any): N/A

Project Initiated on: 29/05/2024

Project objectives:

- To demonstrate the influence of cell-substrate (physical and chemical) interactions with the structure formation and dynamics of swarming bacterial colonies focusing on all relevant length scales: cellular dimensions to the mesoscopic scales of the collective dynamics and the macroscopic evolution/expansion of the colonies.
- To characterize, via time-lapse optical microscopy, the mesoscopic velocity fields, and the microscopic polarization fields of individual bacteria at the propagating front, i.e., the active-passive interface. To quantify the interface evolution characteristics of swarming colonies at macroscopic scales by probing the fractal dimensions of the interface.
- To quantify the collective dynamics at the vicinity of the propagation front via velocity and polarization autocorrelations, in space and time, and the energy spectra resulting from such correlations.
- To quantify the line tension of the propagation fronts using optical tweezers coupled with high-speed imaging and understand its correlation to the local curvatures and velocities at the moving front.
- To perform hydrodynamic simulations for examining the role of flagellar dynamics, activity, and hydrodynamics in the experimental findings at microscopic and mesoscopic scales, and to utilize a continuum approach for understanding the macroscopic propagation of interfaces.
- To train and equip the students with state-of-the-art experimental and analytical skills to pursue research on the active matter beyond the period of the proposal, at the international level.

Progress Report:

Fluctuations, collective dynamics, and propagation of biological interfaces are central in facilitating access to nutrients, adaptation, and survival of organisms in different environments. How the microscopic fluctuations at the cellular level emerge into collective dynamics, and how such interfaces propagate to newer territories are some of the questions that actively engage physicists. Using bacteria as model motile systems, we focus on understanding a) the microscopic aspects underlying collective dynamics, and b) activity-induced changes in the evolution of interfaces.

Our experiments with dense bacterial suspensions demonstrate the existence of three microscopic dynamical regimes: initial ballistic dynamics, followed by intermittent Lévy walks, and ultimately transitioning to random Gaussian fluctuations. Our experiments show that the fluid correlation time marks the transition from Lévy to Gaussian fluctuations, providing a unique lever to harness the transitions. A detailed analysis of the geometrical form of tracer trajectories, reveal a mixed dynamic behavior, combining both chaotic and stochastic components, underlie bacterial turbulence, rather than being purely chaotic (commonly expected).

Our efforts combining multiscale experiments and discrete deposition model reveal motility-induced novel scaling behavior underlie the evolution of bacterial interfaces. with increase in the fraction of motile population, the growth exponent, defining the temporal evolution of interface roughness, varies non-monotonically, whereas the roughness exponent, underlining the scale-dependence of interface roughness, remains constant, challenging the existing theories. Our discrete deposition model, incorporating experimentally-inspired lateral motion of bacteria along the interface, nicely corroborates the observed scaling, suggesting that the motile interfaces invoke a unique mode for expanding into new terrains.

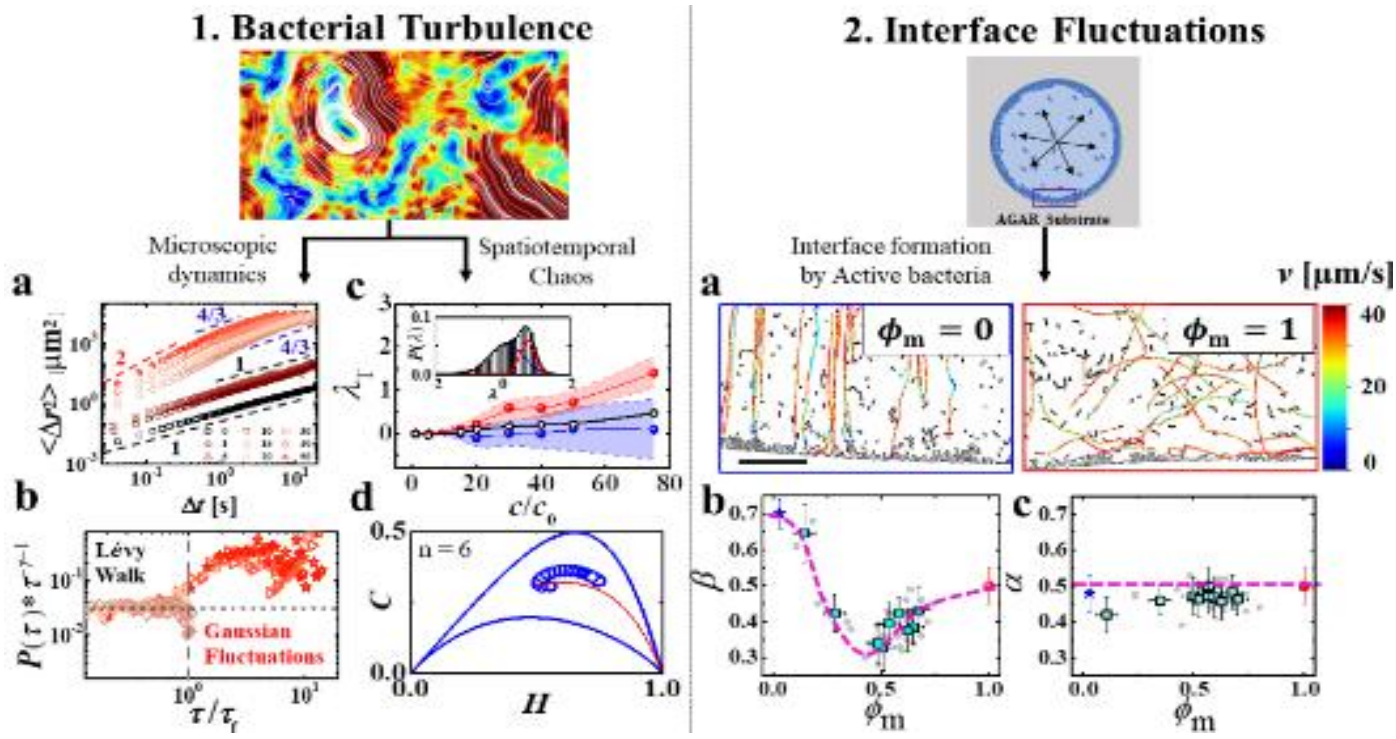
Highlights:

- Bacterial activity allows harnessing the microscopic dynamics underlying the collective dynamics of bacteria

- Spatiotemporal chaos, involving both chaotic and stochastic elements, underlie bacterial collective dynamics
- Front fluctuations and novel scaling behavior in the deposition of motile bacteria challenge existing theories.

1. **Bacterial Turbulence:** (a) Mean square displacement of tracer particles dispersed in bacterial suspension, shows an intermediate super diffusive range for concentrations $c > c_c = 10c_0$. Here, c_c marks the concentration defining the transition from isolated to collective dynamics. (b) Waiting time distribution (rescaled) of tracer particles, shows a power law dependence, followed by a Gaussian tail. The transition is earmarked by the flow correlation timescales (τ_f). (c) Lyapunov exponent deduced from the imaginary tracers, shows two distinct peaks (Inset).

2. **Interface Fluctuations:** Trajectories of (a) advected non-motile bacteria (left) and the swimming motile bacteria(right) towards the drying front are shown. The scale bar is $50\,\mu m$. The color scale represents the instantaneous bacterial velocities. The direction of incoming particles is almost perpendicular to the interface for non-motile strains, whereas the direction is rather random for motile strains. (b) Growth exponent β vs. fraction ϕ_m of motile population captures the activity-induced non-monotonous variation in rate of evolution of roughness. (c) The roughness exponent α vs. ϕ_m displaying an apparent independence with ϕ_m.



The difference between the peak position grows with bacterial concentrations. Black symbols represent the data employing real tracers. (d) C-H map for a $c = 20c_0$, calculated for n = 6, and different time lags (τ), shows the deviation from red curve (typical C-H curve for fractional Brownian Motion), at particular τ values.

Project Number: MHRD/MEDC2016261

Project Title: Swayam Prabha–DTH (Channels 24–28 managed by IIT Kanpur)

Principal Investigator: Prof. Satyaki Roy

Industry Collaborators: Not Applicable

Project Initiation Date: August 31, 2017

Project objectives:

IIT Kanpur manages five television channels out of forty channels of Swayam Prabha namely

- Channel 24 - Aeronautical Engineering

- Channel 25 - Humanities and Social Sciences
- Channel 26 - Management, Law, Economics, Business Analytics, Communication, Cooperative Management
- Channel 27 - Mechanical Engineering, Engineering Design, Manufacturing E&T
- Channel 28 - Visual Communications, Graphic Design, and Media Technology

These were launched with the aim of providing high-quality television based educational content accessible 24/7 to students and teachers across India. By leveraging satellite-based digital broadcasting, the initiative seeks to bridge the educational divide, especially for learners in remote and underserved regions.

The core objectives include enhancing learning outcomes through structured, curriculum aligned content; supporting educators with supplementary resources; and promoting inclusive education by ensuring that quality instruction reaches every corner of the country, irrespective of geographical or infrastructural constraints. The Swayam Prabha team at IIT Kanpur remains dedicated to delivering education directly to learners' homes through these specialized DTH channels

Progress Report:

During the financial year 2024–25, IIT Kanpur made significant advancements in content creation and broadcast management for Channels 24 to 28. Key accomplishments include:

- Total Content Aired: Over 1470 hours of new educational content were developed and broadcast, spanning diverse academic disciplines.
- Language Inclusion: To enhance regional and linguistic inclusivity, content was produced in six languages—English, Hindi, Bengali, Punjabi, Gujarati, and Sanskrit.
- Course Development: Over 650 hours of core undergraduate (UG) course content for first- and second-year students were created.
- Thematic Expansion: Courses addressing India's new criminal laws were introduced, reflecting contemporary legal developments.

Noteworthy Courses

Several newly developed courses were particularly well-received for their clarity, relevance, and learner-focused design. Highlights include:

- Criminal Law (Bharatiya Nyaya Sanhita, 2023) – Dr. Vageshwari Deswal (Delhi University)
- Univariate Descriptive Statistics – Prof. Abhimanyu Yadav (Banaras Hindu University)
- Feminism: Theory, Practice and Indian Debates – Dr. Kamal N. Choubey (Delhi University)
- Human Rights and the Criminal Justice System – Dr. Ajay Kumar Singh (Banaras Hindu University)
- Modelling of Multiphysics Systems- Dr. Abhishek Sarkar (IIT Kanpur)

Key Highlights (2024–25)

- 1470 hours of educational content developed and broadcast.
- 650+ hours of foundational UG courses created.
- Content delivered in six regional and national languages.
- New courses reflecting India's evolving legal landscape.
- Since inception, total content aired: 3,857 hours, with 1470 hours added in 2024–25 alone.

Project Number: MoE-STARS/STARS-2/2023-0023

Project Title: in-Memory Computing Utilizing Ferroelectric Transistors

Project Investigator: Prof. Yogesh Singh Chauhan

Co-Investigator(s): Dr. Shubham Sahay

Industry Collaborators (if any): Dr. Thomas Kampfe (IPMS Fraunhofer, Germany)

Project Initiated on: 29/05/2024

Project objectives:

- Comprehensive characterization and development of a computationally-efficient complete compact model for Ferroelectric FETs.
- Design exploration of compute-in memory architectures utilizing the Ferroelectric FETs with the aid of the developed compact model.
- Development of Neuromorphic computing platforms and hardware security primitives exploiting the unique behavior of Ferroelectric FETs.

Progress Report:

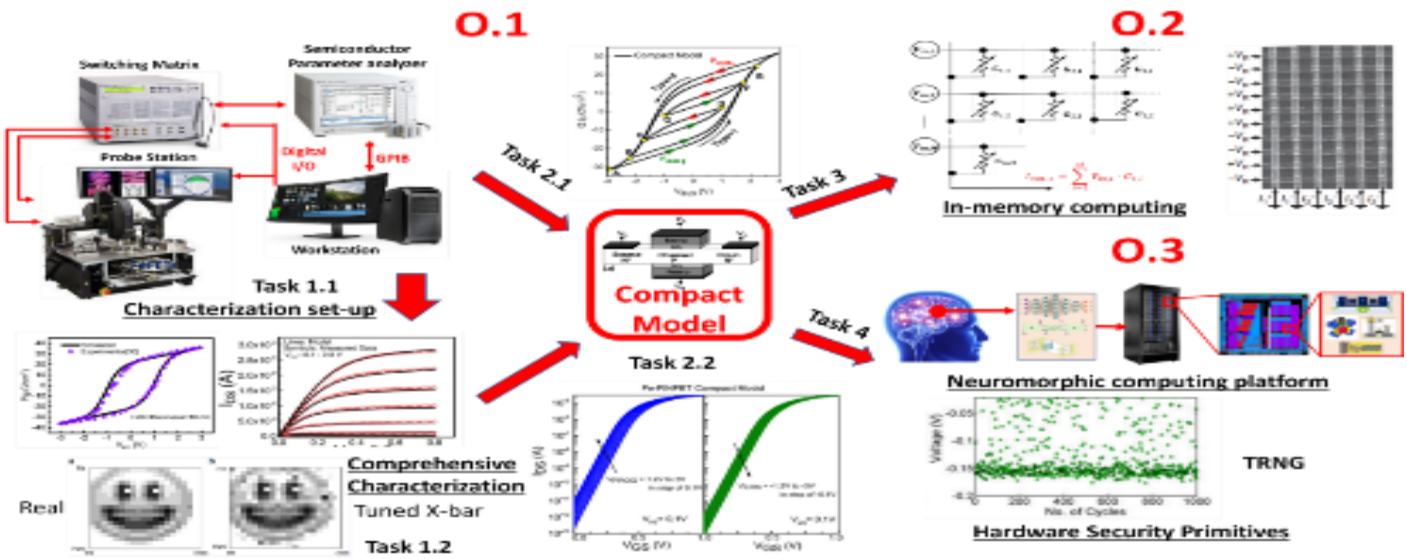
We have developed the most computationally efficient compact model for ferroelectric capacitors, ferroelectric

FinFETs, ferroelectric FDSOI FETs, ferroelectric GaN HEMTs and ferroelectric diodes which not only take into account the static (read) characteristics but also consider the dynamic (program/erase) characteristics, process variation, minor P-V loops and the unique history effect. We have also demonstrated several compute-in-memory primitives including logic-in-memory, binary neural network accelerator, inference accelerators, and hardware security primitives using ferroelectric FETs. Furthermore, we have also developed a ferroelectric FET-based Bayesian inference engine which can detect breast cancer with software accuracy while consuming 6 orders of magnitude lower energy as compared to the traditional hardware. Many of these works have already been published in leading journals and conferences in the field. Representative published works are listed below:

- Arka Chakraborty, Musaib Rafiq, Y. H. Zarkob, Y. S. Chauhan, and Shubham Sahay, Ferroelectric FET-Based Bayesian Inference Engine for Disease Diagnosis, *IEEE Transactions on Circuits and Systems I: Regular papers,*, doi: 10.1109/TCSI.2025.3533044, 2025.
- Musaib Rafiq, Y.S. Chauhan and S. Sahay, Exploiting Drain-Erase Scheme in Ferroelectric FETs for Logic-in-Memory. *Neuromorphic Computing and Engineering*, vol. 5, pp. 024007, 2025 DOI 10.1088/2634-4386/adce28
- Musaib Rafiq, Swetaki Chatterjee, Shubham Kumar, Yogesh Singh Chauhan and Shubham Sahay, Utilizing Dual-Port FeFETs for Energy-Efficient Binary Neural Network Inference Accelerators, *IEEE Transactions on Electron Devices,*,vol. 71, no. 7, pp. 4381-4388, July 2024, doi: 10.1109/TED.2024.3405472.
- Musaib Rafiq, Yogesh Singh Chauhan and Shubham Sahay, Efficient Implementation of Mahalanobis Distance on Ferroelectric FinFET Crossbar for Outlier Detection, *IEEE Journal of the Electron Devices Society,*,vol. 12, pp. 516-524, 2024, doi: 10.1109/JEDS.2024.3416441.
- Musaib Rafiq, Yogesh Singh Chauhan and Shubham Sahay, Compact XOR/XNOR-Based Adders and BNNs Utilizing Drain-Erase Scheme in Ferroelectric FETs, *IEEE Journal of the Electron Devices Society,*,doi: 10.1109/JEDS.2024.3497147.
- Musaib Rafiq, MD Sajid Nazir, Swetaki Chatterjee, Yogesh Chauhan, and Shubham Sahay, A SPICE-Compatible Model for Ferroelectric GaN HEMTs, *Device Research Conference (DRC),* Maryland, USA, 2024.
- Musaib Rafiq, Yogesh Singh Chauhan, and Shubham Sahay, Exploiting Single Ferroelectric FET for Efficient Implementation of Majority Gate Function for Approximate Computing, *IEEE Electron Devices Technology & Manufacturing Conference (EDTM),* Bangalore, India, 2024.

Highlights:

- Indigenous AI/ML accelerator developed through this project have a potential to create an industry of a stature equivalent to that of the present microprocessor industry.
- Computationally efficient and comprehensive compact model developed for the ferroelectric devices through this project are in great demand by the circuit designers, system architects and semiconductor memory companies across the globe.
- Project is well synchronized with the NITI Aayog's "national strategy for AI" and "make in India" initiative of the Government of India.



Project Number: MHRD/CE/2024070

Project Title: Smart-Net: Smarter Cities and Improved Pedestrian Safety Using Lidar-Camera Fusion

Project Investigator: Dr. Salil Goel

Co-Investigator(s): Dr. Aditya Medury

Industry Collaborators (if any): NIL

Project Initiated on: 01/04/2024

Project objectives:

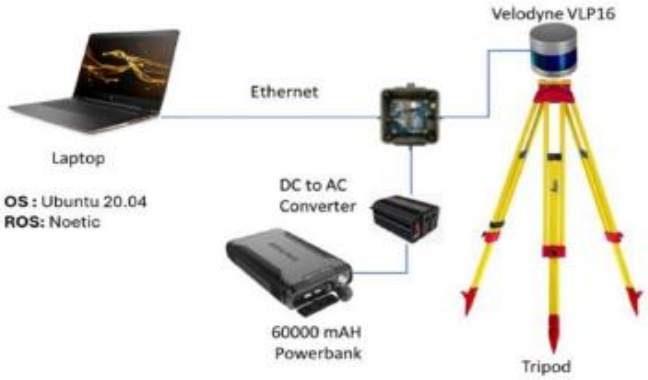
- Development of novel LiDAR-Camera fusion algorithms to detect and track road users to estimate their trajectory and velocity profiles.
- Development of methods to identify undesirable road user behavior, including overspeeding, near-misses etc. using detected tracks and understanding the role of road infrastructure in the observed user behavior.
- Developing a framework for continuous monitoring of the road networks and identification of accident-prone regions based on near-misses and traffic violations.
- Developing and exploring data structures to enrich existing maps with road safety information.

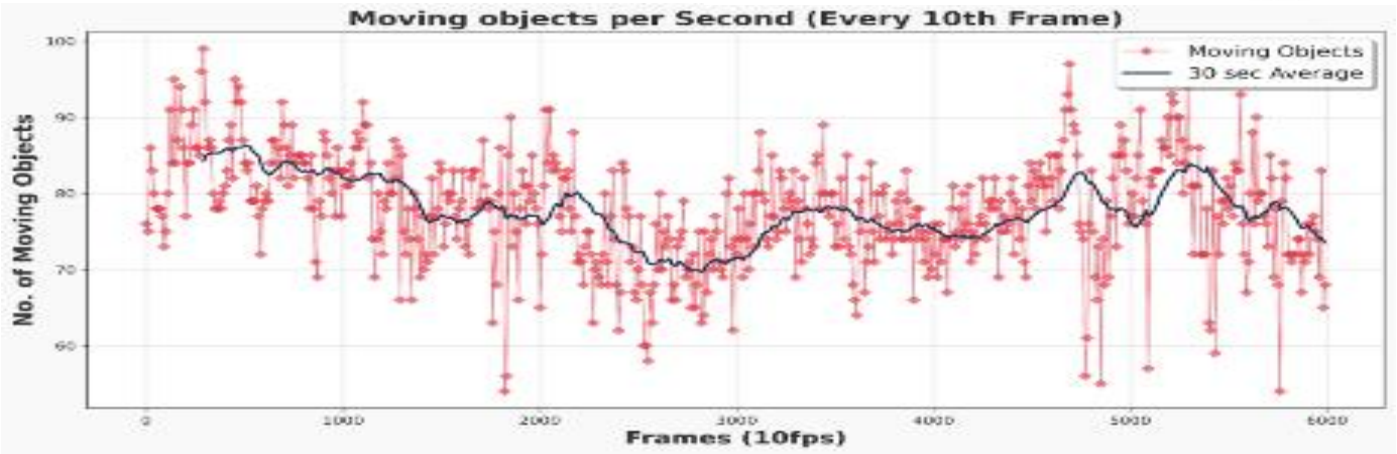
Progress Report:

We have developed a portable setup for quick data collection using LiDAR and camera setups. We have also developed the complete processing pipeline to detect pedestrians and other road users using deep learning and machine learning techniques. The model has been validated using ground observations and achieved an accuracy of better than 95%. The validation is done in various environments including urban, semi-urban and highways.

Highlights:

1. Developed an end-to-end pipeline for classification of scene into static and moving objects using only LiDAR data.
2. Developed a portable setup using LiDAR and camera to collect pedestrian movement at desired locations.
3. Achieved an accuracy of better than 95% in detecting pedestrians using LiDAR only.





Time series of detected moving objects (including pedestrians) using LiDAR at an urban intersection

Project Number: MOE/MEDC/2022401

Project Title: Central Sector Scheme for MOOCs-Complaint e-content creation (**NPTEL Phase IV)**
Project Investigator: Prof. Satyaki Roy
Project Initiated on: 31st August,2016

Project objectives:

Swayam NPTEL is a program initiated by Government of India and designed to achieve the three cardinal principles of Education Policy: Access, Equity and Quality. The objective of this project is to take the best teaching, learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. The operational objective of CSS-MOOCs is to make high quality learning

material available to students of different institutions across the country. The target group for this project consists of students and faculty members of institutions offering Undergraduate/Postgraduate education in India.

Progress Report:

Since 2014, through an online portal, 4, 8, and 12 weeks online courses, on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are being offered. The enrolment and learning for these courses are free. An in-person, proctored certification exam (optional) are conducted with a fee of Rs. 1000/- per course and an E-verifiable certificate is provided through the participating institutions.

There are three types of courses that are run every semester New, Rerun and Repeat. in the previous semester (July-November,2024) IIT Kanpur floated 107 courses of which 18 were new. in the recently completed semester (January-April,2025), we offered 113 courses of which 18 were new. Now, we are in the final stage of publishing the results and generating the E-certificates. There are close to 6500+ local chapters today with identified expert faculty members of these institutions serving as local mentors for the students enrolled in NPTEL courses. List of the new courses developed by IIT for SWAYAM NPTEL and for INI, for both the semesters are mentioned below.

Highlights:

- Short term lab workshops by the course developers of IITs/IISc: Short term training programs which might involve fully live lectures coupled with hands-on training or a blended mode of learning (recorded videos + live lectures) are offered on fixed dates with fixed timings for the sessions.
- IIT Kanpur as National Coordinator helped Benaras Hindu University to develop 22 courses for the INI portal in the January to April,2025 semester and 15 courses in July-November,2024 semester.
- NPTEL has announced the NPTEL Pre-Doctoral Fellowships program for outstanding NPTEL learners with a Bachelor's or Master's degree! This program is designed to bridge the gap between online learning and research experience, preparing the students for success in postgraduate studies. We have seen numerous NPTEL learners excel as interns, transitioning seamlessly into Master's or PhD programs under their faculty guides. This fellowship is built on that success, fostering a pathway for NPTEL toppers to pursue advanced research opportunities.

Statistics:

- 26 partnering Institutes
- 7620 Completed courses
- 3.14 Crore Student enrollment
- 53.6 lakh exam registrations
- 34.6 lakh successful certified

URL's for reference listed below:

- **NPTEL Portal:** https://nptel.ac.in/
- **NPTEL Local Chapter:** https://nptel.ac.in/localchapter
- **NPTEL+:** https://elearn.nptel.ac.in/
- **SWAYAM Central Portal:** https://swayam.gov.in/
- **NPTEL Domain Certification:** https://nptel.ac.in/domains (List Attached)

Project Number: MHRD /MDES/2015264

Name of Scheme: National Initiative for Design Innovation [9027]

Project Title: Design Innovation Centre

Project Investigator: Prof. Ramkumar J

Co-Investigator(s): Prof. Satyaki Roy

Industry Collaborators (if any): Nil

Project objectives:

❖ **To empower and promote culture of Innovation:**

- DICs aims to cultivate a culture of innovation where individuals are encouraged to think creatively and develop innovative solutions to problems.
- This includes fostering a spirit of collaboration and knowledge sharing among various stakeholders.

❖ **To facilitate Education and Research:**

- DICs provide a platform for interdisciplinary design-focused education and research.
- They offer courses, workshops, and training programs in areas like design thinking,
- innovation, and emerging technologies.
- They aim to enhance the skills and knowledge of students and faculty in design and innovation.

❖ **To support product development:**

- DICs provide facilities for product design, including labs with tools like 3D printing and computer-aided design software.
- They also support industrial collaborators in developing new products on campus using their in-house facilities.
- They aim to facilitate the commercialization of innovative ideas and products.

❖ **To enable to build Partnerships and Networks:**

- DICs encourage collaboration between industry, academia, government institutions, and research laboratories.
- They facilitate the creation of partnerships and collaborations to support innovation and commercialization.
- They aim to build a network of design schools and institutions to promote design education and innovation.

Progress Report:

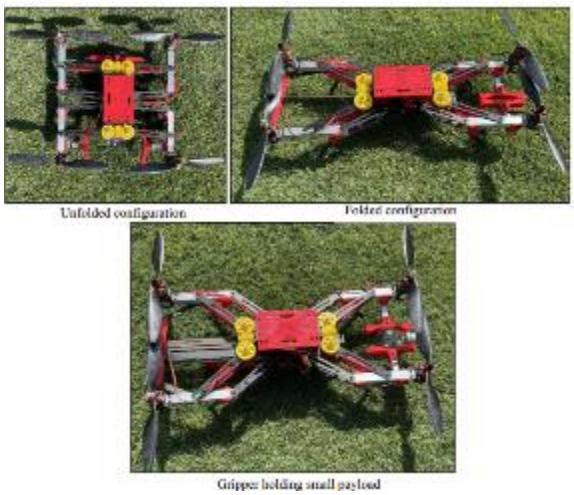
1. Executive Summary

During the past 15 years, the Department of Design at IITK has thrived and gained international recognition. Throughout this interval, our students and faculty members have secured more than 100 patents. Our placement rate has approached 100% year after year after year. Our students and faculty have consistently achieved victories at both international and national levels recognition in the field of design. We have partnered with several premier design institutions globally.

Our alumni have ascended to prominent positions within their respective organizations across the globe. This achievement would not have been feasible without the dedication and proficiency of our faculty. The interdisciplinary, innovation-driven, and pragmatic characteristics of our program offerings. with DIC, we will maintain our existing strengths and use prospects, this will be evident through the departmental structure. Our objective in the new configuration will be to resolve societal issues addressed in practical and cost-effective manners, although on a far greater scale.

Highlights:

- 04 Workshops conducted
- Around 14 courses were developed and conducted
- 30 hours of 07 courses / lecture notes were developed and disseminated to students.
- in the last 01 year-round about 10 /Design Registrations/Copyrights were filed and 06 are in progress.



Shape Morphing Drone

Project Number: P3341

Project Title: Point-of-Care Devices in Healthcare Technologies

Project Investigator: Prof Sandeep Verma

Co-Investigator(s): Prof S Sivakumar, Prof J Ramkumar

Industry Collaborators (if any): -

Project Initiated on: 01-04-2024

Project objectives:

Basic objectives of this proposal concern development of point-of-care medical devices in the areas of tissue engineering, bacterial infection and genomics, cancer, and immune response mechanisms, among others. This proposal intends to facilitate knowledge sharing between faculty and students (IIT Kanpur, University of Melbourne and Amrita University) to explore potential collaborations in biomedical sciences through student mobility, and to compile and publish a monograph on these topics to upskill the next generation of young researchers.

Progress Report:

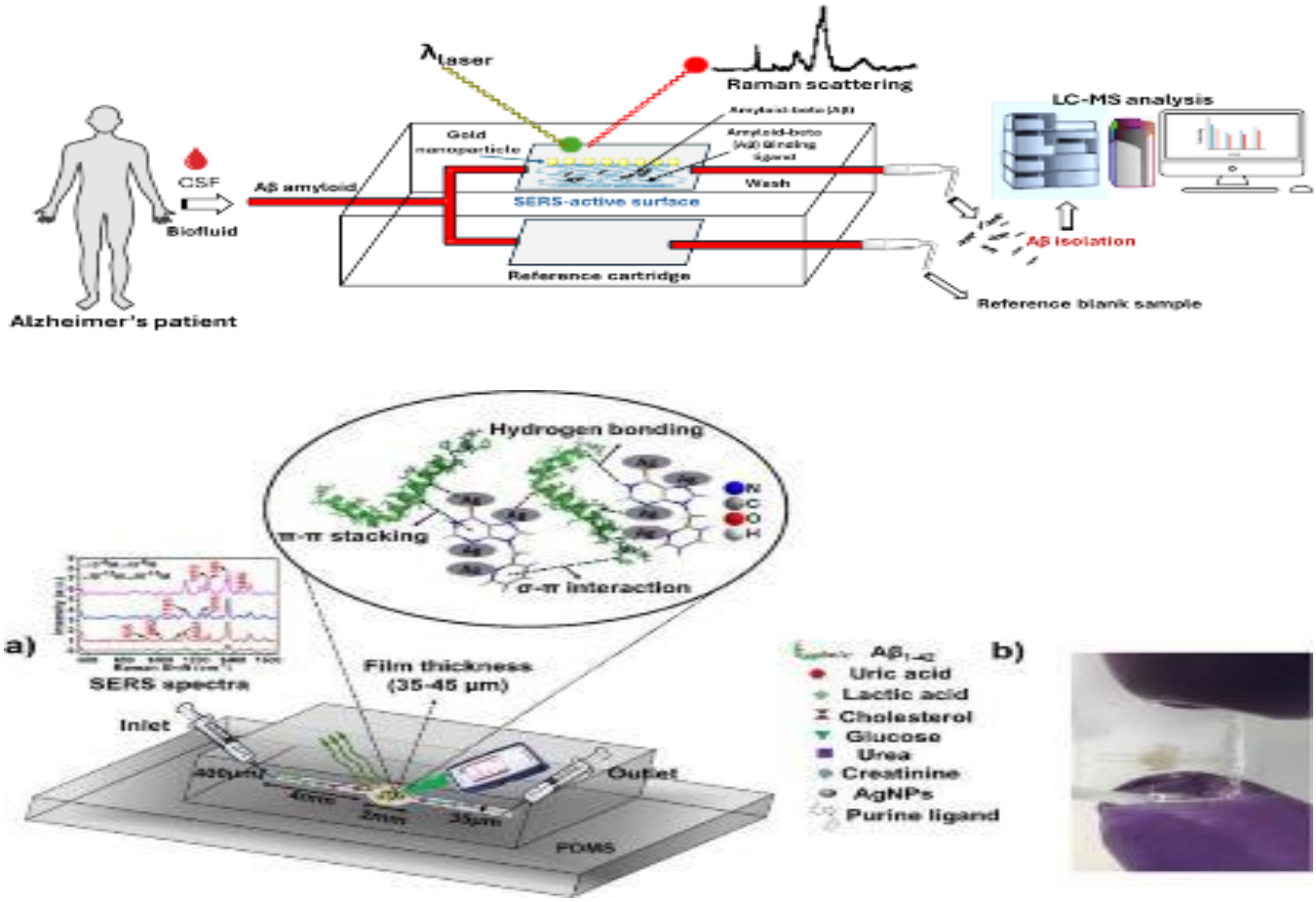
Currently, there is no definitive cure for Alzheimer's disease. However, early detection plays a crucial role in managing the condition. Treatments, including medications and lifestyle interventions, can help slow the progression of symptoms, improve cognitive function, and enhance the quality of life for patients and their caregivers. Research is ongoing to develop new diagnostic tools and therapies, with promising

advancements in blood biomarkers and disease-modifying treatments offering hope for the future.

AD is characterized by the accumulation of misfolded proteins such as amyloid-beta (Aβ) plaques in the brain. Among its various forms, Aβ1-42 is highly toxic and serves as a reliable biomarker for early detection of AD. Conventional diagnostic methods, including liquid biopsies (e.g., cerebrospinal fluid analysis) and tissue biopsies, are invasive, time-consuming, and often require sophisticated laboratory infrastructure. Moreover, these methods face challenges such as limited sensitivity and difficulties in detecting biomarkers at low concentrations.

Highlights:

- Rapid detection of neurological biomarkers in simulated cerebrospinal fluid
- Development of a hand-held microfluidic POC device
- Further refinement consisting of smartphone interface is initiated



Surface-Enhanced Raman Spectroscopy (SERS) has emerged as a powerful analytical tool for bioanalyte detection in biofluids due to its ultra-sensitivity, specificity, and non-destructive nature. By amplifying Raman signals through plasmonic "hotspots" on nanostructured surfaces, SERS enables the detection of analytes at femtomolar to attomolar levels (*Langmuir*, **2024**, *40*, 24463–24470). We further wish to utilize benzothiazole moiety-based ligands, which are particularly well-suited for capturing amyloids due to their high binding affinity for amyloid's cross β-sheet structures. The incorporation of additional thiol groups into these ligands allows for strong interactions with gold nanoparticles, creating stable and SERS-active surfaces.

Project Number: MHRD /CHM /2024114

Project Title: "**Tunable One-Dimensional Molecular Ribbons and Two Dimensional Conjugated Organic Framework As Advanced Semi-Conductor**"

Project Investigator: Profs. Basker Sundararaju (IITK, CHM)

Co-Investigator(s): Prof. Sudarshan Narayanan (IITK, SEE) & Prof. Kumar Biradha (IIT Khg)

Industry Collaborators (if any): NIL

Project Initiated on: 1st April, 2024

Project objectives: (Phase 1, April 2024 – March 2025)

- Synthesis and Characterization: Develop and synthesize functionalized molecular ribbons and conjugated organic frameworks. Characterize these materials to understand their structural and electronic properties.
- Preliminary Testing for Electronic Applications: Conduct initial tests to assess the potential of synthesized materials in electronic applications, focusing on conductivity, stability, and compatibility.
- Initial Energy Storage Application Studies: Begin preliminary studies on the use of these materials in energy storage systems, examining aspects like charge capacity, discharge rates, and long-term stability.
- Collaboration and Knowledge Sharing: Establish collaborative networks with academic and industry partners for knowledge exchange and to refine synthesis and testing methodologies.

Progress Report:

As part of the SPARC initiative, our joint project between IITK and University of Manchester (UoM) focuses on developing advanced solid-state electrolytes to enhance the safety and performance of lithium-ion batteries (LIBs) for applications in semiconductor-driven technologies and energy storage. We report the synthesis and integration of a novel borate-based two-dimensional covalent organic framework (COF), $C_{50}H_{60}B_3N_3O_{12}$, into a polyethylene oxide (PEO) matrix to form a composite solid polymer electrolyte (SPE).

The COF's ordered and porous architecture enables efficient lithium-ion transport while maintaining chemical and structural compatibility with the polymer host. The resulting PEO-COF composite exhibits significantly improved ionic conductivity of **1.3 × 10^{-4} S·cm^{-1}** at room temperature and a lithium-ion transference number of **0.23**, surpassing conventional PEO-based systems. Electrochemical testing demonstrates excellent interfacial stability with lithium metal, with consistent plating and stripping over **200 hours at 0.1 mA·cm^{-2}**. When applied in a solid-state Li/$LiFePO_4$ cell, the electrolyte delivers a high discharge capacity of **~114 mAh·g^{-1}** at **0.3C**, retaining 85% capacity after 750 cycles.

This study highlights the potential of COF-based composite electrolytes in addressing key limitations of current solid-state systems, offering enhanced safety, scalability, and electrochemical performance. The outcomes contribute significantly to the development of next-generation energy storage technologies aligned with the goals of the SPARC program and national priorities in semiconductor innovation and sustainable energy infrastructure.

Highlights:

- **Enhanced Electrolyte Performance**: Developed a borate-based COF-PEO composite solid polymer electrolyte exhibiting high ionic conductivity (1.3 × 10^{-4} S·cm^{-1}) and improved lithium-ion transference number (0.23) at room temperature.
- **Excellent Electrochemical Stability**: Demonstrated stable lithium plating/stripping over 200 hours and high cycling performance with 85% capacity retention over 750 cycles in a Li/$LiFePO_4$ solid-state cell.
- **Strategic Impact**: Offers a scalable, safe, and high-performance electrolyte solution aligned with SPARC goals for advanced materials in semiconductor-based energy storage systems.

The work is submitted for the Indian Patent and the other parallel work on 2D-COF as a cathode material is submitted for a publication. Through this project, several students exchange happened between the institute that allow us to effectively conduct this project in order to meet our objectives.

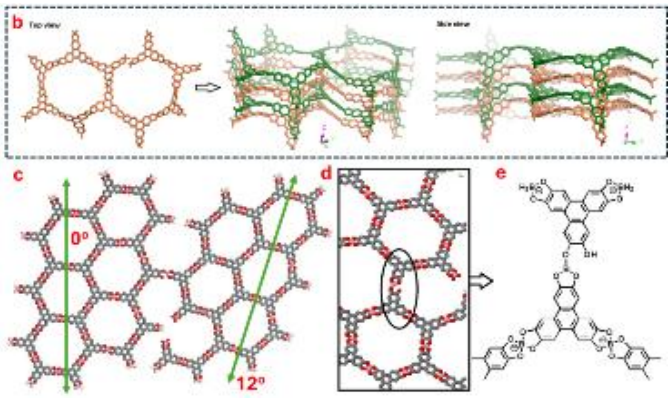


Figure: 2D-borate COF and its two-dimensional structure.

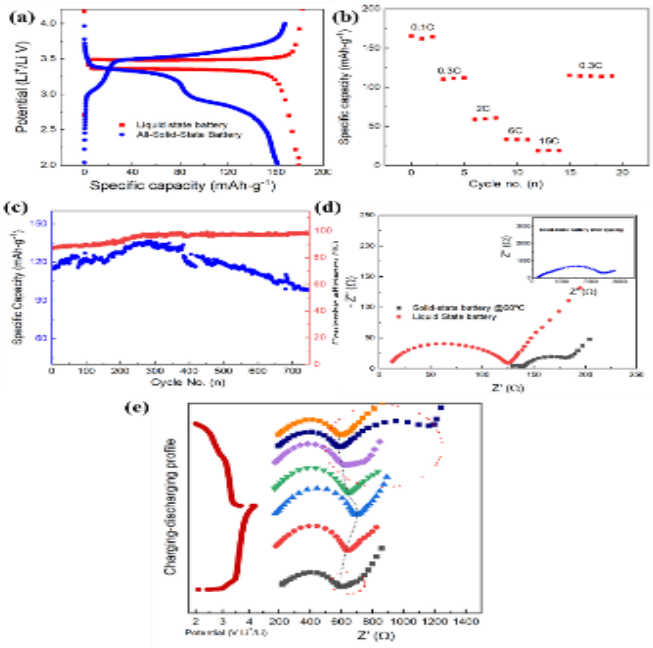


Figure: COF with polymer composite as solid-state electrolyte and its performance for Charging and discharging.

Project Number: SPARC/2019-2020/P2560/SL

Project Title: Biofuel production from carbon dioxide (CO_2) and utilization in transport sector for reducing greenhouse gas (GHG) emissions

Project Investigator:

India: Prof. Avinash Kumar Agarwal, Indian Institute of Technology Kanpur

Overseas: Prof. Franz Winter, Vienna University of Technology, Austria

Co-Investigator(s): Prof. Ashish Dutta, Indian Institute of Technology Kanpur

Industry Collaborators (if any): N.A.

Project Initiated on: 28-07-2023

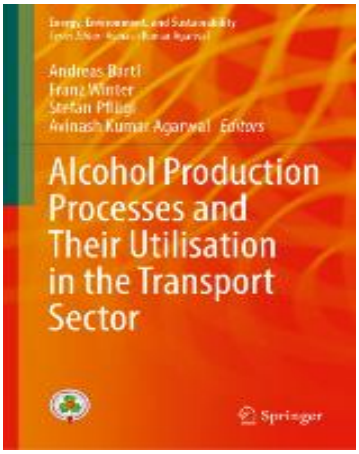
Project objectives:

- Process optimization for the catalytic hydrogenation of CO_2 to methanol
- Development of experimental setup/ pilot plant for methanol production
- Investigations to convert cellulosic material into glucose and subsequently into biofuels
- Utilization of M15 and E20 in spark ignition (SI) powered two-wheeler engine

Progress Report:

Prof. Andreas Bartl visited the IIT Kanpur and delivered a total of six lectures to IITK students for a Course organized on Mechanical Process Engineering. Also, participants joined through the Zoom platform. Indian students (Mr. Saurabh Singh Chauhan and Ms. Mahima Bhatnagar) visited Austria for 2 months. During their visits, Methanol synthesis from the hydrogenation of CO_2 is performed in the presence of a copper-based catalyst (Work done by Saurabh). The catalyst needs to be activated before starting the synthesis process.

Both the catalyst activation and methanol synthesis were performed at elevated temperatures and pressure; hence, special care was required during setup preparation. During preparation, the catalyst and the slurry liquid were weighed into the reactor chamber to one decimal place. Ms. Mahima worked on converting textile to glucose and converting glucose to ethanol. The former was to be done in the Chemical Engineering Laboratory, T.U. Wien and later in the biochemical department, Tulln, BOKU. The conversion of textile to glucose was done through an enzymatic hydrolysis process, and the conversion of glucose to ethanol through fermentation. We used two different textiles to produce glucose: pure cotton and 50% PET and cotton. Two other PhD students, Mr. Ajay Kumar and Mr. Krishna Yadav, will visit Austria from 25-05-2025 to 25-07-2025. Mr. Ajay Kumar will work on “Bioreactor design for gas fermentation”. Mr. Krishna Yadav will work on “solid biomass gasification using BIOTA gasifier. Springer has published the Monograph, entitled “Alcohol Production Processes and their Utilization in the Transport Sector”.



Highlights:

- CO_2 to Methanol conversion has been done
- Glucose to ethanol is produced
- Methanol/Ethanol-gasoline blends were fuelled in the existing vehicle

Austrian Researcher to India

Austrian Researcher_- Prof. Andreas Bartl

Austrian Researcher-_Visit to ERL

Project Number: 1978

Project Title: Development of Super-hard Stellite-based Metal Matrix Coatings Using Laser Cladding

Project Investigator: Dr. Sudhanshu Shekhar Singh, Dr. Manoj Gupta

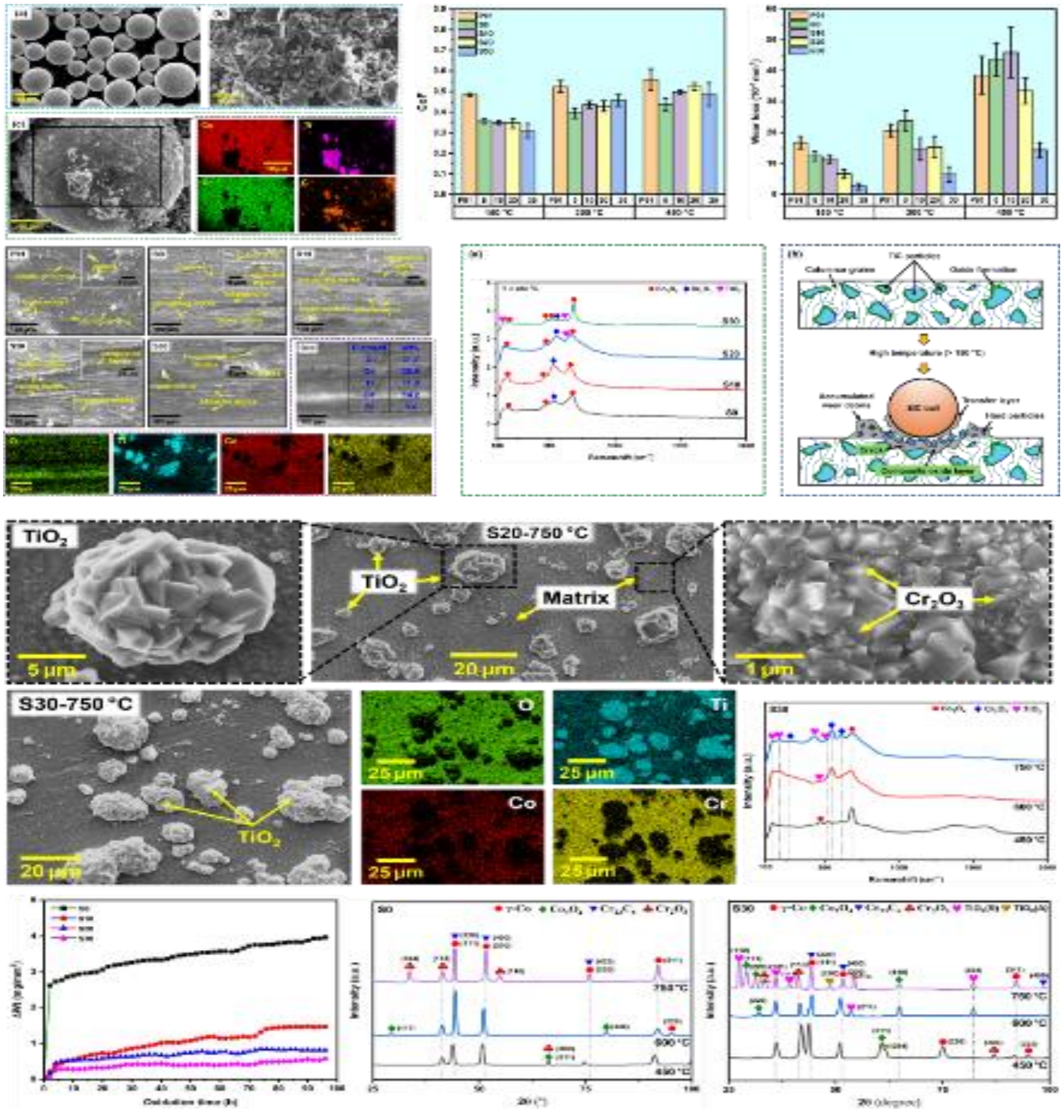
Co-Investigator(s): Dr. Kallol Mondal, Dr. E-Wen Huang

Industry Collaborators (if any):

Project Initiated on: 28.07.2023

Project objectives:

1. To develop stellite 6 coating on steel substrate by laser cladding by process optimization.
2. To develop hard particle [nitride (BN, TiN)/carbide (B_4C, TiC)] reinforced stellite 6 composites (MMCs) using laser cladding. Process optimization will be carried out.
3. Microstructural and mechanical characterization of both stellite 6 and MMCs coatings.
4. Determination and comparison of wear and corrosion behavior of stellite 6 and MMCs coatings.



5. Numerical modelling to predict the microstructure and clad geometry in a single track stellite 6 and its composites.

Progress Report:

The initial three outlined objectives of this project have been successfully completed, while the final objective is presently underway. The high temperature wear test of the Stellite 6 – TiC coatings deposited on P91 (9Cr1Mo) steel was performed at 150, 300, and 450 °C with an application of 30 N load, 5 Hz frequency, and 2 mm stroke length for test durations of 40 minutes. Further, a comprehensive investigation of the worn surfaces has been conducted utilizing SEM, EDS, optical profilometry, XRD, and Raman spectroscopy techniques. The effect of TiC concentrations (10, 20, 30 vol. %) on CoF values was not pronounced at relatively lower temperatures (up to 150 °C). However, a significant increase in CoF values has been noticed at elevated temperatures (300, 450 °C), which is because of the 'thermal softening' effect and the formation of 'composite oxide' layers. The composite oxide layers consist of matrix oxides (Co_3O_4 and Cr_2O_3), TiO_2, and TiC particles, which serve as a barrier to the degradation of composite coatings. The wear mechanism has shifted from abrasive to oxidative and adhesive wear mechanisms as the temperature increased. Stellite 6 with 30 vol.% coatings showed the best resistance to sliding wear at 300 and 450 °C, reducing volume loss by 68.9% and 62.8% compared to P91, respectively. Further, oxidation tests were conducted up to 750 °C to corroborate with the high temperature wear mechanisms. Again, Stellite 6 with 30 vol.% coating demonstrated the best oxidation resistance behavior in temperature range 450 °C to 750 °C.

Highlights:

- Stellite 6 with 30 vol. % TiC has exhibited best sliding wear resistance at 300, and 450°C.
- Wear mechanism has shifted from abrasive to adhesive and oxidative as temperature increased.
- Stellite 6 with 30 vol. % TiC demonstrated best oxidation resistance at 450 – 750 °C.

Project Number: MHRD/MET/2018064

Project Title: VIRTUAL LABS PROJECT (PHASE-III EXTENDED)

Project Investigator: Prof. Kantesh Balani

Co-Investigator(s)/Collaborators (if any): N/A

Project Initiated on: 24/04/2018 (Till Mar. 31, 2026)

Project objectives:

The main objectives of the Third Phase of the Virtual Labs project are: to develop a methodology for the fast development of new lab experiments by identifying gap areas with the involvement of all stake holders and to host the newly developed experiments on a Central Server.

Progress report:

A total of 120 experiments are to be developed by IIT Kanpur for Phase III Ext (2024-25). Virtual Lab, wherein IIT Kanpur had developed 118 experiments and other 02 experiments are under development/review. The review process of experiments that are developed is in progress and these experiments are hosted in the Beta-hosted link (status of lab updated in ***Annexure 1.1***), and six labs (with 59 experiments) are centrally hosted (***Annexure 1.2***).

in addition to this,

- Proposals for the development of 22 proposals (~200 experiments) were submitted. Out of which 17 proposals (~170 experiments) were approved & these labs are under development.
- in year 2022-23, 2023-24 & 2024-25, 120 new experiments are to be developed by IIT Kanpur wherein IIT Kanpur had developed 118 experiments are other 02 experiments are under development/review process. Developed experiments are under central-hosting process.
- English to Hindi conversion of virtual lab has been done in which "*Material Response to Microstructural, Mechanical, Thermal and Biological Stimuli Virtual Lab*" was translated to the Hindi language.
- Migration of lab from Phase 2 to Phase 3 template in which "*Material Response to Microstructural, Mechanical, Thermal and Biological Stimuli*" lab. Virtual Lab has been transferred to Phase 3 template which is now centrally hosted.

Overall summary:

- After affiliation with AKTU, we are doing very well in recruiting the nodal centres. Herein, REC Banda, PSIT Kanpur and Bundelkhand University have been renewed to regional nodal centres which have thrusted forward the pace of popularizing Virtual Labs. The development of 02 experiments is in progress and 118 experiments that are developed has been hosted in beta hosting link in GitHub which are reviewed by domain experts. Migration of lab from Phase 2 to Phase 3 template is done and English to Hindi conversion of one virtual lab has been done and one is in under conversion

Highlights:

- 120 Virtual Lab experiments were committed, but already 118 experiments are being developed and reviewed by the reviewers and currently beta hosting is done on the website.

- Six labs (59 experiments) are now hosted on central server.
- Migration of Phase 2 labs to Phase III template and Hindi conversion of one Virtual lab is done and one is in under conversion.
- Over 34 Lakh cumulative users and 4.21 Cr. cumulative Page views nation-wide of virtual labs across the consortium (out of which 8.79 Lakh users and 17.86 Lakh views are from IIT Kanpur) are marked by google analytics (since Jan. 2023) as labs are getting included to provide the demographic distribution of virtual labs.

Annexure 1.1: List of Labs and experiments that have been developed and others are under

S. No.	Lab Name	Name of Experiment	Status
1.	Food Chemistry Lab	Analysis of water for potable and food purposes	Beta-hosted
		Non-enzymatic browning reactions and its determination	Beta-hosted
		Determination of free fatty acid content in fats and oils	Beta-hosted
		Detection and estimation of oxidative rancidity in fats/oils	Beta-hosted
		Determination of heat stability of vitamin C	Beta-hosted
2.	Basics of Electrical Engineering Lab	Study of Instrumentation Amplifiers	Beta-hosted
		Plot V-I characteristics of SCR.	Beta-hosted
		To study running & speed reversal of a 3-phase induction motor and record speed in both direction	Beta-hosted
		Calibration of AC voltmeter and AC ammeter.	Beta-hosted
		To Plot V-I Characteristic of Triac	Beta-hosted
		Connection and measurement of power consumption of a fluorescent lamp (tube light).	Beta-hosted
		Verification of Superposition and Thevenin's Theorem	Beta-hosted
		Measurement of power and power factor in a single-phase ac series inductive circuit and study improvement of power factor using capacitors Theory Power:	Beta-hosted
		Measurement of power and power factor in a single-phase ac series inductive circuit and study improvement of power factor using capacitor.	Beta-hosted
		Study of Instrumentation Amplifier.	Beta-hosted
		Demonstration of cut sections of dc machine, three phase induction machine, single phase induction machine and synchronous machine.	Beta-hosted
3.	Physical Pharmaceutics II	Angle of repose and effect of lubricants/ glidants on flow property of powder.	Beta-hosted
		Bulk Density and Tapped Density Determination of Pharmaceutical Powders	Beta-hosted
		True Density determination of Pharmaceutical Powders	Beta-hosted
		To determine the viscosity of semisolids by using Brookfield's Viscometer	Beta-hosted
		To determine the viscosity of liquid by using Ostwald's Viscometer	Beta-hosted

4.	Fluid Mechanics Lab (Chemistry)	Determination of metacentric height	Beta-hosted
		Determination of Cc, Cv, Cd of orifices	Beta-hosted
		To determine the local point pressure with the help of pitot tube	Beta-hosted
		To study the characteristics of a centrifugal pump	Beta-hosted
		Verification of impulse momentum principle	Beta-hosted
		To find out the terminal velocity of a spherical body in water	Beta-hosted
		To find out the pressure drop when a fluid is flowing through a packed bed	Beta-hosted
5.	Sample Preparation and Metallography Lab	Construct of Microscope and its components	Beta-hosted
		Microstructure of Various Steels (hypoeutectoid, eutectoid and hypereutectoid)	Beta-hosted
		Microstructure of Various Cast Irons and quantification	Beta-hosted
		Microstructure of common metallic materials (Cu, Al, Ti and brass, etc.)	Beta-hosted
		Quantitative techniques for Grain size measurement (ASTM standard, linear intercept, Jeffries method etc.)	Beta-hosted
		Microscopy: Modes, magnification, and imaging with special contrast techniques like DIC, polarized light etc.	Beta-hosted
		Stereological principles and digital image processing and analysis	Beta-hosted
		Tailoring Microstructure with various heat treatments (annealing, normalizing, and quenching)	Beta-hosted
		Sectioning, Mounting, and Grinding and Surface Preparation	Beta-hosted
		Technique for Polishing and Etching of Materials (including Electropolishing, tint etching etc.)	Beta-hosted
6.	Fluid Mechanics Lab	Coefficient of discharge of given Venturi meter.	Beta-hosted
		Determine loss variables for different types of flow inpipe and open channels	Beta-hosted
		Variable area duct and verifying Bernoulli's energy equation.	Beta-hosted
		Hydraulic coefficients for flow through an orifice	Beta-hosted
		Friction coefficients for pipes of different diameters	Beta-hosted
		Characteristic curves of Pelton wheel.	Beta-hosted
		Drawing the characteristic curves of Gear pump	Beta-hosted
		Conducting experiments and drawing the characteristics curves of Francis turbine.	Beta-hosted
		Characteristic curves of Kaplan turbine.	Beta-hosted
		Characteristic curves of reciprocating pump	Beta-hosted
7.	Wear and Tribology of Materials Lab	Abrasive and Adhesive Wear of Material (metal on metal) and ceramic to polymer articulating pair.	Beta-hosted
		Estimating wear rate via weight loss and volume loss method	Beta-hosted
		Effect of sliding speed on wear of materials	Beta-hosted
		Effect of load on wear of materials	Beta-hosted
8.	Basic Chemistry Laboratory-I	Thin layer chromatography of ink	Beta-hosted
		Measurement of electrical conductance to determine the dissociation constant of acetic acid	Beta-hosted
		Kinetics of iodide-hydrogen peroxide clock reaction	Beta-hosted
		Rate constant and activation energy of potassium permanganate and oxalic acid reaction	Beta-hosted
		Determination of saponification value of oil	Beta-hosted
		Adsorption of Acetic acid by charcoal	Beta-hosted
		Partition coefficient of acetic acid in water and butanol	Beta-hosted

Annexure 1.2: List of Labs and experiments that have been successfully centrally hosted and reviewed by lab domain experts

S. No.	Lab Name	Name of Experiment	Status
1.	Python for Basic Arithmetic Operations	Arithmetic Operations	Central-hosted
		Built-in Functions	Central-hosted
		Loops	Central-hosted
		Data Types	Central-hosted
		Strings	Central-hosted
		Classes and Objects	Central-hosted
		Built-in Modules	Central-hosted
		Constructors and Inheritance	Central-hosted
		File Operators	Central-hosted
2.	Electron Microscopy for Beginners	Feature Size measurement: Porosity, Grain, and Reinforcement	Central-hosted
		Effect of Beam voltage on conducting and insulating samples	Central-hosted
		Basic operations of Transmission Electron Microscope (Imaging and Diffraction Pattern)	Central-hosted
		Bright Field Imaging and Dark Field Imaging	Central-hosted
		Electron Diffraction for various materials	Central-hosted
		Indexing of Diffraction Patterns (Ring Pattern & Spot Pattern)	Central-hosted
		Sample Preparation for TEM analysis (Bulk metal, Powder sample, Brittle material)	Central-hosted
		Cross-sectional Sample Preparation	Central-hosted
		Basics of Scanning Electron Microscopy: Secondary Electron and BSE imaging mode	Central-hosted
		Elemental mapping: Spot, Line and Area Analysis	Central-hosted
3.	Basics of Physics-I	Energy Band Gap of Semiconductor	Central-hosted
		Radiation with Temperature Change Using Stefan's Law	Central-hosted
		Finding Viscosity of Liquid by Rotating Cylinder Method	Central-hosted
		Measurement of the wavelength of monochromatic source of light with the help of Fresnel's Bi prism	Central-hosted
		Measurement of focal length of the combination of the two lenses separated by a distance	Central-hosted
		To measure specific rotation of cane sugar using Polarimeter	Central-hosted
		Measurement of high resistance by the method of leakage of condenser	Central-hosted
		To study polarization of light using He-Ne Laser	Central-hosted
		Carey Foster's Bridge to Measure Specific Resistance of Material	Central-hosted
		Measurement of Numerical aperture and attenuation constant of optical fiber	Central-hosted

4.	Material response to micro structural mechanical thermal and biological stimuli	Creep Transient Based on Material Selection (Pt/Mg)	Central-hosted
		Selection of Obstacle Distance (λ, grain boundary or precipitate)	Central-hosted
		Selection of Obstacle Density (ρ, number of grains/precipitate)	Central-hosted
		Hardness & Modulus	Central-hosted
		Indent Depth	Central-hosted
		Plastic Work	Central-hosted
		Contact Angle Measurement	Central-hosted
		To Image the Cytoskeleton of Cells Proliferation on Biomaterial Surface	Central-hosted
		To Image the Nucleus of Cells Proliferation on Biomaterial Surface	Central-hosted
		Ionic Conductivity YSZ Electrolyte Material for Solid Oxide Fuel Cell	Central-hosted
5.	Basics of Physics-II Lab	Determine the wavelength of sodium light by Newtons ring experiment.	Central-hosted
		Calibration of ammeter and voltmeter by potentiometer.	Central-hosted
		To study the resonance condition of a series LCR circuit	Central-hosted
		To study Hall effect and determine hall coefficient carrier density and mobility of a given semiconductor material using hall effect Set up.	Central-hosted
		Variation of magnetic field with the distance along the axis of a current carrying coil and estimate the radius of the coil.	Central-hosted
		Determine the electrochemical equivalent of Copper	Central-hosted
		To determine the wavelength of He-Ne laser light using single slit diffraction	Central-hosted
		To determine the wavelength of different spectral lines of mercury light using plane transmission grating	Central-hosted
		To determine the value of acceleration due to gravity (g) using compound pendulum	Central-hosted
		To draw hysteresis (B-H curve) of a specimen in the form of a transformer and to determine its hysteresis loss	Central-hosted
6.	Mechanical Metallurgy Lab	Tensile Test and Stress Strain Curve of Steel	Central-hosted
		Stress-Strain Curve of Various Materials	Central-hosted
		Instrumented Indentation of Materials	Central-hosted
		Creep High Temperature Test of Materials	Central-hosted
		Charpy and Izod Impact Testing of Materials	Central-hosted
		Age Hardening in Aluminium Alloys	Central-hosted
		Strain Ageing and Yield Point Phenomenon in Steel	Central-hosted
		Fatigue Cyclic Load Test of Materials	Central-hosted
		Bulk and Micro Hardness Test of Materials	Central-hosted

Project Number: MHRD/MET/2014258

Project Title: Virtual Lab – Phase II

Project Investigator: Prof. Kantesh Balani

Co-Investigator(s)/Collaborators (if any)

Project Initiated on: 07/11/2014 (Till Mar. 31, 2026)

Project Objectives:

in the Phase-II of Virtual Lab, idea is to make all the developed labs into an open-source repository that is available to community/academic institutes, whether in India or abroad, for use and development. The idea was to convert all the licensed content into a platform that is independent of any licensed software. Further, a target of creating nodal centers and achieving a target participation of 30,000 users in the current year.

Progress Report:

A usage count of 17.86 Lakh views is obtained (page-views). A total of 375 workshops have been conducted till now (171 workshops in FY 2024-25). A total of 123 nodal centres (***Annexure 2.1***) have been created with affiliation to IIT Kanpur till March. 31, 2025, and 101 nodal centres are re-enrolled (***Annexure 2.2***) in FY 2023-2024 with IIT Kanpur. A total of 22 new nodal centres are affiliated with IIT Kanpur from April 2024 till March 2025. Also, 171 workshops are conducted in nodal centres (***Annexure 2.3***) in FY 2024-2025. The total workshop usage is 6.92L (2.86 Lakh in FY 2024-25) and 17.86 Lakh views in website hits.

Overall Summary of Virtual Labs:

Target of achieving required users is achieved, and 120+ nodal centers are linked. Overall summary:

- Phase II of Virtual Lab has started (since Oct. 2014).
- The target of taking 3 labs to level-6 was decided (which was extended to 5 additional labs, making a total of 8 labs to FOSS level-6). The list of current stats of virtual labs is provided in *Annexure 3* (targets achieved).
- One sr. project engineers, three sr. project associates, two assistant project manager, two multi-skilled workers and two project technicians are available for the project development.
- The undertaking for integration of all labs (worked upon by IIIT Hyderabad) at common platform is being supported by IIT Kanpur.
- A total of 123 nodal centres (***Annexure 2.1***) have been created, Also, 171 workshops are conducted in nodal centres (***Annexure 2.3***)

Highlights:

- 8 labs have been hosted and all labs have achieved FOSS level 6. The undertaking for integration of all labs (worked upon by IIIT Hyderabad) at common platform is being supported by IIT Kanpur.
- 10 project employees were hired, and more than 90 interns hired for the development.
- A total of 123 nodal centre were recruited in FY 2024-25. The usage count (of 17.86 Lakh online usage + 2.86 Lakh workshop usages) has substantially exceeded the annual targeted count of 30,000.

Annexure 2.1: List of 120+ Total Nodal Centers (01 April 2024 to 31 March 2025)

S. No.	College Name	Date	Contact Person (Email)
1	Adani University	10-04-2024	sunil.jha@adaniuni.ac.in
2	Aligarh College of Engineering & Technology, Aligarh	10-04-2024	gopal.vashistha@acetup.org
3	Allenhouse Business School	11-04-2024	bba.shishir@allenhouse.ac.in
4	Allenhouse Institute of Technology, Kanpur	17-04-2024	me.avinash@allenhouse.ac.in
5	Ambalika Institute of Management and Technology	17-04-2024	jitendrakurmi@ambalika.co.in
6	Amity University, Chhattisgarh	18-04-2024	nrathore@rpr.amity.edu
7	Amity University, Rajasthan	19-04-2024	spathak@jpr.amity.edu
8	Anjaneya University	23-04-2024	riya.kesharwani.rk73@gmail.com

9	Aryika Gyanmati Government Girls Polytechnic, Faizabad	26-04-2024	pankajgautam257@gmail.com
10	Axis Business School (ABS)	27-04-2024	amarnathawasthi@axiscolleges.in
11	Axis Institute of Higher Education	27-04-2024	ashishshukla@axiscolleges.in
12	Axis Institute of Technology and Management, Kanpur	30-04-2024	drpriyankagupta@axiscolleges.in
13	Babu Banarasi Das University, Lucknow	02-05-2024	suman.sharma.lko@bbdu.ac.in
14	Bansal Institute of Research and Technology	04-05-2024	anukirtisrivastava01@gmail.com
15	Bhilai Institute of Technology	08-05-2024	praveen@bitraipur.ac.in
16	BML Munjal University	09-05-2024	yarramaneni.sridharbabu@bmu.edu.in
17	BN College of Engineering and Technology, Lucknow	15-05-2024	director@bncet.ac.in
18	Buddha Institute of Technology Gorakhpur	15-05-2024	pratish449@bit.ac.in
19	C.T UNIVERSITY	16-05-2024	lovejit17793@ctuniversity.in
20	Charotar University of Science and Technology	18-05-2024	hod.cse@charusat.ac.in
21	Chaudhary Charan Singh University, Meerut	20-05-2024	anilphy@ccsuniversity.ac.in
22	Chitkara University	20-05-2024	amandeep.1124@chitkara.edu.in
23	Christ Church College, Kanpur	24-05-2024	ashutoshais@gmail.com
24	College of Management Studies	28-05-2024	deepalinishad0112@gmai.com
25	Columbia Institute of Engineering and Technology	29-05-2024	hodcse@cietraipur.ac.in
26	Dayanand Anglo Vedic (PG) College, Kanpur	04-06-2024	kaleem.ahmed19@gmail.com
27	Dayananda Sagar Academy of Technology and Management	06-06-2024	hodise@dsatm.edu.in
28	Dr. Ambedkar Institute of Technology Bengaluru	07-06-2024	vidyah91.et@drait.edu.in
29	Dr. A.P.J. Abdul Kalam Institute of Technology, Tanakpur	10-06-2024	nehabishtakit@gmail.com
30	Dr. Ambedkar Institute of Technology for Handicapped, U.P.	13-06-2024	shweta@aith.ac.in
31	Dr. M.C. Saxena College of Engineering & Technology	13-06-2024	pankajamrev@gmail.com
32	Dr. Virendra Swarup Memorial Trust Group of Institutions, Unnao	17-06-2024	hodcsedptt@gmail.com
33	Faculty of Engineering, Moradabad	24-06-2024	dramit.engineering@tmu.ac.in
34	G.C.R.G. Memorial Trusts Group of Institution, Lucknow	28-06-2024	drnehasingh2280@gmail.com
35	Ganga Memorial College of Polytechnic	29-06-2024	alokanand3338@gmail.com
36	Goel Institute of Technology and Management, Lucknow	01-06-2024	er.shivamshukla@goel.edu.in

37	Government Degree College, Budaun	01-06-2024	drsrathore@gmail.com
38	Government College of Engineering and Technology	02-07-2024	asso.professor2021@gmail.com
39	Government Engineering College, Aurangabad (Bihar)	04-07-2024	nirbhay06.dstte@bihar.gov.in
40	Government Engineering College, West Champaran	04-07-2024	sujeetcegecwc@gmail.com
41	Govt. Arts College, Newas	05-07-2024	arunimasharma28@gmail.com
42	Govt. Model College	09-07-2024	ramendraphy@gmail.com
43	Gyan Ganga College of Technology (GGCT)	09-07-2024	arunsharma@ggct.co.in
44	HBTU, Kanpur	18-07-2024	pchaudhari@hbtu.ac.in
45	Hindustan Institute of Management and Computer Studies, Mathura	24-07-2024	prashant.sharma@sgei.org
46	IES College of Technology, Bhopal	31-07-2024	shweta.singh@iesbpl.ac.in
47	IES Institute of Technology and Management, Bhopal	01-08-2024	exam@iesbpl.ac.in
48	IES University, Bhopal	05-08-2024	drirshad.khan@iesuniversity.ac.in
49	IIMT College of Engineering, Greater Noida	06-08-2024	research.iimtgn@iimtindia.com
50	Indira Gandhi University, Meerpur, Rewari	07-08-2024	suman.evs@igu.ac.in
51	Institute of Engineering & Technology Bundelkhand University, Jhansi	08-08-2024	dr.anupam@bujhansi.ac.in
52	Institute of Technology and Management, Gorakhpur	10-08-2024	vineet.rai1985@gmail.com
53	Institute of Technology, Zakura Campus, University of Kashmir	12-08-2024	junaidmasoodi@uok.edu.in
54	Integral University Lucknow	17-08-2024	kavita@iul.ac.in
55	IPS Academy, Indore, Madhya Pradesh	21-08-2024	hod.telecom@ipsacademy.org
56	ITM University, Raipur	22-08-2024	jaig@itmuniversity.org
57	ITS Ghaziabad	24-08-2024	varunarora.ka@its.edu.in
58	Jagran College of Arts, Science & Commerce	26-08-2024	prashant.khare687@gmail.com
59	Janta College Bakewar	30-08-2024	dr.indubalamishra@yahoo.com
60	Janta Mahavidyalaya, Ajeetmal, Auraiya	31-08-2024	rckswaroop07@gmail.com
61	Jaypee University of Engineering and Technology	09-09-2024	mahesh.kumar@juet.ac.in
62	JSS Academy of Technical Education, Noida	09-09-2024	prachichhabra@jssten.ac.in
63	K. K. College of Engineering & Management	14-09-2024	info@kkcemdhanbad.ac.in
64	K.K. Polytechnic	21-09-2024	viceprincipal@kkpdhanbad.ac.in
65	K.N. Govt. P.G. College Gyanpur	23-09-2024	awasthi.k@gmail.com
66	Kakatiya Institute of Technology & Science KITSW	24-09-2024	krnr.me@kitsw.ac.in
67	Kalaniketan Polytechnic College	26-09-2024	anupam.knpc@mp.gov.in

68	Kamla Nehru Institute of Technology, Sultanpur	27-09-2024	akhilesh@knit.ac.in
69	Kanpur Institute of Technology, Kanpur	04-10-2024	habib.rahman@kit.ac.in
70	Katihar Engineering College, Katihar	12-10-2024	arbind.iitg@gmail.com
71	Kunwar Satya Vira College of Engineering & Management (KSVCEM), Bijnor	19-10-2024	abhishek@ksvira.edu.in
72	Lakhmi Chand Institute of Technology	24-10-2024	dr.bhumika.das@lcit.edu.in
73	LCIT College of Commerce & Science	29-10-2024	pratiksha.pandey777@gmail.com
74	Madan Mohan Malaviya University of Technology, Gorakhpur	11-11-2024	bppece@mmmut.ac.in
75	Mahakal Institute of Technology	11-11-2024	yasho028@gmail.com
76	Maharana Pratap Engineering College, Kanpur	12-11-2024	abhaysingh@mpgi.edu.in
77	Maharana Pratap Institute of Technology, Gorakhpur	13-11-2024	pkd5046@gmail.com
78	Meerut Institute of Engineering & Technology, Meerut	16-11-2024	praveen.chakravarti@miet.ac.in
79	Pacific School of Engineering	18-11-2024	jrh.pse@gmail.com
80	Pandit Prithi Nath (PG) College, Kanpur	18-11-2024	satish0402@gmail.com
81	Poornima Institute of Engineering and Technology	20-11-2024	aisha.rafi@poornima.org
82	Pranveer Singh Institute of Technology, Kanpur	22-11-2024	aparna.dixit@psit.ac.in
83	Prasad Institute of Technology	27-11-2024	departmentelectrical144@gmail.com
84	Prestige Institute of Engineering Management & Research	27-11-2024	dr.amita@piemr.edu.in
85	PSIT College of Engineering, Kanpur	29-11-2024	bca@psitche.ac.in
86	Radhakrishna Institute of Technology and Engineering	02-12-2024	pdas.ee@riteindia.edu.in
87	Raghuveer Singh Govt. Degree College, Lalitpur	09-12-2024	dkpolymer2003@gmail.com
88	Raipur Institute of Technology, Raipur	09-12-2024	vandanachouhan2212@gmail.com
89	Rajkiya Engineering College, Kannauj	14-12-2024	rajeev@reck.ac.in
90	Rajkiya Engineering College, Ambedkar Nagar	21-12-2024	saurabh@recabn.ac.in
91	Rajkiya Engineering College, Banda	21-12-2024	ashutosh.tiwari@recbanda.ac.in
92	Rajkiya Engineering College, Bijnor	28-12-2024	suneel.ee@recb.ac.in
93	Rajkiya Engineering College, Sonbhadra	06-01-2025	amodtiwari@gmail.com
94	Rama University, Kanpur	06-01-2025	drabhayshukla.fet@ramauniversity.ac.in
95	Rameshwaram Institute of Technology and Management, Lucknow	07-01-2025	misrarahul06@gmail.com

96	RK University	10-01-2025	chetan.patel@rku.ac.in
97	RR Institute of Modern Technology, Sitapur Road, Lucknow	10-01-2025	manoj@rrgi.in
98	RTC Institute of Technology	16-01-2025	goutam_mahto@rtcit.ac.in
99	RustamJi Institute of Technology, Gwalior	16-01-2025	ussharma001@gmail.com
100	S.J. Mahavidyalaya	20-01-2025	sjmvkanpur@gmail.com
101	Samrat Ashok Technological Institute (SATI)	27-01-2025	dkshakya.ec@satiengg.in
102	Sandip Foundation's, Shri Ram Polytechnic, Madhubani	27-01-2025	deepak.choudhary@shrirampolytechnic.org
103	School of Basic Science, UIET, CSJM University	03-02-2025	anjudixit@csjmu.ac.in
104	School of Engineering and Information Technology	04-02-2025	drsunitak@matsuniversity.ac.in
105	Seth Gyaniram Bansidhar Podar College, Nawalgarh	07-02-2025	hpshihps@gmail.com
106	Shambhunath Institute of Engineering and Technology Allahabad	07-02-2025	hrituparnapaul@siet.in
107	Shri Ram Group of Institution	07-02-2025	choudharysapnajain@gmail.com
108	Shri Ram Institute of Science & Technology	14-02-2025	sharmasudeep23@gmail.com
109	Shri Ram Institute of Technology, Jabalpur	15-02-2025	pra.sharma30683@gmail.com
110	Shri Rawatpura Sarkar University	17-02-2025	ashisk.sarkar@sruraipur.ac.in
111	Shri Sitarambhai Naranji Patel Institute of Technology, (Managed by Vidyabharti Trust,Umrakh -Bardoli	18-02-2025	miral_thakker13@yahoo.co.in
112	Shri Venkateshwara University, Gajraula, U.P.	19-02-2025	nats.svu@svu.edu.in
113	Sri Gulab Singh Mahavidyalaya	28-02-2025	principal.gsmv@gmail.com
114	St. Aloysis Institute of Technology, Jabalpur, M.P.	28-02-2025	manzoor2001in@gmail.com
115	St. Aloysius College (Autonomous)	05-03-2025	prakashkumarlange@gmail.com
116	St. Aloysius Institute of Technology (Edu.)	06-03-2025	rashmimanishjaiswal@gmail.com
117	Swami Vivekanand Subharti University, Meerut	08-03-2025	arunabansal75@gmail.com
118	Truba Institute of Engineering & Information Technology	12-03-2025	abhishek.agwekar@trubainstitute.ac.in
119	University of Lucknow	18-03-2025	placement_foet@lkouniv.ac.in
120	Veerbhumi Govt. P.G. College, Mahoba	22-03-2025	anurag8161@gmail.com
121	Vidya College of Engineering, Meerut	25-03-2025	pushpendra.dwivedi@vidya.edu.in
122	Vikrant University, Gwalior	26-03-2025	ee_prashantgarg@vitm.edu.in
123	Vikrmajit Singh Sanatan Dharma College	27-03-2025	psdobal@gmail.com

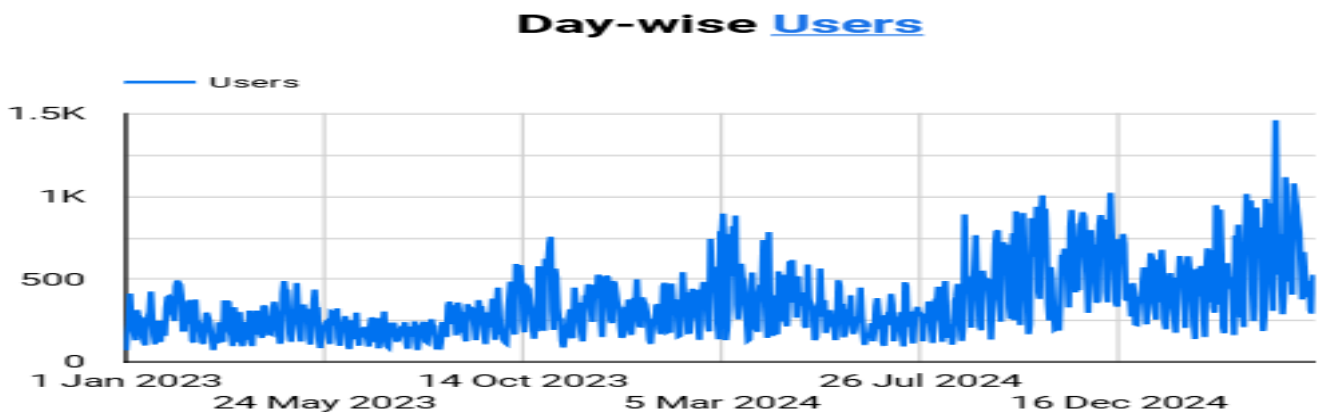
Annexure 2.3: List of workshops Conducted (01 Apr-2024 to 31 Mar-2025)

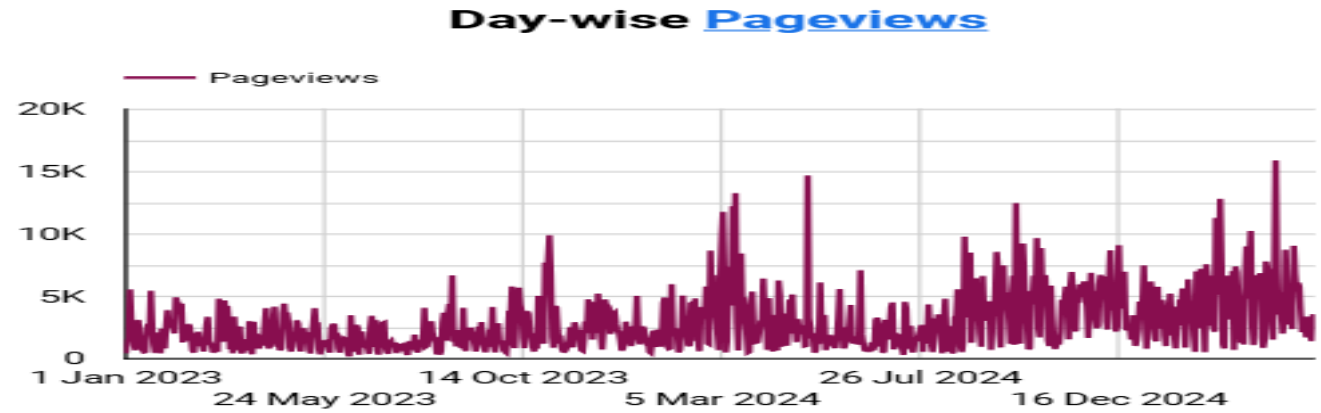
S. No.	College Name	Date
1	Rajkiya Engineering College, Banda	2024-04-30
2	ITS Ghaziabad	2024-04-29
3	Rajkiya Engineering College, Banda	2024-04-26
4	Lakhmi Chand Institute of Technology	2024-04-26
5	Rajkiya Engineering College, Banda	2024-04-23
6	Lakhmi Chand Institute of Technology	2024-04-20
7	Lakhmi Chand Institute of Technology	2024-04-16
8	PSIT College of Engineering, Kanpur	2024-04-10
9	JSS Academy of Technical Education, Noida	2024-04-09
10	Lakhmi Chand Institute of Technology	2024-04-09
11	Charotar University of Science and Technology	2024-04-05
12	Lakhmi Chand Institute of Technology	2024-04-03
13	Lakhmi Chand Institute of Technology	2024-04-03
14	Seth Gyaniram Bansidhar Podar College, Nawalgarh	2024-04-02
15	JSS Academy of Technical Education, Noida	2024-05-30
16	Institute of Engineering & Technology Bundelkhand University, Jhansi	2024-05-29
17	Lakhmi Chand Institute of Technology	2024-05-20
18	Lakhmi Chand Institute of Technology	2024-05-13
19	Lakhmi Chand Institute of Technology	2024-05-10
20	Shri Sitarambhai Naranji Patel Institute of Technology	2024-05-10
21	Rajkiya Engineering College, Banda	2024-05-10
22	Dr. A.P.J. Abdul Kalam Institute of Technology, Tanakpur	2024-05-09
23	Lakhmi Chand Institute of Technology	2024-05-02
24	Rajkiya Engineering College, Banda	2024-06-25
25	Rajkiya Engineering College, Banda	2024-06-21
26	Lakhmi Chand Institute of Technology	2024-06-21
27	Maharishi Markandeshwar Engineering College	2024-07-30
28	Pacific School of Engineering	2024-07-30
29	Rama University, Kanpur	2024-07-29
30	RK University	2024-07-27
31	Radhakrishna Institute of Technology and Engineering	2024-07-25
32	Prestige Institute of Engineering Management & Research	2024-07-23
33	St. Aloysis Institute of Technology, Jabalpur, M.P	2024-07-20
34	Rani Durgavati Vishwavidyalaya, Jabalpur	2024-07-19
35	Rani Durgavati Vishwavidyalaya, Jabalpur	2024-07-18
36	Pranveer Singh Institute of Technology, Kanpur	2024-07-15
37	Rajkiya Engineering College, Banda	2024-07-12
38	Galgotias University	2024-07-11
39	Dr Ambedkar Institute of Technology Bengaluru	2024-07-11
40	Dr Ambedkar Institute of Technology Bengaluru	2024-07-10
41	Rajkiya Engineering College, Banda	2024-07-09
42	Rajkiya Engineering College, Banda	2024-07-09
43	Dr Ambedkar Institute of Technology Bengaluru	2024-07-06
44	Lakhmi Chand Institute of Technology	2024-07-01
45	Shri Ram Group of Institution	2024-08-30
46	Shri Ram Institute of Science & Technology	2024-08-29
47	Shri Ram Institute of Technology, Jabalpur	2024-08-28
48	St. Aloysius Institute of Technology (Edu.)	2024-08-12
49	Adani University	2024-08-09
50	Samrat Ashok Technological Institute (SATI)	2024-08-08
51	LCIT College of Commerce & Science	2024-08-08
52	Maharishi Markandeshwar Engineering College	2024-08-07
53	Sandip Foundation's, Shri Ram Polytechnic, Madhubani	2024-09-30
54	Lakhmi Chand Institute of Technology	2024-09-30
55	Lakhmi Chand Institute of Technology	2024-09-28
56	Gyan Ganga College of Technology (GGCT)	2024-09-27

57	Samrat Ashok Technological Institute (SATI)	2024-09-26
58	Pranveer Singh Institute of Technology, Kanpur	2024-09-26
59	Indira Gandhi University, Meerpur, Rewari	2024-09-26
60	Bansal Institute of Research and Technology	2024-09-25
61	Kunwar Satya Vira College of Engineering & Management (KSVCEM), Bijnor	2024-09-24
62	Lakhmi Chand Institute of Technology	2024-09-20
63	Shambhunath Institute of Engineering and Technology Allahabad	2024-09-19
64	Rajkiya Engg College, Kannauj	2024-09-18
65	Goverment Degree College, Budaun	2024-09-15
66	Goverment Degree College, Budaun	2024-09-14
67	Lakhmi Chand Institute of Technology	2024-09-13
68	Goverment Degree College, Budaun	2024-09-13
69	Goverment Degree College, Budaun	2024-09-12
70	BML Munjal University	2024-09-11
71	Goverment Degree College, Budaun	2024-09-11
72	Pacific School of Engineering	2024-09-10
73	Swami Vivekanand Subharti University, Meerut	2024-09-10
74	Government Degree College, Budaun	2024-09-10
75	Swami Vivekanand Subharti University, Meerut	2024-09-09
76	Vikrant University, Gwalior	2024-09-06
77	ITS Ghaziabad	2024-09-05
78	Poornima Institute of Engineering and Technology	2024-09-03
79	Radhakrishna Institute of Technology and Engineering	2024-09-12
80	Lakhmi Chand Institute of Technology	2024-10-25
81	Ambalika Institute of Management and Technology	2024-10-21
82	Lakhmi Chand Institute of Technology	2024-10-18
83	ITS Ghaziabad	2024-10-18
84	Chitkara University	2024-10-17
85	Axis Institute of Technology and Management, Kanpur	2024-10-16
86	Chitkara University	2024-10-16
87	Charotar University of Science and Technology	2024-10-15
88	Chitkara University	2024-10-14
89	Lakhmi Chand Institute of Technology	2024-10-10
90	Samrat Ashok Technological Institute (SATI)	2024-10-10
91	Rajkiya Engineering College, Bijnor	2024-10-09
92	Govt. Arts College, Newas	2024-10-08
93	PSIT College of Engineering, Kanpur	2024-10-07
94	Bansal Institute of Research Technology & Science (BIRTS)	2024-10-04
95	Kalaniketan Polytechnic College	2024-10-03
96	Dr. Ambedkar Institute of Technology for Handicapped, U.P.	2024-10-01
97	Lakhmi Chand Institute of Technology	2024-10-01
98	Lakhmi Chand Institute of Technology	2024-11-30
99	JSS Academy of Technical Education, Noida	2024-11-26
100	Lakhmi Chand Institute of Technology	2024-11-26
101	ITS Ghaziabad	2024-11-25
102	JSS Academy of Technical Education, Noida	2024-11-22
103	LCIT College of Commerce & Science	2024-11-22
104	LCIT College of Commerce & Science	2024-11-21
105	Lakhmi Chand Institute of Technology	2024-11-19
106	ITS Ghaziabad	2024-11-19
107	Vikrmajit Singh Sanatan Dharma College	2024-11-19
108	ITS Ghaziabad	2024-11-18
109	JSS Academy of Technical Education, Noida	2024-11-12
110	JSS Academy of Technical Education, Noida	2024-11-12
111	PSIT College of Engineering, Kanpur	2024-11-12
112	Lakhmi Chand Institute of Technology	2024-11-11
113	Radhakrishna Institute of Technology and Engineering	2024-11-09
114	G.C.R.G. Memorial Trusts Group of Institution, Lucknow	2024-11-08
115	Chitkara University	2024-11-06
116	Chitkara University	2024-11-05
117	Dr. Ambedkar Institute of Technology for Handicapped, U.P.	2024-12-23

118	Goel Institute of Technology and Management, Lucknow	2024-12-20
119	Goel Institute of Technology and Management, Lucknow	2024-12-19
120	Goel Institute of Technology and Management, Lucknow	2024-12-18
121	Raipur Institute of Technology, Raipur	2024-12-17
122	Bhilai Institute of Technology	2024-12-12
123	Government Engineering College, Aurangabad (Bihar)	2024-12-06
124	Lakhmi Chand Institute of Technology	2025-01-30
125	Lakhmi Chand Institute of Technology	2025-01-27
126	Lakhmi Chand Institute of Technology	2025-01-25
127	Lakhmi Chand Institute of Technology	2025-01-24
128	Lakhmi Chand Institute of Technology	2025-01-10
129	Samrat Ashok Technological Institute (SATI)	2025-02-28
130	Maharana Pratap Engineering College, Kanpur	2025-02-28
131	Raipur Institute of Technology, Raipur	2025-02-28
132	Samrat Ashok Technological Institute (SATI)	2025-02-27
133	Rajkiya Engineering College, Banda	2025-02-25
134	Rajkiya Engineering College, Banda	2025-02-24
135	Lakhmi Chand Institute of Technology	2025-02-24
136	Rajkiya Engineering College, Banda	2025-02-23
137	Rajkiya Engineering College, Banda	2025-02-22
138	Rajkiya Engineering College, Banda	2025-02-21
139	Rajkiya Engineering College, Banda	2025-02-20
140	Lakhmi Chand Institute of Technology	2025-02-18
141	Rajkiya Engg College, Kannauj	2025-02-15
142	Rajkiya Engg College, Kannauj	2025-02-14
143	Samrat Ashok Technological Institute (SATI)	2025-02-14
144	Rajkiya Engg College, Kannauj	2025-02-13
145	Samrat Ashok Technological Institute (SATI)	2025-02-13
146	Rajkiya Engg College, Kannauj	2025-02-12
147	Rajkiya Engg College, Kannauj	2025-02-11
148	Rajkiya Engg College, Kannauj	2025-02-10
149	Lakhmi Chand Institute of Technology	2025-02-10
150	Samrat Ashok Technological Institute (SATI)	2025-02-06
151	College of Management Studies	2025-02-06
152	Samrat Ashok Technological Institute (SATI)	2025-02-05
153	Lakhmi Chand Institute of Technology	2025-02-03
154	IES University, Bhopal	2025-03-26
155	Raipur Institute of Technology, Raipur	2025-03-25
156	IES College of Technology, Bhopal	2025-03-25
157	IES Institute of Technology and Management, Bhopal	2025-03-25
158	Lakhmi Chand Institute of Technology	2025-03-24
159	Lakhmi Chand Institute of Technology	2025-03-24
160	Raipur Institute of Technology, Raipur	2025-03-20
161	Samrat Ashok Technological Institute (SATI)	2025-03-20
162	Faculty of Engineering, Moradabad	2025-03-20
163	Lakhmi Chand Institute of Technology	2025-03-19
164	Raipur Institute of Technology, Raipur	2025-03-14
165	Raipur Institute of Technology, Raipur	2025-03-10
166	Dayanand Anglo Vedic (PG) College, Kanpur	2025-03-07
167	Samrat Ashok Technological Institute (SATI)	2025-03-06
168	C.T UNIVERSITY	2025-03-06
169	Lakhmi Chand Institute of Technology	2025-03-03
170	Raipur Institute of Technology, Raipur	2025-03-03
171	Raipur Institute of Technology, Raipur	2025-03-03

Annexure 3: List of Labs at IIT Kanpur and Analytics (Available since Apr. 01, 2022)			
Sr. No.	**Lab Name**	**PI Name**	**FOSS Level**
1	Virtual Astrophysics Lab	Dr. P. K. Jain	6
2	Ultrafast Laser Spectroscopy	Dr. D. Goswami	6
3	Material Response to Micro-structural, Mechanical, Thermal & Biological Stimuli	Prof. Kantesh Balani	6
4	Basics of Physics I	Prof. Ashutosh Tiwari (REC Banda), & Prof. Kantesh Balani	6
5	Electron Microscopy for Beginners	Prof. Kantesh Balani	6
6	Python for Basic Arithmetic Operations	Prof. Aparna Dixit (PSIT, Kanpur) & Prof. Kantesh Balani	6
7	Basics of Physics Lab II (New)	Prof. Ashutosh Tiwari (REC Banda), & Prof. Kantesh Balani	6
8	Basics of Physics Lab II (New)	Dr. Sudhanshu S. Singh	6





IIT Kanpur has filed 156 IPRs in the financial year 2024-25, setting a new record by filing highest number of IPRs in a single year by the institute. This remarkable achievement highlights the institute's dedication to pioneering research and marks the fourth consecutive year of surpassing its own milestones in IPR filings.

Among the 156 IPRs filed, the different prospects included 123 Indian patents, 15 design registrations, 2 copyrights, and 6 trademark application, along with 6 US, 1 Taiwan, 1 China, 1 Malaysian and 1 European patents. A total of 148 IPRs have been granted in the financial year 2024-25, and 6 technologies have been licensed.

Through unwavering dedication to enhancing the nation's research and development landscape and a commitment to delivering impactful inventions at the grassroots level, IIT Kanpur has achieved not only the consecutive milestone of filing a century of patents in a financial year but has also reached a total of 1243 Intellectual Property Rights (IPRs) over time. The exceptional licensing rate of around 12.30% till date, out of which 875 have been granted so far along with 153 technologies licensed for commercialization bear testimony to the flourishing and dynamic R&D ecosystem of the institute.

Technologies Licensed (2024-25)

1. Technology Transfer to Prompt Equipments Pvt. Ltd., a dairy tech company

A technology titled "Lateral Flow Immunoassay Strip and Method for Detection of Mastitis in Bovines" helpful in the area of animal health developed by Prof. Siddhartha Panda (ChE & NCFlexE) and Dr. Satyendra Kumar (Sr. Proj. Scientist, SCDT) at the National Centre for Flexible Electronics (NCFlexE) at IIT Kanpur, has been licensed to "Prompt Equipments Pvt. Ltd", a leading dairy tech company having its business in 70,000+ villages across the country. The technology has been granted an Indian Patent no. 455232 by the Indian Patent Office.

Bovine mastitis is considered the most common disease leading to economic loss in dairy industries due to reduced yield and poor milk quality. The disease is an inflammatory response of the udder tissue in the mammary gland caused due to physical trauma or microorganism infections. Therefore, the invention has been developed with the ability to detect Staphylococcus aureus (Bacterium), a contributor to the condition of Mastitis, and the associated enterotoxins through a novel polyclonal antibody in the form of a strip test.

According to market research via pashudhanpraharee.com, the Indian Veterinary Diagnostic market is expected to grow at a CAGR of 9.5% from 2022 to 2029 to reach $9.58 billion by 2029. Addressing the veterinary diagnostic market preferences, the strip is quoted with dual gold nanoparticle-based lateral flow immunoassay (LFIA) for better sensitivity and specificity that shall provide rapid results and at the same time be a user-friendly test. Unlike conventional technologies, the current invention also possesses long-term stability with different weather conditions and relatively low manufacturing costs.

Image Link:

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2. A Convertible School Bag, Re-licensed to PROSOC Innovators Pvt. Ltd.

IIT Kanpur has re-licensed the technology titled, "School Bag Convertible to Study Table", having Design Registration No. 287945, to PROSOC Innovators Pvt. Ltd. The novel school bag is developed by Mr. Eshan Sadasivan (DP), Prof. Shantanu Bhattacharya (ME), Prof. Mainak Das (BSBE), Mr. Toshib Bagde (DP), Mr. Abhinav Basak (DP) at IIT Kanpur. This unique invention integrates a foldable, height-adjustable study table within a school bag.

Specifically designed to address the challenges faced by underprivileged students lacking access to basic infrastructure like study tables, DESKIT (Convertible School Bag) promotes better posture, improved concentration, and enhanced handwriting. It offers a dedicated learning space for children, both at school and home, encouraging regular attendance and boosting academic performance. The bag is lightweight, waterproof, and available in various colours and designs, making it a versatile solution for any student.

Already benefiting over 3,50,000 students across 19 Indian states, DESKIT has received support from numerous government bodies, corporates, and NGOs and has partners including the governments of J&K and

Telangana, CSR partners like Wells Fargo, ONGC, and Aditya Birla, and NGO collaborators such as United Way, JSPL Foundation, and Diya India.

By re-licensing this innovation to PROSOC, IIT Kanpur continues to champion accessible, design-led solutions that make quality education more inclusive and equitable.

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3. *Technology Transfer of a non-invasive, Oral Cancer Detection Device*

The unique technology, “Munh Parikshak”, invented by Prof. Jayant Kumar Singh and his team from the Department of Chemical Engineering, IIT Kanpur, is a portable device for detecting oral cancer. The technology is protected by Indian Patent Application No. 202411015420. It uses special lights and a camera to examine the mouth, providing instant results by analysing mouth images and categorizing them as normal, pre-cancerous, or cancerous. The results are displayed on a smartphone app and stored on cloud servers for continuous updates, making it ideal for self-testing.

Munh-Parikshak is user friendly having white and fluorescence light source that connects wirelessly to smartphones, tablets, iPads, etc. With a built-in power backup, it stores health history for tracking and provides instant oral health reports. The device offers quick and painless screening with 90% accuracy in clinical settings. It is safe, radiation-free, and does not require any additional chemicals or processes.

Based on the market research findings, the oral cancer diagnosis market is expected to reach $2.98 billion by 2032 with a 5% CAGR, while the rapid test kit market, currently at $736 million, is growing at a 7% CAGR until 2027. Oral cancer is among the top global cancers, particularly impacting India, where they constitute up to 40% of cases, posing economic and clinical burdens on healthcare systems worldwide. Early detection is vital to reduce morbidity and mortality, driving the need for affordable, non-invasive, user-friendly diagnostic tools for widespread screening.

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4. *Transfer of the ‘Soil Nutrient Sensing Device’ to ScaNxt Scientific Technologies Pvt. Ltd., aiming to take this Made-in-Bharat innovation to global markets.*

IIT Kanpur has licensed its innovative “Soil Nutrient Sensing Device” to ScaNxt Scientific Technologies Pvt. Ltd. Developed by Prof. Jayant Kumar Singh and his team from the Department of Chemical Engineering, this patent-pending technology (Indian Patent Application No. 202311039511) offers a pocket-sized, smartphone-compatible tool for real-time soil nutrient analysis. Designed for portability and ease of use, the device can assess multiple soil parameters simultaneously, storing data on a cloud server, with a single charge supporting up to 250 tests.

This pioneering device addresses the long-standing gap in timely soil testing for Indian farmers, who typically face significant delays when relying on district labs for soil health assessments. With its Near Infrared Spectroscopy technology, the device provides instant soil health insights directly to farmers’ smartphones, eliminating the need for chemical reagents and complex processes. The technology promises to transform the agricultural landscape, enabling better nutrient management and enhancing crop productivity. By minimizing the overuse of fertilizers, it is expected to improve farmers’ incomes and contribute to environmental sustainability.

The Indian soil testing equipment market, currently valued at approximately USD 114.43 million as of 2024, is set for significant expansion. Driven by the increasing demand for efficient agricultural productivity solutions and the need for climate resilience, this market is projected to reach USD 145.83 million by 2030, growing at a CAGR of 4.08%.

As farmers increasingly adopt precise, data-driven practices, the market for innovative soil testing devices like ScaNxt's Soil Nutrient Sensing Device is positioned for substantial growth, providing real-time soil health insights and empowering farmers with actionable data to optimize fertilizer usage and boost productivity.

ScaNxt plans to introduce this Made-in-Bharat innovation internationally, aiming to empower farmers globally.

Additionally, a joint MoU between IIT Kanpur & ScaNxt Scientific Technologies Pvt Ltd. was signed to foster collaborative research on advanced soil testing technologies, focusing on integrating micro and secondary nutrient analysis into ScaNxt's BhuParikshak device using NIR Spectroscopy, IoT, and AI/ML.

The technology will also support government initiatives aimed at site-specific fertilizer recommendations by contributing to the development of a comprehensive national soil stack. A soil stack aggregates soil health data across regions, enabling governments to provide tailored nutrient recommendations based on local soil conditions. This data-driven approach improves fertilizer efficiency, reducing environmental impact and promoting sustainable farming practices. By building a soil stack, policymakers can make informed decisions, allocate resources effectively, and monitor soil health trends over time, enhancing productivity and resilience across agricultural landscapes.

Image Link:

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5. Trademark licensed to a company, Alcraftist.

For the first time in the history of IIT Kanpur, a trademark bearing the IIT Kanpur logo (Registered Trademark No. 3555542, Class 16) has been licensed to a company named Alcraftist.

PRODUCT LAUNCH

1. IIT Kanpur launches Anālakṣhya, a revolutionary metamaterial cloaking system, licensed to Meta Tattva Systems Pvt. Ltd.

IITK developed 'Analakshya' a stealth technology introduced in a public launch event on 26th Nov 2024, has been collaboratively developed and licensed to an industry partner Meta Tattva Systems Pvt. Ltd. with an aim to transform the defense systems worldwide.

The technology based on textile metamaterials has primary applications in military aircraft, ships, and missiles which act as a shield using absorbing layers to cover & make an object invisible to opponents. By offering near-perfect wave absorption across a broad spectrum, Anālakṣhya MSCS significantly enhances the ability to counter Synthetic Aperture Radar (SAR) imaging, and will also give effective protection from missiles that use radar guidance. Tailored for modern warfare, this cutting-edge innovation strengthens operational capabilities, providing India's armed forces with advanced tools to maintain strategic superiority and ensure national security. Its advanced design is tailored for operational imperatives, making it a crucial asset in modern warfare and surveillance.

From identifying the problem statement to executing its solution from an idea to a product, the inventors have come a long way and made it a pathbreaking achievement as a team having Prof. S. Anantha Ramakrishna, Prof. K. V. Srivastava & Prof. J Ramkumar along with their students.

The unveiling event was graced by Air Marshal Ashutosh Dixit, AVSM, VM, VSM, Air Officer Commanding-in-Chief, Central Air Command, Indian Air Force, as the Chief Guest, and Lt. Gen. Cherish Mathson, PVSM, SM, VSM, and Air Marshal Rajesh Kumar, PVSM, AVSM, VM, ADC, as the Guests of Honor. The occasion was further enriched by the presence of Prof. Manindra Agrawal, Director, IIT Kanpur, Prof. Tarun Gupta, Dean of Research and Development, IITK, and distinguished defense leaders including Air Vice Marshal Praveen Bhatt, Director of Meta Tattva Systems Pvt. Ltd., Air Commodore Ajay Chaudhari, and Brigadier Abhinandan Singh.

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2. IIT Kanpur Launches Phase-Change Material-Based Thermal Management System, Empowering Cold Chain Logistics and Local Vendors

IIT Kanpur is proud to announce that one of its latest technologies, a Phase Change Material-Based Thermal Management System, has been launched as a product in the market.

The novel technology with IPA No. 202511003401, has been developed by Prof. Sri Sivakumar from the Department of Chemical Engineering, IIT Kanpur. This PCM-based thermal management system was unveiled at Abhivyakti'25, an event held on 17th January 2025 at IIT Kanpur. This innovative technology is designed to ensures energy efficiency and sustainability by offering higher thermal conductivity and energy storage density, making it ideal for applications such as ice cream storage, food preservation, and refrigeration.

With the ability to maintain a consistent temperature range (typically -20°C to -10°C), the system overcomes limitations of traditional refrigeration systems, which are easily affected by environmental factors such as temperature, humidity, air pressure, and vibration. The PCM technology is integrated into ice cream carts to provide uninterrupted cooling during transportation and power outages.

Marking the formal launch of this technology, Prof. Manindra Agrawal, Director of IIT Kanpur, waved the green flag at a ceremonial event, signifying the institute's commitment to translating cutting-edge research into practical solutions. To demonstrate its real-world impact, IIT Kanpur also announced the donation of two ice cream carts equipped with this advanced system to local vendors. These carts will enable small-scale vendors to preserve the quality of their products while reducing dependency on traditional energy-intensive systems.

This initiative reflects IIT Kanpur's commitment to fostering sustainable technological solutions and supporting local entrepreneurship. By empowering vendors with advanced yet cost-effective technology, the institute is not only ensuring better energy efficiency but also contributing to the livelihoods of small-scale businesses. These donations mark the beginning of what could be a larger-scale adoption of this technology, benefiting the cold chain logistics sector and small-scale vendors alike.

As per the global demand, in particular, phase change materials have gathered significant attention due to their ability to store and release thermal energy during phase change transition, making them ideal for temperature-sensitive applications to increase shelf life for high perishable products that require precise temperature control during storage and transportation. The novel technology can also be further used in drug delivery systems, solar energy storage, wide temperature range and energy saving potential. This launch highlights IIT Kanpur's mission to pioneer sustainable and impactful technologies for the betterment of society, setting an inspiring example for academic institutions driving technological change.

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AWARDS

IIT Kanpur bags National Intellectual Property Award 2024

IIT Kanpur breaking the records in patent filing has secured a position of honour with the prestigious “National Intellectual Property (IP) Award 2024 for Indian Academic Institution - Patents”. The award ceremony took place at Bharat Mandapam, New Delhi on 26th March 2025.

The National IP Award was conferred by the Government of India in the presence of Hon’ble Minister of Commerce & Industry, Shri Piyush Goel Ji, who bestowed Prof. Manindra Agrawal, Director IIT Kanpur accompanied by Mr. Anshu Singh, Research Establishment officer, Startup Incubation & Innovation Centre, IIT Kanpur.

To our privilege, IIT Kanpur was also awarded with “WIPO National Award for WIPO Users” as a recognition given to early adopters or innovative users of WIPO IP services. As part of the global recognition initiative, the National IP Awards are linked with the World Intellectual Property Organization (WIPO) Awards.

The National Intellectual Property (IP) Awards 2024, organized by the Office of the Controller General of Patents, Designs, and Trademarks (CGPDTM), aim to recognize and celebrate the contributions of innovators, institutions, and professionals who have significantly advanced the realm of intellectual property in India. National Intellectual Property (IP) Awards are conferred every year to recognize and reward the top achievers comprising individuals, institutions, organizations and enterprises, for their IP creations and commercialization, which have contributed towards strengthening IP eco-system in the country and in encouraging creativity and innovation. IIT Kanpur has marked its foot on a national platform, acting as an enabler towards fostering an ecosystem in innovation and management of intellectual property portfolio that influences the success of the innovation in different industry segments.

IIT Kanpur continues to enrich the nation’s research and development ecosystem. Its achievements in the financial year 2024-25 reflect its dynamic and flourishing R&D environment that is poised to deliver more impactful innovations as India journeys towards technological excellence and self-reliance.

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STARTUP INCUBATION & INNOVATION CENTRE IIT KANPUR

1. Events and Programs in the year 2024–25

SIIC IIT Kanpur executed a broad spectrum of strategic and capacity-building activities and events during FY 2024–25. These efforts, spanning acceleration programs, international collaborations, innovation showcases, and policy dialogues, collectively advanced India's startup ecosystem and deepened SIIC's impact at national and global levels.

- **AIIDE CoE Investor Connect Program** (May 30, 2024, Noida): Hosted investor sessions for AI/ML startups under the third cohort, enabling strategic investments and reinforcing the AIIDE CoE's five-year vision.
- **Launch of UDAAN – Drone Acceleration Program** (May 31, 2024): Drone Acceleration Program (May 31, 2024): Initiated in collaboration with the Drone Federation of India, UDAAN supports UAV startups through mentorship, advanced labs, and government support.
- **Biotechnology Industrial Training Program** (May 14 – June 4, 2024): Hands-on biotechnology exposure for Fergusson College students, including lab training, DNA analysis, and interaction with SIIC startups.
- **Healthcare Innovation Program – Clinical Immersion** (June 10, 2024): Fellows explored clinical challenges at Sree Chitra Tirunal Institute, developing prototypes for improved healthcare delivery.
- **India at ASEAN ScaleHub 2024** (July 3–5, 2024, Bali): Forty startups represented India in Bali, building ties with ASEAN industry and fostering regional innovation collaboration.
- **Leadership Dialogue with Chief Secretary, GoUP (July 24, 2024):** Director, IIT Kanpur met Chief Secretary to discuss sustainable development and institutional partnerships.
- **Indo-Korean Startup Knowledge Exchange (July 30, 2024):** Facilitated dialogue between Indian and Korean startups on IP frameworks and market access strategies.
- SIIC at Global Bio-India 2024: Showcased biotech innovations and networked with national and global stakeholders.
- **UP International Trade Show (September 25, 2024):** SIIC startups, including EndureAir and Gudhgrams, gained recognition from top government officials.
- **CAD Design Workshop for MedTech Startups (September 26, 2024):** Equipped startups with design and prototyping skills using AutoDesk Inventor.
- **India Mobile Congress 2024 (October 15–18, 2024):** Seven SIIC-backed startups showcased IoT and AI technologies, attracting investor attention.
- **65th Foundation Day – Defence Startup Showcase (November 2, 2024):** 23 startups demonstrated innovations in defense tech; DRDO project sanction letters were distributed.
- **CITI Social Innovation Lab 2.0 Workshop (November 11–13, 2024):** Supported 75 cleantech and agritech startups with deep tech sessions and commercialization strategy.
- **Healthcare Symposium with La Trobe University (November 19, 2024):** Promoted Indo-Australian collaboration and showcased Medantrik's healthcare innovations.
- **ASEAN-India Startup Festival (November 28–30, 2024):** Engaged 100+ startups in pitch contests and cross-border networking.
- **FICCI FLO Women Entrepreneurs Visit (December 2024):** 30 women entrepreneurs interacted with founders and explored SIIC's inclusive ecosystem.
- **National Startup Day Webinar on Equity Sharing (January 2025):** Dr. Avijit Bansal provided practical guidance on equity distribution for founders.
- **Abhivyakti 2025 – Flagship Innovation Festival (January 17–19, 2025):** 100+ startups participated in demos and panels celebrating emerging innovations.

- **Startup Gateway for Garbage-Free Cities – Cohort 2:** Onboarded 38 waste management startups in partnership with MoHUA for sustainable city development.
- **Mahakumbh 2025 Security Review (360° Review):** Prof. Deepu Philip led disaster readiness efforts for the upcoming Mahakumbh event.
- **AIIDE CoE Visit by Shri Anurag Yadav:** Principal Secretary, GoUP, reviewed AI startup innovations, emphasizing state support.

- **Skill Development Programs for MSMEs (Feb–Mar 2025):** Trained 250+ stakeholders in legal, agri-tech, and sustainable enterprise development.
- **Launch of AIIDE CoE Cohort-4 (February 2025):** Expanded the AI/ML startup pipeline with institutions across India.
- **Drone Capability Assessment Workshop (February 24–25, 2025):** National experts discussed UAV advancements and policy during a strategic workshop with MP-IDSA.
- **Launch of AMRIT – Pharma Innovation Initiative (February 27, 2025):** Joint effort with NIPER and Boehringer Ingelheim to translate pharma research into ventures.
- **Lab-to-Market Webinar – National Science Day (February 28, 2025):** Highlighted how startups at SIIC convert academic research into viable commercial products.

2. Incubator Highlights

- Expansion of **AIIDE CoE** with Cohorts 3 & 4 and state government engagement: The AIIDE Centre of Excellence welcomed two new cohorts and gained strong backing from the Government of Uttar Pradesh, positioning it as a hub for AI/ML innovation.
- Launch of **UDAAN for UAV/Drone startups**: UDAAN provided select startups with access to infrastructure, mentorship, and a connected ecosystem for UAV innovation.
- Continued support of **Healthcare Innovation**, Cleantech, AgriTech, and Women-led startups: SIIC nurtured startups in high-impact sectors, including partnerships through CITI Lab and initiatives promoting gender inclusion.
- Collaborations with **La Trobe University, Drone Federation of India, NIPER, and MoHUA**: Strategic alliances enriched the innovation landscape and led to new initiatives like AMRIT and Startup Gateway.
- **Second cohort of Startup Gateway for Garbage Free Cities program launched:** SIIC and MoHUA collaborated to support 38 sustainability-oriented startups in this new cohort.
- Robust participation in national/international events (**ASEAN, Shark Tank, IMC,** etc.): SIIC facilitated startup showcases at platforms such as Shark Tank India and ASEAN-India Startup Festival, enhancing startup visibility.
- Successfully hosted a **Capability Assessment Workshop on Drones and Autonomous Systems** in collaboration with MP-IDSA, bringing together key stakeholders from the Government of Uttar Pradesh, CSIR-NAL, DGCA, NAQAS, DGQA, ADB, the Air Force, Army, Navy, MHA, DACIDS, ADE, BSF, DRDO, and various drone-tech startups, to position IIT Kanpur as India's premier integrated drone technology hub.
- **Sectoral focus in MedTech, Defence, Drones, AgriTech, and Cleantech**: Dedicated programs, funding access, and technical support ensured tailored growth for startups in emerging sectors.

3. Startup Success Stories at SIIC, IIT Kanpur

- **LCB Fertilizers** has made significant strides in sustainable agriculture by launching an organic fertilizer unit in Madhya Pradesh, partnering with FPOs in Uttar Pradesh, and collaborating with ICAR-IIPR on bio-decomposers, bio-fertilizers, and nano-technology. The company showcased its innovations at the Amar Ujala Krishika Expo 2024, earning praise from dignitaries including the Chief Minister of Uttar Pradesh and the Principal Scientific Adviser to the Government of India. LCB's efforts support India's "Waste to Wealth" vision by transforming crop residues into valuable resources, and its initiatives have been widely recognized for promoting eco-friendly farming.

- **Royal Bengal Greentech** secured a ₹2 crore deal for 10% equity on Shark Tank India Season 4, backed by four investors, for their patented BhavisyaPlast—100% biodegradable plastic made from agri-waste—and the GREEZY range of eco-friendly, petroleum-free lubricants. They signed an NDA with Berger Paints India to explore bio-plastic emulsion paints and supplied GREEZY lubricants for development. Their innovations earned them the second runner-up position at the Grand Idea Hunt by Maruti Suzuki and IIM Calcutta, highlighting their impact on

sustainable materials in the automotive and coatings industries.

- **Primary Healthtech** successfully organized a Safexpress-sponsored health camp from August 5th to 12th, screening 382 individuals and conducting 5,730 tests.
- **Life and Limb,** a startup developing advanced prosthetics, received funding from Portescap India to make their state-of-the-art prosthetic hands accessible globally. This partnership aims to empower amputees by enhancing mobility, independence, and overall quality of life.
- **Apeiro Energy** emerged as one of the five winners of AVINYA'25 – The Energy Startup Challenge, was recognized by Gujarat's Chief Minister as an emerging renewable energy player, and was featured in Renewable Watch Magazine for its innovative 10 kW iWind Hygrid microgrid powering a village near Mumbai. These achievements highlight its commitment to clean energy innovation and sustainable development in India.
- **Chimertech,** an agri-tech startup, partnered with Milky Mist Dairy to launch "Quadmastest," a reagent-free device for early mastitis detection and successfully secured an investment of ₹1.25 crore on Vijay Television's Startup Singam, a premier platform for emerging startups to gain funding and mentorship.
- **Medantrik Medtech** organized a free health camp on World Asthma Day (7th May) for IIT Kanpur campus residents, in collaboration with GSVM and Kcare Hospital. Offering lung function tests, chest and physiotherapy consultations, the initiative highlighted their commitment to raising lung health awareness and providing accessible medical services.
- **Treacle Technologies** secured Rs 4 crore in pre-seed funding led by Inflection Point Ventures. Their AI-powered deception technology offers advanced protection and early threat warnings, keeping businesses ahead of cyberattacks.
- **Aereo** raised $15 million in its Series B funding round led by 360 ONE Asset, with participation from Startup Xseed Ventures and Navam Capital. This funding will support the expansion of its intelligence solutions, marking a major milestone in its growth journey.
- **Brela Innovation** secured first place in both the Medtech Open Challenge Program (OCP) and the TiE Women Global Pitch Competition, highlighting its excellence in medical technology and its innovative solutions to pressing healthcare challenges.
- **Gudhgrams** won the Agritech Vendor of the Year award at the ASEAN India Scale Hub 2024, recognizing founders Manas Seth and Ayushi Seth for their impactful contributions to transforming agriculture and driving innovation in the sector.
- **Mild Cares,** on World Menstrual Hygiene Day, made Aminabad Urf Baragoan Uttar Pradesh's first "sanitary pad-free village" by distributing GynoCup menstrual cups—an eco-friendly, reusable solution promoting safer and more sustainable menstrual health.
- **Genomiki Solutions** was awarded the title of Emerging Precision Medicine Startup of the Year at the Precision Med India Awards on 31st March, recognizing its cutting-edge automated genome-informatics solutions developed by expert bioinformaticians and scientists.
- **Paving+** won the Best 60-second pitch for transforming waste into high-quality construction materials. Additionally, this startup also won the Sustainability Vendor Award for their commitment to sustainable practices.
- **ScaNxt Technologies** licensed a novel soil nutrient sensing device from IIT Kanpur, enabling real-time, chemical-free soil analysis via smartphone. Selected under Operation Dronagiri, part of the National Geospatial Policy 2022, the startup is driving impactful advancements in agriculture through geospatial technology.
- **F2DF**, a pioneering agritech startup featured on Shark Tank India, was selected for the third cohort of the Citi India–IIT Kanpur Social Innovation Lab for its impactful work in boosting farmer livelihoods by reducing input costs, increasing output value, and promoting sustainable, profitable agriculture.

- **CodeMate® AI,** in collaboration with Qualcomm, showcased AI-assisted programming at the Snapdragon X India Launch, enabling offline natural language coding on Snapdragon X Series AI PCs—demonstrating seamless, lag-free development powered by 45 TOPS built-in NPU support.

- **Dream Aerospace** raised ₹3 crore in pre-seed funding from Inflection Point Ventures and won the 1st Special Award at TiE Global Summit 2024, along with a cash prize of ₹1 Lakh. This milestone accelerated the development of its eco-friendly ATOM Thruster and the establishment of an in-house high-altitude testing facility, marking a major leap in green aerospace innovation.

- **MooRakshak BioSciences** earned prestigious accolades at both national and international competitions. Recognized by organizations such as CII, Tata Social Enterprise Challenge, GITEX Global, MeitY, IIM Visakhapatnam, Low Carbon Earth Accelerator, Headstart, and BIRAC, the startup's achievements underscore its commitment to driving positive change through advanced technology.

- **RF Nanocomposites** has successfully raised ₹6 crores to develop stealth and EMI shielding composite materials for India's defense and industrial sectors.

- **Ensect Farm** has secured a prize of INR 2 lakhs at Eureka! 2024, the flagship business model competition of IIT Bombay.

- **Devnullx Technologies** was selected for Startup Nexus Cohort #20, a prestigious program by the U.S. Embassy New Delhi, running from February 3 to April 4, 2025. The cohort provided specialized training from Indian and American experts, focusing on refining business strategies, defining target markets, accelerating commercialization, and exploring AI's impact and mental health for entrepreneurs.

- **OpenSpectrum AI** successfully launched its smart farming solution, AgroTrace, in Palla Village, Delhi. The device monitored key soil health parameters and optimized water and nutrient use, leading to notable yield improvements in tomatoes, cucumbers, zucchinis, and bottle gourds, as observed by SIIC officials—marking a significant step forward in Indian agriculture.

- **Simactricals** completed the PoC handover of their Wireless EV Charger to Toyota Tsusho India Pvt. Ltd., Gurgaon. This achievement marks a significant step toward advancing smart and sustainable EV charging solutions.

- **Airth,** a climate tech startup supported by SIIC, IIT Kanpur, secured funding on Shark Tank India from Aman Gupta and Vinita Singh for its innovative AC filters that convert regular air conditioners into 99% efficient air purifiers—significantly enhancing indoor air quality.

- **Terraqua UAV Solutions** Terraqua UAV Solutions, selected under Operation Dronagiri, launched a flood disaster response initiative in Kanpur with support from NTT DATA's CSR program, leveraging drone and satellite remote sensing for real-time monitoring and predictive modeling to aid local authorities and boost community resilience.

- **KAFFA KUWWA INNOVATIONS** won the "Best Product & Stall" award at StartUp Expo 2024, sponsored by NABARD, for its innovative use of spent coffee beans to create sustainable products, showcasing its commitment to

environmental conservation and green technology.

- **Arc Robotics** is part of UNICEF's "Summit of Our Future" campaign. The company is leveraging its advanced robotic technology to automate the cleaning of streets, sewers, and landfills, contributing to global efforts aimed at creating an inclusive, equitable, and open digital future. This recognition underscores their innovative solutions for developing cleaner and smarter cities.
- **NadiPulse Prognostics** signed an Memorandum of Understanding (MoU) with AIIA, New Delhi under the ICAINE (Incubation Centre for Ayurveda Innovation and Entrepreneurship) for the clinical validation of our Nadi Parikshan equipment, nPulse on 5th of July. This collaboration aims to foster comprehensive cooperation through mutual support, sharing of technologies, and information in the field of Ayurveda.
- **Pacing Grass** secured first place in the SIDBI Cluster Intervention Program under the Indo-Israel Agritech Co-Incubation Program, specializing in sustainability through bio-composite materials from bamboo and agricultural residue. KPMG organized the event in collaboration with the Embassy of Israel in India. This recognition highlights their innovative approach to sustainable technology.
- **Agronxt** participated in the "Impact Harvest Forum" at the United Nations Conference Centre (UNCC) in Bangkok, Thailand. The event was inaugurated by H.E. Ms. Armida Salsiah Alisjahbana, Under-Secretary-General of the United Nations and Executive Secretary of the United Nations ESCAP.
- **Deep Algorithms Solutions** was awarded a patent for its innovative System, Method and Device for Continuous User Authentication and Verification on 4th March 24. This pioneering technology has been developed into adapID, a groundbreaking enterprise product that leverages advanced AI-powered haptics (HCI) for continuous user authentication with exceptional biometric accuracy.
- **Water and Spices** registered as e-Panipuri Kartz, successfully obtained a patent for their state-of-the-art technology, the "Automatic Panipuri Flavour Dispensing Machine.
- **Aerosys Aviation** was awarded a certificate by the Directorate General of Civil Aviation, Government of India, for the design, specification, construction, and performance of their unmanned aircraft system 'Vedansh'. The certificate has been recommended by UL India Private Limited as required by the Certification Scheme for UAS notified by the Ministry of Civil Aviation.
- **Grid-India Power System Award (GIPSA)** announced its winners, recognizing exceptional research in the power systems sector from Doctoral and Master's students from technical institutions across India. This award, fully funded by Grid-India and implemented by SIIC-IIT Kanpur, received over 100 applications, with winners selected for their exceptional contributions to the field. SIIC-IIT Kanpur serves as the nodal agency for this national initiative, which continues to promote innovation and research excellence in the power systems sector.
- **Cybersecurity Startups -** SIIC, IIT Kanpur, and C3i Hub launched products from six innovative cybersecurity startups—SecureDApp, Hommi, Level 7 Infosec Pvt. Ltd., Cyber Chakra Technology, Ansh Tech Labs, and xIoTz Private Limited—at the Conference on Emerging Trends in Cybersecurity. These companies showcased solutions in blockchain security, smart home protection, threat intelligence, forensic data acquisition, open-source intelligence, and extended operations.
- **Genesis scheme** SIIC joined the GENESIS scheme by the Ministry of Electronics and Information Technology to boost startup innovation in Tier 2 and Tier 3 cities across Uttar Pradesh, playing a key role in advancing the digital ecosystem in northern India.
- **YourNest Venture Capital,** Incubated at IIT Kanpur's Noida Extension Centre, the startup launched the deep tech accelerator program "Velocity: Fast Track Startup Funding" in collaboration with SanchiConnect, with SIIC IITK as an ecosystem partner, fostering key investor-startup connections for growth and funding opportunities.
- **IIT Kanpur's BFI-Biome Cohort,** in collaboration with Blockchain for Impact, announced its inaugural awardees recognizing significant advancements in medical technologies. Awarded fellows include Ashwani Yadav for SMART AI Glasses for the visually impaired and Subhadeep Mitra for a microfluidic biosensor for early oral cancer detection. The Kickstarter Initiative also honored Pratik Raghuwanshi of Ksham Innovation for Able Glasses for the hearing and

speech impaired, and Tanmaya Gulati of RNT Health Insights for an AI system for gastric cancer lesion detection during endoscopy.

- **VU-Dynamics, and Cyethack Solutions** were pivotal in addressing key challenges at Prayagraj Maha Kumbh 2025, the world's largest religious gathering, by deploying cutting-edge solutions for crowd management, aerial surveillance, environmental monitoring, and public safety—demonstrating real-world impact and SIIC's commitment to technology-driven societal transformation.

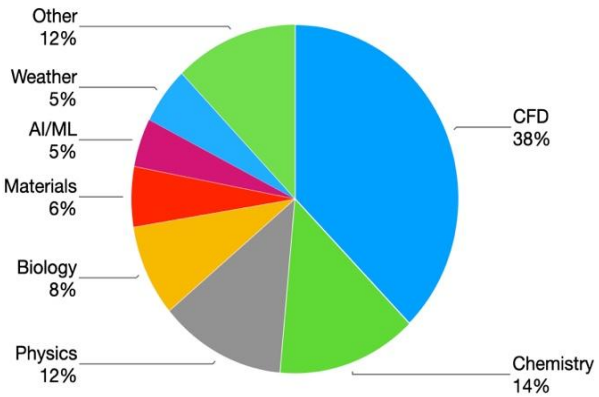
- **Ekarigiri (Krishi Mandi) and Stillsweb** Ekarigiri (Krishi Mandi) and Stillsweb were selected under Operation Dronagiri, part of the National Geospatial Policy 2022, highlighting their innovative use of geospatial technologies in agriculture and transportation. Ekarigiri was recognized in the Growth Stage category, while Stillsweb earned distinction in the Early Stage category.

DIGITAL INFRASTRUCTURE AND AUTOMATION

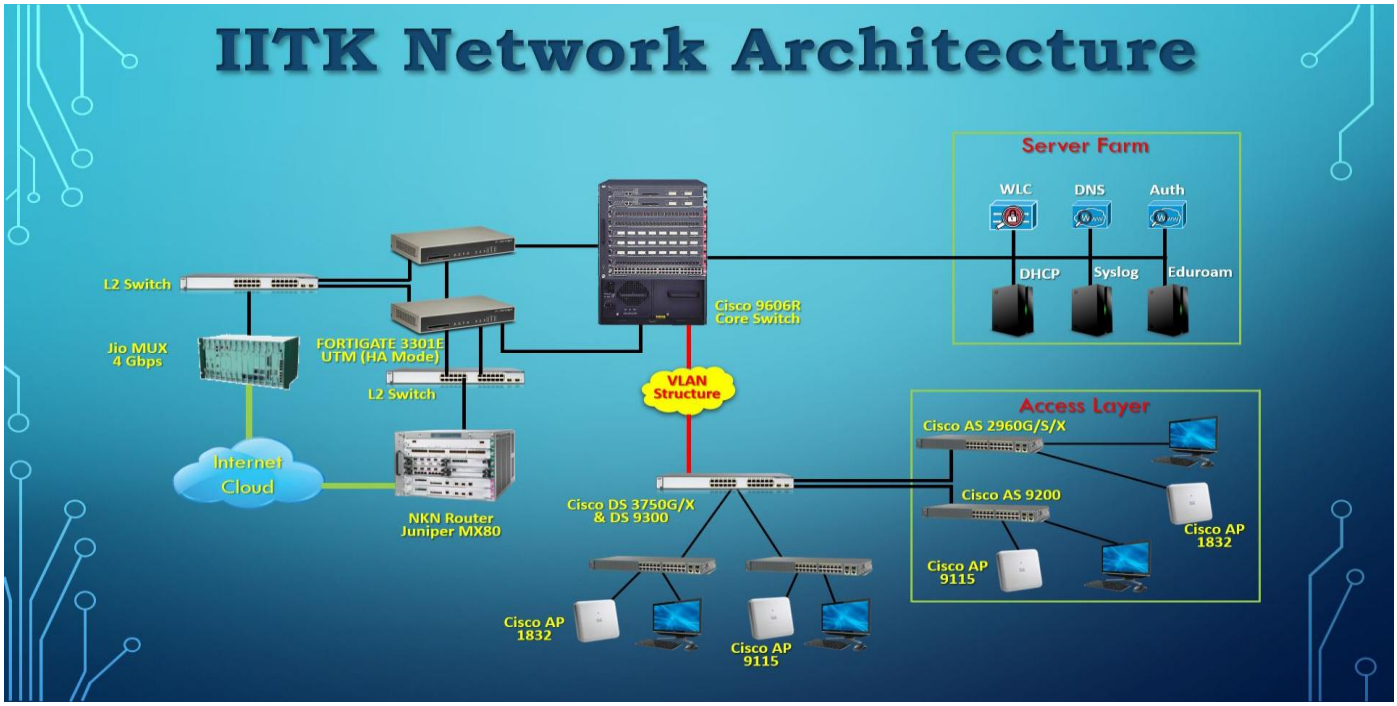
Computer Centre (CC) caters to the computational and IT-related needs of the academic and residential community at IIT Kanpur. Essential services provided by CC include the Institute Local Area Network covering academic areas, residential areas, and students' hostels, E-mail services, High Performance Computing (HPC), Computer Labs, website development and maintenance, purchase and maintenance of various software for specialized research, and general use by the campus. CC provides help and support for purchasing, installing, and configuring such hardware and software on demand.

The centre functions around the clock. The center has five data centers hosting computing and other servers, parallel clusters for various projects, office automation services, and soft switch-based telephony services. All the CC facilities are backed up by a UPS system and a diesel generator for a 24-hour, uninterrupted supply.

The Institute Computer Centre houses two HPC systems. The newest, Param Sanganak, is a heterogeneous and hybrid (CPU+GPU) supercomputer with a peak computing power of 1.67 Petaflops and was developed and commissioned by the National Supercomputing Mission (NSM) to meet the computational demands of IIT Kanpur and other research and engineering institutes in the country. It ranked in the top 10 HPC systems in the country. HPC2013 has a computing power of 330 TF, which ranked 131st on the Top 500 list (www.top500.org) in 2013. These HPC systems have a user base of about 400 users and about 100 research groups. They are extensively used by students, faculty, and other researchers at the Institute. Researchers across disciplines have used these facilities. These HPC systems are well-maintained and have an uptime of 97%. The usage of these facilities is beyond 90%.



IIT Kanpur has an open-source, self-hosted, clustered emailing system with a present user count of more than 18000 users. Users access the email account via our self-hosted webmail solutions and on their devices via SSL/TLS security and centrally authenticated services. Emails are backed up hourly for a fortnight. Three spam and virus firewalls are in place to safeguard email accounts. CC also provides a forwarding and bulk emailing facility via fault-tolerant SMTP and relay servers. Mail storage is now on NVME with the latest controllers and new backend storage.



he Institute has a fully managed Local Area Network of more than 35,000 wired nodes, connecting all the hostel rooms, offices, and residences using a 10 Gbps backbone and 1 Gbps access network. The wired network is complemented by an 802.11ac/ax wireless network using over 3500 Access Points. We have 10 + 4 Gbps connectivity to the Internet via different Internet service providers, including NKN. CC provides a single sign-on facility for seamless Wi-Fi connectivity within the campus, and Eduroam for seamless Wi-Fi connectivity for members traveling to participating academic institutes worldwide. The digital services offered by the institute can be accessed from outside the campus using SSL VPN.

A cybersecurity committee is made to create and implement a comprehensive cybersecurity policy and establish a structured approach to managing and protecting assets and data from cyberattacks. A cybersecurity cell is created to act against cyber threats and security incidents. The cell is actively working to promote security awareness and compliance among all stakeholders, including students, faculty, staff, and service providers. In collaboration with various government institutions, such as CERT-In (NCCC and Cyber Swachhta Kendra) and the Ministry of Home Affairs (MHA), the institute has implemented several cybersecurity measures. These include the deployment of honeypot sensors within the institute's infrastructure. The data collected from these initiatives is monitored daily to inform preventive strategies and strengthen our cybersecurity posture.

CC runs and manages thirteen computer labs, which have about 820 computers. These are managed under a Facility Management Service as an institute funded project. The labs are used to teach core and departmental courses like MTH209A, MTH208A, ELC111A, SPA 604, CHE381, COM200, PHY473A ESC111/112, ESC113, MTH308B, and CE687A. The labs are also used to hold certain exams for the courses, student placement, PhD admissions, and institute recruitment. Apart from these, they are regularly used for conferences, workshops, and QIP courses. A variety of STEM software like Aspen, Hysys, Matlab, Stata, R-Studio, Octave, AutoCAD, Fusion360, Ansys, Dev C++, Python, and Eclipse to name a few, are available. The facility is open to all the departments from 8 AM to 2 AM on all days. Around 400 students access the labs daily. The usage goes very high during the examination period and other events, and the demand is handled in multiple shifts. A few desktops in the New Core Building and the Library are dedicated to the print disabled. These have special software for reading out the screen, a back-illuminated large print keyboard, and touch-sensitive monitors. Most of the labs have a projector and whiteboard facilities. We are constantly adding more gadgets to help the instructors teach, like interactive panels, ePodium, and audio systems.

The institute provides Microsoft Office 365 (M365) online services, comprising Azure Active Directory, providing Microsoft Account to all permanent faculty, post-doctoral fellows, permanent staff, and regular students. This is a single sign-on service that provides tools and features like Office 365 Online, OneDrive storage, SharePoint, and MS Teams for video conferencing, collaboration, and classroom management. In addition, the users also get a subscription to Azure Development tools for teaching, which provides a variety of development software. It also provides the facility of Exchange Online mail service to all. This service provides a 50 GB mailbox, Calendar, Contacts, ToDo, and many other collaborative tools to the users, which seamlessly synchronize on desktop and mobile devices, thus considerably increasing the productivity of the users.

The Institute Website and several Deans, Departments, Centers, Services, etc. are being centrally managed by the Institute Website Team from 2020 onwards. The Institute Web team is in the process of developing and deploying smart device-compatible websites as per the current demands, with structured data organization and content flow. The team emphasizes the incorporation of advanced features to enhance user experience and meet the evolving requirements of the Institute. The team continually enhances the Institute's web presence by adhering to the latest SEO standards, implementing cutting-edge web practices, and ensuring all websites are optimized for peak performance, security, and user engagement. In the last year itself, the Web Team has developed **13** revamped departmental websites. The MoE has given the responsibility to IIT Kanpur for designing and developing an IIT council smart device-compatible website. This website consolidates the ongoing Research Projects, major research initiatives, publications, annual reports, technology developed, patents, etc., across IITs. It also summarizes the faculty and student-related information across the IITs.

The Office Automation (OA) division was established in 1992, and currently, it functions under the Dean of Digital Infrastructure and Automation (DDIA). The primary objective of OA is to automate various activities of different departments and units in the Institute. The OA team is involved in the design, development, and implementation of software, enhancements, and user training. OA has a team of personnel dedicated to software design, development, and deployment. There are dedicated personnel who work in system administration, database administration, and web server administration. Currently, approximately 175 services have been deployed and are in use by various departments and sections in the institute. These services are being used in departments like Accounts, Pension, Provident Fund, Payroll, Income Tax, DORD, DOFA, DOSA, DOAA, DORA, DOAD, ADMIN, COW, REG, RTI, Recruitment Section, Counselling Service, VH, Stores and Purchase, Health Centre, Estate Office, Hostels, IWD, ID cell, OA portal, Security unit, Telephone directories, VLFM, and CCE(SURGE), etc.

Launched in 2015, *Pingala* is IIT Kanpur's comprehensive online automation platform designed to streamline administrative, academic, and residential processes for students, faculty, and campus residents. With an emphasis on cross-platform compatibility and centralized access, Pingala integrates services from key institutional bodies such as the Dean of Academic Affairs (DOAA), Dean of Faculty Affairs (DOFA), Dean of Students Affairs (DOSA), the Institute Works Department (IWD), and the library. Pingala currently hosts 70 operational modules, covering a wide range of functions, including Academic Services (e.g. student registration, course add/drop, admissions), Administrative Tools (e.g. employee leave management, online surveys, address book), Recruitment Systems (e.g. faculty and postdoctoral recruitment), Research Management (project monitoring and reporting), Support Services (e.g. Complaint Management Systems, E-payment gateway), and Information Systems (e.g. Faculty Information System, external connection tracking). The full automation of the institute within Pingala is ongoing at a high pace and is expected to be completed by the end of the year 2025.

The Telephone Exchange at IIT Kanpur provides Analog and IP telephone services to the entire campus. The Alcatel IP PBX installed in the Telephone Exchange supports up to 5000 Analog extensions and up to 2000 IP extensions. For outside connectivity, there are two PRI lines, one from BSNL and one from Tata Telecom. The exchange provides 12X7 operator service, 8X6 maintenance services, and 24x7 support for critical and emergency services. Telephone communication within the campus can be through a four-digit extension number, and direct inward dialing from outside has to use a 259/679 prefix.

The ID Cell is the first point where a new faculty member, staff member, or student will visit to obtain the ID card and medical booklet of the institute. Smart Cards are provided by the Cell. New digital ID cards are now being developed and are under testing.

To streamline the operations under DDIA and to obtain feedback from the user community, several committees have been formed. The Institute Digital Infrastructure and Automation Committee has members from all the departments and the student Gymkhana, and it makes recommendations on policy changes and purchases of software for the whole institute. The Institute Cybersecurity Committee frequently reviews the cybersecurity-related incidents in the institute and recommends policy changes related to cybersecurity. The Steering Committee for Automation monitors the

development of office automation modules. The Telephone Advisory Committee reviews policies related to telephone services of the institute and periodically reviews the operations of the telephone exchange.

The DDIA office also organized several outreach and training programs. This includes training programs for the faculty, staff, and students on Microsoft Office tools, Data & AI using Azure, and HPC training. The HPC Symposium 2025 was recently conducted (April 25, 2025) to provide a platform for HPC users from various branches of science and technology to come together to present their research findings, share new ideas, and discuss the future of computing. The panel discussions were conducted to catalyze collaboration and ideation, fostering a dynamic environment for pushing the boundaries of research and technology.

INTERNATIONAL RELATIONS

NEW PARTNERSHIPS

During the academic year 2024–25, IIT Kanpur signed 12 new partnership agreements with leading universities across Asia, Europe, and North America:

1. **In Asia - Nara Women's University, Japan** for cooperation in the areas of faculty and student exchange, joint research activities and exchange of academic materials and publications; **National Institute for Materials Science, Japan** for cooperation in the areas of faculty and student exchange and international Cooperative Graduate Program Agreement; **Osaka University, Japan** for collaborative research, lectures, symposiums and student exchange and **Kyoto University, Japan** for exchange of students based upon existing General Memorandum for Academic Cooperation and Exchange between two universities.
2. **In Europe - Johannes Gutenberg University Mainz, Germany and University of Nottingham, UK** for cooperation in the areas of faculty and student exchange, joint research activities and exchange of academic materials and publications. **Financial University, Russia** for academic and research and student exchange agreement.
3. **In North America – Johns Hopkins University, USA** for shared research and industry engagement in the areas of engineering, science, medicine, humanities and business; **Department of Mechanical Engineering FAMU-FSU College of Engineering, USA** for research and educational activities such as exchange of faculty and researchers, exchange of students, short-term academic programs and joint research activities.

New Foreign Student Admissions:

AY	No. of Students
2023-24	14
2024-25	30

ESTABLISHMENT OF JOINT RESEARCH SEED GRANT AWARDS WITH UNIVERSITY OF ALBERTA, CANADA

In January 2023, IIT Kanpur and the University of Alberta signed an agreement that established a framework for collaborations, specifically in the areas of sustainable energy, climate change and health sciences. An agreement for joint degree program for doctoral students was also signed between the two institutions to further enhance the partnership.

In an effort to provide impetus to research collaborations between faculty at IITK and the University of Alberta, the "**University of Alberta-IITK Seed Grant Fund**" was established in 2024. After receiving grant proposals submitted jointly by faculty from IITK and UAlberta, eight proposals were awarded the seed grant. The IITK

awardees of this grant received seed funding of up to INR 15,00,000 from IITK and the UAlberta awardees received funding of up to CAD 25,000.

University of Alberta-IITK Seed Grant Awardees:

Prof. Raju Kumar Gupta and Prof. Sudarshan Narayanan (Sustainable Energy Engineering), Prof. Tarun Gupta (Civil Engineering), Prof. Debabrata Goswami (Chemistry), Prof. Lalit Pant (Sustainable Energy Engineering), Prof. Ashish Garg and Prof. Srinivas Yadavalli (Sustainable Energy Engineering), Prof. Raghavendra Ragipani (Chemical Engineering), Prof. Chunendra Sahu (Civil Engineering) and Prof. Rahul Mangal (Chemical Engineering)

IITK-UNIVERSITY OF CALIFORNIA SANTA CRUZ JOINT RESEARCH SYMPOSIUM

In March 2023, IIT Kanpur and University of California Santa Cruz (UCSC) signed an agreement setting out the framework for stronger ties between the two institutions. In July 2024, ten faculty from the Departments of Electrical Engineering and Computer Science & Engineering at IITK visited UCSC for a joint symposium on '**Artificial Intelligence, Machine Learning and Cybersecurity**'. The three-day symposium was held on 15-17 July at UCSC's Main Campus as well as the Silicon Valley campus. The symposium involved introductory presentations outlining the ongoing research at both institutions, round table discussions about generative AI and cyber security and panel discussions on Responsible AI, and Intersection of AI and Cybersecurity.

IITK and UCSC faculty at the joint research symposium

AINU FACULTY EXCHANGE

Under the ASEAN-India Network of Universities (AINU), IITK signed an agreement for a Faculty Exchange Program between IITK and any AINU institution from the ASEAN Member States. After a round of applications by faculty from IITK, Prof. Mousami Prasad from the Department of Management Sciences was selected by AINU for a faculty exchange visit to Universiti Malaya, Malaysia. As part of this fully-funded exchange program, Prof. Prasad will be involved in teaching and collaborative research at Universiti Malaya.

VISITS OF FOREIGN DELEGATIONS TO IIT KANPUR

Several foreign university delegations visited IIT Kanpur in 2024-25 to discuss possibilities for academic and research collaborations. Many of these have led to fruitful relationships between IITK and the partner University abroad and some of them are part of an ongoing collaboration.

- **From Asia:** delegation from **National Yang Ming Chiao Tung University, Taiwan**; **National University of Singapore, Singapore** and **Chiang Mai International Engineering School, Thailand** visited IIT Kanpur. Their discussions centered on how to enrich the partnership and implement new activities.

The delegation from NYCU with Prof. Manindra Agrawal, Director and Prof. Bushra Ateeq, Dean of International Relations

- **From Australia**: A delegation from the **Royal Melbourne Institute of Technology, Australia** visited IIT Kanpur to discuss further collaborations and to identify potential faculty collaborators at IITK.
- **From Europe:** A delegation from **Cardiff University, UK** visited IIT Kanpur to explore academic and research collaborations. The visit marked a step towards stronger academic ties in Cybersecurity.
- **From France:** A delegation from the **French Institute in India** and the **French Embassy in India** visited IITK. Their visit was aimed at strengthening the academic and scientific collaboration between India and France. A session with the students was also organized on "Study and Research Opportunities in France"
- **From the USA:** Delegations from the **US Embassy in New Delhi**, **University of**

Minnesota, Rice University, New York University, Office of Naval Research Global, University of Miami and **Yale University** visited IIT Kanpur to explore potential research collaborations and to strengthen the existing relationship with IIT Kanpur.

IIT KANPUR VISITS OVERSEAS

1. THAILAND:

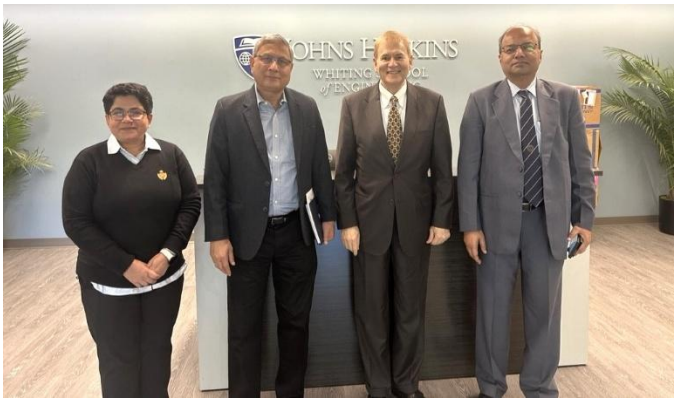
As a part of IITK outreach in Southeast Asia, Prof. Ashish Garg, Head, Sustainable Energy Engineering visited several universities in Thailand: Bangkok-based **Chulalongkorn University**, **Asian Institute of Technology** and **Mahidol University;** and Chiang Mai-based **Chaing Mai University**, **Maejo University**, **Rajabhat University** between November 27th and December 4th, 2024. During these visits, various programs such as technology incubation and start-up ecosystems, student and researcher exchange programs, and joint research opportunities aligned with interdisciplinary innovations in renewable energy research and others were discussed.

Prof. Ashish Garg along with Prof. Thongchai Fongsamootr, Dean of Engineering and Prof. Korrakot Tippayawong, Assistant Dean at Chaing Mai University

2. USA:

A delegation comprising Prof. Manindra Agrawal, Director of IIT Kanpur; Prof. Vinod K. Singh, Institute Chair Professor; Prof. Braj Bhushan, Deputy Director; Prof. Bushra Ateeq, Dean of International Relations; Mr. Kapil Kaul, CEO of the IITK Development Foundation; and Mr. Rajat Sharma, Vice President of the IITK Development Foundation, visited the USA from October 7 to October 17, 2024.

The journey began in New Jersey, where IIT Kanpur alumni reconnected and strengthened their bonds within the community. The delegation then moved to Washington, D.C., where the enthusiasm continued to grow. They later travelled to Chicago, Johns Hopkins University, and Purdue University, exploring opportunities for joint research projects, exchange programs, and innovative initiatives in science and technology.



Prof. Manindra Agrawal, Director; Prof. Vinod K. Singh and Prof. Bushra Ateeq, Dean of International Relations with Prof. Hedy Alavi, Associate Dean for Global Partnerships, Johns Hopkins University, USA

3RD JAPAN-INDIA UNIVERSITIES FORUM

On 19 October 2024, Prof. Bushra Ateeq, Dean of International Relations at IIT Kanpur, and Prof. Deepu Philip, Professor-in-Charge of Incubation and Innovation at the Startup Incubation and Innovation Center (SIIC) participated in the 3rd Japan-India Universities Forum. The event aimed at strengthening collaboration between Indian and Japanese universities in science, technology, and innovation. Several universities from India and Japan participated in discussions to expand academic collaborations. As an outcome of this forum, IITK signed six new partnerships with different universities in Japan this year.

Prof. Bushra Ateeq and Prof. Deepu Philip at the 3rd Japan-India Universities Forum

JAM WAIVER FOR FOREIGN STUDENTS

With growing interest from foreign students in pursuing MSc at IIT Kanpur, OIR had put forward a proposal for the waiver of the JAM exam requirement for foreign students for admission in this program. The Senate, IIT Kanpur has recently approved the proposal, allowing for foreign national admissions in MSc programs at IIT Kanpur from the 2025-26 academic year onwards.

ALL IIT INTERNATIONAL RELATIONS CONCLAVE 2024

The All IIT International Relations Conclave 2024 was hosted by IIT (ISM) Dhanbad on 12-13 December 2024. The theme for the Conclave was 'Study in India' and the program included plenary sessions on internationalization strategies, discussions on funding schemes and exchange of ideas and best practices. IIT Kanpur was represented at the Conclave by Mr. Satya Siva Sankar Rao, Assistant Registrar and Mr. Anuj Tripathi, Senior Assistant.

Attendees of the All IIT International Relations Conclave 2024

HAPPY HOUR FOR INTERNATIONAL STUDENTS

OIR started Happy Hour get-togethers for foreign students at IIT Kanpur in 2024, and this year, the Office organized two sessions. In September 2024, we invited the foreign students for an evening of Pictionary along with conversation over tea and snacks.

In February 2025, OIR organized a volleyball session for the foreign students which was very well-attended.

Volleyball session organized by OIR for foreign students as part of the monthly Happy Hour

FESTIVAL CELEBRATIONS

Office of International Relations organizes festival celebrations to acquaint international students with the culture and practices of India.

Holi Celebration Organized by OIR

In 2024-25, celebrations for Holi, Christmas, Diwali and Eid festivals with simple activities (such as diya-lighting and rangoli-making) and food were organized by OIR. These celebrations have been very well received by the foreign students and are an opportunity for greater cultural exchange.

HINDI CLASSES FOR FOREIGN STUDENTS

In January 2025, the Office of International Relations started Hindi language classes for a second batch of foreign students. The classes are taught by experts at the Shivani Centre for Nurture & Reintegration of Hindi & Other Languages at IIT Kanpur.

The aim of these classes is to enhance the everyday experience of the foreign students on campus and make their interaction with the local community easier.

Prof. Kantesh Balani, Coordinator, Shivani Centre and Prof. Bushra Ateeq, Dean of International Relations with the participants of the second batch for the Hindi classes

FOREIGN STUDENTS AT IIT KANPUR

IIT Kanpur hosted 69 foreign students in 2024-2025 with 56 of them pursuing a post-graduate degree at IITK and 13 for internships.

The 56 students ***pursuing a post-graduate degree*** are from countries such as Bangladesh, Jordan, Indonesia, Syria, Ethiopia, Iran, Nepal and Myanmar. The degrees being pursued by these 34 students are as follows:

- 27 are pursuing a Ph.D. degree and
- 29 are enrolled in a Masters program

In addition to this, IIT Kanpur has also hosted 13 ***internship students*** from the UK, Japan and Nepal.

IIT KANPUR STUDENT MOBILITY OVERSEAS

- 35+ students from IIT Kanpur were nominated for semester exchange at partner universities in 2024-25
- Over 34 IIT Kanpur students were accepted for internships at foreign universities.

SHORT-TERM COURSES FOR FOREIGN WORKING PROFESSIONALS

In 2024-25, IITK organized three courses under the Indian Technical and Economic Cooperation Programme (ITEC), the leading capacity building platform by the Ministry of External Affairs, Government of India.

Participants of the ITEC course on 'Robotics'

IITK offers various courses under ITEC every year and in 2025, the courses offered by IITK were:

1. *Spacecraft Dynamics & Control* (June 2024) – Course taught by Prof. Dipak Giri
2. *Robotics* (*March 2025*) – Course taught by Prof. Ashish Dutta
3. *Industrial and Electronics Waste Recycling and Management* (*March 2025*) – Course taught by Prof. Arunabh Meshram

Participants of the ITEC course on 'Industrial and Electronics Waste Recycling and Management'

These short-term courses were aimed specifically at working professionals from ITEC partner countries such as Kazakhstan, Uzbekistan, Ethiopia, Thailand, Paraguay, Bhutan and Peru. Over 70 students participated in these courses held offline at IIT Kanpur.

FINANCE

The Institute has a decentralized financial management structure, organized largely by the primary source(s) of funds.

FY2024-25 accounts are prepared as per the guidelines of the Ministry of Education (MoE), the administrative ministry of the Institute, conveyed vide their letter no. 29-4/2012-IFD dated April 17, 2015. The unaudited accounts were duly adopted by the Chairman, Board of Governors (BOG) on June 27, 2025.

The accounts are available with the title 'Annual Accounts (2024-25)' at the following link:

https://www.iitk.ac.in/new/annual-accounts

Following are the highlights of the Institute's FY 2024-25 financials:

- Balance sheet size is ₹ 6,105 crores, without any valuation added for the IIT brand.
- MHRD released revenue and capital funds of ₹ 670.19 crores and ₹ 117.12 crores, respectively, under the scheme Support to IITs.
- The institute has generated revenue (including grants) of ₹ 974.01 crores (excluding deferred revenue income w.r.t. depreciation of ₹ 134.84 crores), of which ₹ 774.52 crores were spent towards recurring expenditure and ₹ 108.83 crores towards repayment of HEFA Loan. Income to the tune of ₹ 19.14 crores has been ploughed back as retained earnings for repayment of HEFA loan. In addition to this, the institute has incurred expenditure of ₹ 117.62 crores on capital expenditure.

Table below presents the summary financials:

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD ENDED 31ST MARCH 2024

(Amount - ₹)

PARTICULARS	SCHEDULE	CURRENT YEAR 31.03.2024	PREVIOUS YEAR 31.03.2023
INCOME			
Academic Receipts	9	88,51,62,921	77,04,71,587
Grants / Subsidies	10	7,44,32,98,484	6,70,19,12,999
Income from Investments	11	58,88,11,776	22,27,08,871
Interest earned	12	4,20,37,483	1,50,54,156
Other Income	13	70,78,27,169	2,45,15,55,692
Prior Period Income	14	7,29,66,312	-
Deferred Revenue Income	4	1,34,84,23,599	1,19,23,18,600
	TOTAL (A)	**11,08,85,27,744**	**11,35,40,21,905**
EXPENDITURE			
Staff Payments & Benefits (Establishment Expenses)	15	4,04,92,04,746	6,09,63,96,457
Academic Expenses	16	1,28,70,00,824	1,09,22,52,812
Administration and General Expenses	17	1,24,68,36,975	1,19,68,76,108
Transportation Expenses	18	1,36,25,870	1,67,42,309
Repairs & Maintenance	19	44,60,84,845	30,79,10,688
Finance Costs	20	8,03,98,199	8,69,27,038
Depreciation	4	1,39,38,70,209	1,22,54,45,884
Other Expenses	21	57,10,05,317	6,24,62,864
Prior Period Expenses	22	55,79,994	-
	TOTAL (B)	**9,09,36,06,980**	**10,08,50,14,160**
BALANCE BEING EXCESS OF INCOME OVER EXPENDITURE (A-B)		**1,99,49,20,764**	**1,26,90,07,745**
Less: Utilization Against HEFA Loan		1,08,83,00,000	87,98,00,000
Add: Interest debited transferred to Corpus		3,25,818	-
Less: Utilization against Capital Expenditure		49,08,623	-
Less: Internal Receipts Retained for HEFA Loan		19,13,67,534	14,38,45,902
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CAPITAL FUND		**71,06,70,425**	**24,53,61,843**
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS	24		

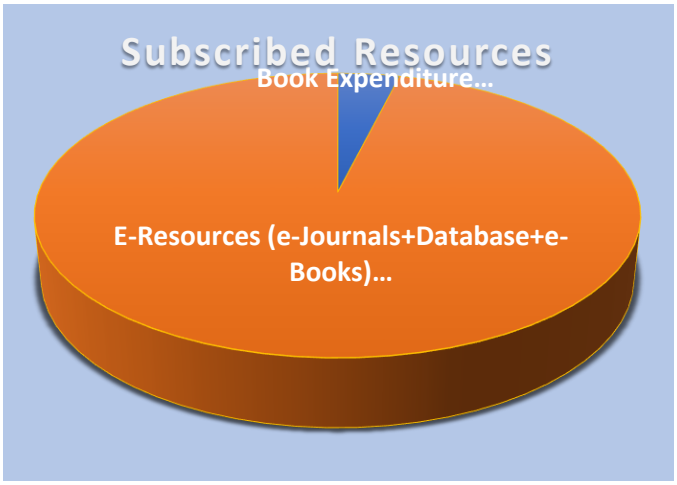
P. K. KELKAR LIBRARY

The P. K. Kelkar Library provides access to resources in all formats to meet the institute's research and teaching needs. The library is equipped with RFID technology and facilitates self-check-in/self-check-out and inventory management. Our web catalogue enhances search and retrieval resources, enables print options, supports rating and comments, and exports search results in different formats. The library has CCTV for better surveillance & security and high-speed Wi-Fi internet access. The library subscribes to its periodicals in digital form and books in both print and electronic form. The library spent Rs. 606.55 Lacs on new resources during this period.

A. ACQUISITION UNIT

The acquisition unit deals with acquiring printed books and e-resources, including e-books, e-journals and databases based on recommendations. All recommended books are procured through a systematic purchase process. All newly acquired books and gratis collections are accessioned and technically processed for labelling, bar-coding, RFID tagging, etc. It also updates the database and performs technical processing work for old books, including catalogue editing and modification of books. All the books added to the library collection were circulated to the academic community through e-mail every week.

During the financial year 2024-25, PK Kelkar Library spent Rs. 606.55 Lacs on Books and E-resources (journals, e-books and database). Expenditure details as per significant collections are given below in Fig. 1.



Books:

The institute library procures eBooks and print books during FY 2024-25 to facilitate reading materials. During this period, the library procured 1320 books (print+ e-book) by spending an amount of Rs. 23.43 lakhs, including 385 print books and 935 e-books. In addition, 17 books on donations (gratis) and 13 books from the NBHM grant have been added to the collection.

The donors of these gifted books were duly acknowledged.

The library distributes its budget among all departments as per the SLC guidelines and recommendations. Subsequently, the library has procured various resources for the departments.

The unit involves technical processing of all newly acquired and old books required for bibliographic modifications/ editing/ damage for labelling, bar-coding, RFID tagging, etc. Weeding out old/ damaged books

Online Resources

The library has subscribed and provided campus-wide access to more than 13178 (ONOS) + 330 (Self-Subscribed) peer-reviewed journals and 23 bibliographic, citation, and factual databases.

The expenditure for subscribing to various online resources was Rs.583.12 Lacs (GST included). Table I mentions the primary subscribed online resources and journals from major publishers, as shown in the number below.

Table I: IITK subscribed online resources

Sl. No.	Publisher	Nos
1	American Association for the Advancement of Science	2
2	Academy of Management	3
3	AES	1
4	AIMS	1
5	American College of Physicians	1
6	American Economic Association	7
7	American Helicopter Society	1
8	American Institute of Chemical Engineers	1
9	American Meteorological Society	3
10	American Nuclear Society	1
11	American Psychological Association	50
12	American Society of Agricultural	1
13	Association for Iron and Steel Technology	1
14	ASTM	6
15	Begell House	32
16	Bernoulli Society for Mathematical Statistics and Probability	1
17	Book Supply	1
18	Brill Academic Publishers	3
19	Canadian Science Publishing	3
20	Chemical Engineering Engg.	1

21	Company of Biologists	1
22	Duke University Press	8
23	Economist	1
24	Elsevier	1
25	European Mathematical Society	2
26	Geological Society of America	2
27	Geological Society Publishing House	1
28	Guilford	1
29	Inderscience Publishers	1
30	Indiana University	1
31	INFORMS	14
32	Institut for Matematiske Fag	1
33	Institute of Mathematical Statistics	3
34	Institute of Mathematics, Polish Academy of Sciences	4
35	International Press	4
36	Japan Institute of Metals	1
37	MIS Research Center, University of Minnesota	1
38	Mathematical Sciences Publishers	2
39	Mineralogical Society of America	1
40	MIT Press	13
41	Now Publishers Limited	12
42	Optical Society of America	12
43	Oxford University Press	2
44	Penn State University Press	1
45	Philosophy Documentation Center	3
46	Philosophy Now	1
47	PNAS	1
48	Royal Society of Chemistry	53
49	Sameeksha Trust	1
50	Seismological Society of America	2
51	SIAM	17
52	Société Mathématique De France	2
53	Society for Neuroscience	1
54	Society of Exploration Geophysicists (SEG)	3
55	Springer	2
56	Statistica Sinica	1
57	Techno Press	3
58	Trans Tech (Scientific.Net)	1
59	University of Chicago Press	7
60	University of Illinois Press	1
61	University of Michigan	1
62	Walter De Gruyter Gmbh & Co.	7
63	World Advertising Research Center	1
64	World Scientific	10
65	Yokohama Publishers	2
	Total	330

Table-II: IITK subscribed Databases

Sl. No.	Database Name
1	Cmie Database Capex
2	Cmie Database Prowess(Dx),
3	Cmie Database Prowess(IP)
4	EBSCO - Business Source Ultimate
5	EBSCO – Econlit With Full Text
6	EBSCO – Humanities International Complete
7	EBSCO – Psychology And Behavioural Science Complete
8	EBSCO – Socindex With Fulltext
9	EPWRF India Time Series Database
10	Euromonitor Passport Category Level(Global)
11	IEC Standards
12	Indian Standards - Civil Engineering (CED)
13	Indian Standards - Water Resources (WED)
14	Indiastat Database Economic Outlook
15	Inspec
16	Jstor
17	Manupatra; An Online Database For Legal Research
18	Math Sci Net
19	Pearson Crystal Data
20	Proquest Dissertation And Thesis Part A & B
21	Scifinder 'N'
22	Scopus
23	Web of Science

B. One Nation One Subscription (ONOS)

The Government of India has initiated "One Nation One Subscription (ONOS)", a Central Sector Scheme of the Ministry of Education (MoE) to provide access to 13000+ journals from 30 Publishers, with effect from January 2025. The INFLIBNET Centre, an IUC of UGC, Gandhinagar, is the Implementing Agency for this Scheme. The portal is now live at https://www.onos.gov.in/.

Sr. No	Publisher	Nos of Journals
1	AAAS- Science	1
2	ACM Digital Library	158
3	American Chemical Society Journals	87
4	American Institute of Aeronautics and Astronautics (AIAA) Journals	9
5	American Institute of Physics Journals	28
6	American Mathematical Society Journals	9
7	American Physical Society - ALL	15
8	American Society for Microbiology Journals	16
9	Annual Reviews Journals	51
10	ASCE Journals Online	36
11	ASME Journals Online	35
12	Bentham Science Journals	118
13	BMJ Journals	36
14	Cambridge University Press Journals	442
15	Cold Spring Harbor Laboratory Press Journals	8
16	Elsevier ScienceDirect Journals	2387
17	ICE Publishing Journals	311
18	IEEE Journals	34
19	IndianJournals	210
20	Institute of Physics Journals	258
21	Lippincott Williams & Wilkins	74
22	Oxford University Press Journals	305
23	Project Muse	375
24	Sage Publishing Journals	731
25	SPIE Digital Library	1097
26	Springer Nature Journals	11
27	Taylor and Francis Journals	2404
28	Thieme Journals	2548
29	Wiley Journals	51
		1333
	Total	13178

C. AUTOMATION AND ARCHIVES UNIT

The Institute Archives serve as the official repository of the Indian Institute of Technology Kanpur's historical and institutional records. The primary functions of the Archives Unit include the systematic acquisition, categorization, description, and preservation of materials of enduring value.

The Archives' holdings comprise a wide array of resources, including photographs of convocations, events, and significant institutional milestones, annual reports, brochures, pamphlets, and personal records of retired faculty and staff. While the archived content is searchable and retrievable, access is subject to institutional guidelines and is provided on a restricted basis.

In addition to preserving its own collection, the Archives Unit provides lending and reference services to various departments within IITK. This includes offering access to reports, photographs, and records such as those from the DOFA (Dean of Faculty Affairs) and Registrar's Office, fulfilling requests as needed.

Efforts are underway to automate and digitize the archival collections, with technical and infrastructural support from the Institute's PINGALA initiative. This digitization project aims to enhance accessibility, streamline archival management, and ensure long-term preservation of the Institute's documentary heritage.

D. CIRCULATION AND MAINTENANCE UNIT

The unit involves various activities like issuing & returning reading materials, resolving user queries, binding library books & periodicals, Inter-Library Loans (ILL), archival of electronic Theses and dissertations, and issuing dues clearance. The unit also looks after the maintenance activities of the building, furniture & fittings, and other types of equipment.

Circulation statistics

Transactions	
Total Checkout & renewals	47099
Total Checked in	19152
Total Transactions	66251
Lost and replacement of books	
Number of books reported lost	11
Number of books replaced	06
The amount collected as the replacement cost	52860.00
Inter Library Loan	
Internal request received	87
External request received	326
Total	**413**
Theses archived in the Institutional Repository (http://etd.iitk.ac.in)	
PhD	257
MS (Research)	70
MTech	457
MDes	19
Total	**803**

OFFICE OF OUTREACH ACTIVITIES

The Office of Outreach Activities was established for the purposes of coordinating the various activities connected with development of curricula, preparation of resources, administering the continuing education programme and providing in-service training to the teachers of engineering colleges etc. This Office is located in the Outreach Building, First Floor, Room No. 207.

The activities are organized under three different cells, namely:

1. Continuing Education Cell (CEC)
2. Quality Improvement Programme (QIP)
3. eMasters Program

This write-up describes the various activities of the above two cells:

1. Continuing Education Cell (CEC)

(A) Self-Financed Short-Term Programs

Faculty members run short-term continuing education programs for industry on a self-financed basis. An overhead of 20% of the gross receipts of the course is chargeable by OOA on all such programs whether run at IIT Kanpur or elsewhere, and also on industry-sponsored courses whether run at IIT Kanpur campus or elsewhere. Proposals for all such programs must be submitted to OOA for approval by the Deputy Director.

Further, SURGE, SARIP, FLP and Vigyan Jyoti also run under the aegis of OOA.

a) **SURGE:** Students-Undergraduate Research Graduate Excellence (SURGE) program is an internship Program which provides an opportunity to undergraduate and M.Sc first year students of IITK, Non-IITK and also to the students of SAARC countries, with an objective of giving in-hand experience of technical learning in their field of research.

b) **SARIP:** Student Advance Research Internship Program (SARIP) Program was launched this year during the summer vacation. This internship program will be very helpful in attracting the PG research students.

c) **FLP:** The Foreign Language Programme was established in the early years of IIT Kanpur and acquired a more formal structure during the 1970s. For more than 50 years of now, our wide variety of language courses have been helping students to widen their intellectual horizons and get better integrated within an international working environment.

d) **Vigyan Jyoti Program:** IIT Kanpur organizes Vigyan Jyoti programme, supported by Department of Science and Technology (DST). This is a holistic program to encourage and inspire female students to pursue higher education and thereby become self-reliant and independent in their future life.

Besides the above programmes, the OOA will also be approving for conduction of various activities comprising Courses/Workshop /Seminar/ Conferences/ Symposium/ Training/ programme throughout the year.

2. Quality Improvement Programme

Since its inception, in 1971, the Quality Improvement Programme of the Ministry of Human Resource Development, Department of Education, Government of India, has strived for development of technical education in the country, primarily by upgrading the teaching curricula and enhancing qualifications of teachers of engineering colleges/institutions recognized by All India Council for Technical Education (AICTE). The main facets of QIP include.

(A) Degree awarding programme

Master's Degree Programme (M.Tech.)

Under M.Tech. programme (4 semester) the teachers are sponsored by the engineering colleges/institutions recognized by the AICTE. After the selection of the teachers by the Central Committee of the QIP Coordinator, the admission letters to the selected candidates are issued by the respective Head of the Department of the Institute. The State Governments/Institutions sponsoring the teacher are required to treat them as on deputation and bear their normal salaries and other allowances during the period of their sponsorship. In addition to the above the Government of India provides each candidate a scholarship and a contingency grant. The present rates of scholarship and contingency grant are as follows:

Scholarship:Rs.4,000 per month(24 months)

Contingency grant:Rs.5,000 per annum

Doctoral Programme (Ph.D.)

Under this programme the serving teachers who already possess Master's degree and are sponsored by the State Government/Engineering Institutions recognized by AICTE are eligible for selection. The Doctoral Programme under QIP is for three years duration.

The present rates of fellowship and contingency grants are as follows:

Fellowship: Rs.15,000/- per month for three year

Contingency Grant: Rs.15,000/- per annum

3. eMasters Program

The eMasters program at IIT Kanpur is a strategic initiative launched to address the evolving needs of professionals seeking advanced, industry-aligned education without taking a career break. The program combines weekend live interactive sessions, self-paced online learning, and immersive on-campus visits to deliver a well-rounded academic experience, guided by IIT Kanpur's distinguished faculty.

Since its inception in January 2022, the eMasters program has enrolled close to 1,500 professionals, with over 634 having successfully graduated till date. The diverse cohort includes mid- to senior-level professionals from a wide range of industries and government organizations, fostering rich peer learning and expanding the Institute's professional outreach.

The program offers specialized tracks hosted by academic departments across the Institute.

Department	Programs Offered
Electrical Engineering	1: Artificial Intelligence & Machine Learning 2: Next Generation Wireless Technologies
Computer Science & Engineering	Cyber Security
Management Sciences (DoMS)	1: Data Science & Business Analytics 2: Financial Technology & Management 3: Quantitative Finance & Risk Management 4: Power Sector Regulation, Economics & Management
Economic Sciences	1: Business Finance 2: Public Policy 3: Financial Analysis 4: Climate Finance & Sustainability
Civil Engineering	Sustainable Construction Practices & Project Management
Sustainable Energy Engineering	Renewable Energy and e-Mobility

Summary of various activities during the year 2024-2025

1. QIP Students

   (a) M. Tech. Candidates admitted - Nil

   (b) Ph.D. Candidates admitted Nil

2. Short term courses conducted - 70

3. Workshops/ Conferences/ Seminars/ Symposium/ Internship – 77

STUDENTS' PLACEMENT

The Indian Institute of Technology (IIT) Kanpur is a leading institute renowned for its academic and research excellence, making it a top choice for companies and research organisations hiring talented students. The Students' Placement Office (SPO) bridges the gap between recruiters and students and serves as a one-stop destination for the hiring needs of organisations. SPO assists recruiters with screening tests, interviews, and hospitality for internships and full-time roles, while offering students pre-placement training and career workshops. Firms like consulting, FMCG, core industries, software giants, e-commerce, and engineering companies prefer IIT Kanpur students. SPO builds strong company ties to create excellent career paths for students.

The activities of the Students' Placement Office are coordinated by the "Student Placement Committee (SPC)," an advisory body comprising faculty representatives from all departments and interdisciplinary programs. The Student Placement Committee (SPC), led by the Chairperson, Vice-Chair, and Career Development Officer, includes faculty from all departments. A committed student team, including Overall Placement Coordinators (OPCs), Assistant Coordinators (ACs), Department Placement Coordinators (DPCs), Company Coordinators (CoCos), and volunteers, manages placement and internship activities with SPO officials. A dedicated team of PhD placement coordinators, with representatives from each department, supports PhD scholars in finding job opportunities.

Placement Office Activities:

The activities of the Students' Placement Office (SPO) can be broadly categorized into two main sectors: (1) facilitating the hiring of current students for placement and internships, and (2) organizing professional training to prepare students for interviews.

In the first quarter of 2024-25, the Students' Placement Office (SPO) team reached out to all potential employers, including regular IIT Kanpur recruiters, and contacted new recruiters to generate additional opportunities for the increasing number of registered students each year. Based on past recruitment records, relationships with recruiters, feedback from previously selected students, and inputs from various departments, the SPO team reached out to the recruiters for student hiring. Once the recruiters registered with SPO, they were invited for Pre-placement Talks (PPTs) to engage with students. In the Academic Year 2024-25, the SPO team's efforts led to 71 new recruiters joining the 2024-25 placement season for internships and full-time hiring.

Internship Drive

A growing number of students are securing full-time jobs through internships. The internships allow recruiters to evaluate students thoroughly, often leading to Pre-placement Offers (PPOs). In the 2023-24 internship season, 200 students received PPOs and will join their respective organisations after graduating this year. As of May 18, 2025, in the 2024-25 internship season, 589 internships were offered, with 552 accepted by students. Key recruiters included Alphagrep, Bain, BCG, Barclays, HUL, ITC, Microsoft India Pvt Ltd, Morgan Stanley, Nestle, Nomura, Goldman Sachs, Samsung Korea, Quadeye Securities, Uber, and others.

Placement Preparations

The Students' Placement Office (SPO) has enhanced its placement preparation programs to provide a comprehensive 360-degree career solution for students. These programs offer various pre-placement workshops. The workshops help students build professional identities and make informed career choices in fields like Core Engineering, IT, Finance, Banking, Research and Development, Analytics, Consulting, and Academia.

In the 2024-25 academic year, the SPO conducted multiple workshops for students participating in placement and internship processes. SPO organized mock interviews and guidance programs to enhance students' personality traits and interpersonal skills for job interviews. For students aiming for higher studies, professional-led sessions provided insights into opportunities in India and abroad, including details on exams like GRE, TOEFL, and IELTS.

Campus Recruitment Drive

The Students' Placement Office (SPO) upholds its "One Student, One Job" policy to provide equal opportunities and maximize placements for registered students. In the 2024-25 academic year, the recruitment drive was held in two phases, as in previous years. Phase-1 took place from December 1 to December 15, 2024, with over 455 recruiters participating across both phases for full-time roles. On Day 1, 75 top-tier firms offered 115 profiles across various sectors, resulting in 595 job offers, including Pre-placement Offers (PPOs), with 533 offers accepted by students. Phase-2 started in mid-January 2025 and will continue until mid-June 2025. Prominent recruiters included Adobe, BPCL, NPCI, Databricks, Microsoft, Google, Oracle, Qualcomm, Intel, Texas Instruments, Meesho, Shiprocket, IdeaForge, Reliance, Meril Life, Deutsche Bank, ICICI Bank, American Express, SLB, Samsung, Micron, Cars24, TATA Group, FedEx, Jaguar Land Rover India Limited, and many other leading organisations offering diverse career

opportunities to IITK students.

As of May 18, 2025, 1,225 of the 1,530 registered students were placed during the 2024-25 academic year, including 200 Pre-placement Offers (PPOs), covering undergraduate and postgraduate programs. Placement details may be updated after the final compilation of the 2024-25 placement drive.

So far, IITK students have received 29 international offers. The overall placement for both UG and PG stood at 80%, which commends the dedicated efforts of the entire SPO team, including the students, staff, and faculty coordinators.

In B. Tech, B.S., Double Major & Dual Degree programs, 799 out of 937 registered students (approx. 85%) secured placements. In M.Tech, MS(R), MSc, MBA, M.Des & PhD programs, 426 out of 593 registered students (approx. 72%) were placed during the recruitment drive 2024-25 as of now. A significant number of graduating students' chose to pursue higher studies or entrepreneurship over placements. A summary of program-wise placement record for the current season is shown in Figure 1, and a summary of branch/IDP wise placement record for the current season is shown in Figure 2. The data presented above is based on the number of graduating students who have registered with the placement office. These statistics are based on the number of graduating students who registered with the placement office.

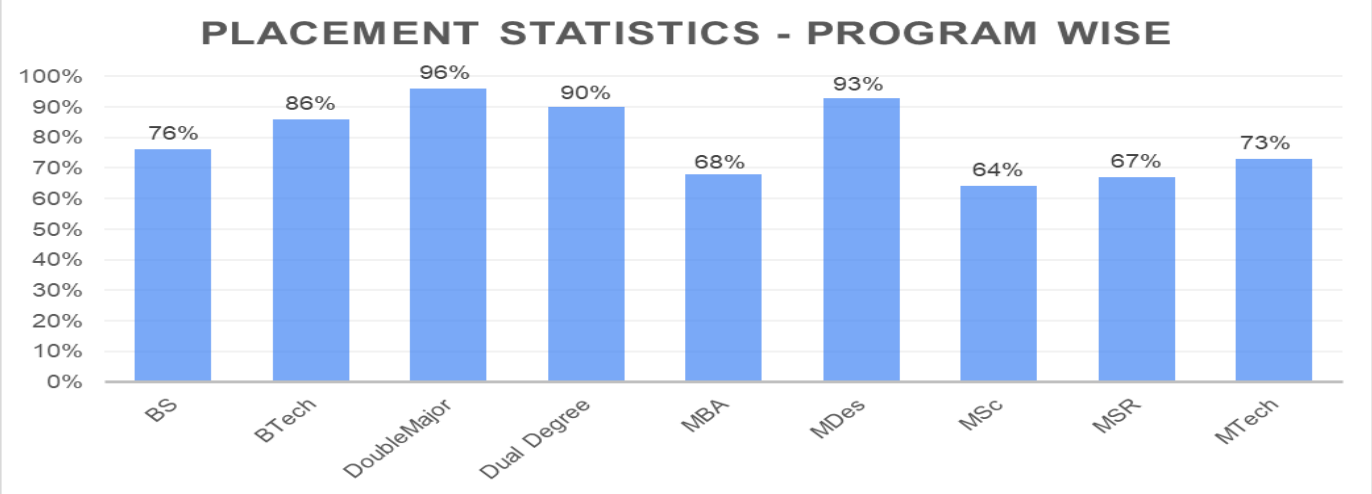


Fig. 1: *Placement statistics of various degree programs at IIT Kanpur during placement season 2024-25, as of 18th May 2025*

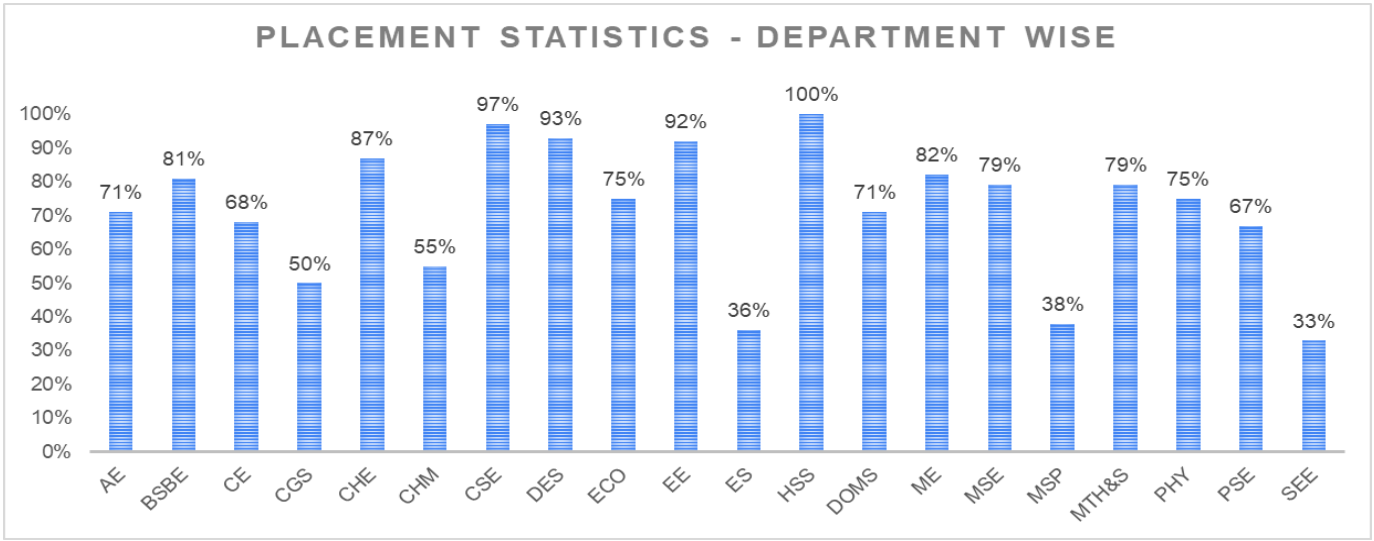


Fig. 2: *Placement statistics of various branches/IDPs at IIT Kanpur during placement season 2024-25, as of 18th May 2025*

The below Figure 3 presents a summary of sector-wise placement records for the 2024-25 recruitment drive. The Coding and Software sectors saw the highest percentage of placements, comprising 34% of the total, while core accounted for 27% of the placements.

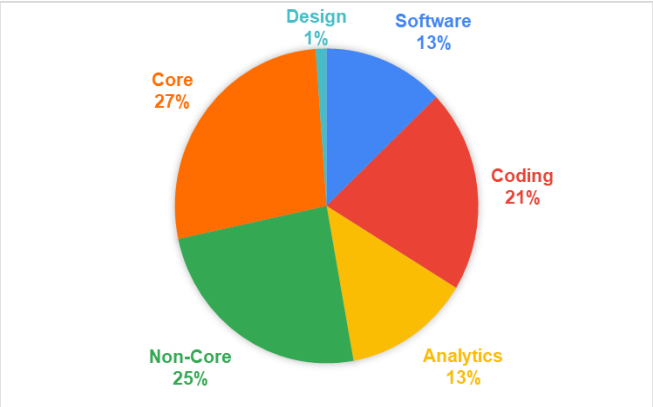


Fig. 3: *Sector-wise placement statistics of IIT Kanpur during the placement season 2024-25, as of 18th May 2025*

Apart from the regular placement drive, the Students' Placement Office successfully organized Shodhspandan, an exclusive recruitment for PhD scholars. The event highlighted the interdisciplinary strengths of IIT Kanpur's PhD candidates, covering diverse domains from engineering to humanities, and attracted participation from over 25 leading industries and academic institutions. As of now, 12 PhD students have secured positions through this dedicated drive.

Initiatives:

The Students' Placement Office (SPO) has significantly improved placement opportunities and student development through transformative initiatives in the 2024-25 academic year. Key highlights include:

- ***Shodhspandan 2025***: An exclusive PhD placement drive engaged over 100 students and 21 recruiters, supported by an in-house PhD Placement Portal for seamless interactions.

- ***Japanese Company Engagement:*** An exclusive event for Japanese firms resulted in 16 additional international offers, with plans to strengthen ties and explore opportunities with other countries.

- ***Leadership Development via Toastmasters:*** Six Toastmasters Clubs, including two new ones, are now active on campus, with 289 members. IIT Kanpur received the "Communication and Leadership Award" from Toastmasters International for the second consecutive year, recognizing its impact on enhancing communication and leadership skills.

Note*: The above placement details are as of May 18, 2025, and may be subject to change following the final compilation of the 2024-25 placement drive.*

MEDIA TECHNOLOGY CENTRE

Media Technology Centre, IIT Kanpur has played a pivotal role in advancing educational outreach, content development, and public engagement through its various flagship projects during the academic year 2024–2025. This annual report presents a consolidated view of all the major initiatives undertaken and executed under its purview.

The report begins with the extensive contributions of **SWAYAM NPTEL**, which has continued to impact higher education through MOOCs, faculty development, and outreach workshops across India. It then highlights the participation of the Centre in supporting the **Institutes of National Importance (INI)** initiative, by facilitating course development and recording in collaboration with leading national universities. The Centre's active involvement in the **National Quantum Mission (NQM)** at IIT Kanpur reflects its growing role in advancing frontier research and education in emerging technologies like quantum computing and quantum communication.

Another significant initiative covered is Jaivik Yatra, a documentary series that captures the evolving practices in organic and natural farming across the country, showcasing innovations and sustainable models developed by grassroots farming practitioners and pioneers. The report also includes a detailed account of the **Swayam Prabha DTH channels** managed by IIT Kanpur, which have delivered thousands of hours of high-quality educational content in multiple Indian languages to a nationwide audience, including underserved and remote regions.

These projects, together, represent a robust and multifaceted effort to democratize access to education, preserve traditional knowledge systems, and integrate cutting-edge science with large-scale outreach. A separate section on **IITK Media Activities** is also included, highlighting internal and outreach-driven content production efforts.

This report provides comprehensive insights into each of these initiatives, showcasing the Media Centre's sustained dedication to innovation, academic excellence, and inclusive outreach. The detailed descriptions of all projects are presented in the sections that follow.

SWAYAM NPTEL

National Programme on Technology Enhanced Learning (NPTEL) is a project of MOE (then MHRD) initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bangalore in 2003. The primary objective was to provide quality education to interested candidates in learning from the IITs. The main goal was to create web and video courses in all major branches of Engineering and Sciences at the undergraduate and postgraduate levels.

SWAYAM NPTEL Online Certification Courses

Since 2013, through an online portal, 4 weeks (10 hours), 8 weeks (20 hours), and 12 weeks (30 hours) online courses, on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities are offered in two semesters (January to May, July to November). The enrolment and learning from these courses involves no cost. An in-person, proctored certification examination (optional)is conducted with a fee of Rs. 1000/- per course and a certificate is provided only if the candidate secures 40% in both internal and also in the proctored examination.

Highlights

Largest online repository in the world of courses in Engineering, Basic Sciences, Humanities and Social Sciences and Management.

Online web portal http://nptel.ac.in – more than 471 million+ views

- YouTube channel for NPTEL – most subscribed educational channel, 1.5 million+ channel subscribers, 819 million+ views, 50000+ Video Hours.
- More than 54000+ hours of video content, transcribed with subtitles

Initiatives:

Translation:

The courses developed in NPTEL are primarily in English. Several students undergo their schooling in their regional language and may face challenges transitioning to English for technical education. Translation of NPTEL content is expected to ease this transition and assist students more effectively in utilizing the best technical content in India.

NPTEL has initiated translation of course content into 11 different languages - Assamese, Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil and Telugu.

Translations generated in various languages are available on Swayam site and NPTEL site as PDF transcripts, E-books, and in some cases as audio files.

These features are freely accessible and downloadable.

Internships:

NPTEL provides an opportunity to its learners to have research experiences with the faculty from IITs/IISc/IISER/IIIT/other course offering institutes.

NPTEL internship opportunities are available under the supervision of the course instructors at the course-offering institutes.

The internships are generally offered during the summer (May/Jun/Jul) and winter (Nov/Dec/Jan) semester breaks depending on the availability of resources.

The eligible candidates of Jan-Apr semester are considered for the winter internships, and the eligible candidates of Jul-Oct semesters for summer internship.

Pre-Doctoral Fellowship:

Another important initiative by NPTEL is the NPTEL Pre-Doctoral Fellowships program for outstanding NPTEL learners with a Bachelor's or Master's degree. This program is designed to bridge the gap between online learning and research experience, preparing the candidates for success in postgraduate studies.

It has been observed that many NPTEL Pre-Doc Fellows have seamlessly transitioned into Master's or PhD programs under their faculty guides.

The benefits of these initiatives of the Pre Doc Fellowships are:

- Gain valuable research experience under renowned faculty.
- Prepare for postgraduate studies (Master's or PhD) at a top institute.
- Network with leading researchers in their respective fields.
- Receive a competitive monthly stipend (25000/- per month plus HRA)

Industry Associates:

NPTEL is now looking into partnering with industries to explore ways by which the gap between the academics and the industry can be bridged. IBM, Aricent, InternShala, Infosys, Green Research IT Solutions are few of the industries NPTEL has associated.

Local Chapter Team of SWAYAM NPTEL:

In the last semester, SWAYAM NPTEL Office IIT Kanpur, had been entrusted with the responsibility of initiating the universities, governed by the Government of Uttar Pradesh, to the nuances of SWAYAM in general and of SWAYAM NPTEL in particular. It was an important initiative, as the UGC mandate demanded that at least 40% of credit transfer can be done through courses on the SWAYAM platform, a MOOCS initiative of the Ministry of Education, India. A month-long schedule was prepared and workshops were held in over 24 State Universities. The then Special Secretary, Department of Higher Education (Govt. of Uttar Pradesh), Mr. Sipu Giri, was extremely proactive in this initiative. The list of the workshops is appended below:

Workshops conducted by IIT Kanpur from January to March 2025:

1. Chhatrapati Shahuji Maharaj University Kanpur: 10th January
2. Deen Dayal Upadhyay University Gorakhpur: 21st January
3. Siddharth Vishwavidyalaya, Kapilavastu: 21st January
4. Ram Manohar Lohia Awadh, Vishwavidyalaya, Ayodhya:22nd January
5. Veer Bahadur Singh Poorvanchal Vishwavidyalaya, Jaunpur:23rd January
6. Chaudhry Charan Singh Vishwavidyalaya, Meerut:25th January
7. Jana Nayak Chandrashekhar Vishwavidyalaya, Balliya:27th January
8. Mahatma Jyotiba Phule Rohilkhand Vishwavidyalaya:28th January
9. Khwaja Moinuddin Chishti Bhasha Vishwavidyalaya, Lucknow:29th January
10. Faculty of Commerce, Lucknow University:30th January
11. Sri Ram Murti Smarak Vishwavidyalaya, Bareilly:31st January
12. Bundelkhand Vishwavidyalaya, Jhansi:17th February
13. Ma Shakumbhari Vishwavidyalaya Saharanpur: 19th February
14. Lucknow Vishwavidyalaya:22nd February
15. Maharaja Suheldev, state University, Azamgarh: 25th February
16. HRIT University Morta Ghaziabad:27th February
17. Mahatma Gandhi Kashi Vidyapeeth Varanasi: 3rd March
18. Dr. Bhimrao Ambedkar Vishwavidyalaya Agra: 4th March
19. Dr. Ram Manohar Lohia Rashtriya Vidhi Vishwavidyalaya:5th March
20. Raja Mahendra Pratap Singh Rajya Vishwavidyalay, Aligarh:7th March

21. Faculty of Education, Lucknow University:8th March
22. SD Jain College Saharanpur:11th March
23. Professor Rajendra Singh Rajju Bhaiyya Vishwavidyalay Prayagraj:21st March
24. Uttar Pradesh Rajarshi Tandon Open Vishwavidyalay, Allahabad:22nd March

All these state universities, on an average have around 700 colleges under them. Because these colleges exist in deep rural belts, therefore, the exposure of students to MOOCS courses is close to negligible. Therefore, addressing the students and guiding them as to how to navigate on the Home page, is extremely critical to know. As a follow-up to these workshops, several webinars were held for these students, to help them understand the effects and the workings of the MOOCS platform.

An off-line feedback session was also held on 3rd June, at CCSU, Meerut, for all the SWAYAM Nodal Officers, to understand the problems that the universities faced / are facing while implementing SWAYAM in their BoS. The discussion led to some solutions to a number of issues, while the rest still remained a little warbled.

A similar workshop was also arranged by DGHCE Chhattisgarh. The SWAYAM NPTEL Office conducted this workshop at MATS university Raipur, on 22nd April.

Similar workshops were also held at:

Central University, Jammu on May 2nd, at Vishwabharati, Shantiniketan on May 13th and at Central University of Assam on May 30th.

As part of its ongoing initiative, SWAYAM NPTEL office IIT Kanpur conducted SWAYAM NPTEL Awareness workshops at:

1. Jamia Hamdard (April, 7th)
2. GNDEC, Ludhiana (April 17th)
3. Patel College of Science and Technology, Indore (April 23rd)
4. Acropolis Institute of Science and Technology, Indore (April 23rd)

The objective and purpose of these workshops are to reach out to all educational institutions, who need to implement the rule of at least 40% credit transfer through SWAYAM Courses (as is mandated by the UGC) and enable them to understand the benefits that the students stand to gain if they do NPTEL certification. The workshops make the students and institutions aware of the different initiatives that NPTEL has introduced to make the post-education path smooth for the student.

Also, they are told about the Domain Certification concept that s available on NPTEL, and how this acts as an equivalent to mastering a discipline is communicated through these workshops.

The SWAYAM NPTEL Office, IIT Kanpur also held a Felicitation Workshop, for the SPOCs and Mentors, to commemorate the efforts of each and every faculty member associated with NPTEL in the various capacities. These faculty members are usually associated with those institutes who are known as the Local Chapters of NPTEL. The Felicitation Workshop, this semester, was held in collaboration with Manav Rachna Institute of Technology and Research at Faridabad, on 1st March. Apart from felicitating the Faculty Members associated with NPTEL, this workshop also acts as a melting pot, where all the SPOCs gather together to share their experiences and suggestions.

On 3rd March, a similar event was held at the IIT Kanpur auditorium for the star performers, that is all those who had achieved the topmost percentile positions in different NPTEL examinations.

On the whole, the LC team of SWAYAM NPTEL Office, IIT Kanpur takes part in the outreach programme of the SWAYAM NPTEL Platform.

Institutes of National Importance (INIs)

The Institutes of National Importance (INIs) are India's premier institutions of higher education. Established by special Acts of Parliament, these 167 institutes play a pivotal role in developing highly skilled professionals across various fields.

Objectives of INIs:

- Developing Highly Skilled Personnel**:** INIs focuses on creating a talent pool of well-trained professionals crucial for India's growth and development across various sectors.
- Setting Educational Standards**:** These institutes serve as benchmarks for excellence in education, guiding and inspiring other institutions to strive for quality.
- Promoting Research and Innovation**:** INIs foster a culture of research and innovation, pushing the boundaries of knowledge and contributing to advancements in various fields.
- National Integration**:** By attracting students from diverse regions, INIs promote national unity and understanding

As a National Coordinator, the INI offered courses from select INIs that cover wider domains and disciplines. Banaras Hindu University and Aligarh Muslim University were the two universities to start with, created courses for the INI portal. IIT Kanpur supported BHU to create and run courses in the July—November,2024 semester

and January—April,2025 semester. IIT Kanpur created temporary studios in the BHU campus and a team of 6 members were posted there for recording the lectures. In total 37 courses were created and handled by IIT Kanpur.

National Quantum Mission (NQM) at IIT Kanpur

The National Quantum Mission (NQM) is a major initiative launched by the Government of India to develop strong and self-reliant quantum technology capabilities in the country. This mission is being led by the Department of Science and Technology (DST) and aims to position India among the top nations in the world with quantum advantage. The goal of NQM is to develop advanced technologies such as quantum computers, secure quantum communication, and quantum sensing and materials.

To ensure the smooth and effective implementation of this mission, a dedicated Mission Coordination Cell (MCC) has been established at IIT Kanpur. The MCC plays a key role in coordinating activities between the DST, Technical Hubs (T-Hubs), and other key stakeholders such as ministries, industries, experts, and national agencies. The main office of the MCC is located at IIT Kanpur's Outreach Centre in Noida to stay closely connected with the DST headquarters in Delhi. The recording of the lectures is happening at the Media Technology Centre, DJAC building IIT Kanpur.

With regular communication and collaboration between DST, T-Hubs, Industries, and Experts, the MCC at IIT Kanpur will ensure all efforts are well-coordinated and aligned with the national goals. The mission is a step forward in building a strong future for India in the field of quantum technologies and promoting innovation, research, and self-reliance.

The Media Technology Centre Studios were used for NQM FDP Course Recordings listed below:

QT00 ---- Basic Linear Algebra & Applications

QT01----Survey of Quantum Technologies and Applications

QTO2---- Foundations of Quantum Technologies

QT03----Basic Programming Lab

Jaivik Yatra

Jaivik Yatra, as the name itself suggests, aims at understanding the Organic and Natural Farming practices that certain farmers have started to adopt and practice in our country. It is a documentary treatise that the Media Technology Centre, IIT Kanpur wishes to compile for the prosperity and also for the interested who wish to undertake the shift from Traditional Farming Practices to Organic Farming. The objective of this project is to focus on the various non-chemical methods and practices being followed by the farmers across the country. It also makes an effort to study the challenges that exist, by meeting several stalwarts and experts in the field of Organic Farming in India. Though the idea is to encompass each and every part of the country, to begin with, IIT Kanpur is focussing on the two states of Uttar Pradesh and Uttarakhand. The project was taken up by IIT Kanpur in 2022. Lots of work has been done ever since.

After having completed the recce, which covered almost three hundred farmers, we short-listed a few, based on their expertise, experience, innovations, food and cash crops, establishment of value-chains, supply chains, development of backward and forward linkages, and the different methods being implemented on the farms. Once short-listed, the story revolving around the character was structured, questionnaire developed and then the team travelled to the selected stakeholder farms, to shoot.

The host of this documentary series, Dr. Ashok Kumar Yadav, Retd. Director of National Centre for Organic and Natural Farming (NCOF), Ghaziabad, was contacted. After he agreed to be a part of this initiative, in May 2023, the Jaivik Yatra team travelled to Rampur to shoot a whole ecosystem that has developed around the organic farming initiative, and then on to Joshimath, to cover two women farmers Janki Devi and Basanti Devi, who supply organic rose petals to an entrepreneur Umrao Singh, who extracts rose water and oil, without using any chemical intervention in the process.

From Joshimath, the team moved to Rudraprayag, where the father-daughter duo of Lakhsman and Kanchan have successfully exploited the Prasadam Initiative of the Uttarakhand Government by preparing Chaulai ke laddoo, as prasad for Kedarnath and Tunganath. The episode covers the entire process: from how chaulai is sown, the on-farm practices followed, harvesting and post-harvesting practices undertaken.

In June, 2023, the team travelled to Rishikesh to meet the extremely respected Vijay Jardhari, who has not only been a forerunner in the Chipko Movement but has also been the pioneer of the Beej Bachao Andolan. A person who has saved over three hundred varieties of indigenous seeds, his repertoire also includes of re-introducing the concept of barahnaja in the hills of Uttarakhand.

From Rishikesh, the team travelled to the valley of Majhgaon, where a Farmer Producer Company (FPC), by the name of Sewa Sambhav, has managed to unite the families of the village under the single umbrella of organic agriculture. In fact, where out-migration is a rule, this FPC, under the able leadership of Yashodhara Joshi, has managed to initiate reverse migration and

have helped the youth and the young farmers find a profitable objective by following a different agricultural practice.

In July 2023, the team travelled to Bareilly, to shoot journey of an agripreneur, Nihal Singh, who has single-handedly established a successful company, named Pavitramenthe, by supplying menthe oil and crystals to a US owned company. Not only are the menthe crops grown following non-chemical interventions, but also the distillation procedure refrains from using any chemical agents and radicle.

In August 2023, the team visited Padmashree Bharat Bhushan Tyagi, in his village Beehta, Bulandshahr, to get the answers to several questions and challenges that the farmers face, when they decide to shift to non-chemical agricultural practices.

From Bulandshahr, the team travelled further on to Hapur, where a very spirited ex-supreme court lawyer Aparna Rajagopal, gave up a promising career, to build a food forest in a land that she had bought five years ago. A self-taught farmer, she gives beautiful insights on how a person can learn from mistakes and the thumb rules that any farmer needs to follow in order to be successful in organic farming.

Close to Kanpur, near Etawah, there is Mr. R.P. Singh who is growing olives, using no chemicals. The tea went in October 2023, to meet and interview Mr. Singh.

In 2024, the team of Jaivik Yatra visited Mr. Anil Sawhney of Godson Organics, Bareilly. Using the jungle farming techniques of Masanobu Fukuoka, he has transformed his entire agricultural land area into a vineyard. He grows both green and red grapes and instead of selling the excess, he has built a wine fermenting unit, where he is processing his grapes in-house. Apart from this, he has also developed a new Basmati variety called the Jhumka Basmati. He has transformed the rest of his land into microclimate zones where he grows exotic horticulture plants.

The next person to cover was Dr. Mahesh from the Veterinary Institute in Bareilly, as it is very crucial to understand the role of animals in Organic Farming.

We also visited Jhansi to meet Dr, Akhilesh Singh regarding bee upkeep and the importance of pollination in natural and non-chemical farming. This year the team of Jaivik Yatra visited Mr. Vinod Karki, who has revived the legacy of Berinag Tea in the Pithoragarh area of Uttarakhand, with the help of non-chemical methods. This has helped the migrant population in finding the hills a little more attractive in terms of job prospect and he has also helped to generate work in and around his neighbourhood and village.

To sum up, the Jaivik Yatra team has been involved in the above-mentioned activities since the year 2022, and will continue to pursue the project in the same manner, in the upcoming months.

Swayam Prabha Project

The Swayam Prabha-DTH project (Project Number: MHRD/MEDC-2016261) was initiated on 31st August 2017 and is led by Professor Satyaki Roy as the Principal Investigator. Under this initiative, IIT Kanpur is responsible for managing five dedicated educational television channels (Channels 24 to 28) as part of the national Swayam Prabha platform. These channels cover a diverse range of academic disciplines, including aeronautical engineering, humanities and social sciences, management and law, mechanical engineering, and media technology.

Project Objective:

IIT Kanpur manages five TV channels out of forty higher educational channels of Swayam Prabha namely

- **Channel 24** - Aeronautical Engineering
- **Channel 25** - Humanities and Social Sciences
- **Channel 26** - Management, Law, Economics, Business Analytics, Communication, Cooperative Management
- **Channel 27** - Mechanical Engineering, Engineering Design, Manufacturing E&T
- **Channel 28** - Visual Communications, Graphic Design, and Media Technology

These TV Chanels were launched with the aim of providing high-quality educational content accessible 24/7 to students and teachers across India. By leveraging satellite-based digital broadcasting, the initiative seeks to bridge the educational divide, especially for learners in remote and underserved regions.

The core objectives include enhancing learning outcomes through structured, curriculum-aligned content; supporting educators with supplementary resources; and promoting inclusive education by ensuring that quality instruction reaches every corner of the country, irrespective of geographical or infrastructural constraints. The Swayam Prabha team at IIT Kanpur remains dedicated to delivering education directly to learners' homes through these specialized DTH channels.

Progress-Report:

During the financial year 2024–25, IIT Kanpur made substantial progress in content development and broadcast management for its assigned Swayam Prabha

DTH channels (Channels 24 to 28). Collectively, these channels aired over **1470 hours of new educational content** covering diverse academic domains.

The team placed strong emphasis on **regional inclusivity**, producing content in **English, Hindi, Bengali, Punjabi, Gujarati, and Sanskrit**, thereby extending the reach of the initiative to learners in remote and linguistically diverse regions.

Several courses garnered widespread appreciation for their clarity, relevance, and learner-oriented design, such as:

- Modelling of Multiphysics System by Prof. Abhishek Sarkar (IIT Kanpur)
- Criminal Law (Bharatiya Nyaya Sanhita, 2023) by Dr. Vageshwari Deswal (Delhi University)
- Univariate Descriptive Statistics by Prof. Abhimanyu Yadav (BHU)
- Feminism: Theory, Practice and Indian Debates by Dr. Kamal N Choubey (Delhi University)
- Human Rights and Criminal Justice System by Dr. Ajay Kumar Singh (BHU)
- Policing: Law and Practice by Dr. Meena Rani (Rajasthan University)
- Product design by Dr. Srinivasan G (Tezpur University)
- Psychology of Human Development by Dr. Anil Kumar Yadav (BHU)
- Labour Law by Dr.Rajesh.S.Vyas (Hemchandracharya North Gujarat University)

Highlights:

- 1470 hours of content developed in year 2024-25.
- Developed **650+ hours of core course for UG first year and second year students**.
- Developed courses in 6 official languages.
- New criminal laws of India were also included.

Credit Framework:

IIT Kanpur delivers academic courses through its broadcast channels, following a structured credit framework based on the total duration of instruction. These courses are thoughtfully designed to address diverse learning needs and are typically offered in formats of 10, 20, 30, or 40 hours of teaching content. Academic credit is awarded proportionally, in accordance with the number of instructional hours completed by the learner**.**

Course durations and their corresponding credit values are detailed below:

Course Duration (in Hours)	Corresponding Academic Credits
10 Hours	1 Credit
20 Hours	2 Credit
30 Hours	3 Credit
40 Hours	4 Credit

This structured credit system enables the formal recognition of coursework for academic advancement and credentialing within the broader higher education framework. By integrating credit-based learning modules into television-based instruction, Swayam Prabha significantly expands its reach and impact, furthering its mission to deliver quality education to learners across the country.

Noida Content Development Studio:

To meet the growing demand for content—particularly from NCR-based institutions such as Delhi University and Delhi Technical University—IIT Kanpur has established a fully equipped, state-of-the-art recording studio at its Noida Outreach Center. The studio is now fully operational and has significantly improved production capacity and efficiency, with recordings already underway.

IIT Kanpur's Podcast-Based Promotion Strategy:

Swayam Prabha, IIT Kanpur, has launched course-specific podcasts to enhance the visibility and accessibility of its academic offerings. Introduced in the last financial year, this initiative supports branding and outreach by highlighting course content, faculty insights, and real-world relevance for a broad audience. It reflects the Swayam Prabha, IIT Kanpur team's commitment to leveraging digital platforms to expand educational reach and deepen academic engagement.

IITK Media Activities (2024–2025)

The Media Technology Centre at IIT Kanpur actively documented and supported a wide array of campus events throughout the academic year 2024–2025. These activities included high-profile lectures, student orientation programs, panel discussions, symposiums, workshops, alumni reunions, and national celebrations. From providing live streaming support to capturing key moments in conferences, the Media Centre played a crucial role in amplifying the institute's outreach and academic visibility.

The following table lists the major outdoor events covered during this period:

02 February 2024	HR Panel Discussion – Vox Populi
02 April 2024	Reflexions Panel Discussion
01 May 2024	Institute Lecture
06 May 2024	Telemedicine Workshop
08 to 09 July 2024	ARDB Meeting
10 July 2024	DoFA Event
21 July 2024	Counselling Service Event
21 July 2024	Gaatha Mahotsav
23 July 2024	Y24 Orientation
23 July 2024	Live Stream of Y24 Batch Orientation
01 August 2024	The Mehak Show
02 August 2024	Story Writing Workshop
08 August 2024	FORTECH talk
08 August 2024	Curious Consequences of Simple Sequences' by Prof. A. K. Mallik
10 to 11 August 2024	JEE Meeting
15 August 2024	National Space Day Celebration Event
16 August 2024	Institute lecture
19 August 2024	Live Stream YouTube Link
07 September 2024	"MY Bharat" Mentorship Workshop
27 September 2024	Fresher's Day, Chemistry Department
07 October 2024	Trainers’ training program
23 to 25 October 2024	Conference on Emerging Trends in Cyber Security
26 October 2024	H2O and Climate Conference
07 November 2024	Jeet Bindra Lounge and Research Lab
07, 08, 09 & 11 November 2024	UB Tiwari Lecture Series
08 November 2024	Jeet Bindra Distinguished Lecture
09 November 2024	Rozi Siksha Kendra Event
11 November 2024	Common Man Science Lecture
22 to 23 November 2024	Medical Symposium Zoom Meeting
29 November 2024	Video Recording and Editing of IITK Samanvay Program
10 to 14 December 2024	Five-day training programme of TGT science of PM Shri schools (NVS) ONE
28 December 2024	Class of 99 Reunion
03 January 2025	Class of 89 Reunion
07 to 15 January 2025	Lecture Series
11 January 2025	CDAP Annual Day

11 January 2025	Class 2014 batch
24 January 2025	Director's Address
08 February 2025	National Mathematics Day
09 February 2025	Class of 85 Reunion
25 February 2025	Class of 70 Reunion
28 February 2025	Class of 75 Reunion
01 March 2025	CERTEX Workshop on Core Courses
03 March 2025	Class of 80 Reunion
07 March 2025	Class of 65 Reunion
22 & 23 March 2025	RS Pandey Lecture Series, IAS'25

INTERNAL COMPLAINTS COMMITTEE

The Internal Complaints Committee (ICC), IIT Kanpur, first constituted under the Office Order No. DIR/IITK/2016/OO-04, dated March 9, 2016, has been undertaking its investigations under the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, the IIT Kanpur (Prevention, Prohibition and Redressal of Sexual Harassment of Students) Rules, 2017 and the Indian Institute of Technology Kanpur (Inquiry into Complaints of Sexual Harassment of Women at Workplace) Rules, 2021.

During the period April 1, 2024 to March 31, 2025, the ICC received 8 complaints. It also reconducted parts of the inquiry on one prior complaint. In each of these cases the Complainant was either a Ph.D. student, MBA student, BTech student and the Respondent was either a B.Tech. student, MBA student or Ph.D. student or a staff member.

The details of the cases have been provided in the next page as Annexure 1.

Annexure 1

#	Complainant	Respondent	Nature of Complaint	Action taken	Timeline	Inquiry period (days)
1	Female BTech student	Male BTech students	Inappropriate sexual contact without consent	Deregistration from the BTech program for 1 year and thereafter staying outside campus	Reiquiry started on 3-1-24. Inquiry concluded on 19-4-24	107
2	Female BTech Student	Male Staff Member	Inappropriate touching without consent	Recommend sensitization with regard to respecting physical boundaries	Complaint received on 14-1-23. Inquiry concluded on 12-4-23.	88
3	Female BTech Student	Male Staff Member	Virtual and physical stalking	Barred from holding any position at IIT Kanpur for a period of 1 year	Complaint received on 24-2-24. Inquiry concluded on 17-5-24.	83
4	Female MTech student	Male Mtech student	Physical stalking, physical abuse and threatening	Deregistration from the MTech program for 2 semesters	Complaint received on 26-6-24. Inquiry concluded on 14-09-24.	80
5	Female MTech student	Male MBA student	Physical molestation	Terminated from the MBA program	Complaint received on 25-6-24. Inquiry concluded on 23-09-24.	90
6	Female PhD Student	Male PhD Student	Physical molestation	Deregistration from the PhD program for 1 semester	Complaint received on 29-8-24. Inquiry concluded on 8-11-24.	71
7	Female BTech Student	Male BTech student	Stealing and sharing of private videos	Deregistration from the BTech program for 1 year	Complaint received on 17-10-24. Inquiry concluded on 15-01-25.	90
8	Female MBA student	Male MBA student	Removal of Complainant from placement team as retaliation for rejection in personal relationship	No evidence of sexual harassment	Complaint received on 04-11-24. Inquiry concluded on 3-02-25.	91
9	Female PhD Student	Female PhD Student; Male MBA student	Voyeurism and invasion of privacy as well as harming of reputation	Deregistration from the PhD program for 1 semester for Respondent 1; no evidence for Respondent 2	Complaint received on 02-02-25. Inquiry concluded on 04-04-25.	61

GENDER CELL

Gender Cell: Activities - 1st April, 2024 to 31st March, 2025

Following is the report of activities of the cell during this period:

- To understand the gender diversity demographics and public opinion at IIT Kanpur, the Gender Cell conducted a **Pride Month Survey** across campus in **June 2024**. In **July 2024**, the Gender Cell published the results of the **Pride Month Survey** on Instagram and other public platforms to raise awareness and promote transparency.
- The **new Gender Cell website (iitk.ac.in/gc)** was officially launched in **July 2024**, providing accessible information on the Cell's vision, structure, and events.
- Awareness session on "**Gender Sensitization and Sexual Harassment**" was held for newly admitted Y24 postgraduate students (summer admission) on 21st July, 2024.
- To equip student mentors with necessary awareness, the Gender Cell conducted the **Orientation for Student Guides (2024–25)** in **July 2024**.
- The Gender Cell updated **Advisory Flex Posters** in **July 2024** across the campus, featuring contact details of the newly appointed nominees.
- On **24th July 2024**, the Gender Cell conducted an **Orientation Session for the Freshers' 2024 Batch**, introducing them to the Cell's roles and educating them about different forms of sexual harassment on campus.
- On **27th August 2024**, the Gender Cell and Legal Cell jointly organized a **Training Workshop for GC and ICC members**, led by legal expert **Mr. Alok Bhasin**, on the theme "Laws Related to Sexual Harassment at Work."
- In solidarity with the **RG Kar Hospital Case**, the Gender Cell, along with the Institute Counselling Service, hosted an **Open Mic event on 27th August 2024** at the **L18–19 Foyer**, where individuals shared stories and views on safe spaces and gender equality.
- To demonstrate a strong campus-wide commitment, the Gender Cell launched the **#Zero_Sexual_Harassment campaign** in **August 2024**, pledging to eliminate all forms of sexual harassment at IIT Kanpur.
- On **30th September 2024**, the Gender Cell nominees and secretaries conducted **hall-level sensitization sessions** for all first-year UG and PG students as part of the **Bridging Gaps initiative**, highlighting gender discrimination and harassment prevention.
- In September, 2024, **Gender Cell** has organized for an **annual subscription of an e-learning platform (eLearnPOSH.com)** which will provide access to training material, various webinars for all the ICC members.
- From **4th to 6th October 2024**, during **Udghosh'24**, the Gender Cell collaborated with the event's Security Team to form a **Dedicated Task Force** to manage potential harassment cases and placed advisory posters across campus.
- On **15th October 2024**, the Gender Cell hosted a **screening of the film 'Laapata Ladies'**, which challenges rural gender stereotypes; the show was housefull and included refreshments.
- During **Antaragni'24 (17th–20th October 2024)**, the Gender Cell and the Core Team constituted a **Special Task Force** to address potential sexual harassment cases; advisory posters were displayed across venues, and **3 cases** were handled responsibly during the fest.
- On **4th December 2024**, the Gender Cell, in collaboration with the ICC, released the **first-ever ICC Correspondence Document**, which included anonymized summaries of reported cases, ICC recommendations, and disciplinary actions.
- Awareness session on "**Gender Sensitization and Sexual Harassment**" was held for newly admitted Y24 postgraduate students (winter admission) on 3rd January, 2024.
- A **screening of the film 'Barbie'** was organized by the Gender Cell on **29th January 2025** at **LH-17**, engaging around **80 attendees** in a discussion on gender roles and societal expectations; snacks were provided.
- On **2nd February 2025**, the Gender Cell collaborated with **Kamakshi and HeForShe (KIIT)** to conduct an **online Bystander Intervention Workshop** featuring speakers **Adv. Divya R** and **Prof. Pratibha Chakraborty**, focusing on safe intervention in harassment situations.
- To commemorate **International Women's Day**, the Gender Cell hosted a **special talk on 8th March 2025** by **Supreme Court Advocate Seema Kushwaha**, addressing "Women's Safety and Empowerment: Role of Judiciary?" with **Prof. Pratik Sen (DoSA)** as special guest.
- From **9th to 11th March 2025**, the Gender Cell organized an **online meme competition** with the theme *"Breaking Gender Stereotypes & Raising Awareness Against Sexual Harassment"*; the top **three entries** were awarded **Amazon coupons**.
- To raise awareness about sexual harassment and consent, the Gender Cell organized the **7th**

edition of the 5KM Run and Walk on **22nd March 2025** with the theme *"Silence does not mean Consent: Stop Sexual Harassment"*, drawing over **650 participants**, **70+ volunteers**, and special guests **Prof. Devlina Chatterjee (PO, ICC)** and **Prof. Pratik Sen (DoSA)**; top winners were awarded certificates and T-shirts.

- Throughout this period the Gender Cell addressed numerous complaints and grievances filed by students/staff members and counseled all the complainants, facilitated their subsequent meetings, if required, with the **ICC PO, Legal Cell expert**, or the professional counselor of the Gender Cell of the institute. The Gender Cell Chairperson issued a strict warning to the respondent in many cases.

CELL FOR DIFFERENTLY ABLED PERSONS

The Cell for Differently Abled Persons (CDAP) has been established in 2017, CDAP challenges the status quo in higher education by fostering the inclusion of students with both visible and invisible disabilities. CDAP's goal is to cultivate a vibrant and proactive environment where the needs of differently-abled persons are understood, their abilities recognized, and their growth supported. CDAP consists of a Coordinator, faculty members, staff members and three section representatives from Library, DOSA office, Students placement cell who provide supports to the student with disabilities (SwDs) section wise. The student team comprises 2 Undergraduate students and 2 Postgraduate Students.

ACTIVITIES

The team organised various events throughout the year like:

1. Empowering SwDs in Higher Educational Institutions (HEIs)

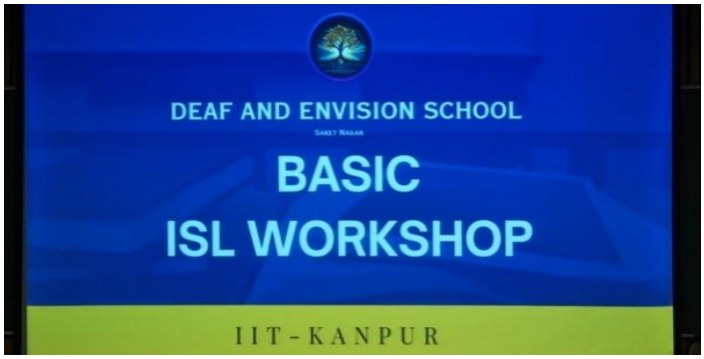
CDAP conducted a talk focusing on several key initiatives of Sarthak Education Trust, Lucknow. During the talk, the importance of employment for PwDs was highlighted as a critical component of Sarthak's approach. A remarkable assistive product (Braille Display), developed by Mr. Vishwraj (Under the supervision of Prof. Siddharth Panda), was showcased. This innovative device is vital for people with no vision, enhancing their access to information and promoting independence.


Demonstration of Braille Display: Developed by Mr. Vishwaraj Srivastava (Student, IITK)

2. India Sign Language Workshop

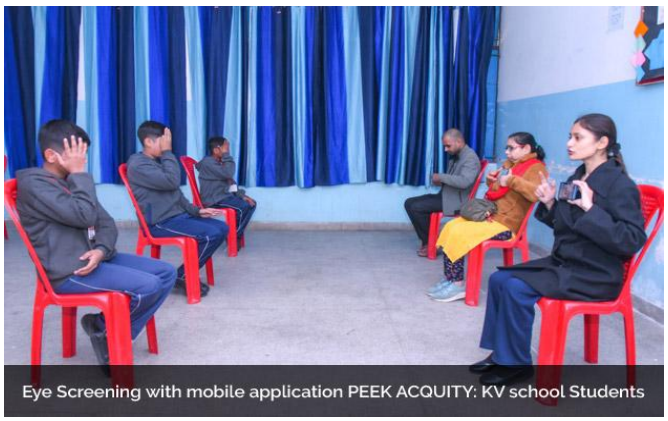
CDAP successfully conducted Indian Sign Language (ISL) classes. The three-month long program focused on basic ISL skills, including alphabets, numerals, greetings, and commonly used phrases for daily conversations. The sessions also included doubt-clearing interactions and group conversation practice to enhance learning through peer engagement.

Given the overwhelming participation and encouraging feedback, many participants have expressed a keen interest in continuing with an advanced-level course. This positive outcome highlights the growing awareness and inclusivity within the campus and reflects the success of CDAP's initiative.



3. Vision Screening Program

The CDAP marked a significant milestone with the launch of its first-ever comprehensive vision screening initiative for school students at **Kendriya Vidyalaya IIT Kanpur**. The program, targeting children aged 5-15 years, brought together medical expertise and innovative technology to address early detection of vision problems. The screening process utilized **PEEK Acuity**, a clinically validated mobile application that revolutionizes vision testing through smartphone technology. The two-stage assessment included initial screening using the PEEK Acuity app, followed by comprehensive refraction tests conducted by qualified optometrists from Rama Medical College, Kanpur.


Eye Screening with mobile application PEEK ACQUITY: KV school Students

4. Enhancing lives of students with Assistive Technology

With the generous support of the **Brisks Electronics Pvt. Ltd. (BEPL) Project** under **Dean of Resources & Alumni (DORA)**, CDAP has continued support to enhance accessibility for students with disabilities at IIT Kanpur. As part of this effort, CDAP procured an electric wheelchair for a locomotive student to help her navigate the campus more independently and comfortably.

Electric Wheelchair

A **KIBO 360 device** has been installed in the PK Kelkar library to support visually impaired students. KIBO is an assistive reading device that enables users to instantly convert printed or digital text into audio, allowing visually impaired students to independently read books, documents, and other academic materials.

KIBO 360 reading device

Glimpses of Annual Day

5. Annual Day

Cell for Differently Abled Persons (CDAP) observed its Annual Day on January 11, 2025, celebrating initiatives and achievements aimed at empowering differently-abled individuals. The event served as an inspiring platform, particularly for visually impaired individuals, and featured a range of impactful activities, motivational stories, and cultural performances.

A key feature of the event was the distribution of scholarships to five visually impaired students from IIT Kanpur. These scholarships, valued at **₹25,000 each**, were generously provided by the Chennai-based Help the Blind Foundation (HTBF).

6. Outreach for Awareness and Inclusion

CDAP actively participated in outreach initiatives such as the **Conclave**, **IITK Convention**, and **Samanvaya**, to strengthen networking, raise awareness about disability inclusion.

Conclave 2.0 at New Delhi

Samanvay at IIT Kanpur

SC/ST/OBC/PWD/EWS CELL

The cell has recently organized competitions for the school children (650 in numbers) in the month of February 2025. This was followed by Prize distribution on 14-4-2025 while celebrating the joint birth anniversaries of Dr. B R Ambedkar and Mahatma Jyoti Rao Fule ji.

The SC/ST/OBC/PWD/EWS Cell of IIT Kanpur had organised the competitive, social and cultural events of the school children of Campus School, IIT Kanpur, Primary School Loharkhera, Primary School Maksudabad, Opportunity School, IIT Kanpur and the School of Deaf and Dumb students, Bithore, Kanpur.

In total, around 650 students participated from all five schools in both the competitions i.e. Drawing and General Knowledge; out of which 524 students participated in Drawing Competition while 125 in GK competition which was meant for the higher classes from 6-8.

The Cell has distributed consolation prizes to all the participating students i.e. 650 students in order to encourage and motivate the students. Besides, the First, Second and Third prizes classes-wise for the winning students were also distributed.

The prizes mainly consisted of the educational material along with a bag. Refreshments to all the students and the teachers were also provided on the day of event.

Further, the cell mainly deals with the complaints/grievances of the students/ Staff/Faculty of IIT Kanpur. The number of complaints received during last five years were 2 and the numbers of complaints addressed and resolved were also 2.

Year	Sanctioned Strength	Total Non-Faculty Strength
2024-25	985	763

Implementation of reservation orders:

The effective date of implementation of reservation for **SC**s and **ST**s in the direct recruitment is **5th September 1974** in this Institute and the implementation of reservation for **OBC**s and **PwD**s are w.e.f. the year **1995** and **1996**, respectively**.**

Maintenance of rosters/ Percentage of reservation:

The Board of Governors had approved, in its meeting held on July 27, 1995, maintenance of 120 points vacancy-based roster for Group A [other than exempted posts (Points reserved in favour of SCs-20, STs-9, OBCs-31)] & B posts; and 100 points roster for Group C & D posts (Points reserved in favour of SCs-21, STs-1, OBCs-27) for direct recruitment at the Institute.

On the basis of Judgment passed by the Constitution bench of Supreme Court, the Government of India, Deptt. Of Per. & Trg., issued O.M. 36012/2/96-Estt.(Res.) dated July 02,1997 vide which the above vacancy-based rosters have been revised into post-based rosters for the different category of employees in direct recruitment. The Board after due consideration accorded its approval, in its 1997/5th meeting held on December 05, 1997 for maintenance of post-based rosters.

Further, the Board of Governors of the Institute (in its meeting held in May 2004, vide item no. 2004.2.13) has considered and approved the proposal for grouping of staff for the purpose of reservation and separate grouping of technical and non-technical posts. The proposal was as follows – the posts under Group-A, B, C & D would be grouped separately for technical and non-technical posts. However, there would be a single group under Group-D. Under this dispensation, there would be seven groups in all and as for as possible efforts would be made to provide adequate representation of SCs/STs/OBCs/PwDs to each post under the group. The proposal was approved in the context that grouping of posts would provide greater leverage for purpose of securing adequate representation for SCs/STs/ OBCs/PwDs in the Institute

The Modified Assured Career Progression Scheme (MACPS) is also in operation at present.

Concessions/ Relaxations:

(a) Regular employees of IIT Kanpur who are educationally qualified and otherwise eligible can be considered for the recruitment upto a maximum of 50 years of age for Group-B & C posts, 55 years of age (upto Level-12) and 57 years of age (Level-13 & above) for Group-A posts. The due relaxation in upper age is made available for SC/ST/OBC/ PwD and Ex-servicemen candidates as per Central Govt. Rules;

(b) Age relaxation for Project Employees working in IIT Kanpur will be as per the Office Order No. DIR/IITK/2019/OO-73 dated July 04, 2019.

Employment notification etc.:

During the period of report, the detail of Advertisement issued through Recruitment Section is as under:

Sl. No.	Name of the post(s)		No. of Vacancies							Published in
			SC	ST	OBC	PwD	EWS	UR	Total	
1	**Senior Superintending Engineer**		-	-	-	-	-	1	**1**	All Editions of The Hindu, Times of India (Ascent), The New Indian Express, Dainik Jagran (Nai Rahein + iNEXT + Mid-day Mumbai), The Indian Express + Financial Express + Loksatta + Jansatta, HT Shine + HH Shine + Mint Shine (HH job Search + shinejob.com portal-complimentary), Amar Ujala, Employment News/ Rozgar Samachar and University news
2	**Superintending Engineer**									
	A	**DCE**	1	-	-	-	-	-	**1**	
	B	**DEE**	-	-	-	-	-	1	**1**	
3	**Deputy Registrar**		-	1	1	-	-	-	**2***	
4	**Executive Engineer**									
	A	**DCE**	-	-	1	-	-	-	**1***	
	B	**DEE**	1	-	-	-	-	-	**1***	
5	**Assistant Counselor**		-	-	2	-	1	-	**3***	
6	**Assistant Registrar**		-	-	-	1-HH	-	-	**1***	
7	**Assistant Registrar (Library)**		-	-	1	-	-	-	**1***	
8	**Hall Management Officer**		1	-	-	-	-	-	**1***	
9	**Medical Officer**		-	1	-	1-HH	-	-	**2***	
10	**Assistant Security Officer [for women only]**		1	-	-	-	-	1	**2**	
11	**Assistant Sports Officer**		-	-	-	-	-	2	**2***	
12	**Junior Technical Superintendent**									
	A	**Computer Science & Engineering**	1	-	-	-	-	1	**2**	
	B	**O/o Dean of Academic Affairs**	-	-	-	-	-	1	**1**	
13	**Junior Assistant**		-	-	-	1-HH 1-VH	1	9	**12***	
	TOTAL * **Backlog vacancies**		**5**	**2**	**5**	**4**	**2**	**16**	**34**	

The recruitment for all academic posts of Institute is made through the press/ professional journals/ circulars to educational institutes etc.

Inclusion of SC/ST/OBC Member:

One SC/ST/OBC member of comparable status are short-listed for selection process, then one member of SC/ST/OBC is included in the Selection Committee as a full member. For the period of report, the detail of Selection Committee meetings held through Recruitment Section is given below:

For Selection	Total 11 Selection Committee meetings, wherein SC / ST and OBC representative included.

Call letters for Interviews/ Appointment letters:

1. To ensure that the appointment letters to the selected candidates are received by the candidates (including reserved category candidates) well in time – the appointment letters are being sent through registered post or courier and also through email to ensure the delivery and call letters to the short-listed candidates are being sent through email only.
2. Normally, a minimum of three weeks' time for call letters via email for written/ practical test or interviews and for appointments a minimum of one month's period of interval is being provided.

Existing Strength of Non-Academic Staff as on 01.04.2025

Recruited through Recruitment Section:

Group	SC	%age	ST	%age	OBC	%age	EWS	GEN	Total	Mode of Selection		
										Contract	Regular	Deputation
A	**11**	18.33	**2**	3.33	**13**	21.66	**-**	**34**	**60**	-	*59*	1
B	**48**	16.66	**15**	5.20	**69**	23.95	**2**	**154**	**288**	-	*288*	-
C	**87**	21.06	**4**	0.97	**122**	29.53	**16**	**184**	**413**	-	*413*	-
TOTAL	**146**	19.18	**21**	2.76	**204**	26.80	**18**	**372**	**761**	-	*760*	***1***

STAFF TRAINING UNIT

Staff Training Unit has been made re-operational w.e.f. 01.07.2024 under the guidance of the Deputy Director and held its first workshop on 05.08.2024 and since then continuously organizing workshops/ Seminars/ Talks etc. It has been observed that many a times, employees face difficulty in various aspects relating to their official works. During the workshop, a resource person, often an expert in a specific field, shares his/her knowledge and experience with participants. He/She delivers presentations, facilitates discussions on various aspects like Case Study, questionnaires etc.

Objective of Staff Training Unit

Staff Training Unit empowers all the employees to work in different Offices/ Sections. Staff Training Unit aims to not only train and update the knowledge/ Skills but also produce Resource Persons.

Workshop organized during 2024-25

Sl. No.	Date of Workshops	Name of Workshops	Eligible Groups	No. of participants		
				Planned	Applied	Short-listed
1	05.08.2024	Workshop on English Skills-I [WoES-I]	B & C	25	135	55
2	23.08.2024	Role of Act & Statutes in Decision Making	A	25	95	19
3	05.09.2024	Maintenance & Retrieval of Office Records- Part-I	C	25	114	26
4	09.09.2024	Productivity Tools-MicroSoft Office-I	All [A, B, C]	25	144	27
5	13.09.2024	Productivity Tools-MicroSoft Office-I				
6	20.09.2024	Data Analysis & Decision Making	A	25	68	16
7	28.10.2024	Culture of Integrity for Nation's Prosperity	All [A, B, C]	Open for all		
8	08.11.2024	Conduct Rules, CCS (CCA) 1965	A & B (L-7 & above)	45	105	41
9	27.11.2024	Maintenance & Retrieval of Office Records-Part-II	C	125	120	91
10	05.12.2024	Workshop on English Skills-II [WoES-II]	C	70	70	70
11	20.12.2024	Time Management	All [A, B, C]	Open for all		

SERVICES AND AMENITIES

The details of services and amenities like Campus School, Estate Office, Health Centre, Institute Works Department, Physical Education Section, Safety Cell, Store & Purchase, Visitors' Hostel and Allied Facilities are available at the Link below:

https://web.iitk.ac.in/july14dordn/data/Annual-Report-2024-25/Annual-Report-2024-25-Link-6.pdf

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
KANPUR

BALANCE SHEET AS AT 31ST MARCH' 2025

AMOUNT IN RS. (₹)

S. NO.	PARTICULARS	SCH. NO.	CURRENT YEAR 31ST MARCH 2025	PREVIOUS YEAR 31ST MARCH 2024
I	**SOURCES OF FUNDS**			
(a)	Corpus/ Capital Fund	1	28,41,16,59,174	24,62,73,48,190
(b)	Designated/ Earmarked/ Endowment Funds	2	8,01,48,06,460	6,80,86,53,850
(c)	Current Liabilities & Provisions	3	23,41,49,51,396	22,45,90,80,226
(d)	Long-Term Liabilities	3A	1,21,37,35,550	1,75,04,84,951
	TOTAL SOURCES OF FUNDS		**61,05,51,52,580**	**55,64,55,67,217**
II	**APPLICATION OF FUNDS**			
1	**FIXED ASSETS**			
(a)	Tangible Assets		21,93,52,45,639	18,32,23,89,134
(b)	Intangible Assets	4	29,14,34,407	27,00,36,190
(c)	Capital Work-in-Progress		1,72,27,79,427	2,66,05,63,042
	TOTAL FIXED ASSETS		**23,94,94,59,473**	**21,25,29,88,366**
2	**INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS**			
(a)	Long-Term Investments	5	4,40,25,00,000	2,52,80,00,000
(b)	Short-Term Investments		3,35,52,65,519	4,18,84,24,332
3	Other Investments	6	3,44,32,84,330	2,86,69,35,585
	TOTAL INVESTMENTS		**11,20,10,49,849**	**9,58,33,59,917**
4	**CURRENT ASSETS**	7	7,76,50,80,882	6,01,80,02,529
5	**NON-CURRENT ASSETS** (Grant Receivable against Retirement Benefits)	-	15,47,20,06,167	15,97,63,79,694
6	**LOANS, ADVANCES & DEPOSITS**	8	2,66,75,56,209	2,81,48,36,711
	TOTAL APPLICATIONS OF FUNDS		**61,05,51,52,580**	**55,64,55,67,217**
Significant Accounting Policies		23		
Notes to Accounts		24		

ASST. REGISTRAR (F&A) DY. REGISTRAR (F&A) DY. REGISTRAR (FINANCE)

Vaibhav Srivastava

Act. REGISTRAR DY. DIRECTOR DIRECTOR

कार्यवाहक कुलसचिव
भारतीय प्रौद्योगिकी संस्थान कानपुर
Acting Registrar
Indian Institute of Technology Ka

निदेशक Director
भारतीय प्रौद्योगिकी संस्थान कानपुर
Indian Institute of Technology Kanpur

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
KANPUR

INCOME & EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31ST MARCH' 2025

AMOUNT IN RS. (₹)

S. NO.	PARTICULARS	SCH. NO.	CURRENT YEAR 31ST MARCH 2025	PREVIOUS YEAR 31ST MARCH 2024
I	**INCOME**			
(a)	Academic Receipts	9	88,51,62,921	77,04,71,587
(b)	Grant/ Subsidies	10	7,44,32,98,484	6,70,19,12,999
(c)	Income from Investments	11	58,88,11,776	22,27,08,871
(d)	Interest Earned	12	4,20,37,483	1,50,54,156
(e)	Other Income	13	70,78,27,169	2,45,15,55,692
(f)	Prior Period Income	14	7,29,66,312	0
(g)	Deferred Revenue Income	4	1,34,84,23,599	1,19,23,18,600
	TOTAL INCOME		**11,08,85,27,744**	**11,35,40,21,905**
II	**EXPENDITURE**			
(a)	Staff Payments & Benefits (Establishment Expenses)	15	4,04,92,04,746	6,09,63,96,457
(b)	Academic Expenses	16	1,28,70,00,824	1,09,22,52,812
(c)	Administrative & General Expenses	17	1,24,68,36,975	1,19,68,76,108
(d)	Transportation Expenses	18	1,36,25,870	1,67,42,309
(e)	Repairs & Maintenance	19	44,60,84,845	30,79,10,688
(f)	Finance Cost	20	8,03,98,199	8,69,27,038
(g)	Other Expenses	21	57,10,05,317	6,24,62,864
(h)	Prior Period Expenses	22	55,79,994	0
(i)	Depreciation	4	1,39,38,70,209	1,22,54,45,884
	TOTAL EXPENDITURE		**9,09,36,06,980**	**10,08,50,14,160**
	BALANCE BEING EXCESS OF INCOME OVER EXPENDITURE		**1,99,49,20,764**	**1,26,90,07,745**
	Less: Utilization against HEFA Loan		1,08,83,00,000	87,98,00,000
	Add: Interest debited transferred to Corpus		3,25,818	0
	Less: Utlization against Capital Expenditure		49,08,623	0
	Less: Internal Receipts retained for HEFA Loan		19,13,67,534	14,38,45,902
	BALANCE BEING SURPLUS (DEFICIT) CARRIED TO CAPITAL FUND		**71,06,70,425**	**24,53,61,843**
Significant Accounting Policies		23		
Notes to Accounts		24		

ASST. REGISTRAR (F&A) | DY. REGISTRAR (F&A) | DY. REGISTRAR (FINANCE)

Vaibhav Srivastava

Ad. REGISTRAR कार्यवाहक कुलसचिव | DY. DIRECTOR | DIRECTOR

भारतीय प्रौद्योगिकी संस्थान कानपुर
Acting Registrar
Indian Institute of Technology Kanp

निदेशक Director
भारतीय प्रौद्योगिकी संस्थान कानपुर

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
KANPUR

RECEIPTS & PAYMENTS ACCOUNT
FOR THE YEAR ENDED 31ST MARCH' 2025

AMOUNT IN RS. (₹)

S. NO.	PARTICULARS	CURRENT YEAR 31ST MARCH 2025	PREVIOUS YEAR 31ST MARCH 2024
I	**OPENING BANK BALANCES**		
1	Balance in Current Accounts	55,26,26,233	50,01,04,068
2	Balance in Saving Bank Accounts	46,03,44,777	45,18,70,825
	Opening Bank Balances (I)	**1,01,29,71,010**	**95,19,74,893**
II	**RECEIPTS DURING THE YEAR**		
1	**Grants Received**		
(a)	From Government of India- Capital	1,17,12,00,000	1,17,98,00,000
(b)	From Government of India- Revenue	7,51,22,41,510	6,70,19,12,999
(c)	From State Government - Capital	10,00,00,000	0
2	Capital Receipts	43,85,03,517	0
3	Receipts Earmarked / Endownment Fund	2,39,47,02,225	2,55,00,00,764
4	Sponsored Projects Schemes	2,14,05,39,380	1,75,06,54,797
5	Fellowship Projects Schemes	35,30,07,083	27,09,42,326
6	Other Project Receipts/ PMRF	2,18,84,12,434	4,20,58,99,688
7	Academic Receipts	93,35,89,904	80,50,60,048
8	Investments / Deposits Encashed	18,74,91,66,451	17,01,13,32,663
9	Interest Received on Bank Deposits	53,92,20,035	35,22,94,561
10	Interest Received on Loans, Advances & Others	2,69,65,826	66,44,182
11	Interest Received on Saving Bank Account	1,25,00,457	94,03,979
12	Other Income	63,56,63,658	50,28,63,806
13	Other Receipts	2,30,85,67,420	64,05,83,666
14	Deposits & Advances	56,17,30,092	4,04,19,713
15	Transfer from Other Units	6,50,06,40,982	2,38,20,21,945
16	Receipts agaisnt Scholarship	9,62,61,123	9,77,72,003
17	Loan from HEFA	70,64,67,317	63,65,90,356
	Total Receipts During the year (II)	**47,36,93,79,414**	**39,14,41,97,496**
	TOTAL (I + II)	**48,38,23,50,424**	**40,09,61,72,389**

ASST. REGISTRAR (F&A) DY. REGISTRAR (F&A) DY. REGISTRAR (FINANCE)

Act. REGISTRAR DY. DIRECTOR DIRECTOR

कार्यवाहक कुलसचिव
भारतीय प्रौद्योगिकी संस्थान कानपुर
Acting Registrar
Indian Institute of Technology Kanpur

निदेशक Director
भारतीय प्रौद्योगिकी संस्थान कानपुर
Indian Institute of Technology Kanpur

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
KANPUR

RECEIPTS & PAYMENTS ACCOUNT
FOR THE YEAR ENDED 31ST MARCH' 2025

AMOUNT IN RS. (₹)

S. NO.	PARTICULARS	CURRENT YEAR 31ST MARCH 2025	PREVIOUS YEAR 31ST MARCH 2024
III	**PAYMENTS DURING THE YEAR**		
1	**Expenses**		
(a)	Establishment Expenses	3,67,62,83,591	3,44,13,05,944
(b)	Academic Expenses	1,30,41,43,013	1,14,67,73,446
(c)	Administrative Expenses	1,11,70,36,333	1,13,37,67,578
(d)	Transportation Expenses	1,35,89,908	1,61,16,648
(e)	Repair & Maintenance	44,03,98,730	30,61,23,674
(f)	Finance Cost	13,04,83,685	15,11,95,397
(g)	Other Expenses	32,37,280	6,28,99,221
2	Payment Earmarked / Endownment Fund	1,51,70,02,310	1,72,49,97,266
3	Payments Sponsored Projects Schemes	1,40,04,36,199	1,78,44,38,864
4	Payments Fellowship Projects Schemes	16,10,25,369	30,64,41,308
5	Payments Other Project/ PMRF	1,18,39,82,156	2,81,83,16,593
6	Investments / Deposits made	21,89,75,36,106	18,28,63,55,595
7	Expenditure on Fixed Assets	1,54,24,96,194	72,86,04,142
8	Expenditure on CWIP	1,64,95,08,967	2,66,05,63,042
9	Loan Paid to HEFA	1,24,05,41,286	87,98,00,000
10	Deposits & Advances	32,32,71,913	21,50,66,603
11	Transfer to Other Units	6,49,70,54,923	2,47,72,26,978
12	Payments agaisnt Scholorship	8,96,78,835	9,05,80,405
13	Other Payments	1,84,15,62,121	13,82,54,122
14	Refund of Previous year Unutilised Grant	1,53,64,804	0
15	Advance for Research & Tech Park	70,00,000	0
16	Payments of Previous year Liabilities	51,11,01,883	7,95,37,714
17	Payments against Statutory Liabilities	61,23,00,436	63,48,36,839
	Total Payments made during the year (III)	**47,17,50,36,042**	**39,08,32,01,379**
IV	**CLOSING BANK BALANCES**		
1	Balance in Current Accounts	1,15,66,64,525	55,26,26,233
2	Balance in Saving Bank Accounts	5,06,49,856	46,03,44,777
	Closing Bank Balances (IV)	**1,20,73,14,382**	**1,01,29,71,010**
	TOTAL (III + IV)	**48,38,23,50,424**	**40,09,61,72,389**

ASST. REGISTRAR (F&A) DY. REGISTRAR (F&A) DY. REGISTRAR (FINANCE)

Vaibhav Srivastava

Act. REGISTRAR कार्यवाहक कुलसचिव
भारतीय प्रौद्योगिकी संस्थान कानपुर
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DY. DIRECTOR.

DIRECTOR
निदेशक Director
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Indian Institute of Technology Kanpur

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
KANPUR

CASH FLOW STATEMENT
FOR THE YEAR ENDED 31ST MARCH'2025

AMOUNT IN RS. (₹)

S. NO.	PARTICULARS	AMOUNT	AMOUNT
1	**CASH FLOW FROM OPERATING ACTIVITIES**		
	From Government of India- Revenue	7,51,22,41,510	
	Receipts Earmarked / Endownment Fund	2,39,47,02,225	
	Sponsored Projects Schemes	2,14,05,39,380	
	Fellowship Projects Schemes	35,30,07,083	
	Other Project Receipts/ PMRF	2,18,84,12,434	
	Academic Receipts	93,35,89,904	
	Interest Received on Loans, Advances & Others	2,69,65,826	
	Interest Received on Saving Bank Account	1,25,00,457	
	Other Income	63,56,63,658	
	Other Receipts	2,30,85,67,420	
	Deposits & Advances	56,17,30,092	
	Transfer from Other Units	6,50,06,40,982	
	Receipts agaisnt Scholarship	9,62,61,123	25,66,48,22,094
	Less:		
	Establishment Expenses	3,67,62,83,591	
	Academic Expenses	1,30,41,43,013	
	Administrative Expenses	1,11,70,36,333	
	Transportation Expenses	1,35,89,908	
	Repair & Maintenance	44,03,98,730	
	Finance Cost	13,04,83,685	
	Other Expenses	32,37,280	
	Payment Earmarked / Endownment Fund	1,51,70,02,310	
	Payments Sponsored Projects Schemes	1,40,04,36,199	
	Payments Fellowship Projects Schemes	16,10,25,369	
	Payments Other Project/ PMRF	1,18,39,82,156	
	Deposits & Advances	32,32,71,913	
	Transfer to Other Units	6,49,70,54,923	
	Payments agaisnt Scholorship	8,96,78,835	
	Other Payments	1,84,15,62,121	
	Refund of Previous year Unutilised Grant	1,53,64,804	
	Advance for Research & Tech Park	70,00,000	
	Payments of Previous year Liabilities	51,11,01,883	
	Payments against Statutory Liabilities	61,23,00,436	(20,84,49,53,489)
	Net Cash Flow from Operating Activities		**4,81,98,68,605**

ASST. REGISTRAR (F&A) DY. REGISTRAR (F&A) DY. REGISTRAR (FINANCE)

Ad. REGISTRAR DY. DIRECTOR DIRECTOR

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INDIAN INSTITUTE OF TECHNOLOGY KANPUR
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CASH FLOW STATEMENT
FOR THE YEAR ENDED 31ST MARCH'2025

AMOUNT IN RS. (₹)

S. NO.	PARTICULARS	AMOUNT	AMOUNT
2	**CASH FLOW FROM INVESTING ACTIVITIES**		
	From Government of India- Capital	1,17,12,00,000	
	From State Government - Capital	10,00,00,000	
	Capital Receipts	43,85,03,517	
	Investments / Deposits Encashed	18,74,91,66,451	
	Interest Received on Bank Deposits	53,92,20,035	20,99,80,90,003
	Less:		
	Expenditure on Fixed Assets	1,54,24,96,194	
	Expenditure on CWIP	1,64,95,08,967	
	Investments / Deposits made	21,89,75,36,106	(25,08,95,41,267)
	Net Cash Flow from Investing Activities		**(4,09,14,51,264)**
3	**CASH FLOW FROM FINANCING ACTIVITIES**		
	Loan from HEFA	70,64,67,317	
	Less: Loan Repaid	1,24,05,41,286	(53,40,73,969)
	Net Cash Flow from Financing Activities		(53,40,73,969)
	NET INCREASE IN CASH		**19,43,43,372**
	Reconciliation		
	Closing Cash Balance as on 31.03.2025		1,20,73,14,382
	Less: Opening Cash Balance as on 01.04.2024		(1,01,29,71,010)
	NET INCREASE IN CASH		**19,43,43,372**

ASST. REGISTRAR (F&A) DY. REGISTRAR (F&A) DY. REGISTRAR (FINANCE)

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