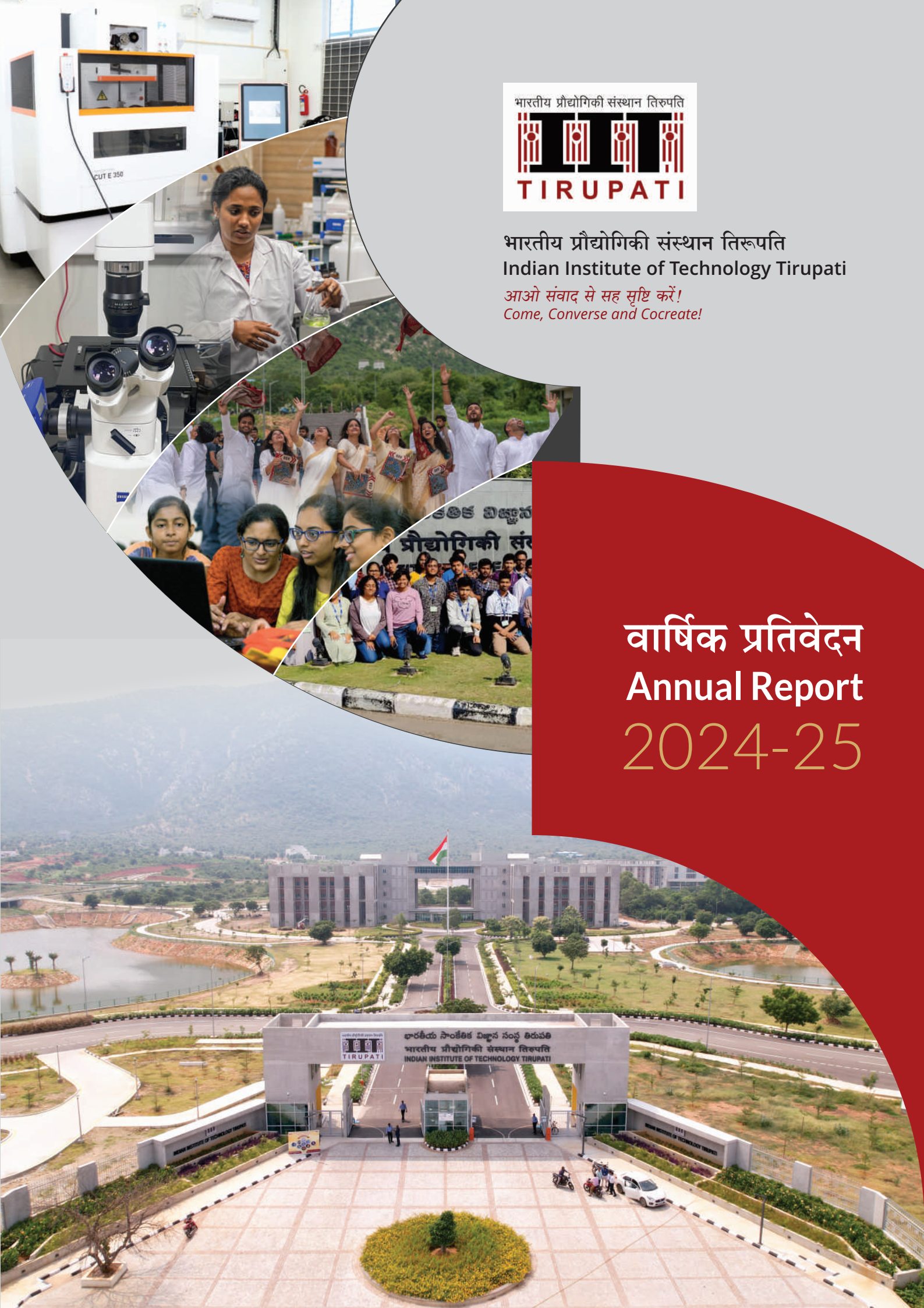




भारतीय प्रौद्योगिकी संस्थान तिरुपति
Indian Institute of Technology Tirupati

आओ संवाद से सह सृष्टि करें!
Come, Converse and Cocreate!

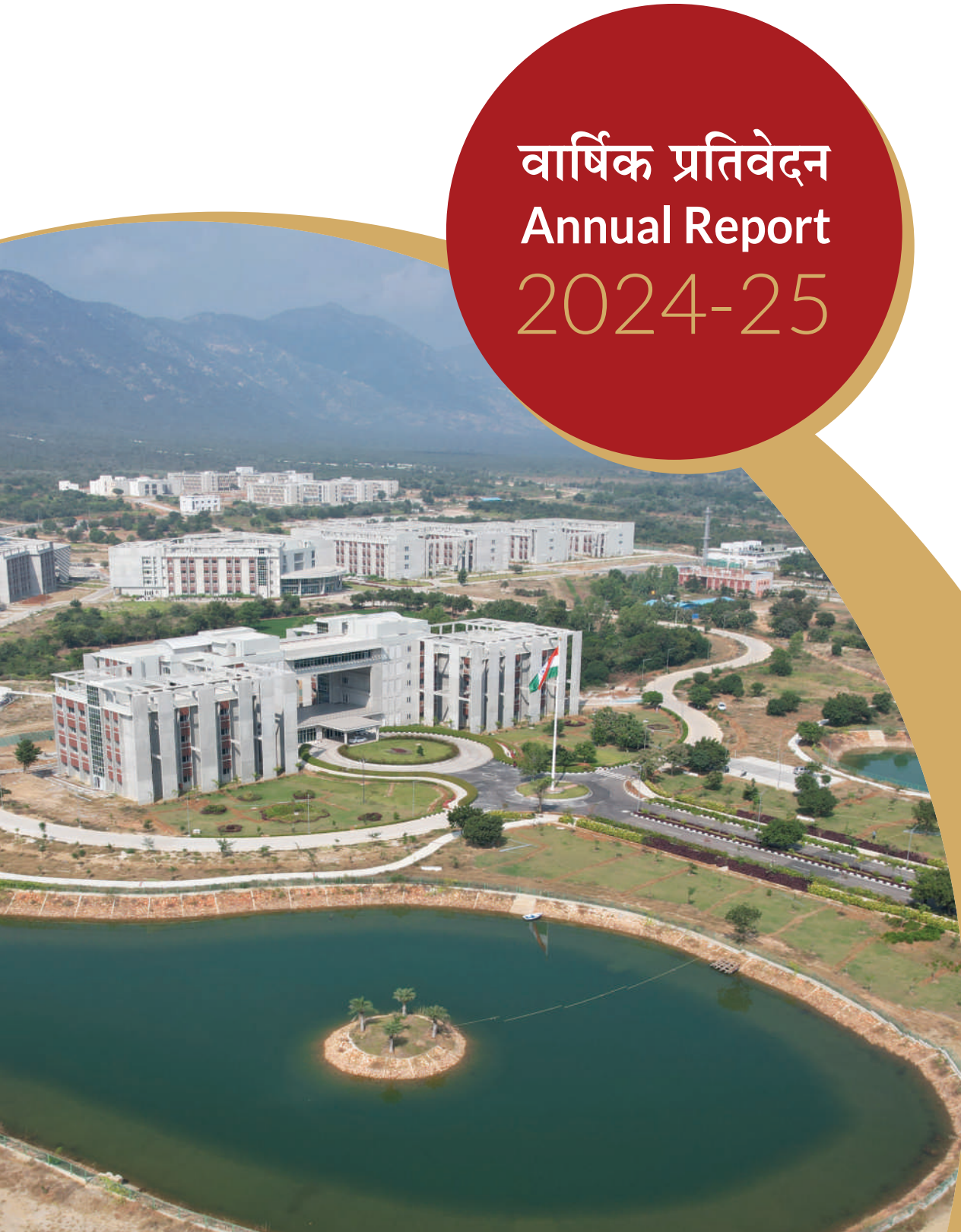
वार्षिक प्रतिवेदन Annual Report 2024-25





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ANNUAL REPORT HIGHLIGHTS

ACADEMIC ACHIEVEMENTS



NIRF
RANK
61

NEW PROGRAM
Engineering
Physics

UPCOMING PROGRAM
Data Science & AI

STUDENT STATISTICS



1,667
Student
Distribution

B.Tech	915
M.Tech	228
M.Sc	99
MPP	32
MS(R)	47
Ph.D.	346



GENDER
RATIO
23%Female

FACULTY & RESEARCH

134 Faculty
273 Journal Articles
19 Book Chapters
276 Conf. Presentations
₹17.54 Cr Sponsored Projects

INFRASTRUCTURE



548.11
ACRES
CAMPUS



80 MILLION LITRES
WATER HARVESTING



Smart India
Hackathon



PIWOT
2025



InvenTiv
2025

EVENTS & OUTREACH



Tachyon
2024



44 NSS
Activities



15 MoUs

STUDENT COUNCIL

5-7

DIRECTOR'S REPORT

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89-108

109-150

APPENDICES





DIRECTOR'S REPORT

It is a matter of great pride and gratification to present the tenth progress report of our Institute. With the completion of Phase A of the permanent campus and the graduation of six batches of students, IIT Tirupati is getting established as a fast-growing Institute. The Institute secured the 61st rank in the National Institutional Ranking Framework (NIRF) Rankings 2024 under the Engineering category. Marking another significant milestone on July 21st, 2024, the Institute held its 6th Convocation, which was presided over by the Chief Guest, Shri Kris Gopalakrishnan, Chairman, Axilor Ventures and Co-founder of Infosys.

This year has seen important strides in academic expansion with the introduction of B.Tech. in Engineering Physics, as Physics underpins the core principles used in disciplines like mechanical, civil, electrical, chemical engineering, etc. This addition complements the existing five B.Tech., eleven M.Tech., three M.Sc., five M.S. (R), MPP, and nine Ph.D. programs currently offered.

To give multidisciplinary experience to all the undergraduate students, 12 minors encompassing the recent technology trends and demands, such as Artificial Intelligence, Green and Renewable Energy, Robotics and Autonomous Systems, Environmental Management, Public Policy, etc., were introduced. The Institute has also introduced the B.Tech.+ M.S. (R) dual degree conversion program for a course-intensive and research-based learning. In the academic year 2024–25, the Institute's student strength reached 1,667, comprising 915 B.Tech., 228 M.Tech., 99 M.Sc., 32 MPP, 47 MS (R), and 346 Ph.D. scholars. The proportion of female students is above 23%, reflecting our commitment to gender diversity.

Looking ahead, the Institute is preparing to introduce an M.Tech. program in Data Science & Artificial Intelligence and an M.Sc. program in Mathematics in the academic year 2025–26. Additionally, the Institute plans to launch an industry-sponsored M.Tech. program in Advanced Energy Storage Technology in the same academic year.

Our academic excellence is powered by a team of 134 faculty members engaged in pioneering research and innovative teaching supported by dedicated staff. During the year, faculty contributions included 250 research articles, 17 book chapters, and 248 research presentations both nationally and internationally, along with 83 invited lectures. The Institute attracted substantial funding with 46 sponsored research projects worth Rs. 17.54 crores and 51 industrial consultancy projects amounting to Rs. 8.21 crores.

IIT Tirupati actively participates in national missions such as the National Mission on Interdisciplinary Cyber Physical Systems, National Quantum Mission, India Semiconductor Mission, and National Green Hydrogen Mission. The Technology Innovation Hub on Positioning and Precision Technologies is making good progress, becoming a major centre in the country for developing technologies, manpower, and start-ups in the areas of positioning, navigation, and timing technologies. To facilitate scholarly exchange, we organized four international conferences, one symposium, fourteen workshops, and a GIAN course, while hosting 19 distinguished invited lectures by eminent experts worldwide.

Collaboration remains a cornerstone of our growth. In 2023-24, the Institute signed Memorandums of Understanding with esteemed entities, including Deutscher Akademischer Austauschdienst (DAAD), IIITDM Kancheepuram, Rajiv Gandhi University of Knowledge Technologies, IISER Tirupati, and AARVEE Associates. These partnerships enrich our academic environment and bolster multidisciplinary developments.

Beyond academics, IIT Tirupati nurtures vibrant student life through extracurricular clubs, social initiatives, and cultural activities. The presence of the NSS provides students with invaluable community engagement, fostering empathy and social awareness through activities like HIV/AIDS outreach, old age home visits, blood donation camps, and cleanliness drives. The SPIC MACAY Heritage Club encourages exploration of Indian classical arts, enriching campus life with events such as Kalamkari workshops and classical concerts. Students also actively contribute to inter-IIT sports and technical meets, reflecting a spirit of healthy competition and camaraderie.

As part of our outreach activities, the Institute has made significant efforts in the last year. The office of Competency Development & Outreach has been established, with a Dean leading it to develop and run continuous education programs, outreach activities in schools and other colleges, etc. The Career Development Centre continues to do well, forging strong ties with industry and facilitating robust placement opportunities across diverse sectors. The class of 2024 benefitted from

the participation of over 113 companies, reaffirming the Institute's reputation for producing skilled and industry-ready graduates.

Infrastructure development has been a key focus area, making IIT Tirupati the first among the third-generation IITs to reach this milestone. The campus is being developed to offer state-of-the-art facilities designed to support 2,500 students, 250 faculty, and 275 staff members. The institution successfully transitioned from its temporary campus in June 2022, becoming fully operational from the permanent site in July 2022. A Kendriya Vidyalaya up to Class V has also been established to facilitate residential life for our community. The campus is distinguished by two man-made lakes covering 10 acres, capable of harvesting 80 million litres of water, complementing our commitment to sustainability.

Our Phase A construction project has won over 20 national and international awards for excellence in sustainable building, health & safety practices, and exemplary performance. Recently, the Institute was honored with the Achievement Award for Best Construction Projects 2023 by the Construction Industry Development Council (CIDC), the Jal Shakti Ministry award for water conservation, etc., reflecting our dedication to quality and environmental responsibility.

As with Phase A, the Ministry of Education once again requested the Director of IIT Tirupati to coordinate the preparation of the Detailed Project Report (DPR) for the Phase B expansion of the 3rd generation IITs during the period 2025-29. The Rs. 11,829 crores budget for five IITs (Bhilai, Dharwad, Jammu, Palakkad, and Tirupati) was recommended by the Ministry of Education and the Ministry of Finance for approval by the Union Cabinet. The budget for IIT Tirupati is Rs 2313 crores.

On behalf of the entire IIT Tirupati family, I express heartfelt gratitude to the Ministry of Education, Government of India, for their unwavering support and guidance. We thank the Government of Andhra Pradesh and the local administration for their invaluable assistance throughout our journey. We extend sincere appreciation to the Chairman and all members of the Board of Governors for their insightful counsel and steadfast encouragement, enabling us to realize our vision.

Jai Hind!

Prof. K. N. Satyanarayana

Director

ORGANISATIONAL HIGHLIGHTS – IIT TIRUPATI

GOVERNANCE



Visitor
Board of
Governors
Senate

- Finance Committee
- Building and Works Committee

LEADERSHIP



- Director
- Registrar

ACADEMIC DEPARTMENTS



9

departments



FACULTY



- 28 new faculty
- 17 promotions

STAFF



- 11 new staff

1. ORGANISATION

The Indian Institutes of Technology (IITs) are autonomous statutory institutions of national importance, dedicated to advancing education and research in engineering, science, and technology. As of now, there are 23 IITs across the country. Established in 2015, IIT Tirupati (IITT), located in the temple town of Tirupati, is committed to becoming a leading centre for technical, scientific, and humanistic education that contributes meaningfully to society.

The academic affairs of the Institute are governed by the Senate, while the overall administration and strategic direction are overseen by the Board of Governors. Financial matters are managed by the Finance Committee, and infrastructure-related decisions are guided by the Building and Works Committee.

This chapter outlines the organisational structure of the Institute and provides details of the faculty and staff who contribute to its academic and administrative functions.

1.1 GOVERNANCE

The Visitor

Ms. Droupadi Murmu
President of India

Board of Governors

Chairman

Shri Sajjan Jindal
Chairman & Managing Director JSW Group

Members

Prof. K. N. Satyanarayana, (Ex-officio)
Director, IIT Tirupati

Shri J. Syamala Rao, IAS
Special Chief Secretary to the Government of Andhra Pradesh
Higher Education Department/ Principal Secretary (HE), Govt of Andhra Pradesh

Shri G. Yoganand
Chairman & Managing Director, Manjeera Constructions Ltd, Hyderabad

Prof. K. Srinivasa Reddy
Professor, Department of Mechanical Engineering, IIT Madras

Shri M. Raja Mahender Reddy
Managing Director, M/s. Venkateswara Pesticides & Allied Chemicals Pvt Ltd, Hyderabad

Shri Sauyma Gupta
Joint Secretary, Technical Education
Department of Higher Education, Ministry of Education, Government of India

	Prof. KSMS Raghavarao Professor, Department of Chemical Engineering, IIT Tirupati (till 16-06-2024)
	Prof. Sasidhar Gumma Professor, Department of Chemical Engineering, IIT Tirupati (till 16-06-2024)
	Prof. Suresh Jain Professor, Department of Civil and Environmental Engineering, IIT Tirupati (from 14-08-2024)
	Prof. Anil Kumar Emadabathuni Professor, Department of Mechanical Engineering, IIT Tirupati (from 14-08-2024)
Special Invitee	Prof. Santanu Bhattacharya Director, IISER Tirupati
Member Secretary	Shri Sumit Kumar Biswas (till 27-08-2024) Registrar, IIT Tirupati
	Prof. Venkata Ramana Badarla (from 28-08-2024) Registrar-in-Charge, Professor, Department of Computer Science and Engineering, IIT Tirupati

Finance Committee

Chairman	Shri Sajjan Jindal Chairman & Managing Director JSW Group
Members	Prof. K. N. Satyanarayana , (Ex-officio) Director, IIT Tirupati
	Additional Secretary (TE) Ministry of Education, Government of India
	Joint Secretary (Finance and Accounts) Ministry of Education, Government of India, or his/her representative
	Prof. A. Mural Krishna Dean, Planning & Infrastructure, IIT Tirupati
	Prof. David Koilpillai Professor, Department of Electrical Engineering, IIT Madras
Member Secretary	Shri Sumit Kumar Biswas (till 27-08-2024) Registrar, IIT Tirupati
	Prof. Venkata Ramana Badarla (from 28-08-2024) Registrar-in-Charge, Professor, Department of Computer Science and Engineering, IIT Tirupati

Institute Deans

	Prof. Sasidhar Gumma , Dean, Global Engagement, Alumni and Corporate Relations
	Prof. Adapa Murali Krishna , Dean, Planning & Infrastructure
	Prof. Anilkumar Emadabathuni , Dean, Sponsored Research and Consultancy
	Prof. Muthu Kumar P , Dean, Faculty Affairs
	Prof. KSMS Raghavarao , Dean, Finance & Administration
	Prof. Rama Krishna Sai Gorthi , Dean, Academic Affairs
	Prof. Neti VL Narasimha Murty , Dean, Student Affairs
	Prof. Arun K. Tangirala , Dean, Competency Development and Outreach

Senate

Chairman	Prof. K. N. Satyanarayana Director, IIT Tirupati Secretary
Members Secretary	Shri Sumit Kumar Biswas (till 27-08-2024) Registrar, IIT Tirupati
	Prof. Venkata Ramana Badarla (from 28-08-2024) Registrar-in-Charge, Professor, Department of Computer Science and Engineering, IIT Tirupati
Members (Deans)	Prof. Sasidhar Gumma , Dean, International and Alumni Affairs
	Prof. Adapa Murali Krishna , Dean, Planning & Infrastructure
	Prof. Anilkumar Emadabathuni , Dean, Sponsored Research and Consultancy
	Prof. Muthu Kumar P , Dean, Faculty Affairs
	Prof. KSMS Raghavarao , Dean, Finance & Administration
	Prof. Rama Krishna Sai Gorthi , Dean, Academic Affairs
	Prof. Neti VL Narasimha Murty , Dean, Student Affairs
	Prof. Arun K. Tangirala (from 09-01-2025) Dean, Competency Development and Outreach
All Heads of the Department	Prof. Thamida Sunil Kumar , Chemical Engineering (till 30-09-2024)
	Prof. Anki Reddy Katha , Chemical Engineering (from 01-10-2024)
	Prof. Gouri Prasanna Roy , Chemistry (from 01-04-2024)
	Prof. B. Krishna Prapoorna , Civil and Environmental Engineering (till 13-06-2024)
	Prof. Suresh Jain , Civil and Environmental Engineering (from 14-06-2024)
	Dr. Venkata Ramana Badarla , Computer Science and Engineering (till 10-06-2024)
	Dr. Sridhar Chimalakonda , Computer Science and Engineering (from 11-06-2024)
	Dr. K P Naveen , Electrical Engineering (from 01-04-2024)
	Dr. Chandra Sekhar Bahinipati , Humanities and Social Sciences (from 20-10-2024)
	Dr. Panchatcharam Mariappan , Mathematics and Statistics (till 02-06-2024)
	Dr. Ishapathik Das , Mathematics and Statistics (from 03-06-2024)
	Prof. Mamila Ravi Sankar , Mechanical Engineering (from 01-04-2024)
	Prof. Reetesh Kumar Gangwar , Physics (till 10-06-2024)
	Dr. Rudra Sekhar Manna , Physics (from 11-06-2024)
All Professors of the Institute	Prof. Thamida Sunil Kumar , Chemical Engineering (from 01-10-2024)
	Prof. B. Krishna Prapoorna , Civil and Environmental Engineering (from 14-06-2024)
	Prof. Ramanathan Ayothiraman , Civil and Environmental Engineering
	Prof. Shihabudheen M. Maliyekkal , Civil and Environmental Engineering
	Prof. N. Balakrishna , Mathematics and Statistics
	Prof. N. Venkaiah , Mechanical Engineering

Educationists of Repute and not Employees of the Institute	Prof. N. Venkata Reddy , Department of Mechanical Engineering, IIT Hyderabad (till 19-08-2024)
	Prof. K. Sethupathi , Department of Physics, IIT Madras (till 19-08-2024)
	Prof. Pramod K. Nayar , Department of English, University of Hyderabad (till 19-08-2024)
	Prof. Phaneendra K. Yalavarthy , Department of Computational and Data Sciences, IISc Bengaluru (from 20-08-2024)
	Prof. K. Gandham Phanikumar , Department of Metallurgical and Materials Engineering, IIT Madras (from 20-08-2024)
	Prof. Badri Narayan Rath , Department of Liberal Arts, IIT Hyderabad (from 20-08-2024)
Persons from Industry, Research & Development	Mr. Daiva Prakash Geddiam , Senior General Manager, Head-Product Development-New Energy, Amara Raja Batteries Ltd, Tirupati (till 19-08-2024)
	Dr. M Durga Rao , Scientist, National Atmospheric Research Laboratory, ISRO, Gadanki, (till 19-08-2024)
	Dr. R Vijay , Director, ARCI Hyderabad (from 20-08-2024)
	Dr. Krishna Chaitanya Vishnubhatla , Senior Manager, Design Evaluation Engineer, Analog Devices India Pvt. Ltd., Bengaluru (from 20-08-2024)
Faculty Members from the Institute	Dr. M. Nabil , Chemical Engineering (till 23-10-2024)
	Dr. Anil Vir , Chemical Engineering (from 24-10-2024)
	Dr. Debasish Mondal , Chemistry
	Dr. Bijily Balakrishnan , Civil and Environmental Engineering (from 24-10-2024)
	Dr. Gowri Asaithambi , Civil and Environmental Engineering (till 23-10-2024)
	Dr. Gadhamsetty Ramakrishna , Computer Science and Engineering
	Dr. Pooja Vyavahare , Electrical Engineering
	Dr. Vaneet Kashyap , Humanities and Social Sciences (till 27-05-2024)
	Dr. Bibhuti Mary Kachhap , Humanities and Social Sciences (from 24-10-2024)
	Dr. Ishapathik Das , Mathematics and Statistics (from 31-03-2025)
	Dr. Panchatcharam Mariappan , Mathematics and Statistics (till 31-05-2024)
	Dr. Girish Kumar Rajan , Mechanical Engineering
	Dr. Shaon Sahoo , Physics (till 23-10-2024)
	Dr. Aravinda S , Physics (from 24-10-2024)
Invitees	Dr. Durga Prasad Challa , Chairman, Admissions
	Dr. Madan Mohan Avulapati , Advisor, Academic Courses
	Dr. Rajesh Viswanathan , Associate Dean, Academic Affairs, IISER Tirupati
	Dr. Degala Venkata Kiran , Workshop In-charge
	Dr. S Prasanna Venkatesh , Chairperson, Council of Wardens
	Shri Prashanta Kumar Behera , Deputy Librarian

Special Invitees (Student Members from the Institute)	Student General Secretary
	Academic Affairs Secretary
	Research Affairs Secretary

Building and Works Committee

Chairperson	Prof. K. N. Satyanarayana Director, IIT Tirupati
Members	Shri M Venkateswara Rao, CE, CPWD, Zone VI, Vijayawada
	Shri P Soundararaj, Retired Deputy Director General, CPWD
	Dr. Janmejy Gupta, Department of Architecture, SPA, Vijaywada
	Prof. A. Murali Krishna, Dean Planning and Infrastructure, IIT Tirupati
Member Secretary	Shri Sumit Kumar Biswas Registrar, IIT Tirupati
	Prof. Venkata Ramana Badarla, (from 28-08-2024) Dates) Registrar-in-Charge, Professor, Department of Computer Science and Engineering, IIT Tirupati
Invitees	Shri B. S. Reddy, CE cum ED CPWD IIT Tirupati
	Dr. B. Janaki Ramaiah, Chairman, Engineering Unit, IIT Tirupati
	Shri KRSK Chaitanya, Head, Engineering Unit, IIT Tirupati
	Shri S Jagannadha Rao, EE & SM (C) TPD I CPWD
Member Secretary	Shri Raunak Srivastav, EE & SM (E) TPD CPWD
	Shri N. Sadgurumoorthy, AEE IIT Tirupati Project

1.2 NEW FACULTY AND STAFF ENTRANTS

IIT Tirupati advertised for faculty recruitment across all departments through Advertisement No. IITT/FACREC/01/2024, dated January 24, 2024. The recruitment process has been successfully completed for all departments, except the newly proposed Department of Materials Science and Engineering. As part of this cycle, a total of 28 new faculty members—including 03 Professors, 01 Associate Professor, and 24 Assistant Professors—have been appointed and 27 have joined the Institute during the reporting year. In addition, the Institute initiated a Merit-Based Selection (MBS) process via Announcement No. IITT/MBS/02/2024, dated September 9, 2024, for faculty promotions across various departments. Through this process, 15 Assistant Professors were promoted to the position of Associate Professor, and 02 Associate Professors were promoted to the position of Professor. These appointments and promotions reflect IIT Tirupati's sustained commitment to strengthening its academic and research ecosystem by attracting and retaining talented educators and researchers dedicated to excellence and innovation. A detailed list of the newly joined faculty members is provided below.

S. No.	Emp Name	Designation and Department	PhD from	Previous Employment	Date of Joining
1	N. Balakrishna	Professor, Mathematics and Statistics	University of Poona, India	Cochin University of Science and Technology, Kerala, India	16-08-2024
2	Samyukta Bhupatiraju	Assistant Professor Grade-I, Humanities and Social Sciences	United Nations University-MERIT and the School of Business and Economics, Maastricht University, The Netherlands	Krea University, India	28-08-2024
3	Arun K. Tangirala	Professor, Chemical Engineering	University of Alberta, Edmonton, USA	IIT Madras, India	29-08-2024
4	Bidisha Roy	Assistant Professor Grade-I, Mathematics and Statistics	Harish-Chandra Research Institute (HBNI), India	Scuola Normale Superiore di Pisa, Italy	19-09-2024
5	Khaire Vikram Kisan	Assistant Professor Grade-I, Physics	Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune	University of California, Santa Barbara, USA	01-10-2024
6	Arvind Kumar Pandey	Assistant Professor Grade-I, Humanities and Social Sciences	Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, India	School of Public Policy and Governance, Tata Institute of Social Sciences, Hyderabad, India	09-10-2024
7	Sudhakar Pagidi	Assistant Professor Grade-I, Chemistry	IISC Bengaluru, India	Tata Institute of Fundamental Research, Hyderabad, India	21-10-2024
8	Srinivasa Krishna Addepalli	Assistant Professor Grade-I, Mechanical Engineering	IIT Madras, India	IIT Tirupati, India	16-10-2024
9	Varsha Bhat Kukkala	Assistant Professor Grade-I, Computer Science and Engineering	IIT Ropar, India	IISc Bengaluru, India	25-10-2024
10	Imrul Qais	Assistant Professor Grade-II, Electrical Engineering	IIT Bombay, India	TU Delft, Netherlands	01-11-2024
11	Varun Varghese	Assistant Professor Grade-I, Humanities and Social Sciences	IIT Bombay, India	Hiroshima University, Japan	07-11-2024

S. No.	Emp Name	Designation and Department	PhD from	Previous Employment	Date of Joining
12	Abir Dutta	Assistant Professor Grade-II, Mechanical Engineering	IIT Kharagpur, India	University College of London, UK	11-11-2024
13	Anjana Mondal	Assistant Professor Grade-II, Mathematics and Statistics	IIT Kharagpur, India	Kharagpur College, India	11-11-2024
14	Kapildeb Dolui	Assistant Professor Grade-I, Physics	Trinity College, Dublin	University of Cambridge, UK	02-12-2024
15	Mohd Furquan	Assistant Professor Grade-II, Mechanical Engineering	IIT Kanpur, India	IIT Delhi, India	04-12-2024
16	Vignesh T G	Assistant Professor Grade-I, Mechanical Engineering	TU Darmstadt, India	IIT Jodhpur, India	05-12-2024
17	Shikha Baghel	Assistant Professor Grade-II, Electrical Engineering	IIT Guwahati, India	NIT Karnataka, India	06-12-2024
18	Ramanathan Ayothiraman	Professor, Civil and Environmental Engineering	IIT Madras, India	IIT Delhi, India	12-12-2024
19	N Gnanasekaran	Associate Professor, Mechanical Engineering	IIT Madras, India	NIT Karnataka, India	12-12-2024
20	Ranjith Thangavel	Assistant Professor Grade-I, Chemical Engineering	Chonnam National University, South Korea	IIT Guwahati, India	18-12-2024
21	Kaushalya	Assistant Professor Grade-II, Physics	Institute Jean Lamour, University of Lorraine, CNRS Lab, France	Lawrence Berkeley National Laboratory, USA	20-12-2024
22	Lokesh Kumar Kalahasthi	Assistant Professor Grade-I, Civil and Environmental Engineering	Rensselaer Polytechnic Institute, Troy, NY, USA	IIT Delhi, India	26-12-2024
23	Loukham Shyamsunder	Assistant Professor Grade-I, Civil and Environmental Engineering	Arizona State University, USA	Purdue University, USA	30-12-2024

S. No.	Emp Name	Designation and Department	PhD from	Previous Employment	Date of Joining
24	Prateek Kumar Sharma	Assistant Professor Grade-I, Electrical Engineering	IIT Guwahati, India	Intel Corporation, Bengaluru, India	27-01-2025
25	Mahendra K. Sharma	Assistant Professor Grade-I, Chemistry	IIT Delhi, India	University of Duisburg-Essen, Germany	03-02-2025
26	Sattwick Halder	Assistant Professor Grade-I, Chemistry	Centre for Energy Science and Chemistry, IISER Pune, India	Imperial College, London, UK	10-02-2025
27	Ashish Kulkarni	Assistant Professor Grade-I, Chemistry	Toin University of Yokohama, Japan	University of Cologne, Germany	03-03-2025

IIT Tirupati advertised staff recruitment through Advertisement No. IITT/STAFFREC/01/2024, dated March 12, 2024, to fill eight vacant positions across various cadres, including Student Counsellor, Hindi Translator, Junior Nursing Officer, Junior Assistant, and Junior Technician. The recruitment process was completed in August 2024, and all eight selected candidates have joined the Institute. Further, the Institute advertised an additional staff recruitment drive to fill four vacant positions—Registrar, Deputy Registrar, and Junior Technician—vide Advertisement No. IITT/STAFFREC/02/2024, dated September 11, 2024. This process was concluded in January 2025, with three candidates having joined the Institute, while the Registrar is expected to assume office in June 2025. In line with the Institute's growth and expanding operations, these new appointments have significantly strengthened the administrative and technical support infrastructure, contributing to the efficient functioning of academic and operational activities. A list of newly joined staff members is provided below.

S. No.	Emp Name	Designation	Section	Date of Joining
1	Praveen P	Junior Nursing Officer	Health Centre	19-07-2024
2	Bekkesigandla Vamsi Krishna	Junior Assistant	Registrar Office	25-07-2024
3	Vijay S	Junior Assistant	Establishment	09-08-2024
4	Aman Kumar Pandey	Hindi Translator	Hindi Cell	22-08-2024
5	Nagendran C	Junior Technician	Central Workshop	28-08-2024
6	Sreekanth Ramachandran	Junior Technician	Civil and Environmental Engineering	19-09-2024
7	Karthikeyan G	Junior Assistant	Material Management - Procurement	27-09-2024
8	Pranav Raj. P	Student Counsellor	Guidance and Counselling Unit	05-12-2024
9	Ruchika	Deputy Registrar	Academics	31-12-2024
10	Kattamuri Kumar Raja	Junior Technician	Chemistry	07-02-2025
11	Marrapu Tirupati Naidu	Junior Technician	Chemistry	24-02-2025

1.3 DEPARTMENT PROFILE

IIT Tirupati has a vibrant and multidisciplinary faculty community spread across nine academic departments: Chemical Engineering, Chemistry, Civil and Environmental Engineering, Computer Science and Engineering, Electrical Engineering, Humanities and Social Sciences, Mathematics and Statistics, Mechanical Engineering, and Physics. The faculty members bring with them diverse academic backgrounds and research expertise, contributing significantly to the Institute's mission of excellence in education and innovation. The following sections present the faculty profiles of each department, including their names, doctoral affiliations, and areas of specialisation.

Department of Chemical Engineering

The Department of Chemical Engineering, established in 2018, offers undergraduate (B.Tech.) and postgraduate programmes, including M.S. by Research and Ph. D. degrees. At present, the department comprises 5 Professors, 1 Associate Professor, and 8 Assistant Professors. The department currently hosts 130 undergraduate (B.Tech.) students and 8 postgraduate students, 5 M.S. by Research students, and 25 research scholars. During the reporting year, the department has successfully graduated 24 B.Tech. students.

The department is committed to delivering a rigorous and contemporary curriculum that integrates foundational chemical engineering principles with emerging interdisciplinary domains. Research activities span a broad spectrum of impactful areas, including process systems engineering, biomolecular and biomedical engineering, energy and environmental engineering, food science and technology, soft matter, and nanoscale materials. Faculty members are actively involved in both fundamental and application-driven research, with strong collaborations established with leading academic institutions and industry partners. To support its academic and research objectives, the department hosts state-of-the-art laboratory facilities, including the Heat Transfer Lab, Fluid Mechanics and Mechanical Operations Lab, Chemical Reaction Engineering Lab, Process Control Lab, and Computational Research Lab. In addition, the department has established advanced research laboratories in areas such as nanomaterials synthesis, food engineering, microfluidics, adsorption, electrochemical systems, and molecular simulations. These facilities provide hands-on training to students and serve as the foundation for cutting-edge research that addresses real-world challenges. For more details, please visit: <https://chemical.iittp.ac.in/>

Faculty Members

Professors

Name and Qualifications	Major Areas of Specialisation
Dr. Katha Anki Reddy Ph.D.: Indian Institute of Science, Bengaluru, India Head of the Department	Energy and Environmental Sciences, Granular Physics
Dr. Arun K. Tangirala Ph.D.: University of Alberta, USA	Process Systems Engineering, Data Science & Artificial Intelligence
Dr. KSMS Raghavarao Ph.D.: Institute of Chemical Technology, Mumbai, India	Food Process Engineering: Separation Processes
Dr. Sasidhar Gumma Ph.D.: Cleveland State University, USA	Metal-organic frameworks, Adsorption
Dr. T. Sunil Kumar Ph.D.: University of Notre Dame, USA	Microfluidics and Corrosion Simulation

Associate Professors

Dr. M. Nabil Ph.D.: Indian Institute of Technology Madras, India	Process Optimisation & Control, Machine Learning for Process Systems
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Assistant Professors

Dr. Anil B. Vir Ph.D.: Indian Institute of Technology Madras, India	Microreactor and multiphase reaction
Dr. Brindha Moorthy Ph.D.: KAIST, South Korea	Materials Science and Engineering, Functional Materials for Energy Storage Applications
Dr. Narendra Singh Ph.D.: Indian Institute of Technology Kanpur, India	Photocatalysis, Surface Engineering of Polymer
Dr. Nilesh Choudhary Ph.D.: Academy of Scientific and Innovative Research (CSIR-NCL), India	Multi-scale Molecular Simulation for Applied Materials and Complex Systems
Dr. Ranjith Thangavel Ph.D.: Chonnam National University, South Korea	Li-ion batteries, Na-ion Batteries and Beyond, Catalysis for Electrochemical Energy Conversion
Dr. Shamik Misra Ph.D.: Indian Institute of Technology Bombay, India	Process Systems Engineering, Renewable Energy and Sustainability
Dr. Trivikram Nallamilli Ph.D.: Indian Institute of Technology Madras, India	Colloid and Interfacial Phenomena, Soft Matter and Food Physics
Dr. S. Uday Kumar Ph.D.: Indian Institute of Technology Roorkee, India	Nanobiotechnology and Biomaterials

Professor of Practice

Dr. Raghunathan K	Battery Cell Technology
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Department of Chemistry

The Department of Chemistry was established in 2015. The department offers Ph. D. and M.Sc. programmes in Chemistry. Additionally, it offers core and elective courses in chemistry and allied areas for Bachelor's and Master's students of both science and engineering streams. In the institute. The department is striving to provide an ideal learning and research environment, placing IIT Tirupati at the forefront of chemistry research. Research is carried out in all major areas of chemical sciences. The department has fifteen regular faculty members with expertise in Theoretical and Computational Chemistry, Inorganic, Bioinorganic, Materials Chemistry, Organic Chemistry, and Bio-Physical Chemistry. The department initiated its M.Sc. program in 2020. The 2023 batch of students has completed their academic requirements, and all 20 students will receive their M.Sc. in Chemistry during the convocation – 2024. The current strength of master's students is 34, and the doctoral students are 38. The department has been actively involved in establishing an advanced research facility that houses various state-of-the-art equipment and characterisation tools for carrying out cutting-edge research. The department is already equipped with a well-established lab facility for B.Tech. Chemistry laboratory teaching. We are now ready with the state-of-

the-art laboratory for Master's and Ph.D. students to conduct their experimental research. With all these, the department maintains a positive slope in its publication pattern by targeting to establish a reputation internationally. For more details, please visit: <https://cy.iitp.ac.in/>

Faculty Members

Professors

Name and Qualifications	Major Areas of Specialisation
Dr. Gouriprasanna Roy Ph. D.: Indian Institute of Science, Bengaluru, India Head of the Department	Chemical Biology, Bioinorganic Chemistry

Associate Professors

Dr. Arun Kumar Manna Ph. D.: Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, India	Multiscale Modelling of Functional Molecules and Materials for Renewable and Sustainable Energy, Clean Environment, Health-Care, and also for Electrical and Optical Devices Applications
Dr. Debasish Mandal Ph. D.: Indian Association for the Cultivation of Science, Kolkata, India	Theoretical Chemistry, Stochastic Thermodynamics, Information Engines, Soft Condensed Matter
Dr. P. Gandeepan Ph. D.: National Tsing Hua University, Hsinchu, Taiwan	Organic Synthesis involving Transition Metal Catalysis, Photocatalysis, Electrocatalysis, and Organocatalysis
Dr. Rajib Biswas Ph. D.: Indian Institute of Science, Bengaluru, India	Theoretical Spectroscopy, Metalloproteins: Structure, Dynamics and Biological Activities, Water Dynamics at Surfaces & Interfaces, Chemical Dynamics in Condensed Phase, Properties of Confined Systems

Assistant Professors

Dr. Ashish Kulkarni Ph. D.: Indian Institute of Technology Bombay, India	Semiconductor Perovskite Solar Cell
Dr. Kaushik Pal Ph. D.: Indian Institute of Science Education and Research, Bhopal, India	Fluorescence Spectroscopy and Microscopy, Biophysical Chemistry, Chemical Biology
Dr. Mahendra K. Sharma Ph.D.: Indian Institute of Technology Delhi, India	Main Group Chemistry, Inorganic and Organometallic Chemistry
Dr. Prasenjit Mondal Ph. D.: Indian Institute of Technology Bombay, India	Synthetic Inorganic and Bioinorganic Chemistry.
Dr. Sattwick Haldar Ph. D.: Indian Institute of Science Education and Research, Pune, India	Battery and Electrochemistry, Spectro electrochemistry, Porous Functional Materials.

Dr. Someswara Rao Sanapala Ph. D.: Indian Institute of Technology Bombay, India	Carbohydrate Chemistry & Oligosaccharide Synthesis, Vaccine Adjuvants and Glycoconjugates, Organocatalysed Regioselective Functionalization of Carbohydrate
Dr. Sourav Chakraborty Ph. D.: Indian Association for the Cultivation of Science, Kolkata, India	Supramolecular Chemistry, Material Science, Host-guest Chemistry, Polyoxometalates, Surface Chemistry
Dr. Srikrishna Bera Ph. D.: Westfälische Wilhelms-Universität, Münster, Germany	Organic Synthesis and Catalysis
Dr. Sudhakar Pagidi Ph. D.: Indian Institute of Science, Bengaluru, India	Functional Organic Conjugated Materials based on Main Group Elements
Dr. Venkaiah Chintalapudi Ph. D.: University of Hyderabad, India	Total Synthesis of Bioactive Natural Products, Asymmetric Catalysis, Combined Catalysis (Transition Metal/Organocatalysis), Chemistry of Allenamides and Dynamides

Department of Civil and Environmental Engineering

Established in 2015, the Department of Civil and Environmental Engineering (CEE) is committed to advancing knowledge and innovation in sustainable infrastructure and environmental stewardship. The department offers a comprehensive portfolio of programmes—B.Tech., M.Tech., M.S. by Research, and Ph.D.—that integrate problem-solving, design thinking, and interdisciplinary learning to meet the evolving needs of industry and society. With a vibrant student community of over 320 scholars, including 124 B.Tech., 147 M.Tech., and 45 Ph.D. candidates, the department fosters excellence across both teaching and research. Its M.Tech. programmes span four specialised areas, while dual degree pathways and faculty-guided undergraduate research encourage intellectual depth and innovation. Research within the department addresses critical 21st-century challenges, from resilient infrastructure and sustainable urban systems to big data, machine learning, and emerging technologies in environmental engineering. In addition to its academic programmes, CEE actively engages with the wider community through short-term courses, professional workshops, and outreach initiatives, enhancing knowledge exchange and industry collaboration.

Guided by a vision to improve quality of life and advance sustainable development, the department continues to establish itself as a national leader in engineering education, research excellence, and transformative innovation. For more details, please visit: <https://cee.iittp.ac.in/>

Faculty Members

Professors

Name and Qualifications	Major Areas of Specialisation
Dr. Suresh Jain Ph.D.: Indian Institute of Technology Delhi, India Head of the Department	Air Quality Modelling and Management; Environmental Risk Assessment; Life Cycle Analysis
Dr. K. N. Satyanarayana Ph.D.: Clemson University, USA Director, IIT Tirupati	Construction Engineering & Project Management

Dr. B. Krishna Prapoorna Ph.D.: Arizona State University, USA	Transportation Engineering & Pavement Systems
Dr. Adapa Murali Krishna Ph.D.: Indian Institute of Science, Bengaluru, India	Earthquake Geotechnics, Ground Improvement, Reinforced Soil Structures
Dr. Ramanathan Ayothiraman Ph.D.: Indian Institute of Technology Madras, India	Geotechnical Engineering, Rock Engineering
Dr. Shihabudheen M. M. Ph.D.: Indian Institute of Technology Madras, India	Environmental Engineering

Associate Professors

Dr. Gowri Asaithambi Ph.D.: Indian Institute of Technology Madras, India	Transportation Engineering
Dr. M. Nithyadharan Ph.D.: Indian Institute of Technology Madras, India	Structural Engineering
Dr. Prasanna V. Sampath Ph.D.: Michigan State University, East Lansing, USA	Environmental Engineering
Dr. Roshan Srivastav Ph.D.: Indian Institute of Technology Madras, India	Water Resources Management, Climate Change, Remote Sensing
Dr. B. Janaki Ramaiah Ph.D.: Indian Institute of Technology Delhi, India	Geotechnical and Geoenvironmental Engineering

Assistant Professors

Dr. Avadh Bihari Narayan Ph.D.: Indian Institute of Technology Kanpur, India	Remote Sensing, Geodesy
Dr. A. V. Rahul Ph.D.: Indian Institute of Technology Madras, India	Concrete 3D Printing, Rheology of Cement-Based Material
Dr. Bijily Balakrishnan Ph.D.: Indian Institute of Technology Madras, India	Structural Engineering: Reinforced Concrete Design, Prestressed Concrete Design
Dr. Jashnav Pancheti Ph.D.: Queensland University of Technology, Brisbane, Australia	Structural Fire Engineering, Building Fire Safety
Dr. Narasamma Nippatlapalli Ph.D.: Indian Institute of Technology Madras, India	Industrial Wastewater Management, Solid Waste Management
Dr. Prasanna Kumar Behera Ph.D. (Indian Institute of Technology Kanpur)	Durability of Concrete Structures, Corrosion of Reinforcing Steel

Dr. Lokesh Kumar Kalahasthi
Ph.D.: Rensselaer Polytechnic Institute, Troy, NY, USA

Freight Demand Modelling, Supply Chain, and Logistics

Dr. Loukham Shyamsunder
Ph.D.: Arizona State University, USA

Finite Element Modelling, Bio-inspired Materials

Department of Computer Science and Engineering

The Department of Computer Science and Engineering (CSE), established in 2015, offers the academic programs B.Tech. in CSE and M.Tech. in CSE, and the research programs M.S. by Research in CSE and Ph.D. in CSE. The undergraduate degree gives great importance to fundamental courses as well as the latest technologies by offering courses such as Machine Learning, Deep Learning, Parallel Computing, Distributed Systems, etc. Courses in the curriculum cover basics and advanced levels, and have been planned to nurture innovation, ethics, and societal interaction. A special emphasis is on Laboratory courses, which provide an exposure to students on the design and development of end-to-end systems. Each programme follows a rigorous and diversified course curriculum with an emphasis on fundamentals, project-driven, and industry-relevant courses. The M.Tech. programme in CSE focuses on a wide range of courses from the areas of Data Science and Systems. The Department is actively engaged in research areas including algorithms, machine learning, reinforcement learning, computer networks, software engineering, parallel computing, computer organisation and architecture, theoretical computer science, and mathematical modelling. For more details, please visit: <https://cse.iittp.ac.in/>

Faculty Members

Professors

Name and Qualifications	Major Areas of Specialisation
Dr. Venkata Ramana Badarla Ph.D.: Indian Institute of Technology Madras, India	Wireless Networks, Cloud Computing, and Internet of Things (IoT)

Associate Professors

Dr. Sridhar Chimalakonda Ph.D.: Indian Institute of Information Technology, Hyderabad, India Head of the Department	Software Engineering, Computing for Society
Dr. Kalidas Yeturu Ph.D.: Indian Institute of Science, Bengaluru, India	Computer Vision, Generative AI, Machine Learning
Dr. G. Ramakrishna Ph.D.: Indian Institute of Technology Madras, India	Algorithmic Engineering

Assistant Professors

Dr. Ajin George Joseph Ph.D.: Indian Institute of Science, Bengaluru, India	Statistics and Probability
Dr. Chalavadi Vishnu Ph.D.: Indian Institute of Technology Hyderabad, India	Deep Learning, Adversarial Learning
Dr. Jaynarayan Tudu Ph.D.: Indian Institute of Science, Bengaluru, India	Power-aware Computer Architecture, Digital VLSI Test and Verification
Dr. V. Mahendran Ph.D.: Indian Institute of Technology Madras, India	Delay-Tolerant Networks, Software Defined Networks and IOT
Dr. Raghavendra Kanakagiri Ph.D.: Indian Institute of Technology Madras, India	Parallel Computing
Dr. S. Raja Ph.D.: Institute of Mathematical Sciences, Chennai, India	Theoretical Computer Science, Algorithms and Complexity
Dr. Varsha Bhat Kukkala Ph.D.: Indian Institute of Technology Ropar, India	Cryptography, Secure Multiparty Computation (MPC)

Adjunct Faculty

Dr. B. Yagnanarayana Ph.D.: Indian Institute of Science, Bengaluru, India	Digital Processing, Speech, Computer Vision, and Neural Networks
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Guest Faculty

Dr. Anil Nair Ph.D.: Indian Institute of Technology Bombay, India	Artificial Intelligence, Machine Learning, Reinforcement Learning, Machine Reasoning
Dr. S. Lakshmivarahan Ph.D.: Indian Institute of Science, Bengaluru, India	Applied Mathematics and Computation: Big Data Analytics, Dynamic Data Assimilation, Machine Learning & High-Performance Computing
Dr. S. Srinivas Padmanabhuni Ph.D.: University of Alberta, USA	Artificial Intelligence, Machine Learning & Software Engineering

Department of Electrical Engineering

The Department of Electrical Engineering offers B. Tech., M.Tech., M.S. by Research and Ph. D. degree programmes at IIT Tirupati. The department is active in the research areas of all the major sub-disciplines of Electrical Engineering. More specifically, the faculty members of the department are involved in the research areas of signal processing, machine learning, medical imaging, nanoelectronics, device modelling, semiconductor devices, digital design & cyber security, power electronics, and power systems, and smart grids, industrial automation, robust & optimal control, electronic instrumentation, physical layer secrecy, performance analysis of networked systems and distributed algorithms on networks. The department has

offered a four-year B.Tech. degree program in Electrical Engineering since 2015. The department started a two-year M. Tech. program in Signal Processing & Communication, in which students are chosen through the GATE exam. This program was started in July 2018. The program consists of theoretical courses in advanced topics in signal processing, communication, power electronics, and power systems, along with practical sessions. The department now has a well-equipped signal processing, communication laboratory, power electronics, power systems, drives, instrumentation and electronics labs. For more details, please visit: <https://ee.iittp.ac.in/>

Faculty Members

Professors

Name and Qualifications	Major Areas of Specialisation
Dr. N. N. Murty Ph.D.: Institute of Technology BHU, Varanasi, India	Defect Identification and Characterisation in Semiconductors (Diamond, Sic)
Dr. Rama Krishna Sai Gorthi Ph.D.: Indian Institute of Technology Madras, India	Signal/Image Processing, Computer Vision, and Pattern Recognition & Machine Learning

Associate Professors

Dr. K. P. Naveen Ph.D.: Indian Institute of Science, Bengaluru, India Head of the Department	Performance Analysis of Wireless Networks
Dr. Abhishek Kumar Jha Ph.D.: Indian Institute of Technology Kanpur, India	RF and Microwaves, Applied Electromagnetics
Dr. Parthajit Mohapatra Ph.D.: Indian Institute of Science, Bengaluru, India	Advanced Communication Techniques for Future Wireless Networks, Physical Layer Secrecy
Dr. Pooja Vyavahare Ph.D.: Indian Institute of Technology Bombay, India	Distributed Function Computation and Optimisation, Analysis of Communication Networks
Dr. Prasanth Vooka Ph.D.: Indian Institute of Technology Madras, India	Measurements and Instrumentation, Capacitive Sensors and Signal-Conditioning Circuits
Dr. P. S. Saikrishna Ph.D.: Indian Institute of Technology Madras, India	Industrial Automation, Robust & Optimal Control and Cloud Computing QoS Management
Dr. Subrahmanyam Gorthi Ph.D.: Swiss Federal Institute of Technology, Switzerland	Medical Image Analysis
Dr. Vikram Pudi Ph.D.: Indian Institute of Technology Madras, India	Digital Design, Cyber Security and Cryptography

Assistant Professors

Dr. Imrul Qais Ph.D.: Indian Institute of Technology Bombay, India	Control Theory, Optimal Control, Distributionally Robust Control, Behavioural Theory of Systems, Dissipative Systems
Dr. Ramesh Patel Ph. D.: Ulsan National Institute of Science and Technology (UNIST), South Korea	Antenna System Architecture for Wireless Communication and Sensing
Dr. Sarvendranath Rimalapudi Ph.D.: Indian Institute of Science, Bengaluru, India	Physical Layer Wireless Communications
Dr. Shikha Baghel Ph.D.: Indian Institute of Technology Guwahati, India	Signal Processing, Speech and Audio Processing, Applications of Machine Learning and Deep Learning, Applications of Signal Processing
Dr. Srujana Kagita Ph.D.: Indian Institute of Technology Delhi, India	RF and Microwave Components and Antennas
Dr. Swapnil Bhuktare Ph.D.: Indian Institute of Technology Bombay, India	Nanoelectronics, Spintronics
Dr. Vignesh V Ph.D.: Indian Institute of Technology Kanpur, India	Power System Dynamics, Smart Grids
Dr. Vijaya Kumar Gurugubelli Ph.D.: Indian Institute of Technology Madras, India	Device Modelling, Nanoelectronics, High-Voltage Devices, Sensors
Dr. Viju Nair N Ph.D.: Indian Institute of Science, Bengaluru, India	Power Electronics

Professor of Practice

Lt Dr. Gen Anil Kapoor Ph. D.: Punjabi University, Patiala, India	Design Thinking, Industrial Engineering & Automation
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Adjunct Faculty

Dr. M.V. Kartikeyan Ph.D.: Indian Institute of Technology-BHU, Varanasi, India	High Power Millimeter Wave and Terahertz Sources and Allied Components, RF Circuits, Antennas, and Systems
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Department of Humanities and Social Sciences

The Department of Humanities and Social Sciences, established in 2015, offers elective courses in Economics, English, Philosophy, Finance, and Organisational Behaviour for all undergraduate engineering disciplines. Additionally, the department provides compulsory courses in English and Professional Ethics. First-year B.Tech. students can also take proficiency courses in Sanskrit and foreign languages like Spanish, German, and Japanese. In 2022, the department introduced its first postgraduate program, the Master of

Public Policy (MPP) – a multidisciplinary program designed to equip students with the analytical, quantitative, and ethical frameworks necessary for evidence-based policymaking. It also offers Ph.D. programs in various fields, including Economics, English, Philosophy, Finance, and Organisational Behaviour. Faculty members are actively engaged in research across a wide range of topics, such as Social and Political Philosophy, Development Economics, Climate Change Economics, Indian Theories of Language and Literature, Gender Studies, Financial Engineering, Organisational Leadership, and more. The department also organises numerous workshops, seminars, and conferences. The department plays a vital role in fostering interdisciplinary collaboration between technology and society, promoting responsible innovation and policy-driven research. Through its teaching and outreach initiatives, it aims to develop ethically grounded leaders equipped to address contemporary challenges in sustainable development, governance, and social transformation. For more details, please visit: <https://hss.iittp.ac.in/>

Faculty Members

Associate Professors

Name and Qualifications	Major Areas of Specialisation
Dr. Chandra Sekhar Bahinipati Ph.D.: Madras Institute of Development Studies, Chennai, India Head of the Department	Economics of Climate Change, Environmental Economics, Natural Resource Management, Development Economics
Dr. Bharat Kumar Ph.D.: University of Hyderabad, India	Social and Political Philosophy, Contemporary Indian Thought
Dr. Prabha Shankar Dwivedi Ph.D.: Dr. H. S. Gour Central University, Sagar, India	Comparative Literary Studies, Indian Theories of Language and Literature, and Indic Religions
Dr. Rahul A. Sirohi Ph.D.: University of Illinois at Urbana-Champaign, USA	Development Economics, Comparative Political Economy of Asia and Latin America, Applied Microeconomics
Dr. Vaneet Kashyap Ph.D.: Indian Institute of Technology Roorkee, India	Industrial and Organisational Psychology, Organisational Behaviour

Assistant Professors

Dr. Arvind Kumar Pandey Ph.D.: Jawaharlal Nehru University, India	Performance Analysis of Wireless Networks
Dr. Bibhuti Mary Kachhap Ph.D.: Indian Institute of Technology (ISM) Dhanbad, India	South Asian Literature and Cultural Studies
Dr. Samyukta Bhupatiraju Ph.D.: Economics and Technical Change, United Nations University-MERIT and Maastricht University, The Netherlands	Financial Economics and Financial Inclusion
Dr. Shailendra Singh Ph.D.: Jamia Millia Islamia, New Delhi, India	South Asian Narratives, Gender Studies

Dr. Varun Varghese Ph.D.: Indian Institute of Technology Bombay, India	Urban and Transportation Planning, Behavioural Analysis
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Dr. Vishnu C Rajan Ph.D.: National Institute of Technology Calicut, India	Operations Management, Industrial Engineering
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Guest Faculty

Dr. A. Raghuramaraju Ph.D.: Indian Institute of Technology Kanpur, India	Social and Political Philosophy
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Dr. Arniker Hamsa Ph.D.: SV University, Tirupati, India	German
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Dr. O. G. P. Kalyan Sastry Ph.D.: Navya Nyaya from Rashtriya Sanskrit Vidyapeetha, India	Navya Nyaya, Sabdabodha, Computational Linguistics
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Department of Mathematics and Statistics

The Department of Mathematics and Statistics, established in 2015, offers courses in mathematics, statistics, and computing for undergraduate, postgraduate, and research students across all disciplines at the institute. The department focuses on pure and applied mathematics, industrial mathematics and statistics, machine learning, and data science. Faculty members are engaged in research areas such as Representation Theory, Algebraic Groups, Ergodic Theory, Fractals, Fixed Point Theory, Partial Differential Equations, Numerical Analysis, Inverse Problems, Mathematical Modelling, Machine Learning, and Environmental Statistics. The department offers M.Sc. and Ph.D. programs and is committed to interdisciplinary research to solve real-world problems, collaborating with national and international experts from academia and industry. Weekly seminars are held for the benefit of faculty, researchers, and students, featuring global experts. Additionally, the department organises workshops and training schools, bringing together students and researchers from across the country and around the world to discuss advancements in mathematics and statistics. For more details, please visit: <https://mast.iittp.ac.in/>

Faculty Members

Professor

Name and Qualifications	Major Areas of Specialisation
Dr. N. Balakrishna Ph.D.: University of Poona, India	Linear and Non-linear Time Series Analysis, Financial Time Series, Modelling of Stochastic Volatility, Analysis of Repairable systems, Chaotic Time Series

Associate Professors

Dr. Ishapathik Das Ph.D.: Indian Institute of Technology Bombay, India Head of the Department	Generalised Linear Models, Machine Learning
Dr. Durga Prasad Challa Ph.D.: Johannes Kepler University & RICAM, Linz, Austria	Forward and Inverse Scattering Problems, Scientific Computing, Cloaking, and Effective Medium Theories
Dr. Panchatcharam Mariappan Ph.D.: Indian Institute of Technology Madras, India and TU Kaiserslautern, Germany	Numerics for PDEs, Computational Fluid Dynamics
Dr. S. Rajesh Ph.D.: Indian Institute of Technology Madras, India	Fixed-Point Theory
Dr. Srijanani Anurag Prasad Ph.D.: Indian Institute of Technology Kanpur, India	Fractals, Functional Equations

Assistant Professors

Dr. Ananya Lahiri Ph.D.: Indian Institute of Technology Kanpur, India	Statistics and Probability
Dr. Anjana Mondal Ph.D.: Indian Institute of Technology Kharagpur, India	Design of Experiments (ANOVA, ANCOVA, MANOVA, MANCOVA), Order Restricted Statistical Inference, Hypothesis
Dr. Angshuman Roy Ph.D.: Indian Statistical Institute, Kolkata, India	Multivariate statistics, Nonparametric statistics
Dr. Krishna Kishore Ph. D.: Indiana University, Bloomington, USA	Automorphic Representations
Dr. B. Ravinder Ph.D.: The Institute of Mathematical Sciences, Chennai, India	Representation Theory of Lie Algebras, Combinatorics
Dr. Shilpak Banerjee Ph.D.: The Pennsylvania State University, USA	Ergodic Theory, Dynamical Systems

Guest Faculty

Prof. GSR Murty Ph.D.: Indian Statistical Institute, Kolkata, India	Statistics and Operations Research
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Department of Mechanical Engineering

The Department of Mechanical Engineering offers undergraduate courses titled 'Engineering Drawing' and 'Engineering Mechanics' to all the engineering disciplines, and 'Advanced Mechanics of Solids' to the UG and PG Students of Mechanical Engineering and Civil Engineering departments. The department is active in research in the areas of applied solid mechanics, dynamics, thermal fluid engineering, fluid mechanics, materials research, and manufacturing engineering. The faculty members of the department are engaged in the following research areas: Solid mechanics and design- Composite materials, non-destructive testing, vibrations, contact mechanics, plasticity, phase transformations in solids, nonlinear elasticity, hydraulic fracturing, multiscale modelling, robotics, control systems, and theoretical and computational solid mechanics.

Fluid and thermal engineering- Sprays, combustion, porous radiant burners, internal combustion engines, alternate fuels, fluid flow diagnostics, energy storage including hydrogen and thermal energy storage, waste heat recovery, refrigeration and air-conditioning, sorption heating and cooling systems, wind energy research, aerodynamics, theoretical fluid mechanics, wave hydrodynamics, and computational fluid dynamics.

Manufacturing engineering and materials research: Advanced manufacturing processes, additive manufacturing, smart manufacturing, welding science and technology, numerical modelling of manufacturing processes, sustainable manufacturing, advanced composite materials development, surface engineering and tribology, computational metrology, and mechanical metallurgy.

Robotics and Automation: Dynamics and control of field and service robots, multi-domain robots, Attitude estimation and control of autonomous aerial vehicles and mechatronics.

The Mechanical Engineering Department presently offers B.Tech., M.Tech. in Design and Manufacturing, and PhD programs. A new M.Tech. program in Thermal Engineering and Energy Systems has been approved by the senate and will begin from the July 2023 semester. Both UG and PG programs of the department include courses in the core areas of mechanical engineering. Also, a wide number of advanced courses are offered in line with the active research topics relevant to the department and interdisciplinary research.

The Department is fully active in organising symposiums, seminars, and workshops to train the faculty and students from the institute and other institutions, thus promoting research collaboration. The faculty members from the department are actively collaborating with industries, research organisations, and other universities on problems that are relevant to society and industries. For more details, please visit: <https://mech.iittp.ac.in/>

Faculty Members

Professor

Name and Qualifications	Major Areas of Specialisation
Dr. Mamilla Ravi Sankar Ph.D.: Indian Institute of Technology Kanpur Head of the Department	Advanced Manufacturing Processes, Additive Manufacturing, Smart Manufacturing, Sustainable Manufacturing, Advanced Composite Materials, Online Monitoring, Surface Engineering, and Tribology
Dr. Anil Kumar Emadabathuni Ph.D.: Indian Institute of Technology Madras, India	Hydrogen Storage and Thermal Energy Storage

Dr. Muthukumar Palanisamy Ph.D.: Indian Institute of Technology Madras, India	Energy Storage, including Hydrogen and Thermal, Porous Medium Combustion, Refrigeration and Air-conditioning, Life Cycle, and Sustainability Analyses
N. Venkaiah Ph.D.: Indian Institute of Technology Madras, India	Computational Metrology, Machining, and Optimisation Techniques

Associate Professors

Dr. Ajay Kumar Ph.D.: Indian Institute of Science, Bengaluru, India	Advanced Materials Manufacturing Processes, Joining, Development, Characterisation, and Mechanical Metallurgy
Dr. Balaji Subramanian Ph.D.: Swiss Federal Institute of Technology Zurich, Switzerland	Wind Energy, Experimental and Computational Fluid Mechanics, and Aerodynamics
Dr. Degala Venkata Kiran Ph.D.: Indian Institute of Technology Bombay	Additive Manufacturing, Welding Science and Technology, Welding Metallurgy, and Smart Manufacturing
Dr. Girish Kumar Rajan Ph.D.: Pennsylvania State University, USA	Fluid Mechanics, Applied Mathematics, Wave Hydrodynamics, and Computational Fluid Dynamics
Dr. Madan Mohan Avulapati Ph.D.: Indian Institute of Science, Bengaluru, India	Sprays, Combustion, Internal Combustion Engines, Alternate Fuels, and Fluid Flow Diagnostics.
Dr. N. Gnanasekaran Ph.D.: Indian Institute of Technology Madras, India	Inverse Heat Transfer, Energy Systems & Porous Media
Dr. Sriram Sundar Ph.D.: The Ohio State University, Columbus, Ohio, USA	Vibrations, Contact Mechanics, Gear, and Brake Dynamics
Dr. Subbareddy Daggumati Ph.D.: Ghent University, Belgium	Advanced Fibre Reinforced Composite Materials and Computational Solid Mechanics
Dr. P. Venkataraman, Ph.D.: Nanyang Technological University, Singapore	Architected Materials, Impact, Natural Fibre Composites

Assistant Professors

Dr. Abir Dutta Ph.D.: Indian Institute of Technology Kharagpur, India	Orthopaedic Biomechanics, Solid Mechanics, Finite Element Analysis, 3D Printing, Medical Device Design
Dr. Anup Basak Ph.D.: Indian Institute of Technology Kanpur, India	Continuum Mechanics, Plasticity, Phase Transformations, Phase Field Methods, Computational Mechanics, and Materials Science
Dr. Govind Narayan Sahu Ph.D.: Indian Institute of Technology Kanpur, India	Machining Dynamics, Smart Machine Tool System, Active Control of Chatter, Hardware-in-the-Loop Simulation

Dr. Mohd Furquan Ph.D.: Indian Institute of Technology Kanpur, India	Fluid-Structure Interaction, Computational Mechanics
Dr. Srinivasa Krishna Addepalli Ph.D.: Indian Institute of Technology Madras, India	Computational Fluid Dynamics (CFD), Carbon-less Fuels for Transportation
Dr. Thiyagarajan R Ph.D.: Indian Institute of Technology Madras, India	Robotics and Automation, Dynamics and Control of Field and Service Robots, Mechatronics, and Additive Manufacturing
Dr. Vignesh T. G Ph.D.: Technische Universitat Darmstadt, Germany	Multiphase flows (Particles, Drops, Bubbles & Thin films)
Dr. Yujendra Mitikiri Ph.D.: University of Florida, Gainesville, USA	Autonomous Vehicles, Controls, Analog Circuits

Visiting Faculty

Dr. N. N. Kishore, Ph.D.: Indian Institute of Technology Kanpur, India	Composite Materials, Finite Element Method, and Non-Destructive Testing
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Professor of Practice

Dr. V. R. Ganesan	Automotives, New Technologies in Mechanical Engineering, and Alternate forms of Mobility
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Department of Physics

The Department of Physics currently offers academic programs at multiple levels, including B.Tech. in Engineering Physics, M.Sc., and Ph.D., in addition to contributing foundational physics courses to all B.Tech. disciplines. The department comprises 14 faculty members engaged in both theoretical and experimental research across a wide spectrum of areas such as astrophysics, atomic, molecular, and optical physics, condensed matter physics, high energy physics, plasma physics, quantum computing and information theory, and soft matter physics. The research ecosystem is enriched by a vibrant community of 30 regular and 6 external Ph.D. scholars. The external scholars are enrolled under a joint Ph.D. program between IIT Tirupati and the Centre for Quantum Engineering, Research and Education (CQuERE), Kolkata. The department actively promotes academic exchange and interdisciplinary dialogue, having hosted numerous invited talks and expert lectures during the academic year 2024–25. Cutting-edge research and teaching laboratories have been established with support from both institutional funding and competitive external grants. Faculty members are also closely involved in collaborative initiatives such as the joint IIT Tirupati–IISER Tirupati Centre for Atomic, Molecular, and Optical Science and Technologies (CAMOST), inaugurated in August 2020. The department's academic and research activities are effectively supported by a team of nine dedicated staff members who manage administrative operations and laboratory infrastructure. For more details, please visit: <https://physics.iittp.ac.in/>

Faculty Members

Associate Professors

Name and Qualifications	Major Areas of Specialisation
Dr. Rudra Sekhar Manna Ph.D.: Goethe University Frankfurt, Germany Head of the Department	Experimental Condensed Matter Physics
Dr. Arijit Sharma Ph.D.: Raman Research Institute, Bengaluru, India	Experimental Atomic Physics and Quantum Optics, Precision Laser Spectroscopy
Dr. B. Koteswara Rao Ph.D.: Indian Institute of Technology Bombay, India	Strongly Correlated Electron Systems, Geometrically Frustrated Magnets
Dr. Reetesh Kumar Gangwar Ph.D.: Indian Institute of Technology Roorkee, India	Atomic and Molecular Physics, Plasma Physics
Dr. Vinay Pramod Majety Ph.D.: Ludwig Maximilians University, Germany	Theoretical Ultrafast Physics

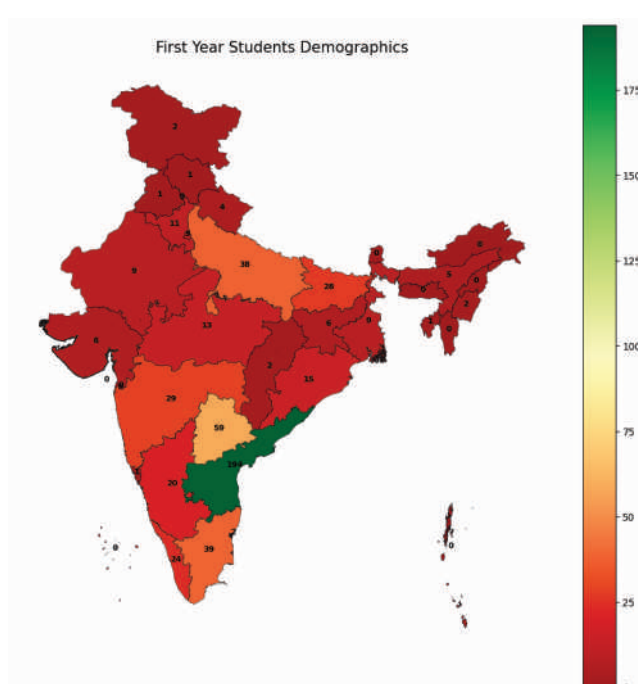
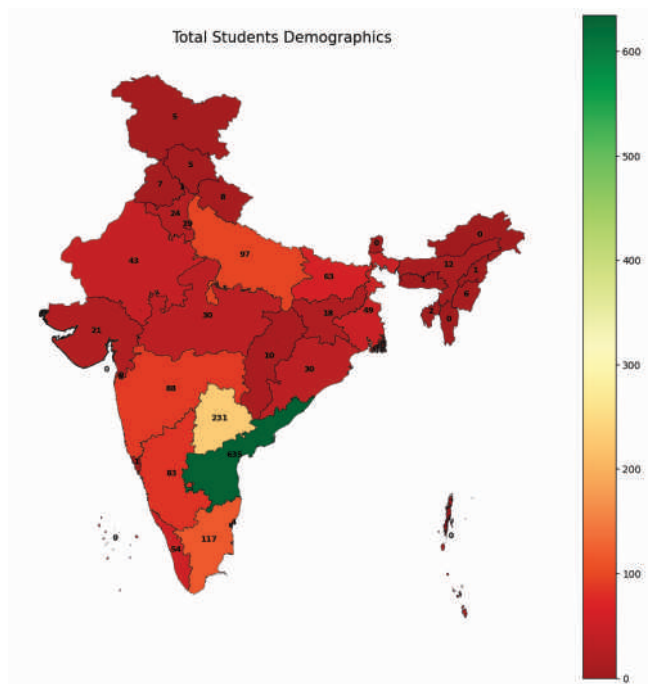
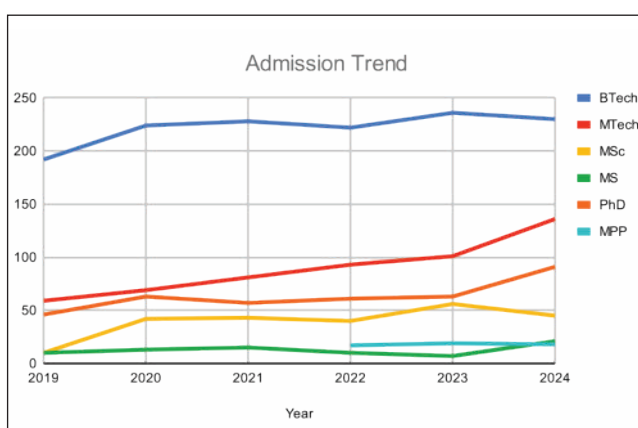
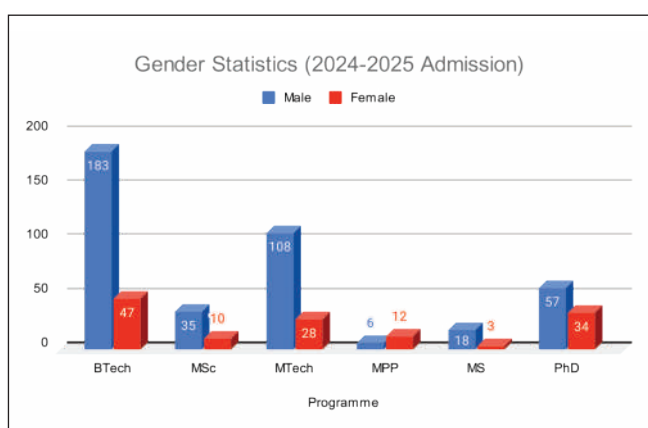
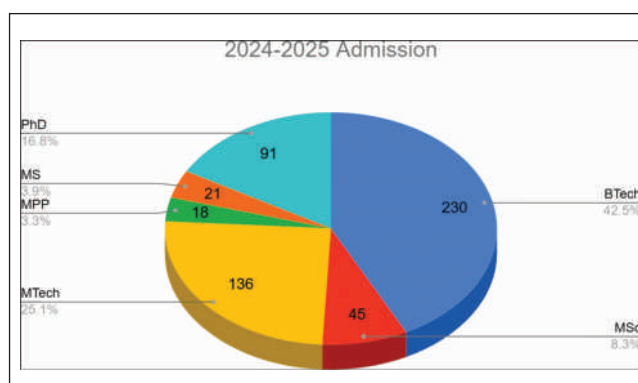
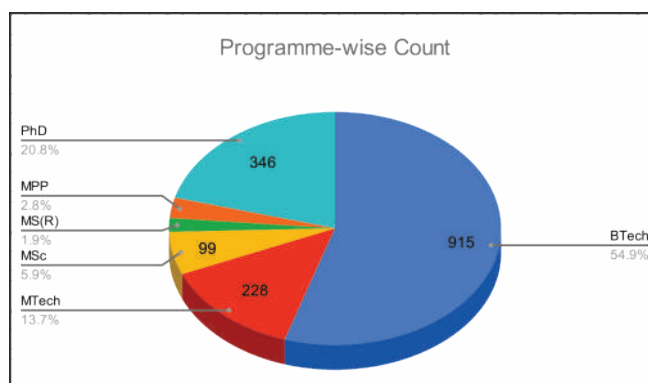
Assistant Professors

Dr. Aniket Uday Joglekar Ph.D.: University of Chicago, USA	Astroparticle Physics, Beyond the SM Physics.
Dr. Aravinda S Ph.D.: Poornaprajna Institute of Scientific Research, Bengaluru, India	Quantum information and computation, Quantum Foundations.
Dr. Kabileb Dolui Ph.D.: Trinity College Dublin, Ireland	Computational Condensed Matter Physics
Dr. Kaushalya Jhuria Ph.D.: Institute Jean Lamour, CNRS Lab, France	Quantum Information Science, THz Spintronics, Spin- Photon Qubits
Dr. Murari Singh Ph.D.: Jawaharlal Nehru University, Delhi, India	Computational Soft Matter Physics
Dr. Ranjan Krishna Modak Ph.D.: Indian Institute of Science, Bengaluru, India	Theoretical Condensed Matter Physics
Dr. Shaon Sahoo Ph.D.: Indian Institute of Science, Bengaluru, India	Theoretical Condensed Matter Physics
Dr. Vikram Khaire Ph.D.: Center for Astronomy and Astrophysics (IUCAA), Pune, India	Astronomy, Observational Cosmology

Visiting Faculty

Prof. V Vasudeva Rao Ph.D.: Indian Institute of Technology Madras, India	Superconductivity & Applications, Quantum Computing, Vacuum Technology, Cryogenic Engineering, Semiconductor Engineering
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ACADEMIC PROGRAMME HIGHLIGHTS



2. ACADEMIC PROGRAMMES

2.1. LIST OF PROGRAMMES

The Institute previously offered B.Tech. programmes in the following disciplines:

- Chemical Engineering
- Civil Engineering
- Computer Science & Engineering
- Electrical Engineering
- Mechanical Engineering
- Engineering Physics

During the academic year 2023-24, the Institute launched M.Tech. programmes in Chemical Engineering and in the areas of Thermal Engineering and Energy Systems in Mechanical Engineering. M.Tech. programmes in the disciplines of Civil Engineering (Environmental and Water Resources Engineering, Geotechnical Engineering, Structural Engineering, and Transportation & Infrastructure Engineering), Computer Science & Engineering, Electrical Engineering (RF and Microwave Engineering, Microelectronics & VLSI, Signal Processing and Communications), and Mechanical Engineering (Design and Manufacturing) were started in the previous academic years. A total of 136 students were admitted to the M.Tech. programme during the 2024-25 academic session.

The Institute started M.Sc. programmes in Physics and Chemistry during the academic year 2020-21, while the M.Sc. in Mathematics and Statistics was launched during the academic year 2019-20. A total of 45 students have been admitted to the M.Sc. programmes during the year 2024-2025.

IIT Tirupati has also started the Master of Public Policy (MPP) in the year 2022 under the Department of Humanities & Social Sciences and 18 students have been admitted to the programme during the academic year 2024-25.

IIT Tirupati has continued admitting students to its M.S. (Research) and PhD programmes in the disciplines of Engineering, Sciences, Humanities, and Social Sciences with a focus on research.

The following section contains the details about the student statistics and fellowships regarding all courses in IIT Tirupati.

2.2 STUDENT STATISTICS

B.Tech. Programme

Table 1 Details of the B.Tech. students admitted to the Institute

Year	General		EWS		OBC		SC		ST		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
2019	64	13	11	5	40	10	24	5	13	2	192*
2020	68	18	16	5	51	13	27	8	13	5	224**
2021	65	17	20	6	53	13	28	8	13	5	228***
2022	60	13	25	6	51	12	27	8	15	5	222****
2023	65	19	26	4	53	15	29	7	15	3	236*****
2024	59	16	29	9	52	12	29	7	14	3	230*****

In the academic year 2024-25, a total of 230 students joined the Institute, including one preparatory student, against the sanctioned strength. Of the admitted students, 183 were boys and 47 were girls, with the overall percentage of girls registering at 20.43%. The category-wise break-up of admissions is summarized in the table below.

* Including 3 preparatory course students

** Including 10 preparatory course students

*** Including 8 preparatory course students

**** Including 6 preparatory course students

***** Including 2 preparatory course students

***** Including 1 preparatory course students

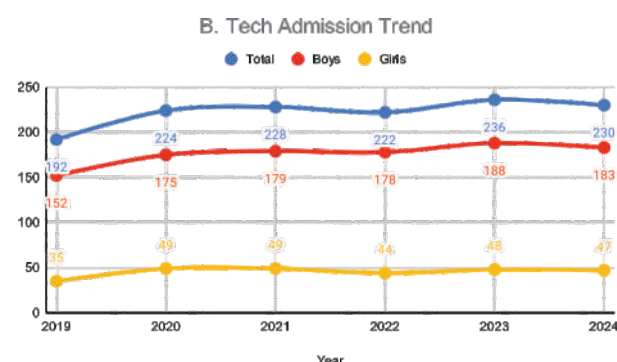


Figure 1 Details of the **B.Tech.** students admitted to the Institute

M.Tech. Programme

In the academic year 2024-25, a total of 136 students were admitted to the M.Tech. programme in the department of Chemical Engineering, Civil and Environmental Engineering,

Computer Science Engineering, Electrical Engineering, and Mechanical Engineering. Of these, 108 were boys and 28 were girls, with the overall percentage of girl students registering at 20.59%.

Table 2 Details of the M.Tech. students admitted to the Institute

Year	Boys	Girls	Total
2019	44	15	59
2020	63	6	69
2021	63	18	81
2022	80	13	93
2023	78	24	102
2024	108	28	136

M.Sc. Programme

In the academic year 2024-25, a total of 45 students were admitted to the M.Sc. programme. Of these, 35 were boys and 10 were girls, with the overall percentage of girls standing at 22.22%.

Table 3 Details of the M. Sc students admitted to the Institute

Year	Boys	Girls	Total
2019	5	5	10
2020	27	15	42
2021	27	16	43
2022	32	8	40
2023	43	14	57
2024	35	10	45

Master of Public Policy (MPP)

In the academic year 2024-25, a total of 18 students were admitted to the MPP programme. Of these, 6 were boys and 12 were girls, with the overall percentage of girls at 66.67%.

Table 4 Details of the MPP Students Admitted to the Institute

Year	Boys	Girls	Total
2022	9	8	17
2023	11	8	19
2024	6	12	18

M. S. (Research) Programme

In the academic year 2024-25, a total of 21 students were admitted to the M.S. programme. Of these, 18 were boys and 3 were girls, with the overall percentage of girls at 14.29%.

Table 5 Details of the M. S. (Research) Scholars admitted to the Institute

Year	Boys	Girls	Total
2019	8	2	10
2020	9	4	13
2021	8	7	15
2022	8	2	10
2023	8	1	09
2024	18	3	21

Ph.D. Programme

In the academic year 2024-25, a total of 91 students were admitted to the Ph.D. programme. Of these, 57 were boys and 34 were girls, with the overall percentage of girl students at 37.36%.

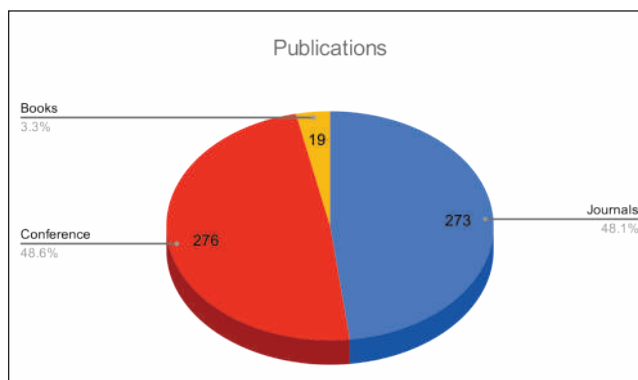
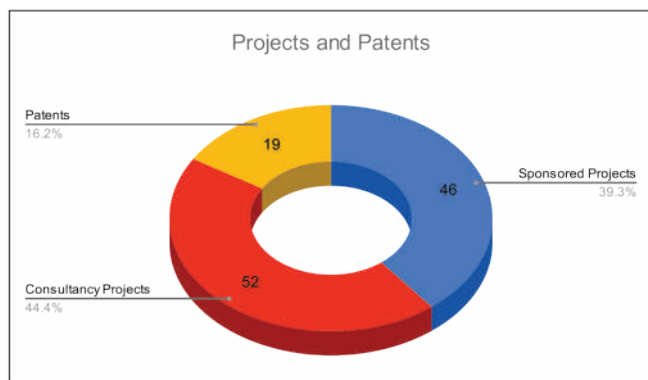
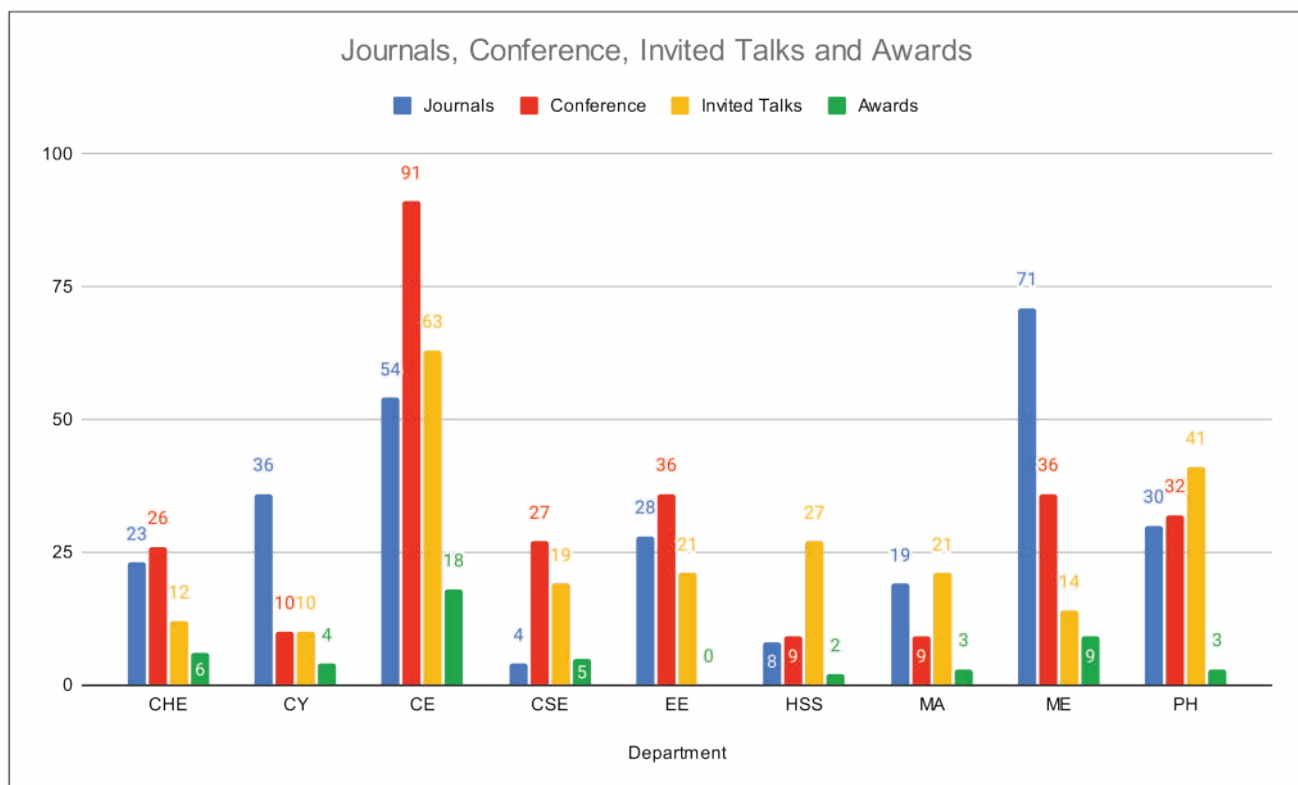
Table 6: Details of the Ph.D. Scholars admitted to the Institute

Year	Boys	Girls	Total
2019	32	14	46
2020	46	17	63
2021	40	17	57
2022	39	22	61
2023	49	17	66
2024	57	34	91

Table 7: Details of the students enrolled in the Institute in the Academic Year 2024-25

Programme	Boys	Girls	Total
B.Tech.	727	188	915
M.Tech	178	50	228
M.Sc.	76	23	99
MPP	13	19	32
M.S.(Research)	38	9	47
Ph.D.	240	106	346
Total	1272	395	1667

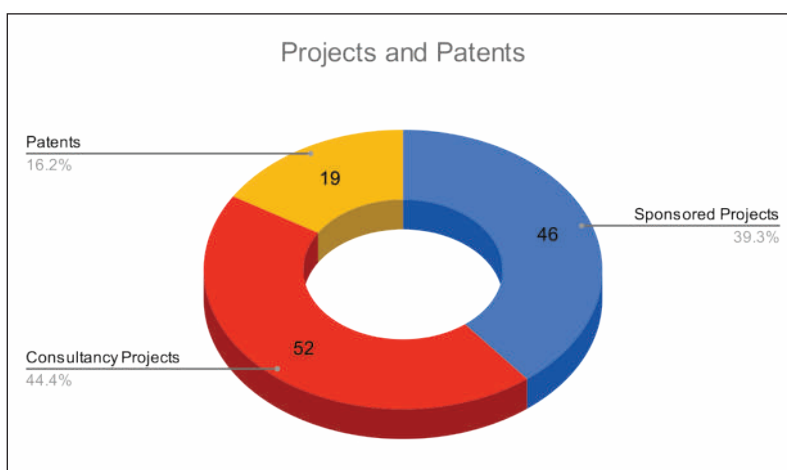
RESEARCH AND DEVELOPMENT HIGHLIGHTS



3. RESEARCH AND DEVELOPMENT HIGHLIGHTS

3.1 SPONSORED RESEARCH AND CONSULTANCY

IIT Tirupati, since its inception in 2015, has actively fostered collaborations with industries, research organizations, academic institutions, and government agencies to undertake sponsored research projects and consultancy services. In 2017, the institute established the Centre for Sponsored Research and Consultancy (CSRC) to further promote and streamline these efforts. CSRC is responsible for the promotion, facilitation, coordination, and administration of all research, innovation, and consultancy activities at the institute. The institute successfully undertook 46 sponsored projects and 51 industrial consultancy assignments during the year.



3.1.1 Sponsored Research Projects

S. No.	Title	Funding Agency	Investigator and Department
1	Design and Development of Algorithms for Online Long-Term Target Tracking	Defence Research and Development Organisation(DRDO)	Dr. Rama Krishna Sai Gorthi, Department of Electrical Engineering
2	Dialectics of Prakriti and Sanskriti: An Ecosophical Study of the Select Ancient Indian texts	JPN National Centre, IIT Indore	Dr. Prabha Shankar Dwivedi, Department of Humanities and Social Sciences
3	Food Security and the Problem of Fit: Examining Local Innovations to Milk Wastage in India	University of Waterloo	Dr. Sanchayan Nath, Department of Humanities and Social Sciences

S. No.	Title	Funding Agency	Investigator and Department
4	DST's Nodal Center at IISER Tirupati (Tirupati- Chennai-Bengaluru Cluster) for the Development and Production of Key Starting Materials, Intermediates, and Other Raw Materials that are required by the Health Care Sector	Department of Science and Technology	Dr. Gouriprasanna Roy, Department of Chemistry
5	Design, Development, Testing, and Automation of LPG, PNG, and CNG Operated Refractory Burners for Cooking and Industrial Applications	Science and Engineering Research Board- SERB	Prof. P. Muthukumar, Department of Mechanical Engineering
6	GPU Accelerated Mesh-free Method Solution for FSI Problem on Hemo dynamics and Its Influence on Cancer Treatments	Department of Science and Technology	Dr. Panchatcharam, Department of Mathematics and Statistics
7	Quantum Signal Processing and Quantum Singular Value Transformation	I-HUB Quantum Technology Foundation	Dr. Arvinda S, Department of Physics
8	Separation, Purification, and Characterization of Valuable Compounds from Coconut Waste/by-Products for Incorporation in Health Foods	Coconut Development Board	Prof. KSMS Raghavarao, Department of Chemical Engineering
9	Machine Learning Techniques to Address the Pilot Transmission Overhead in an Intelligent Reflecting Surface Aided Antenna Selection System	Department of Science and Technology	Dr. Sarvendranath Rimalapudi, Department of Electrical Engineering
10	Multiple Intelligent Reflecting Surfaces to Improve Network Coverage in Rural Areas and Hilly Terrains	Science and Engineering Research Board- SERB	Dr. Sarvendranath Rimalapudi, Department of Electrical Engineering
11	Design of a Secure and Dependable RISC-V Core for Cryptographic Applications	Ministry of Electronics and Information Technology	Dr. Vikramkumar Pudi, Department of Electrical Engineering
12	AI-Assisted Techniques to Extract Business Rules from Legacy Code Base	Indian Institute of Technology Tirupati	Dr. Sridhar Chimalakonda, Department of Computer Science and Engineering
13	Performance enhancement of Multi-Temporal Synthetic Aperture Radar Interferometry (MT- InSAR) for Accurate and Fast Deformation Estimation in Mountainous Terrain	Science and Engineering Research Board- SERB	Dr. Avadh Bihari Narayan, Department of Civil and Environmental Engineering
14	Understanding the Microscopic Origin of Kosmotropicity and Chaotropicity of Osmolytes in the Aqueous Phase	Department of Science and Technology	Dr. Rajib Biswas, Department of Chemistry

S. No.	Title	Funding Agency	Investigator and Department
15	Mechanochemical Approach for Solvent-Free Synthesis of (Hetero)Aromatic Fluorides	Ministry of Education (MoE)	Dr. Gandeepan P, Department of Chemistry
16	Organomercurials are More Neurotoxic than the Inorganic Mercury Compounds: A Detailed Investigation at Molecular and Cellular Levels to Understand the Mechanisms Underlying Extremely High Neurotoxicity of Organomercurials	Ministry of Education (MoE)	Dr. Gouriprasanna Roy, Department of Chemistry
17	Nano Finishing of 3D Printed Complex Biomedical Implants using Economic Polymer Rheological Abrasive Semisolid Medium	Department of Science and Technology	Dr. Mamilla Ravi Sankar, Department of Mechanical Engineering
18	Development of an Atomic Processes Database using Calculation & Measurement in Tokamak & Lab Plasma	Department of Atomic Energy (DAE)	Dr. Reetesh Kumar Gangwar, Department of Physics
19	Granular Chains, Translating or Rotating, or Oscillating Objects in a Granular Medium	Science and Engineering Research Board- SERB	Dr. Anki Reddy Katha, Department of Chemical Engineering
20	Micro-irrigation Adoption, Resource Efficiency, Sustainability, and Smallholder Farmers Well- being: Evidence from the Rayalaseema Region in Andhra Pradesh: A Study under PM Krishi Sinchai Yojana	Indian Council of Social Science Research	Dr. Chandra Sekhar Bahinipati, Department of Humanities and Social Sciences
21	Development of High Valent First Row Late Transition Metal-Halide Complexes for Bio-inspired C-H Halogenation Reactions	Science and Engineering Research Board- SERB	Dr. Prasenjit Mondal, Department of Chemistry
22	Deep Understanding of Driving Behaviour in Lane Free Mixed Traffic to Optimize its Efficiency	Ministry of Education	Dr. Gowri Asaithambi, Department of Civil and Environmental Engineering
23	Synthesis of Difluoromethylated Organic Compounds via Electrocatalysis	Science and Engineering Research Board- SERB	Dr. Gandeepan P, Department of Chemistry
24	Effect of Interaction Anisotropy on Microstructural Defects and Mechanical Properties of Amorphous Solid	Science and Engineering Research Board- SERB	Dr. Murari Singh, Department of Physics
25	Development of Semi-Automatic Farm Devices for Usage in Small Agricultural Fields	Department of Science and Technology	Prof. Thamida Sunil Kumar, Department of Chemical Engineering
26	Scalable Sparse Tensor Computations	Science and Engineering Research Board- SERB	Dr. Raghavendra Kanakagiri, Department of Computer Science and Engineering

S. No.	Title	Funding Agency	Investigator and Department
27	Improvement of Geoid Model Derived from EGM at Regional Scale by Advanced Gravimetric Geoid Modelling, a Case Study in Kanpur and Unnao District of UP	Department of Science and Technology	Dr. Avadh Bihari Narayan, Department of Civil and Environmental Engineering
28	RES-URSC-2022-005: Development of Precision Laser Spectroscopy System for Testing and Characterization of MEMS-based Vapour Cells for Quantum Technology Applications in Computing, Communication, Sensing, and Metrology	Indian Space Research Organization	Dr. Arijit Sharma, Department of Physics
29	RES-URSC-2022-006: On-board Software Verification Automation Platform	Indian Space Research Organization	Dr. Sridhar Chimalakonda, Department of Computer Science and Engineering
30	Development of High Resolution-Diffraction-Limited Single-ION Imaging System	I-HUB Quantum technology foundation	Dr. Arijit Sharma, Department of Physics
31	Development of TRANSFER Cavity-Based Laser Frequency Stabilization scheme aided by Wavelength Meter	I-HUB Quantum technology foundation	Dr. Arijit Sharma, Department of Physics
32	A Portable All-Optical Trapped Ion ($^{40}\text{Ca}^{+}$) based Atomic Clock as a Deliverable	IIT Tirupati Navavishkar I- Hub Foundation	Dr. Arijit Sharma, Department of Physics
33	PHEM for D^3 – Parallel Heterogeneous External Memory Algorithms for Dealing with the Data Deluge	Science and Engineering Research Board- SERB	Dr. G. Ramakrishna, Department of Computer Science and Engineering
34	RES-SDSC-2022-017: Alternative Solvent For TCE	Indian Space Research Organization	Dr. Someswara Rao Sanapala, Department of Chemistry
35	Modelling Metal-Free Functional Organic Molecules in Condensed Phase for Efficient Triplet Harvest	Science and Engineering Research Board- SERB	Dr. Arun Kumar Manna, Department of Chemistry
36	Configurable Learning through Dynamic Fusion of Light-Weight Few-Class Object Detectors – Applications to EHR from Clinical Records	Science and Engineering Research Board- SERB	Dr. Y Kalidas Department of Computer Science and Engineering
37	Development of UV Sensor using CNTs for Monitoring Combustion in Engines	Department of Science and Technology	Dr. Mamilla Ravi Sankar, Department of Mechanical Engineering

S. No.	Title	Funding Agency	Investigator and Department
38	Biomimetic Studies of Bacterial Enzymes Organomercurial Lyase MerB and Mercuric Ion Reductase (MerA): Development of a Smart System for the Detoxification of Organomercury Compounds	Science and Engineering Research Board- SERB	Dr. Gouriprasanna Roy, Department of Chemistry
39	Wire Arc Additive Manufacturing of Naval Impeller/Propeller of 500 mm Diameter	Defence Research and Development Organisation (DRDO)	Dr. Degala Venkata Kiran, Department of Mechanical Engineering
40	Design and Development of Ultra-High-Density Sodium Metal Batteries for Autonomous Underwater Vehicles	IIT Guwahati Technology Innovation and Development Foundation (TIH)	Dr. Brindha M, Department of Chemical Engineering
41	Phonons and Their Interactions in Complex Oxide Systems	Science and Engineering Research Board- SERB	Dr. Rudra Sekhar Manna, Department of Physics
42	Design and Synthesis of Biologically Active N- Heterocycles using Transition Metal Catalysts	Science and Engineering Research Board- SERB	Dr. Venkaiah Chintalapudi, Department of Chemistry
43	Combined Experimental and Theoretical Investigations of Novel Quantum States of Matter at High Frustration and Low Dimensions	Science and Engineering Research Board- SERB	Dr. Koteswara Rao Bommiseti, Department of Physics
44	DST FIST Program to Strengthen the Research Facility in the Department	Department of Science and Technology	Dr. Krishna Prapoorna Biligiri, Department of Civil and Environmental Engineering
45	DST FIST Program to Strengthen the Research Facility in the Department	Department of Science and Technology	Dr. N N Murty, Department of Electrical Engineering
46	Centre of Excellence CoE Proposal on Membrane Technologies for Desalination, Brine Management, and Water Recycling	Department of Science and Technology	Dr. Shihabudheen Maliyekkal, Department of Civil and Environmental Engineering

3.1.2 Consultancy Projects

S. No.	Title	Funding Agency	Investigator and Department
1	Dynamic Analysis of Drum Brakes	TVS Motor Company	Dr. Sriram S, Department of Mechanical Engineering

S. No.	Title	Funding Agency	Investigator and Department
2	Assessment of Strength and Durability Properties of Stones of Sri Prasanna Varadaja Swamy Temple, Sri Kalahasti, A.P	Sri Kalahasteeswara Swamy Vari Devasthanam	Dr. Behera Prasanna Kumar, Department of Civil and Environmental Engineering
3	Structural Vetting of Warehouse & Assembly Area at Hyderabad	Amara Raja Infra Private Limited	Dr. M. Nithyadharan, Department of Civil and Environmental Engineering
4	Geotechnical Investigations on the Soil Samples Excavated at Pallamala MI Tank and Tottambedu MI Tank for Soil Classification and Permeability Tests to Assess Their Suitability of Its Use for the Work Augmentation of MVS Scheme to Renigunta and other Habitation	Rural water supply and sanitation , Govt of Andhra Pradesh	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
5	Advanced Testing of Soil Samples for Offshore Block KG/OSDSF/GSKW/2018, Odalarevu, Andhra Pradesh	FUGRO Geotech (India) Pvt. Ltd.	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
6	Development of Room Temperature Warm Atomic Vapor-Based Quantum Memory	Qulabs Solutions (India) Pvt. Ltd.	Dr. Arijith Sharma, Department of Physics
7	Laboratory Performance Report on the Use of RARX in India	Circulo Tecnologico 2020 SL	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering
8	Vetting of the Design and Drawings of the Proposed RCC Counterfort Cantilever Retaining Wall for the SS Tank at Tadepalligudam, Eluru, Andhra Pradesh.	Public Health Division, ELURU	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
9	Witness and Check the Post Tensioning and pre- Tensioning of Structural Member Stressing Sequences in Corridor No.5, Chennai.	Chennai Metro Rail Limited	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
10	Developing Technology for AI Enables Weld Defect Analyser	Hindustan Shipyard Limited	Dr. Degala Venkata Kiran, Department of Mechanical Engineering
11	Welding Distortion Control in Shipbuilding	Hindustan Shipyard Limited	Dr. Degala Venkata Kiran, Department of Mechanical Engineering
12	Proof Checking of Auxiliary Building for Directors' Residence and Formwork for Library Building, Auditorium Building, and Sports Complex IISER Tirupati	DEC Infrastructure Projects India Pvt. Ltd..	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
13	Condition Assessment of Sri Lakshmi Narasimha Swamy Vari Devasthanam Temple, Antarvedi, Sakshinetipalli Mandal, A.P.	Sri Lakshmi Narasimha Swamy Vari Devasthanam	Dr. Behera Prasanna Kumar, Department of Civil and Environmental Engineering

S. No.	Title	Funding Agency	Investigator and Department
14	Mixture Design for Normal Concrete (M30 grade) and Self-Compacting Concrete (M40 and M60 grade)	KPC Projects Limited	Dr. A.V. Rahul, Department of Civil and Environmental Engineering
15	Geotechnical Investigations for the Proposed 2650 ML Capacity Summer Storage Tank near Vinukonda ULB, Guntur District, Andhra Pradesh.	P.H. Quality Control Circle	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
16	Techno-Economic Study-Removal of CO ₂ and N ₂ from Natural Gas produced from Dandewala Field of Oil, Rajasthan.	Oil India Limited	Dr. Sasidhar Gumma, Department of Chemical Engineering
17	Enhancing Communication Aspects of Unmanned Aerial Vehicles	Kisankopters LLP	Dr. Sarvendranath R, Department of Electrical Engineering
18	Geotechnical Investigations of Foundations Soil along the Proposed Earthen Bund Alignment of Summer Storage Tank at Peddacheruvu, Vishakhapatnam, A.P.	Public Health Division, Vishakhapatnam, AP.	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
19	Proof Checking of 3D Printed Small Structures -3 Units	Tvasta Manufacturing Solutions PVT LTD	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
20	Developing a Highly Thixotropic Self-Compacting Concrete for Inclined Surfaces and Sloped Roof Applications	DEC Infrastructure Projects India Pvt. Ltd..	Dr. A.V. Rahul, Department of Civil and Environmental Engineering
21	Evaluation of Mechanical Properties of HYSB bars	KPC Projects Limited	Dr. N. Nithyadharan, Department of Civil and Environmental Engineering
22	Structural Proof Checking for Box Culverts	Andhra Pradesh Industrial Infrastructure Corporation	Dr. N. Nithyadharan, Department of Civil and Environmental Engineering
23	Proof Checking of Steel Framing System Supporting Solar Panels	M/s Arcedo Systems	Dr. N. Nithyadharan, Department of Civil and Environmental Engineering
24	Proof Checking of Structural Design of BSL-03 & Animal House Building at IISER Tirupati Campus	Integrated Cleanroom Technologies Private Limited	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
25	Mix Design of Pavement Quality Concrete	Sai Construction & Services	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering

S. No.	Title	Funding Agency	Investigator and Department
26	Conducting Ultrasonic Pulse Velocity Test on U- girders and pier arms of CMRL Phase-II	Chennai Metro Rail Limited	Dr. Behera Prasanna Kumar, Department of Civil and Environmental Engineering
27	A Compiler-Based Approach for Automatic Conversion of Python scripts to C++	Toshiba Software (India) Private	Dr. Kalidas Y, Department of Computer Science and Engineering
28	Green AI Frameworks: Comparing Energy Consumption of Deep Learning Frameworks	Accenture Solutions Private Limited	Dr. Sridhar Chimalakonda, Department of Computer Science and Engineering
29	Recommendation of Remedial Measures to Restore the Distressed Portion Between the Chainage 1520 m and 1735 m of the Summer Storage Tank Bund at Puttur, A.P.	Public Health Division, Nellore	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
30	Compressive Strength and Initial Tangent Modulus for Concrete Core	Common Code Consultancy Registration	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
31	Impact Assessment of the Policy and Strategic Framework for Preventing Environmental Pollution and Protecting Public Health	The United Nations Development Programme (UNDP) India	Prof. Suresh Jain, Department of Civil and Environmental Engineering
32	Proof checking for Underground Tunnel Design at Railway /Metro Crossings	Chennai Metro Rail Limited	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
33	Proof Checking of Structural Design of ETB and MCW Hanger	M/s Karekar & Associates	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
34	The Purañjana Project - Towards Creating a Sense of Excitement in Computing Research for Underrepresented Rural Students of India	Google Research	Dr. Sridhar Chimalakonda, Department of 35Computer Science and Engineering
35	No One Is Left Behind - Fostering DEI and Nurturing Communication, Collaboration, and Computing Skills in Underrepresented Rural Students of India through a Collaborative Game.	Google Research	Dr. Sridhar Chimalakonda, Department of Computer Science and Engineering
36	Proof checking of Design of CMRL Elevated via Duct and Tunnels Crossings Railway Tracks/Existing Metro Tunnels-Part 2	Chennai Metro Rail Limited	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
37	SiNON Consulting Project for Drug/Biologics Encapsulation Services	SiNON Therapeutics /SiNON Nanoscience	Dr. Shihabudheen Mundampra Maliyekkal, Department of Civil and Environmental Engineering

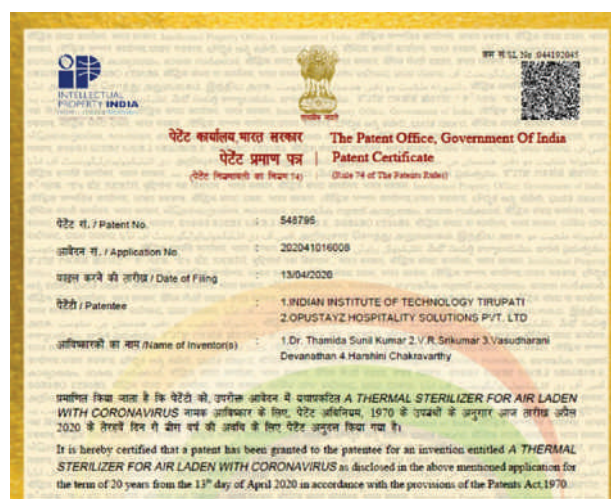
S. No.	Title	Funding Agency	Investigator and Department
38	Evaluating an Electrochemical Device for Electric Vehicles (EVs)	Octillion Power Systems India Private Limited	Dr. Brindha Moorthy, Department of Chemical Engineering
39	CRMB and PG76-10 Binder Testing	Tinna Rubber and Infrastructure Limited	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering
40	Structural Failure Investigation of Collapsed ESP at SDSTPS, Nelaturu, Nellore, Andhra Pradesh	Andhra Pradesh Power Development Company Limited (APPDCL)	Dr. Jashnav Pancheti, Department of Civil and Environmental Engineering
41	Annual Certification of Coal Ash Pond and Dykes at Sri Damodaram Sajeewaiah Thermal Power Station, Nelatur, Nellore, Andhra Pradesh	Andhra Pradesh Power Development Company Limited (APPDCL)	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
42	Characterization of the High Asymmetric Corrosion and Accelerated Test for Suitable Remedial Coating	Power Grid Corporation of India Limited	Dr. Mamilla Ravisankar
43	JMF for BC2 Mix Design with CRMB Madhya Pradesh	G R Infraprojects Limited	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering
44	JMF for BC2 Mix Design with CRMB Gujarat	G R Infraprojects Limited	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering
45	JMF for BC2 Mix Design with CRMB Rajasthan	G R Infraprojects Limited	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering
46	Slope Stability and Seepage Analysis of Earth Dam Section between the Chainage 3700 m and 4255 m of Isarda Dam Project Across Banas River, Tonk District, Rajasthan.	Om Metals Infra Ltd.	Dr. B. Janaki Ramaiah, Department of Civil and Environmental Engineering
47	Segregation of High-Grade Barite from Waste/Discarded Barite	Empira Mines and Minerals Pvt. Ltd.	Dr. Vir Anil Babasaheb, Department of Chemical Engineering
48	Assessment and Implementation of Sanitation Works at Navajeevan Blind Relief Centre, Tirupati.	Navajeevan Blind Relief Centre	Dr. Narasamma Nippatlapalli, Department of Civil and Environmental Engineering
49	Development of Atmospheric Nonthermal Plasma- Based Liquid Fertilizer as a Natural Growth Enhancer and Biocidal Agent	Ozone Research and Applications India Pvt. Ltd.	Dr. Shihabudheen M Maliyekkal, Department of Civil and Environmental Engineering

S. No.	Title	Funding Agency	Investigator and Department
50	Proof checking of SITC 5 MLD STP	Ishwar Singh & Associates Cons. Pvt. Ltd.	Dr. Bijily Balakrishnan, Department of Civil and Environmental Engineering
51	NH332 Wetting of Methodology of PQC Panel Repair & Full / Partial Replacement	Dilip Buildcon Limited	Dr. Krishna Prapoorna, Department of Civil and Environmental Engineering

3.2 PATENTS

Intellectual Property (IP) plays a vital role in enhancing the competitive edge of academic institutions by protecting the innovative research, educational content, and technological developments generated by faculty and students. By safeguarding these intellectual assets, institutions can foster a culture of innovation, attract research funding and industry partnerships, and generate revenue through licensing and commercialization of academic discoveries. At IIT Tirupati, the Intellectual Property Rights (IPR) Cell fosters a supportive

environment that encourages innovation and the development of IP. So far, the Institute has filed approximately forty patents and five industrial designs. The IPR Cell actively promotes awareness and participation among faculty and students, leading to notable contributions across various disciplines of Engineering, Technology, and Science.



The following 19 patent applications have been filed under the Indian Patent Law during 1st April 2024 – 31st March 2025.

S.No	Patent Applications	Names
1	Two-Part Pre-Packaged Easy-To-Mix Waste-Derived Graphene Oxide-Modified Ultra-High-Performance Concrete	Dr. A.V. Rahul, Prof. Shihabudheen Mundmapra Maliyekkal, Ms. Revathy Sunil.
2	Method for Preparing a Stable-Liquid Emulsion of Black Pepper Oleoresin	Mr. Selvakumar M., Prof. KSMS Raghavarao, Dr. Trivikram Reddy Nallamilli, Dr. Siva Mahesh Tangutooru, Dr. Vishwa Pria Podduturi.
3	Chemo-Photo-Plasma Hybrid Advanced Oxidation Process for Ultrafast Removal of Environmental Pollutant	Dr. Reetesh Kumar Gangwar, Mr. Shaik Mahamad Allabakshi, Ms. P S Naga Sai Raghavendra Srikar, Mr. Abhay Kumar.
4	Method for Counting Droplets in Microfluidics using a Pressure Oscillation-based Approach	Prof. Thamida Sunil Kumar, Dr. Anil Vir, Mr. Bakhtar Khan Babajan.

S.No	Patent Applications	Names
5	Design of a Fully Automated Membrane Modified Capacitive Deionization Module of 500 LPH;	Prof. Shihabudheen Mundmapra Maliyekkal, Ms. Vajitha G.
6	Medical Assistance Device and System for Real-Time Visual Inspection and Data Integration;	Dr. Kalidas Yeturu
7	Method of Preparing Phosphonium-Based Ionic Liquid as an Environmentally Friendly Cutting Fluid and Application	Dr. Mamilla Ravi Sankar, Dr. K. K. Gajrani, Mr. Maddula S. Srinivas, Mr. Arun K. Bambam.
8	A Visual Activity Monitoring Device and System for Surveillance based on Privacy Preserving Transformation	Dr. Kalidas Yeturu.
9	Low viscous Xanthomonas Campestris- Galactomannan Polysaccharide-Based Polymer Medium for Abrasive Flow Finishing of Micro-Scale Passages	Dr. Mamilla Ravi Sankar, Dr. Abdul Wahab Hashmi, Mr. Joiode Kiran Kumar.
10	DBJoules: a System and Method for Measuring Energy Consumption of Database Management Systems	Dr. Sridhar Chimalakonda.
11	System and Method for Generating Natural Language Summary of Source Code using Federated Language Model (FedLLM)	Dr. Sridhar Chimalakonda.
12	Real-Time Video-Stream based Dynamically Configurable Person Specific Models for Group Attendance	Dr. Kalidas Yeturu.
13	Location-Based Partial Image Retrieval – Application to Location and Indoor Positioning-Based Services in Visual Assistant Systems	Dr. Kalidas Yeturu.
14	Bioactive Eggshell Waste Derived Calcium Carbonate / Calcium Phosphate Injectable Bone Cement	Dr. Mamilla Ravi Sankar, Mr. Amay Abhay Dukle.
15	Highly Customizable Method for Processing Handwritten and Printed Patterns for Electronic Health Records	Dr. Kalidas Yeturu.
16	A Multi-Fluid Dynamic Inline Independently Controllable Mixer cum Extrusion System	Dr. Thiagarajan R, Dr. A V Rahul, R Vishwanath.
17	Process for Producing Tender Coconut Water with Natural Characteristics and Nutrients, Employing In-House Fabricated Membranes	Dr. Narendra Singh, Prof. KSMS Raghavarao, Dr. Pradeep Kumar, Mr. Mohammad Irfan, Mr. N. Sai Prasanna, Dr. Deepthi Nair.
18	High-Capacity Membrane-Modified Capacitive Deionization (Hmcdi) Module and Uses Thereof	Prof. Shihabudheen Mundmapra Maliyekkal, Ms. Vajitha.
19	Biopolymer-Reinforced Metal Oxide and/or Oxyhydroxide Nanocomposite for Shrinkage Mitigation in Concrete	Prof. Shihabudheen Mundmapra Maliyekkal, Dr. A V Rahul, Ms. M. S.V. Naga Jyothi, Ms. Divya S. Kurup.

3.3 INSTITUTION INNOVATION COUNCIL (IIC)

IIT Tirupati hosts a vibrant Institution's Innovation Council (IIC) committed to fostering a strong culture of innovation and actively supporting the campus start-up ecosystem. The IIC plays a central role in encouraging entrepreneurial thinking among students and faculty, organizing innovation-centric activities, and connecting the campus with national innovation networks. The Ministry of Education's Innovation Council (MIC) recognized these initiatives and awarded IIT Tirupati's prestigious 4-star ranking in IIC 6.0 evaluation (spanning between September 2023 and August 2024). A few of the activities are listed below.



3.3.1 Smart India Hackathon 2024:

The Indian Institute of Technology Tirupati (IITT) proudly hosted the grand finale of the "Smart India Hackathon 2024, Software Version," a prestigious national initiative jointly organized by the All-India Council for Technical Education (AICTE) and the Ministry of Education (MoE). The event was held on December 11th and 12th, 2024. The event brought together 23 innovative student teams, comprising a total of 138 students and 46 mentors, who dedicated 36 hours of intense problem-solving to address four critical challenges assigned by the Ministry of AYUSH.



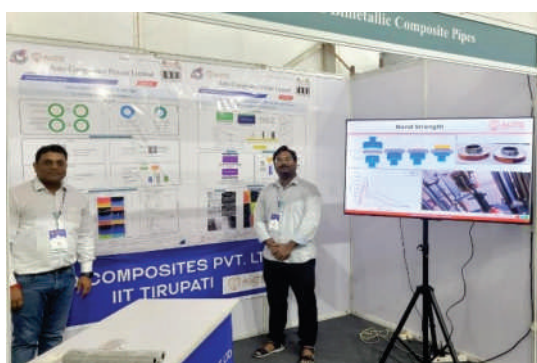


Pictures from Smart India Hackathon

3.3.2. InvenTiv 2025

IIT Tirupati participated in InvenTiv 2025, the annual R&D expo for exhibiting projects from all IITs, NITs, IISc, IISERs, and other top government and private engineering institutes. This year, the expo was held at IIT Madras from 28th February to 1st March 2025. It was inaugurated by Union Education Minister Dharmendra Pradhan. IIT Tirupati proudly exhibited 6 novel technologies developed in the institute, three of which are in advanced TRL. Two are already being commercialized. Technologies displayed by IIT Tirupati in InvenTiv 2025 are listed below. To make this event memorable, a coffee table book featuring a few selected exhibits was published. Two of IIT Tirupati's inventions were included in this prestigious book. Overall, it was a great platform to increase awareness among the industry of these technological breakthroughs and achieve better industry-academia collaboration.

Sl.No.	Exhibit Title	Name of Exhibitors
1.	Reverse Cladded Bimetallic Composite Pipes (Auto Composites Pvt Ltd.)	Dr. Ajay Kumar, Mr. Tumula Tirumala, Mr. Dipayan Chakraborty
2.	NGEN Water Solution Pvt. Ltd. (an IIT Tirupati incubated company)	Dr. Shihabudheen M. Maliyekkal, Dr. Soujit Sengupta, Ms. Vajitha G, Ms. Arunima R
3.	Energy Efficient Porous Radiant Burners for Cooking and Industrial Applications	Prof. P. Muthukumar, Mr. M. Prithvi Raj, Mr. Tejendra B
4.	Photo-nonthermal Atmospheric Plasma (Photo-NAP): A Rapid and Non-Invasive Method of Removing Mycotoxins from Food Crops	Dr. Shihabudheen M. Maliyekkal, Dr. Reetesh Kumar Gangwar, Mr. T. Pushparaj Gandhi, Mr. Shriyash Vilas
5.	Low Carbon Construction and Repair Materials (LC2R)	Dr. Shihabudheen M. Maliyekkal, Dr. A. V. Rahul, Ms. Revathy Sunil, Mr. Abins Aziz
6.	Novel Electro Oxidation Reactor with Inclined Electrode System	Dr. Narasamma Nippatlapalli, Mr. Puttamreddy Sivasai, Mr. Shiam Babu R





Pictures from InvenTiv 2025 at IIT Madras

3.3.2 PIWOT 2025

The PIWOT – World of Technology, a prestigious event spearheaded by PanIIT Alumni India and powered by global IIT alumni, was held from March 17th to 19th, 2025, at the Jio World Convention Center in Mumbai. This premier platform brought together innovation, entrepreneurship, and technological excellence on a truly international scale.

The IIT Tirupati team made a prominent presence at this distinguished gathering, showcasing their pioneering startups and translational technologies. Their participation included engaging in insightful master classes, fostering networking opportunities, and highlighting the institute's cutting-edge innovations.

Prof. K.N. Satyanarayana, the Director of IIT Tirupati, along with five faculty members and four student representatives, actively contributed to the event, representing the institute's vibrant research and entrepreneurial ecosystem. Below is a list of the startups and technologies demonstrated by IIT Tirupati at PIWOT 2025, reflecting their innovative pursuits and technological advancements.

1. Energy Efficient Porous Radiant Burners for Cooking and Industrial Applications
2. NGEN Water Solution Pvt. Ltd. (an IIT Tirupati incubated company)
3. Auto Composites Pvt Ltd. (an IIT Tirupati incubated company)
4. Low Carbon Construction and Repair Materials (LC2R)
5. Efficient Visual Assistance Systems
6. Novel membranes for coconut water storage
7. Thermal air sterilizer

3.3.3 PIWOT Satellite Conference

Just a week later, on January 23rd, 2025, the institute proudly hosted the PIWOT Satellite Conference in collaboration with the WHEELS Global Foundation and CII Andhra Pradesh. This event was one of three localized sessions conducted in conjunction with the main PIWOT conference held in Mumbai, emphasizing regional innovation and collaboration.

Over 100 participants attended, comprising students, researchers, faculty members, alumni, industry leaders, representatives from nearby universities, and innovation hubs. The event was enriched by inspiring

addresses from prominent figures such as Dr. Murali Krishna, President of CII Andhra Pradesh; Ratan Agarwal; Yadav Murti Sankaran, founders of WHEELS Global; and several esteemed personalities. Their insights sparked new ideas, fostering a vibrant atmosphere of collaboration and innovation.



Pictures from PIWOT 2025 in Mumbai



Pictures from PIWOT Satellite Conference at IIT Tirupati

3.3.4 ANNESHAN 2024-25

The Indian Institute of Technology Tirupati proudly participated in ANNESHAN 2024-25, a prestigious national research convention organized by the Association of Indian Universities (AIU). This event provided a platform for research scholars from leading institutes across India to showcase their innovative research, prototypes, and startup ideas, categorized under six designated themes.

The competition was structured in four regional zones—North, South, East, and West—with IIT Tirupati representing the South Zone. Our students competed at the zonal level held at M.

S. Ramaiah University of Applied Sciences in Bangalore on February 20-21, 2025.

Among the projects presented by IIT Tirupati were:

- A Continuous Flow Membrane-Modified Capacitive Deionization (MCDI) System for Clean Drinking Water under the theme "Health Science", Team: Ms. Vajitha G, J. Thashreef, and Arunima R (Mentor: Prof. Shihabudheen M. Maliyekkal)

- Multistage Point-of-Use Nano Water Purifier (Multi-NanoPur) under “Basic Science”, by Ms. M.S.V. Naga Jyothi. (Mentor: Prof. Shihabudheen M. Maliyekkal)
- Low Carbon Construction and Repair Materials (LC2R) under “Social Science”, by Ms. Revathy Sunil and Mr. Kedam Rahul (Mentors: Prof. Shihabudheen M. Maliyekkal and Dr. A.V. Rahul)

Impressively, all three projects from IIT Tirupati secured top positions within their respective themes, earning their place in the subsequent national-level convention. At this national level, Ms. Vajitha from IIT Tirupati was honored with the top award in the Health Science category, further highlighting the institute's commitment to cutting-edge research and innovation.

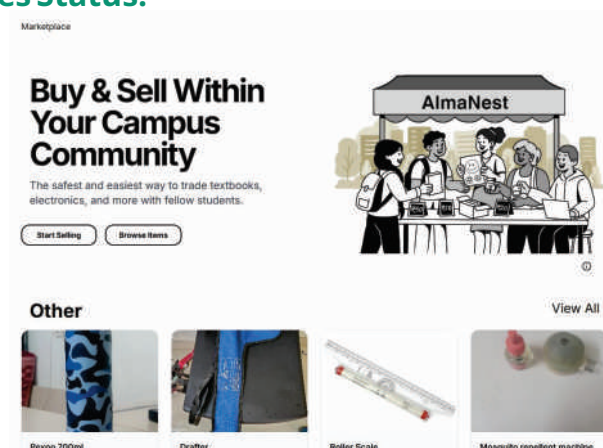


Pictures from ANNVESHAN 2024-25

3.4 INCUBATION

3.4.1 Pre-incubation and Innovation Activities Status:

IIT Tirupati is dedicated to creating and facilitating a futuristic innovation ecosystem on the campus and provides pre-incubation support to student-led innovative technical business ideas for enhancing Technology Readiness Level (TRL) through prototyping, testing, and related activities. Students and research scholars are encouraged to submit their ideas throughout the year. During the 2024–25 academic year, the Pre-incubation cell conducted multiple evaluations as



well as mentoring sessions, and eight projects were selected for funding (up to Rs. 1.5 lakhs each). Among them, 4 are currently in prototype design stages, and 2 patents have been filed. A startup, AlmaNest, led by Mr. Ritvik Ravi of the Mechanical Engineering dept., which was funded under this initiative, has been registered. This is a student-focused platform designed to simplify collaboration, resource sharing, and service exchange within student communities, intra- or inter-colleges. <https://www.almanest.in/marketplace>.

Revathy Sunil, Abins Aziz, and Divya S Kurup, students from the Department of Civil & Environmental Engineering, developed chemically functionalized graphene-reinforced ultra- high-performance concrete, which has the potential to revolutionize the construction industry through sustainable material innovations. They also filed a patent with the outcomes (Patent Appl. No.: 202441030958).

Other projects supported by the pre-incubation cell during this FY are:

Title	Name of students	Mentor
Design and Development of Solar-Powered Long-Endurance Fixed-Wing Drone-Based Wind Measurement System - a Unique drone design	Md Imran (ME21D006)	Dr. Balaji S
Vikas Vridhi	Teja Surya (HS23M112) Pranav Surya (HS24M116) Manasa Goru (HS24M109)	Dr.Varun Varghese
Chemically functionalized graphene reinforced ultra-high performance concrete	Revathy Sunil (CE25D008), Abins Aziz (CE20D00) Divya S Kurup (CE22D501)	Dr. A V Rahul
Design and Development of Low-Cost, Modular, and Portable Laser Light Sheet Generator for Particle Image Velocimetry (PIV)	P. Charan (CE24B028) A. S. P. Lakshman (ME21B004)	Dr. Balaji S
Pressure Oscillation-based Approach for measuring Droplet Formation Frequency in Microfluidics without visualization	Bakthar Khan Babajan (CH21D501)	Prof. T Sunilkumar
Fabrication of a portable potentiostat for on-field measurement of soil pH and nitrate level.	Sreenivasulu Mamilla (EE20D004)	

3.4.2 IIT Tirupati Innovation & Incubation Foundation:

The Institute also operates a Section-8 Not-for-Profit company named IIT Tirupati Innovation & Incubation Foundation (IITT IIF). The Board of Directors (BoDs) of IITT IIF convened meetings on 25th September 2024 and 26th March 2025 to review operations in accordance with the Ministry of Corporate Affairs (MCA) guidelines. All required documents and reports were duly submitted to the MCA following these meetings. In October 2024, IITT IIF signed an agreement with Social Alpha: Foundation for Innovation and Social Entrepreneurship, Bangalore, to collaborate on promoting innovation and entrepreneurship.

3.5 CENTRES

3.5.1 CAMOST

CAMOST Anniversary Event

The CAMOST (Center for Atomic, Molecular, and Optical Sciences and Technologies) anniversary event on August 8, 2025, witnessed the tripartite agreement between IIT Tirupati, IISER Tirupati, and QpiAI, Bengaluru. CAMOST Mentor and Coordinators facilitated the drafting of the MoU between QpiAI Bengaluru, IIT Tirupati, and IISER Tirupati. The two registrars from the respective institutions signed the agreement documents. Dr. Nagendra Nagaraja, CEO, QpiAI, was the signatory from QpiAI. We are glad to have Shri Kris Gopalakrishnan (co-founder of Infosys) as our Chief Guest for the event. Professor Anil Kumar, Dean-CSRC, IIT Tirupati, delivered the remarks on behalf of Professor K N Satyanarayana, Director, IIT Tirupati. Also, Professor Prasenjit Sen, Chair (Physics), IISER Tirupati, addressed the gathering on behalf of Professor Santanu Bhattacharya, Director, IISER Tirupati. The signing ceremony was followed by the presentation of the Annual Report of CAMOST by Dr. Arijit Sharma, Program Coordinator, CAMOST from IIT Tirupati, and two pedagogical lectures by Prof. Anders Kastberg from the Université Côte d'Azur, France, and Prof. Sadiq Rangwala from the Raman Research Institute, Bengaluru, as our distinguished speakers for the event. The two lectures by the distinguished experts covered cutting-edge developments in AMO (Atomic, Molecular, and Optical) science and technology and were well received by the audience.

CAMOST Review Meeting

A review meeting of CAMOST (Center for Atomic, Molecular, and Optical Sciences and Technologies) was conducted at IISER Tirupati on 5 March 2025 from 3-6 pm. The CAMOST Review Committee (CRC) was chaired by Padmashri Dr. Ajai Chowdhry, Chairman of MGB (Mission Governing Board), National Quantum Mission (NQM), Government of India. The other members of the CRC were Dr. Achanta Venugopal (Director CSIR NPL, New Delhi), Dr. Avinash Chandra Pandey (Director, IUAC New Delhi), Dr. E. Krishnakumar (Emeritus Professor, RRI Bengaluru), and Professor G. Baskaran (Emeritus Professor, Institute of Mathematical Sciences, Chennai, India). Professor P. C. Deshmukh, CAMOST Mentor and Convenor, made the initial remarks and set the stage for discussions for the CAMOST Review. Multiple faculty from IIT Tirupati, IISER Tirupati, PRL Ahmedabad, RRI Bengaluru, IIT Patna, IISER Kolkata, and IIT Delhi made short presentations and gave an overview of the research activities being conducted in their individual groups. A signed report by all the CRC members was submitted to the Directors of IIT Tirupati and IISER Tirupati by Professor P. C. Deshmukh, CAMOST Mentor and Convenor, on 1 June 2025, marking the completion of the CAMOST Review.

3.5.2 Centre of Excellence (CoE) in Smart Manufacturing and Electric Vehicle

Technologies

Inauguration and Recognition:

The CoE was inaugurated virtually on 22nd February 2024 by Shri Dharmendra Pradhan, Hon'ble Union Minister of Education and Skill Development & Entrepreneurship, during the 4th and 5th convocation ceremonies of IIT Tirupati. Since then, the CoE has become a model for institutional excellence, drawing attention from academia, industry, and policymakers.

Completion of the Train-the-Trainer Program

- The intensive “Train-the-Trainer” initiative, led by Wipro's expert team, concluded successfully.
- Over 25 faculty and staff members were trained in Smart Manufacturing, IIoT, and EV Systems Engineering.

Facility Development and Laboratory Commissioning:

During the year, significant progress has been made in setting up key infrastructure for the CoE.

- The CoE laboratories, focusing on electric vehicle systems and digital manufacturing processes, have been developed and are being gradually equipped for hands-on training and research.
- Initial deployment of digital twin setups and smart factory demonstrators has been carried out to support experimentation and demonstrations.
- A dedicated space for training and skill development activities has been made operational, providing a venue for both academic and industry-focused programs.

Training Programs Launch Plan (Starting September / October 2025)

The certificate training programs will officially commence in September / October 2025. Following an institutional and outreach campaign beginning in August.

Tentative Batch Schedule (Sept – Dec 2025):

- Two batches per month with a capacity of 25–30 participants per program.
- Total 8 batches planned in 2025, aiming to train 200+ participants in the first phase.

An online portal for registration, payments, and certification will be launched by mid- August 2025. Placement assistance for upskilling programs will be explored with industry partners.

Certificate Training Programs (Starting September / October 2025)

S. No.	Program Title	Duration Mode
1	Programmable Controllers and Applications	3 Days Offline
2	Basics of Industrial NVH: Theory and Measurement	5 Days Offline
3	Additive Manufacturing	5 Days Offline
4	Introduction to Internet of Things	3 Days Offline
5	Fundamentals of Simcenter STAR - CCM+	5 Days Offline
6	Smart Microgrid Controller Training Program	5 Days Offline

3.6 TECHNOLOGY INNOVATION HUB (TIH)- IIT TIRUPATI

Positioning and Precision Technologies (PPTs) are indispensable tools for monitoring, integrating, and analyzing spatially and temporally distributed resources to aid in effective decision-making across multiple domains. These technologies include remote sensing, Geographical Information Systems (GIS), Remote Sensing, Global Navigation Satellite System (GNSS), and other non-invasive technologies. The Technology Innovation Hub (TIH) primarily focuses on Public Private Partnership (PPP) model to generate revenue through (i) Research and development sponsorship from industries, government, and start-ups in the form of innovative products and services in PPT; (ii) linkage with industries, accelerators and Venture Capital to create funding ecosystem; (iii) training and consulting; (iv) standards development and policy creation for rapid adaptation of PPT across various stakeholders; and (v) databank creation across strategic areas of PPT.

The primary objectives of our Hub encompass four key areas aimed at fostering innovation and growth:

Technology Development, Human Resource Development, Start-up Ecosystem, and Collaboration

IITTNiF fosters innovation through a comprehensive technology lifecycle approach encompassing Knowledge, Development, Translation, and Commercialization. By aligning with initiatives like Make in India and Atmanirbhar Bharat, the TIH aims to enhance self-reliance in PPTs and contribute to the national startup ecosystem.

The National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) under the Department of Science and Technology, Ministry of Science and Technology, leverages CPS technologies through 25 TIHs across India, each focused on a specific technology vertical.

IITTNiF leverages public-private partnerships to foster innovation and support sustainable growth through advanced technologies under the verticals of Technology Development, Startups and Entrepreneurship, Human Resource and Skill Development, and Collaborations.

In the Technology Development vertical, the Hub is focusing on key research areas within the scope of Positioning, Navigation, and Timing (PNT), with emphasis on domains such as RADAR, microwave sensing, underwater navigation, geospatial data processing, navigation sensors for satellites, navigation sensors for accurate indoor localization, IoT and embedded hardware developments for geospatial applications, highly precise national geodesic infrastructure, and communication and network systems for PNT.

Beyond fostering innovation, we are also committed to nurturing the next generation of geospatial experts. We have designed and launched a unique program called GIS for Schools and GIS for Farmers that is aimed at igniting spatial awareness in school students and farmers across the country. This initiative introduces young minds to the potential of geospatial technology, fostering interest and equipping them with the necessary knowledge.

We are delighted to announce that IITTNiF has signed a Memorandum of Understanding (MoU) with the Andhra Pradesh Drone Corporation. This collaboration aims to advance drone-based research, development, and innovation, with a focus on integrating Positioning, Navigation, and Timing (PNT) technologies. Through this partnership, we look forward to supporting impactful applications in sectors such as agriculture, infrastructure monitoring, and disaster management across Andhra Pradesh and beyond.

IITTNiF houses state-of-the-art in-house labs and research facilities focused on advancing Positioning, Navigation, and Timing (PNT) technologies. These include the Geospatial Intelligence and Applications Laboratory (Geo-Intel Lab), Computer Vision Lab, LiDAR Processing Lab, GNSS and RF Signal Processing Lab, AI/ML Lab, and Quantum Sensing Lab. Each lab supports interdisciplinary research, rapid prototyping, and application development, offering hands-on support to startups, researchers, and industry collaborators in developing cutting-edge, real-world solutions.

IITTNiF actively facilitated participation in key national programs such as Operation Dronagiri, the Smart GIS Challenge, and the Geospatial Innovation Accelerators. Launched between 2024 and 2025 under the National Geospatial Policy, these programs provided researchers and startups with valuable platforms for innovation, collaboration, and national visibility. IITTNiF's role as the nodal Geospatial Innovation Accelerator (GIA) for Andhra Pradesh further reinforced its commitment to nurturing geospatial entrepreneurship and applied research.

In March 2025, IITTNiF organized two flagship events—the National Hands-on Workshop on Synthetic Aperture Radar (SAR) and the Research2Market (R2M) Program—which brought together experts and innovators to enhance geospatial capabilities and promote research-driven entrepreneurship.

Operation Dronagiri: A Flagship Pilot Initiative Under the National Geospatial Policy 2022: IITTNiF is proud to be the nodal coordinating agency for Operation Dronagiri, a visionary national pilot project launched under India's National Geospatial Policy 2022. This ambitious initiative, led by the Department of Science and Technology (DST), aims to translate cutting-edge geospatial technologies into real-world solutions that enhance the quality of life and boost ease of doing business.

Implementation Scope

Spanning six districts across five states, including Vizianagaram in Andhra Pradesh, the project will run from November 2024 to March 2025. IITTNiF will lead the implementation in Vizianagaram, supporting field-level coordination and enabling innovation-driven models on the ground.

Key Focus Areas

- Agriculture
- Transportation & Infrastructure
- Livelihoods & Skilling

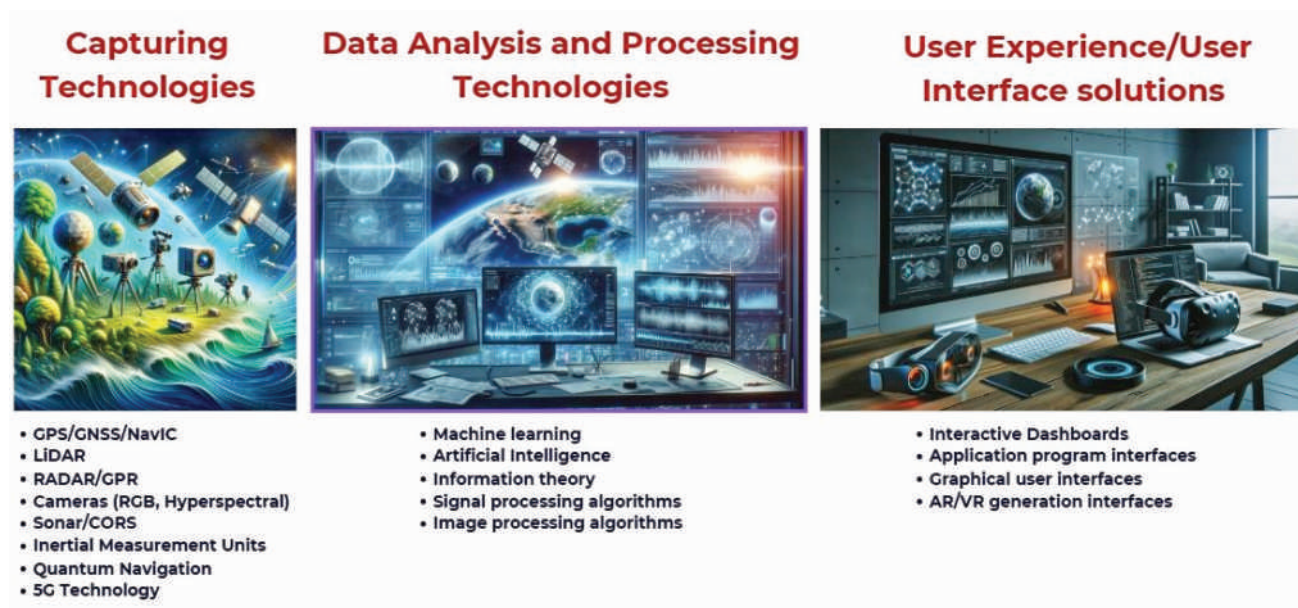
Core Enabler: Geospatial Data Infrastructure (GDI)

A transformative element of this program is the Integrated Geospatial Data Interface (GDI)— a unified platform for spatial data sharing and access, likened in impact to India's UPI revolution in financial services.

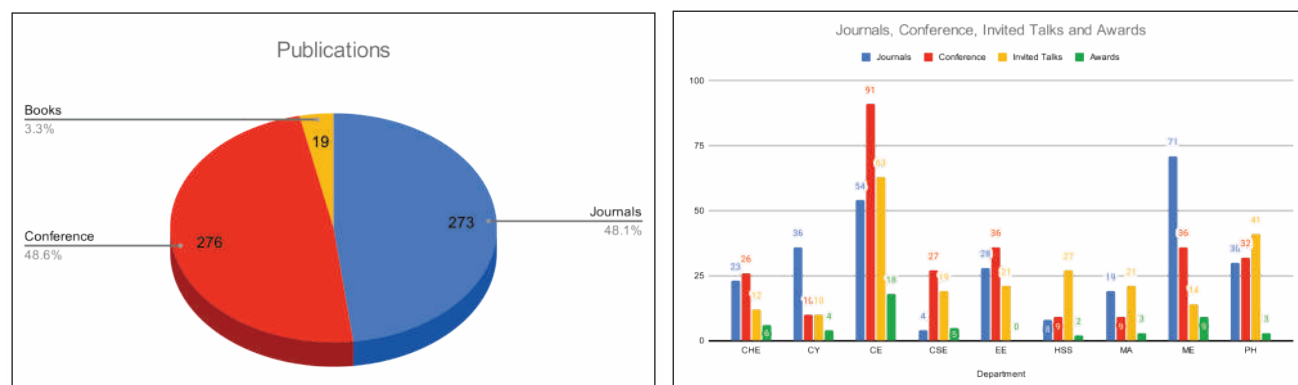
Role of IITTNiF As the nodal agency, IITTNiF:

- Supports district-level execution
- Partners with premier innovation hubs (IIT Kanpur, IIT Bombay, IIM Calcutta, IIT Ropar)
- Enables startup participation and PPPs through Geospatial Innovation Accelerators (GIAs)

Operation Dronagiri is a landmark step toward realizing India's vision of a self-reliant geospatial ecosystem, aligned with initiatives like Digital India, Atmanirbhar Bharat.



3.7 STATISTICS OF RESEARCH PUBLICATIONS/ CONFERENCE/ INVITED LECTURES



ACADEMIC OUTREACH HIGHLIGHTS



CENTER FOR
CONTINUING
EDUCATION

60 SCHOOL
PRINCIPALS

PROGRAMS
CONDUCTED
UNDER CDO



OTHER
INITIATIVES

5 GIAN
COURSES



COMPETENCY
DEVELOPMENT &
OUTREACH

3 WORKSHOPS
& CONFERENCES

7
COURSES



4. ACADEMIC OUTREACH

4.1 COMPETENCY DEVELOPMENT & OUTREACH (CDO)

The Center for Continuing Education (CCE) has been restructured and renamed as the Competency Development & Outreach (CDO) Department, which now functions as an independent entity. Prof. Arun Kumar Tangirala has been appointed as the Dean of CDO, supported by three advisors who oversee its key verticals. The CDO is committed to enhancing professional skills, promoting continuous learning, and broadening outreach initiatives to empower both individuals and organisations. Its mission is to bridge the gap between academic knowledge and practical application through structured training programs, industry partnerships, and community engagement.

The department operates through three dedicated verticals:

- 1. Competency Development Programs (CDPs):** Offering flexible, industry-relevant online degrees, diplomas, faculty development programs, and specialised training for school teachers and teaching assistants, enabling professionals to upskill without career disruption.
- 2. Outreach Events:** Facilitating collaboration and knowledge exchange among students, researchers, and industry experts through impactful engagements such as national and international workshops, conferences, symposiums, and industry visits.
- 3. Institutional Communications and Analytics:** Strengthening institutional visibility and reputation through strategic communication, branding, and data-driven storytelling.

In addition, the CDO also looks after the following:

- **SWAYAM Prabha:** A national initiative providing 24x7 high-quality educational television channels for curriculum-based courses, enabling learners to access lectures anytime. Dr Subrahmanyam Gorthi is serving as the National Coordinator.
- **Global Initiative of Academic Networks (GIAN):** A program designed to tap the expertise of internationally renowned faculty for short-term courses, fostering global knowledge exchange. Dr Subrahmanyam Gorthi is serving as the Local Coordinator.
- **SWAYAM – NPTEL:** An online platform offering Massive Open Online Courses (MOOCs) in diverse disciplines, supporting credit transfer and lifelong learning. Dr Debasish Mondal is serving as the in-charge.

Programs conducted under the CDO :

1. Communicating Scientific Research through the Media Workshop by Dr Chandra Sekhar Bahinipati, Department of Humanities and Social Sciences on February 7th & 8th, 2025.



2. Indo-German Symposium on Advances in Additive Manufacturing by Prof. Ravi Shankar, Department of Mechanical Engineering, on March 3rd & 4th, 2025.



3. One-day conference in collaboration with the Industry by Dr Jashnav Pancheti (Department of Civil and Environmental Engineering) on 10th March 2025.



4. MATLAB-Based Training Program for SDR Applications by Dr Sarvendranath R (Department of Electrical Engineering) on 15th March, 2025.



5. Open House Visit to Our Institute by the Narayana Group of Institutions on 21st March 2025.



6. Meeting with the Hon'ble CM for discussion on Quantum Technology.



4.2 ACADEMIC EVENTS

4.2.1 Orientation Programme

The Institute conducted its 9th Orientation Programme from 29th July to 1st August 2024 to induct the 2024-2028 batch of B.Tech. students. Also, Orientation Programmes were conducted on 26th July 2024 to induct the 2024-2026 batch of M.Tech., M.Sc., and MPP students. Orientation Programmes were conducted from 25th to 26th July 2024 to induct M.S./Ph.D. scholars of the July- December 2024 Session and on 16th December 2024 to induct M.S./Ph.D. scholars of the January- June 2025 Session. The students and their parents were briefed about the academic programmes and the facilities available at IIT Tirupati. An interactive session was held for the parents with the Director and the Deans of the Institute.

Yuvantar B.Tech. 2024 Orientation Program at IIT Tirupati:

IIT Tirupati hosted the Yuvantar orientation program for its incoming B.Tech. 2024 batch on 29th July 2024. The event aimed to familiarise new students with the institute's culture, academic framework, and facilities.

Key Highlights

- **Welcome Address:** Prof. KN Satyanarayana, Director of IIT Tirupati, addressed the gathering, provided an overview of the institute's achievements, and highlighted its strengths.
- **Academic Rules and Regulations:** Prof. Rama Krishna Gorthi, Dean of Academic Affairs, explained the academic ordinances and regulations, ensuring students understood the expectations and requirements.
- **College Life and Student Facilities:** Prof. NN Murthy, Dean of Student Affairs, shared insights into college life, student facilities, and extracurricular opportunities available at IIT Tirupati.
- **Interaction Session:** The director and deans engaged in an interactive session with parents and students, addressing queries and concerns.

The Yuvantar orientation program marked the beginning of an exciting academic journey for the new students at IIT Tirupati.

4.2.2 Hosted Conference/Workshops/Symposia/Webinars

Conference

Department of Chemistry organised a 3-day conference on Statistical Mechanics in Chemistry & Biology, 17th - 19th Dec 2024. Dr Rajib Biswas was the convener of the workshop.

Workshops

Department of Mechanical Engineering organised a one-day workshop titled "Advances in Additive Technology" on 24 Aug 2024. Prof. Ravi Shankar Mamila was the convener of the workshop



- Department of Humanities and Social Sciences organised a three-day workshop titled "Public Policies in Practice" on 7th – 8th Nov 2024. Dr Rahul Sirohi was the convener of the workshop.
- Department of Mathematics and Statistics organised a three-week workshop titled "Ergodic Theory and Fractals" on 9th – 21st Dec 2024. Dr Srijanani Anurag Prasad was the convener of the workshop.
- Department of Mechanical Engineering organised a one-day workshop titled "Hydrogen Energy: Production, Storage and Utilisation" on 9th Dec 2024. Prof. Anil Kumar and Prof. Muthu Kumar were the conveners of the workshop.
- Department of Humanities and Social Sciences organised a five-day workshop titled "Research Methodology & Multivariate Data Analysis" from 20th – 24th May 2024. Dr Vaneet Kashyap and Dr Vishnu Rajan were the conveners of the workshop.

Short-Term Courses

1. Department of Mechanical Engineering organised a short-term course titled "Introduction to AI and Machine Learning for Foundries" from 20th June – 13th July 2024 at IIT Tirupati, jointly with IIF. Dr Ajay Kumar was the coordinator of the course.
2. Department of Mechanical Engineering organised a one-month short-term course titled "USA-India International Research Experience for Students (IRES) – IIT Tirupati" from 1st July – 2nd August 2024. Dr Ajay Kumar was the coordinator of the course.



Webinars

1. Department of Electrical Engineering organised a hybrid webinar titled "Smart Next Gen Asset Management – An Industry Perspective" on 26th October 2024. Prof. Lt. Gen. Anil Kapoor was the coordinator of the webinar.
2. Department of Electrical Engineering organised a webinar titled "Asset Management Challenges & Opportunities in EV Industries" on 6th November 2024. Prof. Lt. Gen. Anil Kapoor was the coordinator, and Shri Daiva Prakash (CTO, Amara Raja Power Systems Ltd) was one of the keynote speakers.

Other Remarkable Events

1. Vacuum Technology & Process Applications by Prof. V. Vasudeva Rao and Dr Koteswara Rao from 20 - 25 May 2024, Department of Physics.



2. Our Director met with Honourable Chief Minister Nara Chandra Babu Naidu Garu & Education Minister Nara Lokesh Garu, and Kona Shashidar Garu regarding the PM SHRI School Teacher Training Program July 2024.

3. 3rd Foundry Day Celebrations at IIT Tirupati, hosted by Dr Ajay Kumar, Department of Mechanical Engineering, the Guest of Honour was our Director, IIT Tirupati, along with Prof. Arun Kumar Tangirala, Department of Chemical Engineering, on 19th Oct 2024.

4. Parliamentary Committee on Official Language is inspecting the institute regarding the implementation of the Official Language Policy. Prof. K.N. Satyanarayana, Director, IIT, Tirupati, receiving a certificate from the Chairman of the Committee and Honourable Member of Parliament Dr Dinesh Sharma, for satisfactory performance.



5. A stall put up by the Institute during the Official Language Parliamentary Committee inspection, showcasing the work done for the progressive implementation of OL Policy in the institute

6. "Hindi Pakhwada" Prize distribution function held on 08.10. 2024. The prize-winning students of the competitions with the Chief Guest Prof. G.S.R. Krishnamurthy, Vice Chancellor of National Sanskrit University, Tirupati, and Prof. K.N. Satyanarayana, Director, IIT, Tirupati



7. Prof. K.N. Satyanarayana, Director, IIT, Tirupati, and Prof. Venkataramana Badarla, Registrar-In-Charge, IIT, Tirupati, felicitating the Chief Guest Prof. G.S.R. Krishnamurthy, Vice Chancellor of National Sanskrit University, Tirupati.



Smart India Hackathon

IIT Tirupati hosted one of the prestigious national-level events, the grand finale of the software edition of the Smart India Hackathon 2024, in December 2024. The event provided a platform for students, innovators, and industry experts to collaborate on solving real-world challenges through technology-driven solutions. The institute facilitated participation, coordination, and smooth execution of the hackathon, reinforcing its commitment to promoting innovation and fostering problem-solving skills among young talents.



4.2.3 Invited Talks

Lecture Series: April 2024 - March 2025

Date	Speaker & Affiliation	Talk Title
Apr 3, 2024	Prof. R.P. Singh, Physical Research Laboratory, Ahmedabad	Experiments in Free Space Quantum Key Distribution
Apr 17, 2024	Mr. R. Muralidharan, CTO, Tata Advanced Systems Ltd, Mumbai	Engineering Strategic Systems for Atmanirbharata
Apr 24, 2024	Mr. T.A.B. Barathi, Senior VP (SCM), Wheels India Ltd, TVS Group	The Art and Science of Supply Chain Management: Impact on Business
Jul 8, 2024	Dr. Ravi Shankar, MBBS, MD Paediatrics	The Role of Engineers in the Pharmaceutical Industry
Jul 15, 2024	Prof. Ram D. Sriram, Chief, Software & Systems Division, NIST, US Department of Commerce	On Computational Challenges in Cyber-Physical-Social System Design
Aug 21, 2024	Prof. Rajendra Prasad Singh, Chairman, IIT Bhubaneswar & former CMD, Power Grid Corporation	Commit Beyond What You Can Do: The Indian Story about Power Grid Management
Aug 21, 2024	Dr. V. Rajesh, Asst. Prof., Humanities & Social Sciences, IISER Mohali	The Reception of Subramania Bharati in the Progressive Literary Movement in Tamil Nadu
Aug 28, 2024	Dr. Nitin S. Tewari, Senior Principal Scientist, CSIR-NCL/NCL Innovations	Harnessing IP for Business
Sep 18, 2024	Dr. Samuel T. Ariaratnam, Prof., Arizona State University	Solutions to Addressing Underground Utility Infrastructure Construction and Rehabilitation

4.2.3 Invited Talks

Lecture Series: April 2024 - March 2025

Date	Speaker & Affiliation	Talk Title
Sep 20, 2024	Prof. V.K. Saraswat, Member, NITI Aayog, former Director General, DRDO	Science and Technology for Sustainable Economic Development
Sep 25, 2024	Dr. Sareena Karapoola, Senior Technical Manager, Cyber Security, NEC India	Cyber Attacks: The Elephant in the Corner
Jan 22, 2025	Prof. Govind Rao, University of Maryland, Baltimore County	Disruptive Innovation to Reduce Health Care Costs
Jan 30, 2025	Prof. Sastry Pamidi, Dir., Center for Advanced Power Systems, Florida State University	Green Hydrogen for Sustainable Energy Systems: Opportunities and Challenges
Feb 3, 2025	Prof. R.V. Ravikrishna, Indian Institute of Science, Bengaluru	Future of Mobility: Transition to Low-Carbon Fuels and Technologies
Feb 19, 2025	Prof. P.V. Suresh, NIT Warangal	Chemical Looping Combustion Technology: A Promising Option for CO ₂ Capture
Feb 19, 2025	Prof. Hira L. Koul, Michigan State University	Estimation in a Randomly Right-Censored Errors-in- Variables Linear Regression Model
Mar 5, 2025	Dr. B. Sri Krishna Veni, Joint Transport Commissioner, Rayalaseema Region	Prevention of Road Accidents and the Role of Engineers in Developing Innovative Solutions
Mar 19, 2025	Prof. Veena Howard, California State University, Fresno	Queen Gāndhārī's Mapping the Battlefield in the Mahābhārata: A Women's Perspective
Mar 19, 2025	Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI, Mysuru	Current and Emerging Trends in Food Processing Technologies

4.3 INSTITUTE EVENTS

4.3.1 Independence Day Celebrations:

The 78th Independence Day was celebrated at our Institute on Thursday, 15th August 2024, with great enthusiasm. The festivities commenced with the flag-hoisting ceremony and a march-past by the guards at the outdoor



stadium. This was followed by vibrant cultural activities held at the indoor stadium. The Hon'ble Director graced the occasion as the chief guest. Approximately 500 faculty members, staff, and students participated in the celebrations, showcasing their patriotic spirit.



4.3.2 Republic Day Celebrations

On 26th January 2025, the Institute marked Republic Day with a flag-unfurling ceremony and a march-past by the guards in the outdoor stadium, followed by cultural programs conducted in the indoor stadium. The Hon'ble Director attended as the chief guest. The event saw enthusiastic participation from around 500 faculty, staff, and students, who came together to celebrate the nation's unity and progress.

4.3.3 Mock Drill by OCTOPUS

A comprehensive mock drill was conducted by the Counter Terrorist Operations Wing, OCTOPUS, Andhra Pradesh State Police, in collaboration with the Institute's security section on 14th October 2024. The drill took place from 6:00 PM to 1:30 AM at the administration building. Approximately 40 OCTOPUS team members, including 10 sniffer dogs, participated. The drill was supported by the Institute's security staff, Explosive Unit (EU), medical team, and the Andhra Pradesh State Fire Services team, ensuring coordinated preparedness for emergency situations.



4.3.4 SPIC MACAY

The Society for the Promotion of Indian Classical Music and Culture Amongst Youth (SPIC MACAY) is a non-political, nationwide, voluntary movement founded in 1977 by Dr. Kiran Seth, Professor-Emeritus at IIT Delhi and recipient of the Padma Shri in 2009, to inspire youth through the richness of Indian heritage by promoting classical music, dance, folk traditions, yoga, meditation, crafts, and other cultural practices. It seeks to cultivate traditional Indian values and spread awareness of India's cultural legacy through concerts, lectures, workshops, demonstrations, and talks by eminent scholars and artists. At IIT Tirupati, the SPIC

MACAY Heritage Club has carried this vision forward since the institute's inception, actively nurturing art in its various forms and organizing programs every year, including the notable *Virasat* series held from 10–18 August 2019, which reflected the institute's strong dedication to the cause even in its early years of association.

SPICMACAY Heritage Club at IIT Tirupati conducted the following events during 2024-2025.

S.No	Cultural Event	Artist	Date
1	Chittara Painting Workshop	Sri Ishwar Naik	April 6, 2024
2	Veena Concert	Dr. R. S. Jayalakshmi	April 20, 2024
3	Bharatanatyam Dance	Vidwan Shijith Nambiar & Vidushi Parvathy Menon	July 31, 2024
4	Odissi Dance	Vidushi Leena Mohanty	September 21, 2024
5	Manipuri Dance	Dr. Sinam Basu Singh	October 19, 2024
6	Tholpavakoothu Puppets	Shri K K Ramachandra Pulavar	November 9, 2024
7	Tholpavakoothu Puppets Workshop	Shri K K Ramachandra Pulavar	November 9-10, 2024
8	Mohiniyattam Dance	Dr. Rekha Raju	January 25, 2025
9	Kathak	Dr. Lakshminarayan Jena	February 25, 2025

4.4 CENTRE FOR CONTINUING EDUCATION (CCE)

IIT Tirupati, since its inception in 2015, has actively fostered collaborations with industries, research organisations, academic institutions, and government agencies to undertake sponsored research projects and consultancy services. In 2017, the institute established the Centre for Sponsored Research and Consultancy (CSRC) to further promote and streamline these efforts. CSRC is responsible for the promotion, facilitation, coordination, and administration of all research, innovation, and consultancy activities at the institute. CCE was a sub-branch of CSRC. The CCE emerged in 2020 and mainly focuses on workshops, conferences, symposiums, short-term courses, seminars & FDPs. The centre has supported departments to host the above events. Apart from those, the following support was provided and organised by CCE.

1. A two-day Exposure Visit for School Principals in collaboration with CBSE on 6th & 7th May 2024, in which 60 principals from across the country participated.



2. NPTEL courses with IIT Madras (11-05-2024 to 22-05-2024)

- Indian Popular Culture by Dr Bibhuti Mary Kachhap - slated to go live from July 2024
- Probability Theory for Data Science by Dr Ishapathik Das - slated to go live from July 2024
- Public Organisation and Management by Dr Vaneet Kashyap - scheduled for January 2025

3. SPARC proposals

- Proposal by Prof. Krishna Prapoorna and Dr Vignesh V on "Self-charging Technologies and Advanced Roadways for Transporting Electric Vehicles (START- EV)" got the In-principle approval
4. Facilitated the submission of 7 course proposals under the GIAN scheme, now coordinated by IIT Hyderabad, of which 6 proposals are at various stages of approval

OFFICE OF GLOBAL ENGAGEMENT, ALUMNI AND CORPORATE RELATIONS AT IIT TIRUPATI



GLOBAL ENGAGEMENT

- International partnerships and international worlds
- Student / Faculty mobility and student/faculty mobility
- Joint research and joint collaborations



CORPORATE RELATIONS

- Industry partnerships - communication and partnerships/laws
- CSR and industrialized economic and research relations
- Sponsored research



ALUMNI RELATIONS

- Alumni network for international to domestic business
- Mentoring and mentoring to alumni reconnection
- Fundraising for renovation and promotion

MEMORANDUMS OF UNDERSTANDING (MoUs) - STRATEGIC PARTNERSHIPS

Government



Roads & Building
Dept., AP



Bureau of Indian
Standards



CPRI Bangalore



Centre for Adivasi
Research &
Development (Odisha)



NIT Rourkela



CSIR-CRRI



NHAI

International Universities



Tribhuvan
University, Nepal



JOHANNES GUTENBERG
UNIVERSITÄT MAINZ



University
of Algiers



TEXAS A&M ENGINEERING
EXPERIMENT STATION

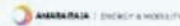
Industry & Professional Bodies



Institute of Actuaries of India



ADFORs



ASHARAJ | ENERGY & MOBILITY

Foundations & NGOs



WHEELS
global foundation

5. GLOBAL ENGAGEMENT, ALUMNI AND CORPORATE RELATIONS

The Office of Global Engagement, Alumni and Corporate Relations at IIT Tirupati oversees the institute's international activities, fostering collaborations with foreign universities for education and research, managing student and faculty exchange programmes, and engaging with embassies and consulates to strengthen cultural linkages. Alongside, it nurtures strong alumni relations, ensuring that the alumni network remains a vital partner in the institute's growth and success. The office also supports global collaboration through alumni initiatives and international programmes, with admissions currently open for M.S., Ph.D., and M.Tech. Programmes.

Under the Office of Global Engagement, Alumni and Corporate Relations, there are three specialized functional roles that ensure the office operates effectively and strategically:

1.Global Engagement: This division is responsible for managing and expanding IIT Tirupati's international relationships. It facilitates collaborations with foreign universities and research institutions, enabling joint research projects, dual-degree programmes, student and faculty exchanges, and global academic partnerships. By fostering these international linkages, the office enhances the institute's global visibility and provides students and faculty with opportunities for cross-cultural learning and research exposure.

2.Corporate Relations: This role focuses on building and maintaining partnerships with industry and corporate entities. It identifies funding opportunities, such as CSR contributions, sponsored research, and strategic collaborations, that support academic and research initiatives at IIT Tirupati. By bridging the gap between academia and industry, Corporate Relations ensures that the institute benefits from financial support, industry insights, and opportunities for real-world impact of its research and educational programmes.

3.Alumni Relations: The alumni division connects IIT Tirupati with its global alumni network, nurturing lifelong relationships with former students. It engages alumni in mentoring programmes, guest lectures, placement support, fundraising initiatives, and other collaborative efforts. Through these interactions, the office leverages the experience and expertise of alumni to support the institute's growth, strengthen its community, and create opportunities for current students to benefit from professional guidance and networking.

5.1 MEMORANDUMS OF UNDERSTANDING

“Coming together is a beginning, staying together is progress, and working together is success” –Henry Ford.

IIT Tirupati focuses on developing collaborative educational and research opportunities by establishing Memoranda of Understanding (MoUs) with government organizations, globally renowned universities, research institutions, and industries. These partnerships facilitate a wide range of joint initiatives, including

Collaborative research projects and academic publications, exchange programs for faculty, students, and research staff, building new infrastructure, organizing joint events, and creating internship opportunities that offer students valuable industry and research experience. Overall, these collaborations enhance IIT Tirupati's global engagement, enrich its academic environment, and contribute to the advancement of knowledge and innovation.

Roads & Building Department, Govt. of Andhra Pradesh:

In September 2024, an R&D agreement was signed with the Roads & Building Department, Govt. of Andhra Pradesh.

Institute of Actuaries of India:

An MoU with the Institute of Actuaries of India was signed in October 2024 to promote the actuarial profession. The partnership aims to exchange insights and expertise to develop short-term programs and research initiatives for a duration of one year.

Centre for Adivasi Research & Development, Government of Odisha:

In October 2024, IIT Tirupati signed an agreement with the Centre for Adivasi Research & Development, Government of Odisha. IIT Tirupati will conduct workshops, seminars, symposia, and skill development programs under an MoU signed for five years.

Bureau of Indian Standards:

In January 2025, IIT Tirupati signed an MoU with the Bureau of Indian Standards. The institute will undertake R&D projects to support standardization processes, provide infrastructure support, and organize joint seminars, conferences, and outreach programs. This agreement spans ten years.

Institute of Science & Technology at Tribhuvan University, Nepal:

In January 2025, IIT Tirupati established an MoU with the Institute of Science & Technology at Tribhuvan University, Nepal, to foster academic and research collaboration, including scholar exchanges and joint projects.

NIT Rourkela:

In February 2025, an R&D agreement was signed between IIT Tirupati, CSIR-Central Road Research Institute, NIT Rourkela, and the National Highway Authority of India.

Andhra Pradesh Roads & Buildings

In 2025, an R&D agreement was signed between IIT Tirupati and Andhra Pradesh Roads & Buildings.

Saint-Gobain ADFORS Limited

In 2025, an MoU was signed between IIT Tirupati and Saint-Gobain ADFORS Limited.

Glazing Society of India (GSI):

In March 2025, IIT Tirupati signed an MoU with the Glazing Society of India (GSI). GSI will fund the establishment of an Architectural Glass and Glazing Technical Centre at IIT Tirupati, dedicated to research, capacity building, skill development, education, and third-party testing. This partnership is valid for ten years.

Central Power Research Institute (CPRI), Bangalore:

In March 2025, an R&D agreement was signed between IIT Tirupati and the Central Power Research Institute (CPRI), Bangalore.

Academic Collaboration with Johannes Gutenberg University:

An MoU was signed between Johannes Gutenberg University Mainz and IIT Tirupati to facilitate Scholar, student, and faculty exchange/ mobility. This also facilitates participation in joint workshops/conferences. The duration of this MoU is five years, viz, till 05 January 2030.

Collaboration with the University of Agder, Norway, on Cotutelle- Doctoral Program:

IIT and AIT formalized a partnership through an MoU. This includes the establishment of a program for the supervision, exchange, and assessment of Doctoral research program candidates. The collaboration will span a period of five years till 02 April 2030.

Texas A&M Engineering Experiment Station:

IIT Tirupati signed an extension to the existing MoU with 'TEES', focusing on a collaboration in the Areas of advanced manufacturing, Materials, Mechanics, and cyber-physical systems. This MoU shall be effective through December 31, 2027.

Amara Raja Energy & Mobility:

A partnership agreement was signed between IIT and AREM to establish a Visiting Chair Professorship and conduct a program in the name and style of "Dr R N Galla Visiting Chair Professor in Advanced Energy Storage Technologies". The program shall be conducted for 10 consecutive years starting from 2025 through the year 2034.

Wheels Global Foundation:

Combining IITT's strength in developing solutions to address the challenges in rural India with Wheels Global Foundation's vast network of NGOs, the objective is "Rural India Transformation", in support of Indian's vision of becoming a developed economy by 2047. This MoU is effective through 22 January 2028.

CAMPUS OVERVIEW



Overview

The campus spans 548.11 acres along the Yerpedu -Venkatagiri Highway in Merlapaka Village. It will accommodate up to 1,00,000 students, with phased development over 25-30 years.'

South Campus



Residential facilities incl. 168 staff & faculty quarters. Indoor sports complex, dining for 300, 500 kVA sub-station

Classrooms



120-seater classrooms on both North & South Campuses



Laboratories

Lab buildings equipped for Civil, Mechanical, and Electrical Engineering, research labs in Physics, Chemistry, & more



Latest Development

Best Institution at National Water Awards 2023, CE & CR Award for safe construction practices ACS Form Work Award

Latest Development

Best Institution at National Water Awards 2023, CE & CR Award for safe construction practices, ACS Form Work Award

Departments



Laboratory facilities supporting Chemical, Computer Science

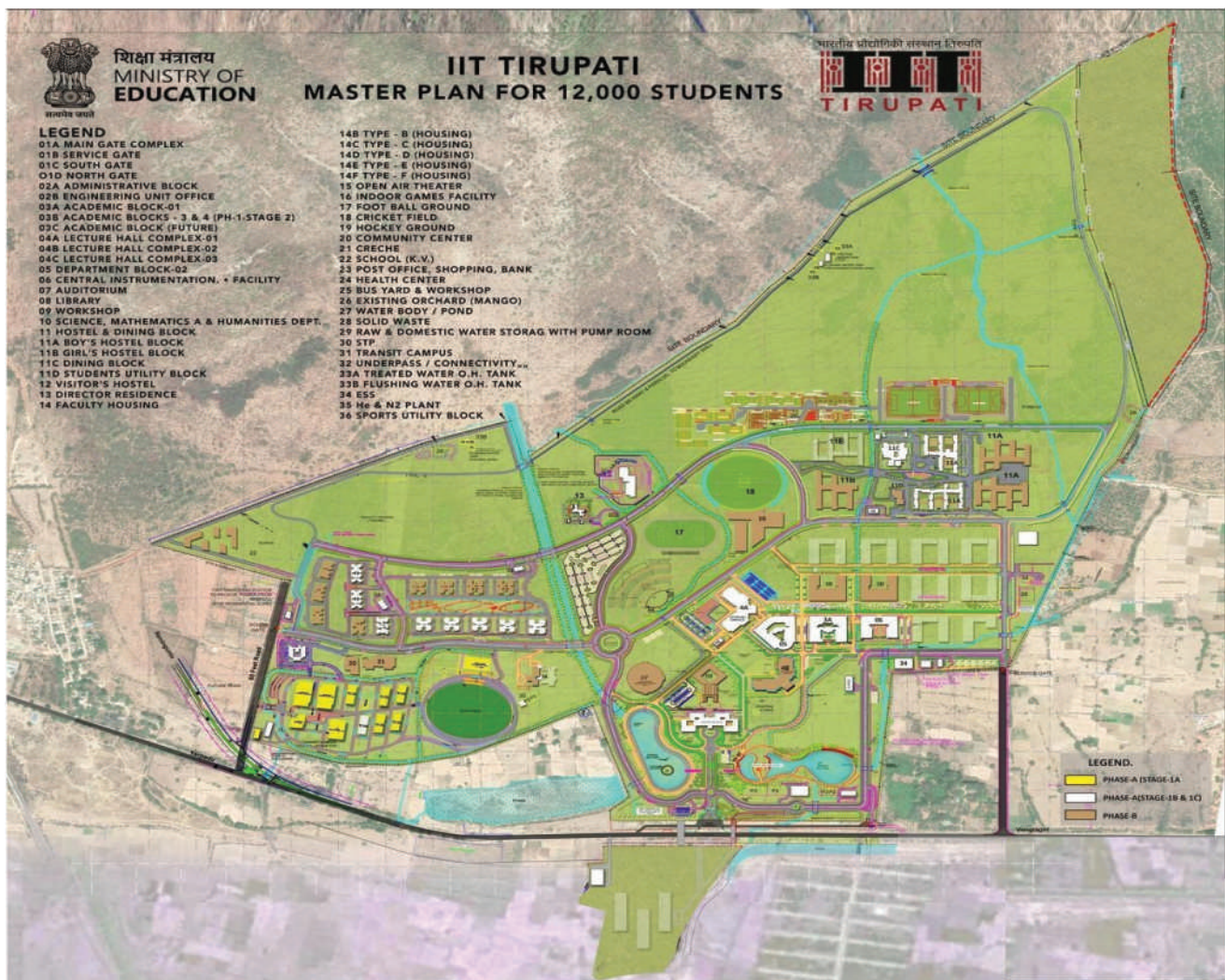
Library

11,219 books
13,000+ e-journals
relocated to Academic Building:1 in 2023
quiet and group study areas

6. INFRASTRUCTURE

6.1 ACADEMICS

IIT Tirupati continues to uphold its steadfast commitment to building a vibrant and future-ready campus that meets the evolving academic and residential needs of its students, faculty, and staff. Spread across 548.11 acres, the campus is strategically located along the Yerpedu– Venkatagiri Highway in Merlapaka Village, offering excellent connectivity to Tirupati town, Renigunta Railway Station, and Tirupati International Airport.



Masterplan of the campus



A Night Aerial View of Main Campus

Led by a long-term vision, the Master Plan for the Permanent Campus has been carefully designed for phased development over the next 25–30 years. Once fully realized, the Institute will accommodate up to 12,000 Students, forming a dynamic hub of learning, innovation, and collaboration.

6.1.1 Classrooms

The South Campus features a multipurpose building (G+1) with a 120-seat studio-style classroom, a 60-seat recording studio, and a 20-seat computer lab. The Classroom Building (G+2) comprises 13 classrooms, each accommodating 40–60 students, and an additional 120-seater classroom. Currently, this building also accommodates a pre-school, creche, and Kendriya Vidyalaya, which started in the academic year 2024–25

In the North Campus's Academic Zone, the Lecture Hall Complex features a 240-seater classroom, multiple rooms with 120 and 60 seats, Laboratories for Physics, Chemistry, and Engineering Drawing, located in the Academic Blocks I & II. Academic Buildings provide further classroom spaces supporting various departments.

6.1.2 Laboratory

South Campus has two dedicated lab buildings (Lab 1 and Lab 2); Lab 1 is equipped for Civil and Mechanical Engineering. Lab 2 houses Electrical Engineering labs and a Makers Lab/workshop for hands-on and interdisciplinary projects. Academic Zone has multiple research labs in Academic Buildings 01 and 02: Physics, Chemistry, and Engineering Drawing laboratories. G+1 and G+2 buildings also have 2 computer labs.

*South Campus*

The Central Instrumentation Facility (CIF) includes precision instruments to support research, housing centres like the Technology Incubation Hub and the Centre of Excellence on Smart Vehicles.

Departmental Infrastructure, which includes laboratories for Computer Science, Electrical Engineering, Humanities, and Mathematics departments, along with related classrooms and labs, is present in the Academic Block 1. Academic Building 02 hosts Chemistry, Civil Engineering, Chemical Engineering, Mechanical Engineering, and Physics departments, with respective departmental spaces and laboratories.

Department of Chemical Engineering

The Department of Chemical Engineering houses an extensive suite of eleven laboratories designed to advance both undergraduate teaching and cutting-edge research. These laboratories are purposefully named—Reynolds, McCabe, Levenspiel, Gauss (Simulation), Laplace, BET (Brunauer Emmett Teller), Langmuir, Thiele, Nicolas, Prandtl, and Joule (Bio Lab)—reflecting the specialized focus areas and honoring eminent scientists in the field.

The department's infrastructure includes a wide array of modern instruments: high- performance liquid chromatography (HPLC), gas chromatography-mass spectrometry (GC- MS), microfluidic devices, membrane and filtration setups, spectrophotometers, fermenters, heat exchangers, reactors of various designs, and analytical tools for surface and material characterization. Each laboratory is maintained by experienced faculty and technical staff, ensuring a safe, innovative, and academically rigorous atmosphere.

Department of Chemistry

The undergraduate chemistry laboratory at IIT Tirupati, established in 2016, provides first-year B.Tech. Students with concept-driven experiments such as aspirin synthesis, caffeine extraction, conductometric titration of fruit juices, copper estimation in alloys, and water hardness measurement. The department features modern undergraduate wet labs and state-of-the-art research facilities, supporting a wide array of theoretical, experimental, and computational work. Advanced equipment includes GC-MS, HRMS, NMR, HPLC, spectrometers, centrifuges, glove boxes, and high-end workstations, enabling practical courses, master's projects, and PhD research. These comprehensive facilities ensure hands-on exposure to contemporary techniques, fostering student development in chemical sciences and engineering across undergraduate and postgraduate levels.



UG Chemistry Lab

Department of Civil Engineering and Environmental Engineering

The Department of Civil and Environmental Engineering (CEE) at IIT Tirupati, established in 2015, operates state-of-the-art laboratories spread across the AB2 and Lab-1 blocks, covering about 15,400 sq. ft. The department is expanding with 40,000 sq. ft. of additional laboratory space under construction, funded by

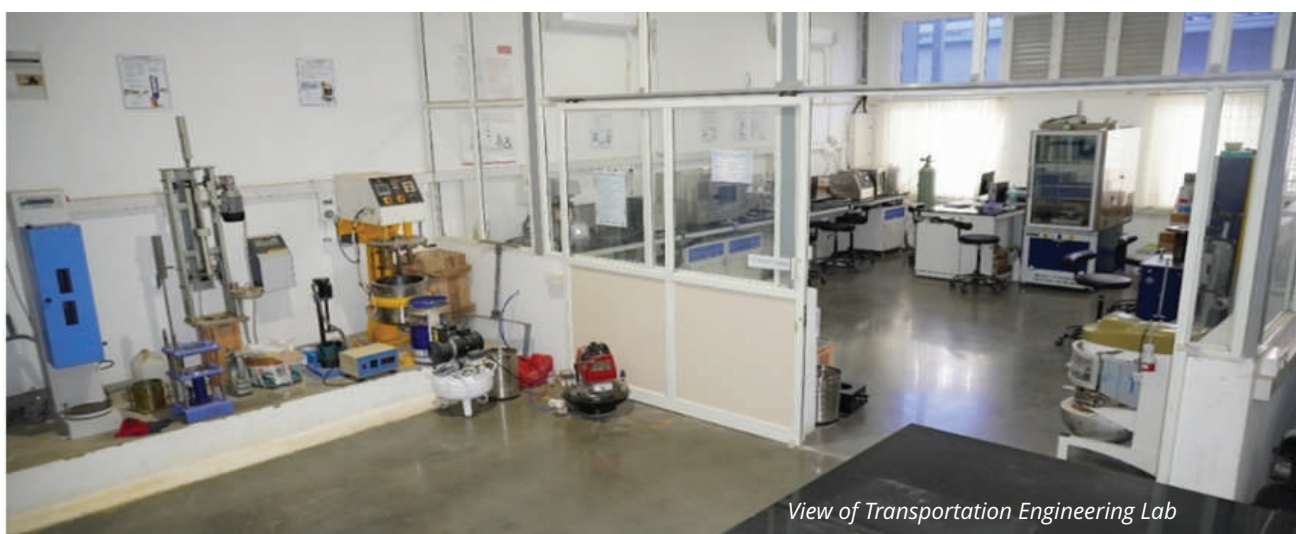


*A view of table-top
equipment in the Structural
Engineering Lab*

institutional and government grants. The laboratories support undergraduate and postgraduate teaching and cutting-edge research on sustainable infrastructure and environmental management.

Key laboratories include Structural Engineering, Transportation, Building Materials, Geotechnical Engineering, Environmental Engineering, Hydraulics & Water Resources, Surveying, and Non-Destructive Testing labs. These labs integrate sophisticated equipment such as hydraulic universal testing machines of various capacities, automated soil testing devices, advanced data acquisition systems, and analytical tools for materials characterization.

The facilities foster hands-on learning and research in areas like material mechanics, pavement systems, water quality analysis, geotechnical characterization, and environmental risk assessment. Faculty-led collaborations and sponsored research projects further enhance the labs' role in addressing contemporary civil and environmental engineering challenges. This infrastructure solidifies the department's commitment to academic excellence and industry relevance.



View of Transportation Engineering Lab

Department of Computer Science and Engineering

The Department of Computer Science and Engineering (CSE) at IIT Tirupati provides state-of-the-art teaching and research infrastructure. It has two spacious teaching laboratories, each equipped with 60 high-performance desktop computers (Intel i7/i9 with 32/64 GB RAM and 1-2 TB NVMe SSDs) running both Windows and Linux. For research, 80 students primarily use their own front-end devices to access powerful



Computer Science department laboratory

back-end servers hosted in the Institute's data center. The department maintains four dedicated project servers, complemented by cutting-edge resources such as the Nvidia DGX A100 server, commissioned in 2023. This server boasts eight A100 GPUs with 40 GB GPU RAM each, delivering 150 tera-flops processing power and high-speed NVLink communication. Over 100 users, including faculty and students across UG, PG, and PhD programs, extensively utilize these computational resources. This advanced computing environment supports a wide range of data-intensive and machine learning research, enabling hands-on learning and innovation for all levels of students.

Department of Electrical Engineering

The Department of Electrical Engineering at IIT Tirupati features several specialized laboratories to support both teaching and research. The Signal Processing and Computer Vision Lab is equipped with high-performance GPU workstations, 3D fringe projection systems, and deep learning setups to facilitate courses in signal processing, machine learning, and medical imaging. The Control and Automation Lab offers equipment for interdisciplinary studies, including robotics, IoT, renewable energy, and industrial automation. The Electrical Machines Lab contains various electrical machines, transformers, and drives used for fundamental courses and research. The Electronics Lab houses 30 workbenches with oscilloscopes, function generators, FPGA boards, and software tools to train students in hardware and VLSI design. The Semiconductor Devices Lab supports research on wide-bandgap semiconductors and thin-film sensors with advanced fabrication and characterization equipment. Additionally, the Wireless Communication and Network Lab provides high-end software-defined radios and computing facilities to support research in advanced wireless networks like 5G and beyond. These facilities offer comprehensive practical and research opportunities for UG, PG, and doctoral students.



A view of the Electrical Engineering Laboratory

Department of Humanities and Social Sciences

The Humanities and Social Sciences Department at IIT Tirupati maintains a dedicated Computer Lab primarily used by Master of Public Policy and PhD scholars. This lab supports a range of academic and research activities, focusing on data modeling, statistical analysis, and other computational tools vital for social science research. Equipped with modern computing resources and software, the lab enables hands-on learning experiences where students engage with real-world data under faculty guidance. The

environment fosters practical skills in areas like econometrics, policy analysis, and quantitative research methods, essential for informed decision-making and scholarly work. By integrating theory with applied computational practice, the lab serves as a cornerstone for research excellence and policy-oriented education in the department.

Department of Mathematics and Statistics

The Department of Mathematics and Statistics at IIT Tirupati has two dedicated computer laboratories that support the academic and research needs of postgraduate and doctoral students. The first laboratory caters primarily to postgraduate students and is equipped with 31 high-performance desktops featuring Intel i7 processors, 16 GB RAM, and 1 TB SSDs, providing dual boot with Windows and Ubuntu. These systems support software essential for numerical computing, data analysis, and modeling tasks. The second laboratory is designed for doctoral research and houses 10 high-performance desktops along with four advanced workstations equipped with Intel Xeon processors, 64 GB RAM, 2.5 TB SSDs, and dedicated GPUs. This setup supports intensive computations like simulations and large-scale data analysis. Both labs have stable network connectivity and power backup, facilitating uninterrupted access for research and coursework, and providing an enabling environment for algorithm development and computational experimentation.

Department of Mechanical Engineering

The workshop and laboratories at IIT Tirupati offer students hands-on exposure to a wide range of engineering tools and experimental setups essential for their academic and research growth. The workshop is equipped with manual injection molding machines, compressors, pneumatic and hydraulic training kits, welding simulators, and various electrical modules, providing a strong foundation in manufacturing and instrumentation practices.

The Applied Mechanics Laboratory enables students from mechanical and civil engineering programs to conduct experiments on fluid mechanics, solid mechanics, and dynamics, with setups for the Reynolds experiment, flow visualization, universal testing machines, and strain measurement. The Fluid Mechanics Lab enriches theoretical concepts through visualisation of laminar and turbulent flows, force measurements, and stability studies.



Fluid Mechanics Laboratory

Thermal engineering experiments in the Applied Thermal Engineering Lab include working with internal combustion engines, refrigeration setups, and advanced measurement instruments like calorimeters and rheometers. Advanced technology centres include the Metrology lab with precision measuring equipment such as CMM and 3D scanners, enabling students to study material properties and geometrical accuracies effectively. These facilities collectively nurture practical skills and research excellence.

Department of Physics

The Department of Physics is equipped with dedicated teaching laboratories for first-year undergraduate students as well as for postgraduate (M.Sc.) programs. The undergraduate laboratory was established in 2015, coinciding with the inception of the institute, and has been continuously upgraded to support the increasing intake of students in the B.Tech. Program. Postgraduate teaching laboratories were introduced in the academic year 2020–21 to facilitate advanced coursework, experimental training, and project-based learning. These laboratories are equipped with state-of-the-art instrumentation, enabling students to gain hands-on experience and develop a deeper conceptual understanding of a wide range of physical phenomena. In addition to teaching laboratories, the department hosts active research facilities in the areas of experimental condensed matter physics, quantum materials, quantum optics, cold atom systems, and plasma physics. With the launch of the B.Tech. in Engineering Physics program in the academic year 2024–25, new laboratories are being developed to meet the specialized experimental requirements of this interdisciplinary curriculum.

*Post-doc fellow operating
the Ants Prosys
high-performance Muffle
Box furnace*



6.1.3 Library

The Central Library of IIT Tirupati, established in 2015, supports learning, teaching, and research with a comprehensive collection of print and electronic resources. The library has received multiple awards, very recent being the Theme Connect Award of Excellence (2023). It is integrated with the institute's ERP system, employing KOHA automation, RFID technology, and CCTV for enhanced service and security. Remote access via MyLOFT has enabled off-campus users since 2020. The library also provides tools like Turnitin for plagiarism detection and Grammarly Premium for academic writing support.

As of March 31, 2025, the library holds 11,219 print books, over 13,000 e-journals, 592 e-books, along with standards, newspapers, CD-ROMs, and 22 databases. In March 2023, it relocated to Academic Building-1, adding a new Learning Centre with quiet and group study areas, including a Free Library for community book donations.

The library benefits from the ONOS (One Nation One Subscription) scheme, providing access to over 13,000 journals from major publishers like Elsevier, IEEE, Springer, Wiley, ACS, and more. Outreach activities include a large book exhibition in April 2024, with faculty and student recommendations totalling 780 new book titles. Training sessions, such as a Scopus orientation held in November 2024, support research skills development among the IIT Tirupati community.

6.2 CAMPUS

6.2.1 Overall

The South Campus offers essential residential facilities with four apartments for key faculty and staff, 168 staff and faculty quarters, along with a Director's Residence and a Visitors' Hostel, designed to provide comfortable living for the campus community. The faculty and staff housing consists of five types of quarters: 16 Type-B flats, 64 Type-C flats, 24 Type-D flats, 32 Type-E flats, and 32 Type-F flats. It includes a dedicated maintenance office to ensure smooth campus operations. Sports amenities feature both indoor and outdoor facilities, including a well-equipped indoor sports complex. Dining is supported by a modern kitchen and dining complex that can serve 300 individuals per batch. Reliable power is maintained through a 500 kVA sub-station with automatic DG backup and UPS support for critical loads. The campus infrastructure includes bituminous roads with street lighting, along with water treatment and sewage treatment plants, emphasizing sustainability and efficient service management.



Aerial view of the campus

6.2.2 Latest Development

IIT Tirupati has been recognized with multiple prestigious awards in recent years, underscoring its commitment to sustainability, health and safety, and construction excellence. In 2023, the institute received a Special Mention in the Best Institution Category at the 5th National Water Awards organized by the Ministry of Jal Shakti, along with the CE & CR Award for safe construction practices. Additionally, it earned the ACCE(I) L&T Form Work Award from the Association of Consulting Civil Engineers (India) for the best use of formwork. These accolades reflect IIT Tirupati's dedication to creating a sustainable, safe, and world-class campus while setting high standards in infrastructure development and operational excellence.

Student Engagement Highlights



Major Technical Events

- Tachyon 2024 — Institute's first tech fest with robotics races and hackathons
- Inter IIT Tech Meet 13.0 — IIT Tirupati achieved notable rankings



Research Activities

- Symposiums showcased interdisciplinary research
- Scholars' Day featured alumni interactions



Cultural Highlights

- Variety of campus events
- Programs in classical arts



NSS Activities

- Outreach programs
- Awareness sessions

7. STUDENT ENGAGEMENT AND WELLNESS

Alongside their regular academic programs, students at IIT Tirupati actively participate in organizing and engaging in a wide range of technical, cultural, and sports activities. These experiences foster innovative thinking and help develop their diverse talents. The Institute is home to numerous active clubs, including those focused on academics, photography, music, drama, dance, technology, astronomy, trekking, volunteering, and social service. This section of the report highlights the events and activities conducted by the students during the 2024–25 academic year under the following categories:

- (a) Technical, research, and cultural
- (b) Student clubs
- (c) Sports-related activities
- (d) NSS activities
- (e) GCU

7.1. TECHNICAL EVENTS

7.1.1. Tachyon 2024

Tachyon 2024, IIT Tirupati's inaugural tech fest, was held from 15th to 17th November 2024. Named after the particle symbolizing speed and innovation, it showcased cutting-edge tech and attracted over 500 participants from schools, undergraduates, and research scholars. The event was launched with an inauguration on 15th November. Six expert guest lectures spanned topics from AI careers and hyperloop technology to the 2024 Physics Nobel and industry applications. Competitions included robotics races and hackathons, alongside workshops benefiting over 150 schoolchildren. The symposium highlighted research and club achievements. The event was well-supported by sponsors like Axis Bank.



7.1.2 Inter IIT Tech Meet 13.0

Hosted by IIT Bombay from 11th to 14th December 2024, IIT Tirupati secured 18th place overall out of 23 IITs. Notable placements included third in IdeaForge and fifth in Rigbetel Labs. This was the first year earning points in the SAC and EC categories, reflecting growing participation and institutional recognition.



7.1.3 Technical Workshops and Competitions

Events such as Introduction to Python (August 2024), robotics and hackathon competitions, Byte to Board electronics contests, and cybersecurity workshops enhanced technical skills broadly among students.

7.2 RESEARCH

7.2.1 Symposium 2024 – April 2024

The Research Scholar Symposium in April 2024 provided a platform for scholars to present interdisciplinary research. The event featured keynote speeches, oral presentations in three tracks, and poster sessions where participants received feedback. It concluded with a panel discussion and prize distribution, fostering collaboration and encouraging future research.

7.2.2 Symposium Tachyon 2024 – November 15-17, 2024

Symposium Tachyon 2024 brought together students, faculty, and experts for three days of knowledge-sharing. It included oral and poster presentations from various fields, with awards given to top performers. The event promoted innovation, research excellence, and interdisciplinary learning.

7.2.3 Welcome Meets – August 12, 2024 & January 11, 2025

The Welcome Meets helped new scholars connect with peers and seniors through interactive sessions, campus tours, and experience-sharing. The events built confidence and encouraged scholars to explore scholarships and academic opportunities.

7.2.4 Scholars' Day – Gyanasangama, March 9, 2025

'Gyanasangama,' the institute's first Scholars' Day, celebrated academic culture through fun activities, alumni video messages, and a pre-event trekking expedition. It fostered community bonding and inspired scholars by connecting them with alumni achievements.

7.2.5 Workshops on Project Proposal Writing and Research Tools

The January 6, 2025, workshop guided scholars on writing effective project proposals and securing funding, while the April 25, 2025, workshop introduced research writing tools like Overleaf and Mendeley, helping participants improve their publications and citations.

7.2.6 Sanitary Napkin Vending Machine

A sanitary napkin vending machine was installed on campus to support health and hygiene, ensuring a comfortable and inclusive environment for female scholars.

7.2.7 Additional Initiatives

The research community's visibility was improved by reviving its LinkedIn account. Additionally, the Research Excellence Award proposal was approved and is under departmental review, aiming to recognize outstanding research contributions.

7.3 CULTURAL EVENTS

7.3.1 Cultural Nite

On April 17, 2024, the college hosted a vibrant Cultural Nite featuring performances by the Xcite dance club and student shows, all themed around black and white. The night concluded with an energetic DJ session, creating a memorable evening of artistic expression and celebration.



7.3.2 Institute Day

Held on April 5, 2024, Institute Day was graced by Dr. G. Satheesh Reddy, President of the Aeronautical Society of India. The event celebrated academic excellence with award conferment and also showcased cultural performances, highlighting the blend of scholarship and artistic talent within the institution.

7.3.3 Gymkhana Day

On April 24, 2024, Gymkhana Day celebrated student achievements in sports, cultural, and technical fields. The event was a grand display of diverse talents, fostering a sense of camaraderie and pride among the campus community.

7.3.4 Signature Day

The graduating batch commemorated their final days together on May 11, 2024, by signing each other's souvenirs and T-shirts, marking a heartfelt farewell.



7.3.5 Farewell '24

Also on May 11, 2024, the farewell event was held at Marasa Sarovar. It featured various fun activities as the graduating students celebrated their time at the college and looked ahead to the future.

7.3.6 Freshers Week

From August 18 to 25, 2024, Freshers Week engaged new students in a range of activities, including sports, cultural events, quizzes, debates, and a popular open mic session. The week ended with a lively DJ night and the crowning of Mr. and Ms. Fresher titles.



7.3.7 Janmashtami

The Janmashtami celebrations on August 26, 2024, were marked by devotional events led by an ISKCON member, with beautifully arranged rituals and bhajans that fostered a sense of spirituality and community.



7.3.8 Ganesh Chaturthi

Starting September 7, 2024, Ganesh Chaturthi festivities spanned nine days at the Open Air Theatre. Daily arts and rituals culminated in the immersion of the Ganesh idol, enriching campus life through traditional celebration and devotion.

7.4 STUDENTS CLUB (TECHNICAL)

7.4.1 Sigma Squad

Achieved several competitive successes during 2024-25, including notable placements in hackathons and coding contests. Engaged in projects like reinforcement learning, digital image editing models, and training in AI and entrepreneurship throughout 2024-25.

7.4.2 Navgati

Between September 2024 and March 2025, continued vehicle fabrication projects, including the crosskart. Activities included design improvements, successful testing milestones, and active collaboration with industry partners, preparing for national competitions.



7.4.3 Gagan Vedhi

From August to October 2024, Gaganvedhi organized astronomy awareness programs, school engagement activities, guest lectures on space exploration, debates, and quizzes, enriching students' understanding of space science.

7.4.4 Rocketry Project

Progressed through design and testing phases of their indigenous rocket during the 2024-25 academic year, with key milestones like engine testing and avionics development, branching into a dedicated club called VeLR.

7.4.5 Digital Wizards

The club conducted domain-specific workshops on parallel computing, cybersecurity, app development, and web technologies from mid-2024 to early 2025.

7.4.6 Entrepreneurship Cell (E-Cell)

Between 2023 and 2025, the E-Cell advanced entrepreneurship through bootcamps, industrial visits, talks on finance and storytelling, podcasts, and nationwide events like the MindQuest quiz. Notable sessions were hosted by industry leaders in July-September 2024, supporting a vibrant startup culture on campus.



7.4.7 TEDx IIT Tirupati 2025

Held on 16th February 2025, the premier TEDx event showcased inspirational talks across diverse fields with active participation from students, faculty, and external guests. Recognised as a significant milestone in the institute's outreach efforts.



From 2023 through 2025, events like **Space Day (August 2024)** and various school outreach programs fostered curiosity in STEM fields. Activities included stargazing sessions, debates, and educational quizzes, encouraging wide participation.



E-Cell at IIT Tirupati experienced a highly successful year, marked by considerable growth and impactful initiatives. Driven by a vision to nurture a thriving entrepreneurial ecosystem, the E-Cell organized a range of events, workshops, competitions, and collaborations throughout the year. A notable highlight was the Startup Bootcamp conducted in 2024, which provided a comprehensive introduction to entrepreneurship, idea generation, finance, and leadership skills. This program included multiple interactive sessions covering startup basics, go-to-market strategies, securing venture capital funding, and team-building exercises. The Bootcamp attracted over 200 enthusiastic first-year students, fostering an engaging environment for budding entrepreneurs. This collective effort has strengthened the entrepreneurial culture at IIT Tirupati and expanded its footprint on the national stage. The E-Cell's activities set a new benchmark in promoting innovation and success within the student community.

7.4.8 Rasoi Club

The Rasoi Club warmly welcomed new members with a vibrant Freshers' Day event in August. The event featured three engaging rounds: a culinary knowledge quiz, a knife skills cutting challenge, and a final cooking round where participants showcased their dish preparation talents. This lively initiation fostered enthusiasm and camaraderie within the club. In September, the club celebrated Vinayaka Chavithi by distributing "Panchamrutham" sweet prasadam to students and faculty, promoting community bonding and sharing festive joy. The club also organized celebrations for Dussehra in October, continuing its tradition of cultural engagement and festive participation, thereby enriching the campus community's cultural experiences.



7.4.9 Sargam: Music Club

The academic year at IIT Tirupati commenced with the orientation program for all clubs on July 30, 2024. Sargam Music Club made a significant impact during this event, emerging as one of the standout cultural clubs and leaving a memorable impression on the incoming freshers.

On August 11, 2024, the Sargam Band enthralled the audience during a vibrant Musical Night. Their 15-minute performance, featuring four carefully selected songs, received enthusiastic feedback, especially from the freshers, affirming the club's appeal and musical talent.

Following this, on August 12, 2024, the club held its own orientation to introduce new students to its culture and activities. The session included core members and band alumni sharing their valuable experiences, freshers voicing their expectations, and an open mic segment that provided a platform for fresh talent to shine.



7.4.10 Actomania Club

As part of the Independence Day celebrations at IIT Tirupati, the Actomania Club, in collaboration with the cultural committee, organized a thought-provoking stage play titled Sangharsh Ke Chaar Rang on August 15, 2024. The play, which ran from 10:30 AM to 10:45 AM, addressed critical social issues including women's

education and empowerment, corruption, untouchability, and religious conflicts in India. The performance highlighted student involvement and cultural engagement within the institute.

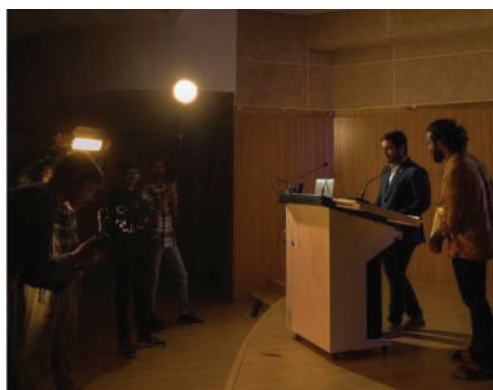
During Fresher's Week, the club hosted an exhilarating Dumb Charades competition on August 23, 2024, held at TC-1 from 9:00 PM to 11:59 PM. This event attracted a lively audience and actively engaged freshers, acting as a platform to foster camaraderie and teamwork. The competition aimed to welcome newcomers into the vibrant cultural scene of IIT Tirupati, encouraging creativity and collaboration through fun and interactive performances.



7.4.11 Photography and Films Club

From January 2025 onward, the Photography and Films Club (PFC) at IIT Tirupati celebrated creativity and storytelling through various initiatives. The club hosted workshops on cinematography, photography, and design, enabling members to enhance their skills and explore new artistic avenues. The PFC team actively documented college events and festivals, capturing memorable moments with great enthusiasm. Several videos were released on their YouTube channel, including a Batch Video, Short Film, Freshers' Video, and the Tirutsava Aftermovie, all of which received widespread appreciation.

Within the campus, PFC organized exciting intra-college events such as Photoverse 4.0 — a photography showcase, Motion Magic — a videography contest, Lorem Ipsum 4.0 — a graphic design battle, and a thrilling Photoshop Battle. These events provided dynamic platforms for participants to express creativity and sharpen their visual storytelling skills. Looking ahead, the club remains committed to nurturing talent and pushing creative boundaries.



7.4.12 Artista Club

The Artista club contributed vividly to the campus life in 2024-25 with various creative initiatives. On July 20, 2024, during the 6th Convocation, the club set up a photo booth near the Academic Building 1, providing a charming spot for attendees to capture memorable moments against an artistic backdrop.



Following this, on July 21, 2024, Artista hosted “Doodle Your Vacation,” an online event inviting participants to create artwork inspired by their holiday experiences. Participants expressed their memories creatively through doodles based on personal vacation themes, fostering artistic engagement even outside the campus.

The club also actively participated in the Freshers' Orientation on July 29, 2024, integrating new students into the college community by showcasing their creative talents and enabling freshers to experience the vibrant artistic culture at IIT Tirupati.

7.5 SPORTS AFFAIRS

7.5.1 Events

7.5.1.1 Yoga for Self and Society – 21st June 2024

On 21st June 2024, IIT Tirupati celebrated International Yoga Day with an event titled Yoga for Self and Society. The event aimed to promote personal well-being and societal harmony through yoga and meditation sessions, workshops on yoga philosophy, and talks focused on wellness and social impact. Students, faculty, and staff participated enthusiastically in activities that emphasized yoga's role in fostering physical health, mental clarity, and community connection. The event successfully inspired participants to incorporate yoga into their daily lives, encouraging a more balanced and compassionate campus environment.



7.5.1.2 Workshop on Meditation – 12th to 14th July 2024

Following the Yoga Day celebrations, a three-day meditation workshop was conducted from 12th to 14th July 2024. The session introduced participants to the transformative power of meditation for mental clarity,



emotional balance, and overall wellness. Led by experienced instructors, the workshop covered various techniques including mindfulness practices, breathing exercises, and guided imagery. Students, faculty, and staff were provided with practical tools to manage stress, enhance focus, and cultivate inner peace, encouraging the adoption of meditation as a part of everyday life.

7.5.1.3 Sanyog Invitation Tournament – 28th Sept to 2nd Oct 2025

From 28th September to 2nd October 2025, IIT Tirupati hosted its second inter-collegiate sports tournament, *Sanyog*, inviting neighboring colleges from Tirupati to participate. Approximately 300 students from 12 colleges joined the event, which featured cricket, basketball, volleyball, badminton, and table tennis. The tournament served as a platform for promoting friendly competition and camaraderie among students from different institutions, while establishing IIT Tirupati as a regional hub for sporting excellence.



7.5.1.4 Inter IIT Sports Meet – Dec 2024

Participating in the 57th Inter IIT Sports Meet in December 2024 was a historic moment for IIT Tirupati. The contingent was divided into two groups, one competing at IIT Kanpur and the other at IIT Indore. Among the participants, Roopa stood out by winning a gold medal in the 100-meter hurdles, a silver in the long jump, and a bronze in the high jump—marking the first medal ever for IIT Tirupati at the event.



7.5.1.5 Intra IIT Sports Meet – Kridan (13th March – 20th April 2025)

The Intra IIT Sports Meet, Kridan, was inaugurated on 13th March 2025 and concluded in April. Students were divided into four houses for the men's category and two for women's events, with league cum knockout matches conducted for nine games and athletic events for men, and four games for women. The event culminated in the fourth annual Sports Gymkhana Day on 27th April 2025, where prizes were presented by Mr. Siril Varma A, a professional international badminton player, and Prof. K. N. Satyanarayana, Director, IIT Tirupati.

7.5.2 Sports Club Activities

Aranya Club

The Aranya Club organized various activities throughout the year aimed at fostering teamwork and community spirit among students. During Freshers' Week on 25th August 2025, the club hosted a *Treasure Hunt* and a game of *Seven Stones*, helping first-year students bond and get acquainted with the campus environment. The treasure hunt tested participants' creativity and problem-solving skills through clues scattered across campus, while the game of seven stones encouraged interaction through fun and physical activity. The club also organized multiple treks to scenic spots such as Talakona Falls and Aare Waterfalls, offering students and faculty refreshing breaks and opportunities to connect with nature. These trips helped participants build resilience, teamwork, and a deeper appreciation for the environment.



Arogya Club

The Arogya Club's events focused on promoting fitness and wellness among the campus community. On 29th August 2024, a vibrant 3K Run was organized on National Sports Day, encouraging participants from various backgrounds to embrace athleticism and friendly competition. The event concluded with awards



presented to the top finishers. Similarly, on 28th March 2024, a *5K Run* celebrated fitness and camaraderie, drawing participants together in a spirit of perseverance and healthy competition. Both events highlighted the importance of regular exercise while fostering unity and sportsmanship within the institute.

Chaturanga Club (Chess Club)

The Chess Club, known as Chaturanga, had an eventful year, organizing tournaments, training sessions, and inter-institutional matches. Key events included the Intra-College Chess Tournament during Kridan on 27th February 2024, where Hostel Malhar emerged victorious, and the Farewell Tournament on 10th May 2024, which honored the graduating class. The Offline Freshers' Tournament on 10th August welcomed new students to the club. The Inter-Hostel Chess Championship on 24th October encouraged healthy competition among hostels, while a Continuous Chess Puzzle Contest engaged participants weekly through WhatsApp. Friendly matches with IISER Tirupati and other IITs provided exposure to diverse playing styles. Regular blitz tournaments and workshops focusing on tactics, strategies, and endgames further enriched the chess culture on campus.



7.6 NATIONAL SERVICE SCHEME (NSS)

7.6.1 David & Lois Rees Hospital Visit – August 25, 2024

On August 25, 2024, the NSS IIT Tirupati Health Team, in collaboration with Love In Action Trust, visited David & Lois Rees Hospital. The event provided an opportunity for 23 volunteers to engage with HIV-infected children aged 5 to 17. Activities such as singing, dancing, and games were organized, and birthday

celebrations were conducted for a few children. The initiative fostered joy among the children and offered personal growth for the volunteers through meaningful interactions.



7.6.2 Pragna Quiz Competition – July-August 2024

The quiz competition, Pragna, was conducted for students of 9th and 10th standards from government schools in July and August 2024. Covering topics from Math, Physics, Chemistry, Biology, and General Knowledge, the competition



was organized during the summer break. Volunteers facilitated the quiz in multiple rounds based on student strength, and winners were awarded certificates for their performance.

7.6.3 Campus Cleaning Activity – August 10, 2024

On August 10, 2024, the NSS UBA team conducted a one-hour campus cleaning activity with the participation of 110 volunteers. Students collected plastic waste and cleaned bushes around the campus using gloves and bags provided by the organizers, promoting environmental responsibility and teamwork.



7.6.4 Creative Writing Competition – August 13, 2024

In celebration of Independence Day, a creative essay writing competition was conducted at ZPHS Panguru on August 13, 2024. Students from the 9th and 10th standards were encouraged to write about patriotism and the impact of war, using A4 sheets for 45 minutes. Winners were given prizes to further motivate participation.



7.6.5 Independence Day Poster Making – August 8-15, 2024

An online poster-making competition was held from August 8 to 15, 2024, focusing on “Importance of Villages and their Rich Heritage in India.” A total of 88 submissions were recorded, with students expressing their creativity and understanding of rural life.

7.6.6 Har Ghar Tiranga – August 2024

As part of the 77th Independence Day celebrations, the NSS Unit promoted the Har Ghar Tiranga campaign, encouraging participants to hoist the national flag at home or work. Students, faculty, and staff shared selfies with the flag, fostering patriotism and national pride.

7.6.7 Space Day Event – August 17-18, 2024

A two-day Space Day event was organized, where 800 school students and 200 college students participated in science exhibitions, drawing contests, and quizzes. Around 65 NSS volunteers coordinated the event, spreading scientific awareness and enthusiasm.



7.6.8 Talk on Nutrition Planning and Obesity – August 22, 2024

An awareness session on nutrition and obesity was conducted by Dr. Sushma Appaiah from Golz-Nutrition and Diet Solutions. The session clarified common myths around diets and provided tools for healthy eating. It was attended by 87 participants.

7.6.9 Women Empowerment Awareness Session – August 2024

At ZPHS Panguru, NSS volunteers conducted an awareness session on gender equality and safety for students of 9th and 10th standards. The session aimed to educate them on recognizing dangers and understanding women's issues both historically and today.



7.6.10 Swachhata Pakwada 4.0 – September 1-15, 2024

A 15-day cleanliness drive was organized to promote eco-friendly practices. Activities included a cleanliness pledge, horticulture, coconut-based germination, room cleaning, cloth bag distribution, essay and drawing competitions, and a cycle rally. These events involved students and community members, emphasizing environmental responsibility.

7.6.11 Talk on Suicide Prevention – September 12, 2024

In collaboration with Sarathi and YourDOST, NSS organized a suicide prevention awareness session led by psychologist Gayatri Suresh. The event educated participants on recognizing psychological distress and supporting peers in need.



7.6.12 Ullas Session – September 2024

The Ullas educational outreach program was conducted in multiple schools simultaneously, aiming to help underprivileged students improve their academic performance and build confidence through guided sessions.

7.6.13 KV Competitions – September 2024

Drawing and essay writing competitions on environmental damage were held for school children at the on-campus Kendriya Vidyalaya. The initiative encouraged creativity and awareness regarding waste management.



7.6.14 Swachhata Hi Seva – September 2024

Various activities such as cleanliness pledges, school compound cleaning, water channel cleaning, tree plantation drives, and awareness programs were conducted across schools and campus facilities. These initiatives promoted hygiene and sustainability as part of the national cleanliness mission.

7.6.15 5K Walkathon – September 29, 2024

A walkathon in collaboration with Amara Hospital encouraged healthy living and community bonding. The event attracted a large turnout and promoted physical fitness and well-being.



7.6.16 Gandhi Punyaha – October 2, 2024

An interactive session with campus staff was held on Gandhi Jayanti to understand maintenance challenges and gather suggestions. Staff members were appreciated with sweets to honor their contributions.



7.6.17 School Mela Activity – August 13-14, 2024

In collaboration with Schoolmela, volunteers supported rural education initiatives, visiting multiple government schools and motivating students through discussions and scholarship distribution.

7.6.18 Blood Donation Drive – October 6, 2024

A voluntary blood donation camp was conducted in association with NTR Trust, where 130 participants joined, with 102 donating successfully. Certificates and refreshments were provided to volunteers, emphasizing community support.



7.6.19 MPPS Visit – October 19, 2024

Volunteers visited MPP school Chindepalle to teach math and science basics and engage students in interactive games, helping broaden their academic perspectives.



7.6.20 Experiment Demonstration – October 26, 2024

An educational science experiment session was conducted at ZPHS Panguru with the help of EPICS MSL, aimed at making science relatable through hands-on demonstrations.

7.6.21 David & Lois Rees Hospital Visit – October 27, 2024

Another visit was conducted to David & Lois Rees Hospital, where volunteers celebrated birthdays and engaged children through fun activities, spreading joy and compassion.



7.6.22 Horticulture Activity – 2024-2025

A two-phase live farming initiative promoted sustainable organic farming on campus through weeding, mulching, sowing, and watering activities twice a week.



7.6.23 Cancer Screening Test – November 10, 2024

A cancer screening camp was organized with the Tata Cancer Institute at Rajulapalem village, providing early detection services to villagers and raising awareness about cancer prevention.

7.6.24 Talk on Diabetes and Hypertension – November 14, 2024

A session on recognizing symptoms and preventive measures for diabetes and hypertension was conducted by Dr. Lokesh Pillapalyam, educating the community on maintaining a healthy lifestyle.



7.6.25 JEE Awareness Session – November 26, 2024

The NSS unit of IIT Tirupati organized a JEE Awareness Session at ZPHS Girls School, Srikalahasti, to guide young female students on exam eligibility, registration, syllabus, and

preparation strategies. Volunteers also provided tips on goal-setting, stress management, and scholarships. The event concluded with an interactive Q&A that was well received.

7.6.26 NHRC Talk

A session on human rights, gender equality, and food security was conducted by NHRC experts. Smt. Sayani spoke on women's rights and nutrition, while Shri Bhatnagar addressed women's safety. The event offered valuable perspectives on social justice and public policy for students and the community.

7.6.27 Open School Day

Students from ten schools visited IIT Tirupati to explore academic opportunities and interact with faculty. The event featured two sessions—one on Physics and another on Chemistry demonstrations—and included a prize distribution ceremony for Ullas session winners, inspiring students to pursue science education.



7.6.28 Smart India Hackathon

As part of the nationwide innovation challenge, NSS volunteers supported the organization of Smart India Hackathon at IIT Tirupati. They coordinated logistics, managed event flow, and assisted with competitions, contributing to the smooth execution of the program and fostering innovation and teamwork.

7.6.29 Rangoli Competition – January 13, 2025

In celebration of Makar Sankranti, NSS organized a rangoli competition at Panguru village. With the participation of 20 individuals, the event showcased artistic expressions and cultural pride. The best designs were awarded prizes, enhancing community engagement.



7.6.30 Dental Camp – January 18, 2025

A dental health camp was conducted at Panguru village to promote oral hygiene. Several villagers underwent check-ups for issues like cavities and gum problems. Volunteers spread awareness about dental care, encouraging better health practices.

7.6.31 MPPS Visit – January 25, 2025

A visit to the MPP school, Panguru, was conducted to engage students academically and socially. NSS volunteers taught math concepts, guided students in English homework, and explained the importance of Republic Day through interactive activities and games.



7.6.32 Online Essay Writing on Healthcare Challenges – Republic Day 2025

An essay competition was conducted on the topic “India's Healthcare Challenges,” with 41 participants exploring issues related to accessibility, affordability, and infrastructure. The event encouraged analytical thinking and awareness about pressing health concerns.

7.6.33 Tri-Colour Event-Republic Day 2025

In collaboration with the Artista Club, NSS organized a creative art event where students used eco-friendly materials like leaves, mud, and flowers to artistically represent the Indian national flag's colors. The event promoted patriotism and environmental consciousness.



7.6.34 Diwali Donation Drive – 2024

The Diwali Donation Drive aimed at supporting underprivileged children by distributing toys, storybooks, and educational materials. Contributions from faculty members and their families made the event a heartwarming celebration of generosity.

7.6.35 Blanket Donation Drive – Winter 2024

A blanket distribution drive was organized to support homeless individuals near Srialahasti Temple. Students donated blankets, spreading warmth and compassion during the cold season.



7.6.36 General Health Camp – February 16, 2025

A health camp at Jangalapalli village provided free medical check-ups and consultations. Around 40 patients benefited from the services, and volunteers assisted in coordinating the event and reaching out to residents.



7.6.37 National Science Day – February 28, 2025

IIT Tirupati celebrated National Science Day with guided tours, experiments, and motivational talks for local school students. The event inspired scientific curiosity and offered a glimpse into advanced research facilities.

7.6.38 Online Essay Writing on World Obesity Day – 2025

The event raised awareness about obesity, encouraging participants to share thoughts on its causes and preventive measures. The competition promoted healthy lifestyle choices among 19 participants.

7.6.39 Ullas Session – Part 2 (March 2025)

Simultaneous educational outreach sessions were conducted in three schools to support underprivileged students. Volunteers provided academic guidance, helping students improve grades and gain confidence.



7.6.40 Creative Writing Competition – International Women's Day, March 7, 2025

To celebrate International Women's Day, a creative writing competition focused on inspiring female personalities like Arunima Sinha, Pranjal Patil, and Smriti Irani. The event encouraged storytelling and admiration for perseverance.

7.6.41 Students' Exposure Visit – March 2025

A guided campus tour for 240 students from schools in Kakinada and West Godavari districts allowed students to experience IIT Tirupati's labs and research, encouraging scientific aspirations.



7.6.42 Women's Day Talk – March 8, 2025

A special talk on “Women in Leadership” was conducted with entrepreneur Smt. Vishali Kola. The session discussed leadership, innovation, and preventing abuse, engaging 37 participants in interactive discussions.

7.6.43 Kalamkari Workshop – International Women's Day, March 2025

A workshop on traditional Kalamkari art was held for women in Panguru. Guided by expert Mr. Niranjana, 35 volunteers learned painting techniques using natural dyes, promoting cultural heritage and empowerment.



7.7 GUIDANCE AND COUNSELING UNIT (GCU)

The Guidance and Counselling Unit (GCU) – Sarathi reflects IIT Tirupati's commitment to a caring and supportive campus. Sarathi promotes mental health and overall well-being through professional psychotherapy, guidance, and counselling services. Our in-house Clinical Psychologist and Counsellors are available Monday to Saturday, with an invited expert joining every Monday. Further, round-the-clock online support is also accessible via the YourDOST platform.

Sarathi hosted talks on managing relationship boundaries, conducted campus-wide mental health screenings, and regularly shared helpful resources with students. Engaging initiatives like Gate-keeper training (for faculty members), Bond Beyond Classes (to strengthen faculty- student connections), Pit-Stop (for PhD scholars), and orientation sessions for new faculty helped foster awareness and inclusion. Sarathi continues to be a symbol of our shared vision for a healthier, more connected campus community.

8. APPENDICES

APPENDIX-I

RESEARCH PUBLICATIONS

Journal Articles

Chemical Engineering

1. Yempally, S., Nassar, A. M., Lakshmi, C. N., **Singh, N.**, Sanapala, S. R., Al-Ejji, M., Zaidi, S. A., and Ponnamm, D. (2024). Enhanced Photo-Electro Catalytic CO₂ Conversion using Transition Metal Doped TiO₂ Nanoparticles. *Journal of Photochemistry and Photobiology A: Chemistry*, 456, 115792.
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Books and Book Chapters

1. Kumar, V., and **Gandeepan, P.** (2024). "Copper-based Nanomaterials in Coupling Reactions", in *Copper-based Nanomaterials in Organic Transformations*, (pp. 35-79). ACS.
2. **Roshan S.**, "Applications of Machine Learning in Hydroclimatology". Springer.
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4. Allabakshi, S. M., Srikar, P. S. N. S. R., and **Nippatlapalli, N.** (2025). "Electrical discharge: A chemical-free advanced oxidation process for removing aqueous contaminants of emerging concern." *Innovative and Hybrid Advanced Oxidation Processes for Water Treatment*, 279–297. (Book Chapter).
5. Sharma, M., and **Jain, S.** (2025). "Development of air pollutants emission inventory of urban anthropogenic sources in the tier-II non-attainment city of India: A case study of Vijayawada city, India." *Wiley Publications*.
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7. **Biligiri, K. P.,** and Singh, A.(2024). "Pervious Concrete with Alternative Materials." *The Path to Green Concrete*, Chapter 16, Woodhead Publishing, Elsevier. ISBN: 9780443191657 (Paperback), 9780443191664 (eBook)
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15. **Krishna, D. V., Sunkara, V. N. S. S., Chandan, P. B., Ravi Sankar, M.** (2025). "Digital Light Processing (DLP)- Based Three-Dimensional Printing for Biomedical Applications," in *Metal Additive Manufacturing: Principles, Techniques and Applications*, pp. 433–458.
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17. **Chandan, P. B., Bhat, P. G., Purushothaman, S., Krishna, D. V., Tadi, S. P., Thet, A. A., Ravi Sankar, M.** (2024). "Environmental Aspects of 3D Printing Metal and Alloys," in *Additive Manufacturing with Novel Materials: Processes, Properties and Applications*, pp. 373–407.

APPENDIX-II

Conference Proceedings/ Presentations

Chemical Engineering

1. Gupta, A. K., and **Thamida, S.K.,** "Heating of Air by Viscous Heating Effect in Air Blowers and use of Recycle Stream in a Compact Equipment for Microbial Killing, *International Conference on Fluid, Thermal and Energy Systems (ICFTES'24)*, NIT Calicut, India, June 06-08, 2024.
2. Irfan, M., and **Singh, N.,** "Polymer/Metal oxide Functionalized Materials: Application for Anticorrosion, and Emulsion Separation", *SMYIM-2024*, Kodaikanal Tamilnadu, June 12-14, 2024
3. Selvakumar, M., Gowtham, P., Sai Prasanna, N., **Nallamilli, T., and Raghavarao, K. S. M. S.,** "Stabilization of Black Pepper Oleoresin Emulsion using Biopolymers" *International Conference – Food Innovation Asia Conference 2024*, Bitec, Bangkok, Thailand, June 13-14, 2024 (Poster Presentation).
4. Gupta, V., Saraswat, V., **Nallamilli, T.,** Ramireddy, E., and **Raghavarao, K. S. M. S.,** "Green Extraction of Betalains from the Amaranthus Employing Field-Assisted Extraction and Natural Deep Eutectic Solvents", *International conference - Food Innovation Asia Conference 2024*, Bitec, Bangkok, Thailand, June 13-14, 2024. (Poster Presentation and Received Honourable Mention Student Graduation Poster Award)
5. Bharucha, A., **Misra, S.,** and Gudi, R. D. (2024). "A Novel Superstructure-Based Approach to Batch Process Scheduling Problems." *2024 10th International Conference on Control, Decision and Information Technologies (CoDIT)*, Valletta, Malta. IEEE Xplore, pp. 1237–1242, July 1-4, 2024.
6. Khan, B.B., **Thamida, S.K.,** and **Vir, A.B.** (2024).

- "Estimation of Droplet Size using Pressure Oscillations in Microfluidics using Simulations". *Fluid Mechanics conference XXVI*. Warsaw University of Technology, September 10-13, 2024.
7. Prasanna, N. S., *World Coconut Day Competition*, under the Writing Category, June - October 2024.
 8. Rao, S., **Nabil, M.**, and **Gumma, S.**, "Machine Learning Approach to Predict Adsorption Properties in COFs", *AIChE Annual Meeting*, San Diego, October 27-31, 2024.
 9. **Gumma, S.**, and Talu, O., "Choice of Reference State for Adsorption Thermodynamics", *Plenary Session at AIChE Annual Meeting*, San Diego, October 27-31, 2024.
 10. Gupta, V., Saraswat, V., **Nallamilli, T.**, Ramireddy, E., and **Raghavarao, K. S. M. S.**, "Design and Development of an Acoustic Mist Bioreactor for the Cultivation of Amaranthus Hairy Roots", *10th International Conference on Food Chemistry and Technology*, Valencia, Spain, November 25-27, 2024. (Poster Presentation)
 11. Gupta, V., Saraswat, V., and **Raghavarao, K. S. M. S.**, "Extraction and Purification of Bioactive Compounds from Micro/Macroalgae and Hairy Root Cultures", *10th International Conference on Food Chemistry and Technology*, Valencia, Spain, November 25-27, 2024 (Invited talk).
 12. Saraswat, V., Gupta, V., Nallamilli, T., and **Raghavarao, K. S. M. S.**, "Extraction and Purification of R- phycoerythrin from Macroalgae", *10th International Conference on Food Chemistry and Technology*, Valencia, Spain, November 25-27, 2024 (Poster Presentation).
 13. Selvakumar, M., Gowtham, P., Sai Prasanna, N., **Nallamilli, T.**, and **Raghavarao, K. S. M. S.**, "Surface-Modified Sepiolite Nanoclay Particles for Stabilization of Oil-in-Water Pickering Emulsions", *2nd Indo-European Symposium on Surface Engineering*, Birla Institute of Technology, Mesra, Ranchi, India, December 11-12, 2024.
 14. Selvakumar, M., Gowtham, P., Sai Prasanna, N., **Nallamilli, T.**, and **Raghavarao, K. S. M. S.**, "Formulation of Black Pepper Oleoresin Emulsions using Natural Emulsifiers and Stabilizers and their Characterization", *International Conference on Emerging Trends in Chemical Engineering and Advanced Materials*, Birla Institute of Technology, Mesra, Ranchi, December 13-15, 2024.
 15. Neha, N. A., **Raghavarao, K. S. M. S.**, and **Vir, A. B.**, "Extraction of Omega-3 Fatty Acids using Natural Deep Eutectic Solvents (NADESs)", *2nd International Conference on Biotechnology and Interdisciplinary Technologies (Icbit 2024)*, Hyderabad, December 13-14, 2024.
 16. Kurupati, L., Kumar, K. S., and **Misra, S.**, "Economic Feasibility Analysis of Biohydrogen Co-production with Biodiesel in an Integrated Algal Biorefinery", *Bioprocessing India 2024 (BPI 2024)*, IIT Madras, Dec 15-17, 2024.
 17. Boravelli, J. A. R., **Misra, S.**, and **Vir, A. B.**, "Techno-Economic Analysis on Aqueous Two-Phase Extraction for the Production of Red beet Food Colourant-E162", *Bioprocessing India 2024 (BPI 2024)*, IIT Madras, Dec 15-17, 2024.
 18. Areekal, N. N., **Raghavarao, K. S. M. S.**, Halde, P., Saxena, S., Gupta, A., and **Vir, A. B.**, "Extraction of Oil Containing Omega-3 Fatty Acids from Flaxseed", *30th Indian Convention Of Food Scientists And Technologists (ICFoST)*, D.Y Patil University, Mumbai, December 19-21, 2024.
 19. Prasanna, N. S., *30th Indian Convention on Food Science and Technology (ICFoST)*, D Y Patil University, Navi Mumbai, December 19 - 21, 2024.
 20. Gupta, V., Saraswat, V., and **Raghavarao, K. S. M. S.**, "Designing Bioreactors for the Cultivation of Plant Cell and Hairy Root Culture and Downstream Processing of Bioactive Compounds", *National Conference on 'Digital Technologies for Transforming the Horticultural Sector'*, New Delhi, January 2025 (Invited talk).
 21. Gupta, V., Saraswat, V., Nallamilli, E., and **Raghavarao, K. S. M. S.**, "Extraction and Purification of Betalains from the Amaranthus using Ultrasound-Assisted Extraction followed by Aqueous Two-Phase Extraction", *National Conference on Emerging Technologies for Sustainable Agro-Food-Bio Systems (ET-SAFE-2025)*, Tezpur University, Assam, February 13-15, 2025 (Award: 3rd prize in Best Poster).
 22. Yumnam, N., Sandeep, G. D. S., **Choudhary, N.**, **Nabil, M.**, and **Raghavarao, K. S. M. S.**, "Machine Learning Approach for Performance Prediction of Ultrasonication Assisted Microfiltration of Pretreated Orange Juice", *National Conference on Emerging Technologies for Sustainable Agro-Food-Bio Systems (ET-SAFE-2025)*, Tezpur University, Assam, February 13-15, 2025 (Poster Presentation).
 23. **Ranjith, T.**, "Non-metal Doped Electrocatalysts for Bifunctional Highly Durable Alkaline Water Splitting", *HYCON 2025*, Jaipur, February 2025.
 24. Vivek Gupta, **Nallamilli, T.**, and **Raghavarao, K. S. M. S.**, "Design and Development of Bioreactor for the Cultivation of Amaranthus Hairy Roots and Downstream Processing of Betalains", *PMRF Symposium 2025*, IIT Hyderabad, March 16-17, 2025.

25. Lakshmi, C. N., and **Singh, N.**, "Iron Oxide Nanostructures and Their Composites for Environmental Applications", *ACS Spring 2025*, San Diego USA, March 2025.
26. Lakshmi, C. N., and **Singh, N.**, Mxene Quantum Dots/Copper Oxide/Iron Oxide Nanocomposites for the Efficient Photocatalytic Degradation of Ciprofloxacin, *9th Green and Sustainable Chemistry Conference*, NCL Pune, March 2025.

Chemistry

1. **Biswas, R.**, "A Novel HDM2 Mediated Anti-Cancer Mechanism of Azurin-Based Peptide p28", *Conference on Statistical Mechanics in Chemistry and Biology (SMCB-2024)*, IIT Tirupati, December 17-19, 2024.
2. **Manna, A. K.**, "Computational Design of Metal-Free Functional Organic Molecules for Efficient Triplet Photosensitization", *Modern Trends in Molecular Magnetism-IV and Spin in Molecular Systems: Experiment, Theory and Applications-III*, IISc Bangalore, Bangalore, India, November 05-08, 2024.
3. **Manna, A. K.**, "Modelling Intersystem Crossing in Metal-Free Organic Molecules for Efficient Triplet Photosensitization", *Frontiers in Chemical Sciences (FICS-2024)*, IIT Guwahati, Guwahati, India, December 02-04, 2024.
4. **Mondal, D.**, "Active Brownian Information Engine: Self-propulsion induced colossal performance", *Conference on Statistical Mechanics in Chemistry and Biology (SMCB-2024)*, IIT Tirupati, December 05-08, 2024.
5. **Mondal, D.**, "To restart or not? - Stochastic resetting in drift-diffusion decision making processes", *International Conference on Fundamental and Advanced Research in Chemistry (FARC)*, IIT Mandi, December 17-19, 2024.
6. **Gandeepan, P.**, "Rhodium(III)-Catalyzed Vinylation of (Hetero)Arenes", *ISCHA 2024: 7th International Symposium on C-H Activation*, IIT Bombay, India, December 06-09, 2024.
7. **Chakraborty, S.**, "Self-assembled Rotaxane with Redox-active Stopper" presented in *InAdvanCS-25, IACS, Kolkata*, February 21-22, 2025.
8. **Chakraborty, S.**, "Self-assembled Rotaxane with Redox-active Stopper" presented in *International Conference on Emerging Electronics and Sustainability (ICEES 2025)*, KL University, Vijayawada, April 9-10, 2025.
9. **Pal, K.**, "Role of molecular force in immune cell-pathogen interactions", *Interaction*, IISER Bhopal, Bhopal, India, February 14-15, 2025.
10. **Pal, K.**, "Role of pN level molecular tension in immune cell pathogen interactions", *International Conference on Optics Within Life Sciences (OWLS-2024)*, IIT Bombay, Bombay, India, November 25-28, 2024.

Civil and Environmental Engineering

1. Subramanyam, **Nithyadharan, M.**, and Venkataraman, P., "A Machine Learning Based Inverse Framework for Predicting the Transverse Thermal Conductivity of Carbon Fiber", *SEC 2024*, NITTiruchirappalli, India, December 12-14, 2024.
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10. Srikanth, M., Singh, P., and **G. Ramakrishna**, "GPU Algorithms for Fastest Path Problem in Temporal Graphs", *53rd International Conference on Parallel Processing*, (pp. 587-596), August 12-15, 2024
11. Badjatya, R., Khadda, V., **Tudu, J. T.**, Fujita, M., and Singh, V., "Physical-Design Aware Scan Cell Reordering for Low Power Testing", In the *Proceedings of 20th IEEE East-West Design and Test Symposium (EWDTS)*, Yerevan, Armenia, November 13-17, 2024
12. Roy, R. B., Kanakagiri, R., Jiang, Y., and Tiwari, D., "The Unexplored Carbon Cost of Serverless Computing", *ACM Symposium on Cloud Computing*, November 20-22, 2024.
13. Kalra, N., and **Tudu, J. T.**, "AI-Driven Power Gating for Enhanced Energy", In the *Proceedings of IEEE 31st High Performance Computing, Data and Analytics (SRS track)*, Bangalore, December 18-21, 2024.
14. Kalra, N., and **Tudu, J. T.**, "AI-Driven Power Gating for Enhanced Energy Efficiency in Superscalar Processors", *2024 IEEE 31st International Conference on High Performance Computing, Data and Analytics Workshop (HiPCW)*, Bangalore, India, (pp.155- 156), March 2024.
15. Shanbhag, S., and **Chimalakonda, S.**, "JestViz: Towards Supporting Novice Web Developers Debug JavaScript", In *Annual ACM India Compute Conference*, Cham: Springer Nature Switzerland, (pp. 99-112), March, 2025.
16. **Tudu, J. T.**, "India Semiconductor Packaging Ecosystem Conference 2024", MIETY Govt of India, CPDA, IEEE EPS, IESA India, 29th February - 2nd March.
17. **Kanakagiri, R.**, "ACM Symposium on Parallelism in Algorithms and Architectures", University of Illinois Urbana-Champaign, June 17-21, 2024.
18. **Joseph, A. G.**, "Advisory Board meeting for the AI programme curriculum at Dayananda Sagar College of Engineering, Bengaluru, DSCE funded, 8th June.
19. **Chimalakonda, S.**, "28th International Conference on Evaluation and Assessment in Software Engineering (EASE), RB Project, 18th-21st June.
20. **Chimalakonda, S.**, (2024). SERI 2024, Amrita Coimbatore, July 19-20, 2024.
21. **Vishnu, C.**, *Amaravati Drone Summit 2024*, Vijayawada, October 22-23, 2024.
22. **Chimalakonda, S.**, ACM COMPUTE 2024, RB Project, IIT Gandhinagar, 5th-7th December.
23. **Yeturu, K.**, *HAHTIUW 2024 - Harnessing AI for Healthcare Transformation: A Collaborative Indo-US Workshop*, IIT Hyderabad, December 16-18, 2024.
24. **Ramakrishna, G.**, *Indian Symposium on Machine Learning*, BITS Pilani, Goa Campus, December 21-23, 2024.
25. **Kukkla, V. B.**, "Theory and Practice of Multi-Party Computation", IISC, March 3-6, 2025.
26. **Tudu, J. T.**, *India Semiconductor Conference*, Gujarat Government and MIETY, March 5-7, 2025.
27. **Chimalakonda, S.**, "Artificial Intelligence", *15th plenary meetings of JTC 1/SC 42*, Bureau of Indian Standards, Bureau of Indian Standards, March 31 – April 2, 2025.

Electrical Engineering

1. Mishra, P. K., Sravani, M., and **Bhuktare, S.** "Field-Free Spin-Orbit Torque Switching in Conically Magnetized Free Layer Nanomagnet", *IEEE International Magnetism Conference*, Rio de Janeiro, Brazil, 2024.
2. Sravani, M., and **Bhuktare, S.** "Oscillatory and Chaotic Dynamics in Spin Torque Nano Oscillators Driven by Voltage Controlled Magnetic Anisotropy Feedback", *International Conference on Magnetism (ICM)*, Bologna, Italy, 2024.
3. Bhargav, P. N. S., and **Gurugubelli, V. K.** "On the Need for Accurate Experimental Determination of the Impact Ionization Coefficients Along $\langle 1120 \rangle$ Direction in 4H-SiC", *IEEE 11th Workshop on Wide Bandgap Power Devices and Applications (WiPDA)*, Dayton, OH, USA, 2024.
4. Bandi, A. S. K., and **Vooka, P.** "A Simplified Tilt-Resilient Probe Design for Noninvasive Current Measurement Using Magnetic Sensors", *IEEE*

International Instrumentation and Measurement Technology Conference (I2MTC), Glasgow, United Kingdom, 2024.

5. Gupta, V., and **Vooka, P.** "Simplified Phase-Sensitive Rectifier-Based Resistance Measurement Circuit for Cost-Effective Structural Damage Detection Using Electro-Mechanical Impedance Method", *IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Glasgow, United Kingdom, 2024.
6. Rao, P. R., and **Vyavahare, P.** "Distributed Learning with Partial Information Sharing", *17th International Conference on COMMunication Systems and NETWORKS (COMSNETS)*, Bengaluru, India, 2025.
7. Likitha, D. S., and **Vyavahare, P.** "Pricing Strategies for Bundling OTT Content with Internet Access", *International Conference on Signal Processing and Communications (SPCOM)*, Bangalore, India, 2024. (Finalist of Best Student Paper Award)
8. Kumar, D., **Mohapatra, P.**, and Pappas, N. "Age of Information in a Two User MISO Interference Channel Under Rayleigh Fading", *National Conference on Communications (NCC)*, IIT Delhi, India, 2025.

Humanities and Social Sciences

1. **Bahinipati, C. S.**, "India's Agricultural Systems: Moving Towards Sustainable Pathways," International Workshop on Industrial Ecology and Data Science for Sustainable Manufacturing in India, *Indian Institute of Technology Madras (IITM) and Purdue University, USA*, at IITM, Chennai, 11-12 December 2024.
2. **Bahinipati, C. S.**, "India's Experience with Scaling Up Climate-Smart Agriculture Practices: Role of Institutions, Incentives and Information," 4th Development Economics Conference on Technology, Innovation and the Environment: Challenges for Sustainable Development, *University of Lincoln, U.K.*, 24-26 June 2024.
3. **Bahinipati, C. S.**, "Adaptation to Floods and Droughts in India: Incremental vs. Transformational," Interdisciplinary Workshop on Urban Flooding and Transboundary River Basins in South Asia, *The University of Manchester, UK, and the Indian Institute of Science, India*, 13-14 May 2024.
4. **Bahinipati, C. S.**, "Climate Smart Agriculture, Crop Insurance and Farmers' Wellbeing: Evidence from India," International Conference on Revisiting Public Policy & Governance in Times of Climate Change (RPPGTCC 2025), *Berhampur University, Odisha*, 24 January 2025.

5. **Bahinipati, C. S.**, "Behavioural Biases, Implicit Discount Rate, and Energy Conservation: Evidence from Urban Residents in India," *Energy Conclave 2024: India's Energy Future – Balancing Growth, Security and Sustainability*, *Department of Economics, Banaras Hindu University, Varanasi*, 27 September 2024.
6. **Bahinipati, C. S.**, "Farmers' Decision to Uptake Climate-Smart Agriculture Practices in India: Does Climate Risk Information Matter?," Workshop on Decision Support – Use of Climate Risk Analysis in the Information Decision- Making Process at the Local Level, *GIZ and IIT Roorkee jointly organized, at IIT Roorkee, Delhi, India*, 4-5 July 2024.
7. **Bhupatiraju, S.**, "Barriers of Water Access: Evidence from Across Indian States," 59th Annual Conference of The Indian Econometric Society, *Banaras Hindu University, Varanasi, India*, 3-5 March 2025.
8. Ghaghre, S., Sridharan, R. & **Vishnu, C. R.**, "Demand Forecasting of a Medicine at a Technical University's Healthcare Centre," First International Conference on Logistics, Supply Chain and Transportation (ICLST) 2024, *National Institute of Technology Calicut, Kerala, India*, 22-24 May 2024.
9. Gangan, A., Sasidharan, A. A., Krishna, A. M., Vaidyan, S. K., Anilkumar, E. N. & **Vishnu, C. R.**, "Failure Mode Effects and Criticality Analysis of a Steel Casting Unit: A Case Study," First International Conference on Logistics, Supply Chain and Transportation (ICLST) 2024, *National Institute of Technology Calicut, Kerala, India*, 22-24 May 2024.

Mathematics and Statistics

1. **Balakrishna, N.**, "GARMA Models for Non-Gaussian Time Series," *International Conference on Advances in Data Analytics and Official Statistics 2024*, *S P Pune University, Pune, India*, 24-26 May 2024.
2. **Das, I.**, "Models for Multivariate Responses in the Presence of Inliers," *Quant Hub: Exploring Math, Stats, ML in Data Science*, Online, 15-19 May 2024.
3. **Prasad, S. A.**, "Sequential Labyrinth Fractal," *Fractal Geometry and Related Fields 2024*, *IIIT Allahabad, Allahabad, India*, 05-07 April 2024.
4. **Roy, B.**, "Geometric Interpretation of Certain Moments of Hypergeometric Character Sums," *39th Annual Conference of Ramanujan Mathematical Society 2024*, *Christ University, Bengaluru, India*, 27-29 December 2024.
5. **Roy, A.**, "Detecting Localized Dependence," *International Indian Statistical Association (IISA) 2024*, *CUSAT, Kochi, India*, 27-31 December 2024.

6. **Balakrishna, N.**, "An Overview of Models for Count Time Series," *Annual Conference of the International Indian Statistical Association 2024*, Kurukshetra University, Haryana, India, 21–23 December 2024.
7. **Balakrishna, N.**, "Estimation for Parameter-Driven Count Time Series," *International Indian Statistical Association (IISA) 2024*, CUSAT, Kochi, India, 27–31 December 2024.
8. **Banerjee, S.**, "(Anti-)Classification Results in Dynamical Systems and Ergodic Theory," *Workshop on Dynamics and Related Topics 2025*, National University of Singapore, Singapore, 3–6 March 2025.
9. **Balakrishna, N.**, "Estimating Function Methods for Non-Negative Time Series," *International Seminar on Applied Statistics and Data Analysis 2025*, University of Calicut, Kerala, India, 4–6 March 2025.

Mechanical Engineering

1. Shanmuka Srinivas, M., Sangeeth, P., **Venkaiah, N.**, and **Ravi Sankar, M.** (2024). "Development and Performance Evaluation of Polymer-Based Form Grinding Tool for Porous Viscoelastic Abrasive Finishing Additively Manufactured Nickel Alloy," *International Conference and Workshop on Additive Manufacturing and Characterization (ICAMC 2025)*, IIT Bombay, 9–11 January.
2. Tirumala, T., and **Kumar, A.** (2025). "Fabrication of Components with Integrated Cladding for Harsh Environments through Casting," *National Conference on Materials at Extreme Conditions (MAX 2025)*, IGCAR Kalpakkam, 27–29 March (Poster).
3. **Kumar, A.** (2025). "Effect of Intermetallic Content on Shear Deformation of Thin Solder Micro-Joints Between Copper Substrates," *13th Asia Pacific Microscopy Congress (APMC13)*, Brisbane, Australia, 2–7 February.
4. Chakraborty, D., and **Kumar, A.** (2025). "Study on the Hot Deformation Behaviour of Ti-900 Alloy for Gas Turbine Compressor Blade Applications," *International Mechanical Engineering Congress & Exposition India, Hyderabad International Convention Center*, 10–13 September.
5. **Kumar, A.** (2025). "Effect of Inter-metallic Content on Shear Deformation of Thin Solder Micro-joints Between Copper Substrates," *13th Asia Pacific Microscopy Congress (APMC13) MS04 – Materials for Electronics & Computing*, DOI: 10.14293/APMC13-2025-0218, 2–7 February.
6. Rekam, G., and **Sahu, G. N.** (2025). "AI-Enabled Automated Strabismus Detection and Corneal Deviation Analysis Using Image Processing Techniques," *3rd International Conference on Biomedical Engineering Science and Technology: Computational Methods in Biomedical Research (ICBEST 2025)*, NIT Raipur, 10–11 April (Best Paper Award).
7. **Sahu, G. N.** (2024). "Emulating Lobes and Lenses in Turning Process Using Hardware-in-the-Loop Experiments," *13th International Conference on Precision, Meso, Micro and Nano Engineering (COPEN-13)*, Calicut, India (Best Paper Award).
8. **Sahu, G. N.**, Otto, A., Ihlenfeldt, S. (2024). "Improving Robotic Milling Performance through Active Damping of Low-Frequency Structural Modes," *20th International Conference on Machine Design and Production (UMTIK 2024)*, Ankara, Turkey.
9. Kashmeera, P. B., Pal, R., Navrose, A., and **Furquan, M.** (2025). "High Fidelity Computation of Flow in the Vicinity of Helicopter Blades During Cruise," *18th Asian Congress of Fluid Mechanics (ACFM)*, Seoul, Korea, 10–13 September.
10. **Furquan, M.**, and Sanghi, (2024). "Three Pedagogical Principles for Teaching Mechanics," *Congress of Theoretical and Applied Mechanics (ICTAM)*, Daegu, Korea, 25–30 August.
11. **Furquan, M.**, and Mittal, S. (2024). "A New Algorithm for Fluid-Structure Interactions Involving Fracture," *24th International Congress of Theoretical and Applied Mechanics (ICTAM)*, Daegu, Korea, 25–30 August.
12. Shanmuka Srinivas, M., Vinod Kumar, P., **Venkaiah, N.**, and **Ravi Sankar, M.** (2024). "Viscoelastic Polymer Blended Abrasive Finishing of Biodegradable Magnesium Alloy," *International Conference on Biotechnology, Medicine and Cancer Therapeutics (ICBMCT 2024)*, Sri Venkateswara University, Tirupati, India.
13. Purushothaman, S., Shanmuka Srinivas, M., **Venkaiah, N.**, and **Ravi Sankar, M.** (2024). "Experimental Analysis of Pulsed Laser Micro-Polishing of Nitinol," *International Conference on Advances in Foundry and Forming Technology (ICAFFT 2024)*, NIAMT, Ranchi, India.
14. Shanmuka Srinivas, M., Sangeeth, P., **Venkaiah, N.**, **Ravi Sankar, M.** (2024). "Development and Performance Evaluation of Polymer-Based Abrasive Tool for Porous Viscoelastic Abrasive Finishing Additively Manufactured SS 316L," *International Conference on Advances in Foundry and Forming Technology (ICAFFT 2024)*, NIAMT, Ranchi, India.
15. Shanmuka Srinivas, M., Mohesvari, S. P., Kethana Priya, G., and **Ravi Sankar, M.** (2024). "Experimental Investigation on the Rheological Behaviour of

- Hydroxylated Hexagonal Boron Nitride Nanoparticles Dispersed in Castor Oil," *International Conference on Precision, Meso, Micro and Nano Engineering (COPEN 2024)*, NIT Calicut, Kozhikode, India.
16. Deepak Singh, D., Shanmuka Srinivas, M., Purushothaman, S., and **Ravi Sankar, M.**, Nagahanumaiah (2024). "Optimization of Micro-Tesla Valve as a Passive Mixer in Microfluidics Channels: Design and Experimentation," *COPEN 2024*, NIT Calicut, Kozhikode, India.
 17. Purushothaman, S., Chaileshwar, R., Shanmuka Srinivas, M., Magadum, S., Dhan, S., Nagahanumaiah, and **Ravi Sankar, M.** (2024). "Laser Micro Texturing of Polymethyl Methacrylate for Controlled Wettability and Cell Adhesion," *COPEN 2024*, NIT Calicut, Kozhikode, India.
 18. Shanmuka Srinivas, M., Vinod Kumar, P., Acharya, G., Sangeeth, P., and **Ravi Sankar, M.** (2024). "Precision Finishing of ZE41A Magnesium Alloy with Viscoelastic Polymer Blended Abrasives," *COPEN 2024*, NIT Calicut, Kozhikode, India.
 19. Sangeeth, P., Dinesh Kumar, S., Shanmuka Srinivas, **M., Venkaiah, N.**, Gajrani, K. K., and **Ravi Sankar, M.** (2024). "Evaluation of Tribological Performance for Laser Micro Polished Nitinol," *International Conference on Tribocorrosion (ICTC 2024)*, IIT Delhi, Delhi, India.
 20. Shanmuka Srinivas, M., Pandey, D., Siva Prasad, T., Purushothaman, **S.**, and **Ravi Sankar, M.** (2024). "Experimental Investigation on Tribological Studies of As-Built and Chemical Polished Surgical Steel Surfaces," *ICTC 2024*, IIT Delhi, Delhi, India.
 21. Shanmuka Srinivas, M., Purushothaman, S., **Venkaiah, N.**, and **Ravi Sankar, M.** (2024). "Experimental Investigation on Surface Finishing of Additively Manufactured SS 316L Using Visco-Elastic Porous Abrasive Tool," *International Conference on Next Generation Technologies (ICNGT 2024)*, IIT Madras, Chennai, India.
 22. Parashar, S., **Muthukumar, P.**, and Soti, A. K. (2025). "Experimental study on Metal Hydride Based Thermal Battery for Concentrated Solar Power Applications," *2nd International Conference on Future Environment and Energy (ICFEE 2025)*, Sapporo, Japan, 7–9 March.
 23. Kalita, N., **Muthukumar, P.**, and Dalal, A. (2025). "Design and Performance Investigation of Solar Dryers: Comparative study on Solar Tunnel and Solar Cabinet Dryer," *ICFEE 2025*, Sapporo, Japan, 7–9 March.
 24. Shaika, S. R., and **Muthukumar, P.** (2025). "Life Cycle Assessment and Design of Strategic Human Resource Aspects to Manufacture Biogas-Based Porous Radiant Burner Cookstoves," *2nd Global Conference on Decarbonizing India*, NIT Calicut, Kerala, India, 6–8 March.
 25. Mahalingam, A. K., and **Muthukumar, P.** (2025). "Thermal and Environmental Performance Assessment of Biogas Cookstove with Porous Radiant Burner," *2nd Global Conference on Decarbonizing India*, NIT Calicut, Kerala, India, 6–8 March.
 26. Parashar, S., **Muthukumar, P.**, and Soti, A. K. (2025). "Hydrogen Transfer in Coupled Metal Hydride Reactors for Thermochemical Energy Storage Applications: An Experimental study," *2nd International Conference on Hydrogen Conclave (HYCON 2025)*, Jaipur, India, 10–14 February.
 27. Parashar, S., **Muthukumar, P.**, and Soti, A. K. (2024). "Experimental study on Finned Multi-Tube Metal Hydride Reactor for Large Capacity Stationary Hydrogen Storage Applications," *16th International Conference on Sustainable Energy & Environmental Protection (SEEP 2024)*, Vienna, Austria, 9–12 September.
 28. Chauhan, N., Parashar, S., and **Muthukumar, P.** (2024). "Numerical Investigation Incorporating Comparative study of Metal Hydride Based Multi-Annular Tube Bundle Reactor with Different Fin Configuration for Commercial Hydrogen Storage," *SEEP 2024*, Vienna, Austria, 9–12 September.
 29. Parashar, S., and **Muthukumar, P.**, Soti, A. K. (2024). "Design and Performance Analysis of Novel Metal Hydride Reactor for Thermochemical Energy Storage Applications," *2nd International Conference on Fluid, Thermal, and Energy Systems (ICFTES 2024)*, Calicut, India, 6–8 June.
 30. Nema, P. K., and **Muthukumar, P.**, Thangevel, R. (2024). "Investigation of the Transient Heat Generation from High Energy Density Li-Ion Battery for Thermal Management Using PCM," *ICFTES 2024*, Calicut, India, 6–8 June.
 31. Kalita, N., and **Muthukumar, P.**, Dalal, A. (2024). "Analysis of Convective Heat Transfer Coefficients in Biogas Driven Hybrid Solar Dryer for High Value Ayurvedic Products," *ICFTES 2024*, Calicut, India, 6–8 June.
 32. Shripad, R., M., Jonnalagadda, S. C., and **Sundar, S.** (2024). "Vibro-Acoustics Based Sound Pressure Minimization in a Cam-Follower System Using Micro-Geometric Modifications on Minimizing the Noise," *INTER-NOISE and NOISE-CON Congress and Conference*

Proceedings, vol. 270, no. 10, pp. 1091–1103, *Institute of Noise Control Engineering*.

33. Chakraborty, D., Mandal, A., Prajapati, A., and **Kumar, A.** (2024). "Effect of Process Parameters on Mechanical Performances of 3D-Printed ABS Parts," In: **Kumar, A.**, Srivatsan, T. S., Ravi Sankar, M., Venkaiah, N., Seetharamu, S. (eds.), *Processing and Fabrication of Advanced Materials, Volume 1. PFAM 2023*, Springer Proceedings in Materials, vol. 52, Springer, Singapore.
34. Khan, N. A., **Ravi Sankar, M.**, and **Kumar, A.** (2024). "State of the Art on Additive Manufacturing of Moulding Dies with Conformal Cooling Channels," In: **Kumar, A.**, Srivatsan, T. S., Ravi Sankar, M., Venkaiah, N., Seetharamu, S. (eds.), *Processing and Fabrication of Advanced Materials, Volume 1. PFAM 2023*, Springer Proceedings in Materials, vol. 52, Springer, Singapore.
35. **Anil Kumar, E.** (2024). "Metal Hydrides for Hydrogen Storage and Energy Conversion Applications."
36. Reddy, H., and **Subramanian, B.** (2024). "Effects of Isotropic Scaling on Contraction and Bellmouth Design for a Low-Speed Wind Tunnel: Computational study," *6th International Conference on Applications of Fluid Dynamics (ICAFD 2024)*, Tamil Nadu, India, 5–7 December.
6. Hareesh, C., **Majety, V. P.** (2024). "*tRecX-haCC: a general purpose solver to study multiphoton processes in atoms and molecules*", 28th International Conference on Atomic Physics (ICAP), Imperial College London, UK, July.
7. Yadav, V., & **Manna, R. S.** (2024). "*Pressure-driven magnetic and transport properties of Ba_2MgOsO_6* ", European School on Magnetism (ESM), University of York, UK (Virtual), 27 August – 6 September.
8. Suresh, I. (2024). Fall Conference on Solid State Physics, Astrophysics and Particle Physics, University of Tennessee, USA, September.
9. Yadav, V., & **Sharma, A.** (2024). "*Progress on the design and development of an all-optical transportable trapped- ion-based atomic clock*", 817th WE-Heraeus-Seminar on "Precision Atomic Physics Experiments to Probe for New Physics", Physikzentrum Bad Honnef, Germany, 23–27 September.
10. Yadav, V., & **Manna, R. S.** (2025). "*Pressure studies on Os-based double perovskite oxides*", International School and Conference on Evolution of Electronic Structure Theory & Experimental Realization (EESTER), SRM Institute of Science and Technology & IIT Madras, 3–11 January.
11. Poojitha, B. (2025), & **Manna, R. S.** (2025). "*Electronic and phonon studies of B-site ordered double perovskites Nd_2BTiO_6 ($B = Zn, Ni$)*", International School and Conference on Evolution of Electronic Structure Theory & Experimental Realization (EESTER), SRM Institute of Science and Technology & IIT Madras, 3–11 January.
12. Chatterjee, P., & **Modak, R.** (2024). "*Measurement-induced phase transition in periodically driven systems*", Conference on Observing a Century of Quantum Mechanics, IISER Kolkata, 18–21 December.
13. Priyanuj, & **Modak, R.** (2024). "*Topological properties of SSH model in curved spacetime*", QMAT Conference, IIT Guwahati, 20–23 December.
14. Gandhi, T. P., **Maliyekkal, S.**, & **Gangwar, R. K.** (2024). "*Investigating aflatoxin degradation by nonthermal systems (UV and plasma): optical imaging and radical quantification*", 1st International Workshop on Cold Plasma and Pulse Power Technologies for Food, Health, and Agriculture (COFHA-2024), IIT Jodhpur, 21–22 December.
15. Satish Babu, T., & **Gangwar, R. K.** (2024). "*Time-Resolved Optical Imaging of Single and Multi Plasma Jets: Impact of Waveform Modulation on Radical Emission and Power Efficiency*", 39th National Symposium on Plasma Science & Technology (PLASMA-2024), Pandit Deendayal Energy University, Gandhinagar, 17–20 December.

Physics

1. Pal, R., & **Sharma, A.** (2024). "*Development of a high finesse cavity for portable clock applications*", European Frequency and Time Forum (EFTF) 2024, University of Neuchatel, Switzerland, 25th - 27th June.
2. Pal, R., & **Sharma, A.** (2024). "*Development of a transportable optical cavity for a portable trapped ion atomic clock*", INMAQS Workshop at EFTF 2024, University of Neuchatel, Switzerland, 28th June.
3. Pal, R., Basak, A., & **Sharma, A.** (2024). "Development of a High Finesse Cavity for Portable Clock Applications," 2024 European Frequency and Time Forum (EFTF), Neuchâtel, Switzerland, pp. 323-326,
4. Pal, R., & **Sharma, A.** (2024). "*Development of a transportable optical cavity for a portable trapped ion ($^{40}Ca^+$) atomic clock*", Young Atom Opticians (YAO) 2024, University of Strasbourg, France, 30th June - 5th July.
5. Yadav, V., & **Manna, R. S.** (2024). "*Implementation of density functional theory on Ba_2CaOsO_6* ", Topical School of Advanced Condensed Matter Physics (TSACMP), IOP Bhubaneswar, 20–31 May.

16. Majumdar, N., & **Aravinda, S.** (2024). "Observational entropy and thermodynamics", Conference on 'Observing a Century of Quantum Mechanics', IISER Kolkata, 18–21 December.
17. Rahul, V., & **Aravinda, S.** (2024). "Multipartite entanglement and its measure", Conference on 'Observing a Century of Quantum Mechanics', IISER Kolkata, 18–21 December.
18. Mishra, S., & **Sahoo, S.** (2024). "Quantum entanglement and study of thermodynamic entropy", 7th Annual Conference on Quantum Condensed Matter (QMAT 2024), IIT Guwahati, 20–23 December.
19. Moharana, R. C., & **Koteswararao, B.** (2025). "Electronic structure and magnetic properties of $S = 1/2$ alternating chain $KCuGa(PO_4)_2$ ", International School and Conference on Evolution of Electronic Structure Theory & Experimental Realization (EESTER 2025), SRM Institute of Science and Technology & IIT Madras, 3–11 January.
20. Miriyala, H., & **Sharma, A.** (2024). "Finite element analysis (FEA) based design optimization of ultrastable, high finesse optical cavities for portable optical atomic clock applications", IEEE Asian Test Symposium (ATS 2024), Ahmedabad, Gujarat, India, 17–20 December 2024.
21. Miriyala, H., & **Sharma, A.** (2024). "Design and modelling of dual-axis ultra stable cubic cavity for portable trapped-ion based all-optical atomic clock", ICFO-TIFRH International School on the Frontiers of Light: Hot Topics in Quantum and Nanophotonics (Workshop), TIFR Hyderabad, 23–25 October.
22. Sinha, S., & **Sharma, A.** (2024). "Towards characterization of MEMS-based vapor cells for quantum technology", ICFO-TIFRH International School on the Frontiers of Light (Conference), TIFR Hyderabad, 23–25 October.
23. Sinha, S., & **Sharma, A.** (2024). "Generalized α -Observational entropy", Observing a Century of Quantum Mechanics (Conference), IISER Kolkata, 18–21 December.
24. Sinha, S., & **Sharma, A.** (2025). "Absorption spectroscopy-based estimation of atomic number density MEMS alkali vapor cells", National Conference on Atomic and Molecular Physics 2025 (Conference), IIT-ISM Dhanbad, 8–11 January.
25. Sahu, V. K., & **Koteswararao, B.** (2024). " $Ni_{12}(HPO_4)_6(PO_4)_2(OH)_6$: A compound with coupled frustrated hexagons of alternating ferromagnetic and antiferromagnetic interactions", 13th Asia-Oceania Neutron Scattering Associated (AONSA) Neutron School 2024 (Conference), Bhabha Atomic Research Centre, Mumbai, 24–28 November.
26. Sahu, V. K., & **Koteswararao, B.** (2024). " $HYbO_2$: A $J_{eff} = 1/2$ anisotropic triangular lattice", International workshop on Recent Advancements in Magnetism and Magnetic Materials (iReAD MAGMA) 2024 (Workshop), VIT AP University, 26–30 November.
27. Sahu, V. K. (2024). "Doctoral training program on 'Experimental, Theoretical and Numerical Approaches to Frustrated Quantum Magnets (FQM school)", School of Physics, Les Houches, France, 28 October – 08 November.
28. Singh, V. K., & **Koteswararao, B.** (2024). "Electronic and magnetic properties of $S = 1/2$ spin chain system $KCuGa(PO_4)_2$ ", International Workshop on Recent Advancements in Magnetism and Magnetic Materials (iReAD MAGMA) 2024 (Workshop), VIT AP University, 26–30 November.
29. **Manna, R. S.** (2024). "Tuning phases with pressure for strongly correlated systems", AC2MP 2024, IIT Patna, 8–11 December.
30. Singh, V. K. (2024). "Single crystal diffraction with polarized neutrons", FLIPPER Workshop/Conference (Workshop), Institut Laue Langevin, Grenoble, France, 10–14 December.
31. Singh, V. K., & **Koteswararao, B.** (2024). "Quantum materials (QMAT)", Quantum Materials Conference (Conference), Indian Institute of Technology Guwahati, 19–24 December.
32. **Manna, R. S.** (2025). "Pressure-driven phase transitions in an antiferromagnetic double perovskite", APS March Meeting, Anaheim, CA, USA, 17–21 March.

APPENDIX-III

Invited Lectures Delivered by IIT Tirupati Faculty Members

Chemical Engineering

1. **Tangirala, A. K. (2024).** "Learning and Teaching in Layers: Panch Kosh - A Five-Layered Learning Paradigm", IGNOU (Indira Gandhi National Open University), 5th September.
2. **Tangirala, A. K. (2024).** "Creating and Adopting OERs in the Era of Digital Education and Outreach", International Conference on Thermal Analysis and Calorimetry, IIT Madras, 6th September.
3. **Tangirala, A. K. (2024).** "AI as Learning Tool: What Students, Teachers and Parents Need to Know", The Hindu Interactive Webinar (1800+ participants), 19th October.
4. **Tangirala, A. K. (2024).** "Integrating AI into Classroom Learning and Teaching: Overview and Challenges", MEET and GREET Program for Principals, Deans, Teachers and Heads, Institute for Academic Excellence, Hyderabad, 28th October.
5. **Nabil, M. (2024).** "Integer Optimization Applications in Process Engineering", AdOMACH-25, Puducherry Technical University, Puducherry, 27th September.
6. **Raghavarao, K. S. M. S. (2025).** "Sustainable Agro-Food-Bio System Practices: Indian Traditional Knowledge for Natural Farming and Advances in Food/Bioprocessing", Keynote Speaker, National Conference on Emerging Technologies for Sustainable Agro-Food-Bio Systems (ET-SAFE-2025), Tezpur University.
7. **Thangavel, R. (2025).** "Materials for Sodium-Ion Based Energy Storage Systems with High Energy and Power Density", ASCENT 2025, NIT Warangal.
8. **Thangavel, R. (2025).** "Sustainable Materials for Next-Generation Sodium-Ion Based Energy Storage Systems", Pondicherry University.
9. **Reddy, K. A. (2024).** "External Examiner for PhD Thesis: Study of Flowability of Granular Material Coated with Powder Lubricant", NCL, Pune (Online).
10. **Gumma, S. (2024).** "Carbon Capture: Challenges and Opportunities", SVU.
11. **Moorthy, B. (2024).** "Battery Prototyping", US-DOE-IESA Webinar Series on Energy Storage.
12. **Singh, N. (2024).** "Functionalized Polymer/Metal Oxide Materials for Anticorrosion and Environmental Applications", 11th Nagoya

Biomimetics International Symposium (NaBIS-2024), Nagoya, Japan (Online).

Chemistry

1. **Roy, G. P. (2025).** DST-AMRF sponsored International Conference on Frontiers in Functional Materials (ICFFM 2025), Department of Chemistry, Thiagarajar College, Madurai Kamaraj University, Madurai – 625009, March 7-8.
2. **Roy, G. P. (2025).** 4th Main-Group Molecules to Materials, Department of Chemistry, IIT Mumbai, February 9-12.
3. **Roy, G. P. (2024).** 61st Annual Convention of Chemists and International Conference on "Emerging Trends in Chemistry to Revolutionize Indian Chemical Industries for Viksit Bharat @2047", organized by Indian Chemical Society at JECRC University, Jaipur, December 19-21.
4. **Roy, G. P. (2024).** International Conference on Advances in Chemistry for Energy and Environment (CACEE-2024), organized by the Department of Chemical Science (DCS), TIFR Mumbai, December 16-20.
5. **Roy, G. P. (2024).** International Conference on Trace Elements in Man and Animals (TEMA)-18, jointly organized by MS Ramaiah University and Penn State University, Bengaluru, December 16-20.
6. **Roy, G. P. (2024).** UCSF/OHSU Chemical Biology Symposium, Vey Conference Center, Oregon Health and Science University, July 27 (Online).
7. **Roy, G. P. (2024).** International Workshop, WSeS-11 (The 11th Workshop of the Selenium and Sulfur Redox and Catalysis Network), at Toruń, Poland, July 25-26.
8. **Roy, G. P. (2024).** FORCE-IICS 2024, (Future Oriented Research Conferences and Exhibitions – Interdisciplinary Initiative in Chemical Sciences), Department of Chemistry, IIT Kunpur, Uday Backwater Resort, Alappuzha, Kerala, October 3-6.
9. **Roy, G. P. (2024).** Ruhvenile Biomedical, Sarita Vihar, Delhi, Biomimetic Studies on Metal Homeostasis and Detoxification, June 25.
10. **Roy, G. P. (2024).** Two-day Workshop on "Advances in Bioinorganic Chemistry", Department of Chemistry, IIT Bhilai, Bhilai, India, April 5-6.

Civil and Environmental Engineering

1. **Behera, P. K. (2024).** "Understanding Steel-Concrete Interface in Concrete Structures", ICI Vijayawada (PVPS), 30 December.

2. **Behera, P. K. (2024).** "Non-Destructive Electrochemical Assessment of Steel-Cementitious Interface", Bharat Ratna Sir M Visvesvaraya National Training Facility for Skills for All (BMVNTFSA), Muddenahalli, Chikkaballapura (Dist), 3 October.
3. **Behera, P. K. (2024).** "Steel-Concrete Interface: Durability and Laboratory Tests", IIT Dharwad, 15 March.
4. **Ayothiraman, R. (2024).** "Underground Metro Tunnel Construction in Urban Cities: Different Scenarios and Challenges", IASE, New Delhi, 26 December.
5. **Ayothiraman, R. (2025).** "Deep Excavation in Urban Areas: A Few Case Studies", 2nd International Conference on Civil Engineering Innovative Development in Engineering Advances (ICC IDEA-2025), SRM Institute of Science and Technology, Chennai, 20–22 March.
6. **Biligiri, K. P. (2024).** "Integrating Roadway Systems for Sustainable Transportation Infrastructure", SVU College of Engineering, Tirupati, 4 April.
7. **Biligiri, K. P. (2025).** "Resilient and Sustainable Transportation Infrastructure: A Multifaceted Approach Towards Creating Smart Cities", 2nd Vision Zero Summit, Maulana Azad National Institute of Technology Bhopal, Madhya Pradesh, India, 27 March.
8. **Biligiri, K. P. (2025).** "Circular Economy Conceptual Framework for Roadway Infrastructure: IIT Tirupati Visions for Swachha Andhra", Swachha Andhra Prajaa Vedika, Mydukur, Kadapa, Andhra Pradesh, India, 18 January.
9. **Biligiri, K. P. (2025).** "Smart Infrastructure for Futuristic Cities", iSMARTi-sponsored International Webinar on Smart Cities, 16 January.
10. **Biligiri, K. P. (2024).** "Smart Transportation Infrastructure for Futuristic Cities: A Multidimensional Solution for Resourceful Consumption and Circular Economy", International Webinar, Mansoura University, Egypt, 21 December.
11. **Biligiri, K. P. (2024).** "Plastic-Rubber Conglomerates for Green Road Infrastructure Applications: A Multidimensional Solution for Resourceful Consumption", International Conference on Resource Sustainability (icRS 2024), Bangkok, Thailand, 5–8 November.
12. **Biligiri, K. P. (2024).** "Emerging Pavement Technologies for Sustainable Development", Five-Day Short-Term Course on Advanced Technologies in Pavement Engineering (APTE 2024), National Institute of Technology Rourkela, Odisha, India, 16 July.
13. **Biligiri, K. P. (2024).** "Integrating Roadway Systems for Sustainable Transportation Infrastructure", One-Day National Seminar on Sustainable Practices in Civil Engineering for a Greener Future, S. V. University College of Engineering, Tirupati, Andhra Pradesh, India, 4 April.
14. **Narasamma, N. (2024).** "Wastewater: Characteristics, Impacts, and Aspects of Circular Economy", SRKR Engineering College, Bhimavaram, 9 September.
15. **Narasamma, N. (2024).** "Advanced Wastewater Treatment and Management", NIT Jamshedpur, 10 September.
16. **Narasamma, N. (2024).** "Wastewater: A Threat to the Environment Vs Resource Recovery", IIT Tirupati, 10 April.
17. **Narasamma, N. (2024).** "Wastewater Treatment and its Circular Economy Aspect", SV College of Engineering, Tirupati, India, 23 September.
18. **Narasamma, N. (2025).** "Environmental Remediation Need for Resource Recovery Aspects", APPCB, Vijayawada, India, 21 February.
19. **Narasamma, N. (2025).** "Advanced Sanitation Methods for Rural Wastewater Treatment", SV University, Tirupati, India, 21 March.
20. **Srivastav, R. K. (2025).** "Geospatial Technologies for Hydrology and Water Resources Studies; Opportunities, Challenges, and Way Forward for Industry-Academia-Research Institutes Collaboration; Advances in Water Resources Management", IIT Bombay and IIT Guwahati, 4–5 January (IITB); 27 February (IITG).
21. **Asaithambi, G. (2025).** "Creation of Trajectory Dataset for Disordered Traffic and Its Applications in Modeling Driving Behavior", 6th International Conference on Sustainable Practices and Innovations in Civil Engineering, SSN Engineering College, Chennai, 13 February.
22. **Krishna, A. M. (2025).** "Geotechnical Aspects of Earthquake Resistant Design of Structures", NIT Warangal, Online FDP, 20 January.
23. **Narayana, A. B. (2024–25).** "SAR Interferometry and Applications", DST Sponsored Winter School Program on Advances in Geospatial Technologies, IIT Madras and IIT Patna, and National Hands-on Workshop on SAR, IIT Tirupati Navavishkar I-Hub Foundation.
24. **Rahul, A. V. (2024).** "Advances in 3D Concrete Printing", IIT Madras Workshop, 17–18 March.
25. **Rahul, A. V. (2024).** "Advancements in Additive Manufacturing: Biomedical, Defense, Space,

- Construction, and Aerospace Applications”, Kharyashala High-End Workshop, NIT Tiruchirappalli, 5–9 June.
26. **Rahul, A. V. (2024).** “Current and Future Prospects of Modern Construction Materials and Practices”, Kharyashala High- End Workshop, NIT Andhra Pradesh, 24–30 July.
 27. **Rahul, A. V. (2024).** “Contemporary Advances in Construction Technology”, ATAL Faculty Development Program, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh, 20–25 November.
 28. **Rahul, A. V. (2024).** “Exploring Complex Material Flows”, Symposium, IIT Palakkad, Kerala, 25 November.
 29. **Rahul, A. V. (2024).** “Revolutionizing Road Infra with Modern Equipment, Technologies, Sustainable Materials and Policy Guidelines”, National Conference-cum-Exhibition, International Road Federation – India Chapter (IRF-IC), New Delhi, 29 February–1 March.
 30. **Rahul, A. V. (2024).** “Sustainable Construction Materials for Sustainable Infrastructure”, High-End Workshop (Karyashala), IIT Dharwad, 11–17 March.
 31. **Pancheti, J. (2024).** “Review of Building Codes, Testing and Design Standards for Structural Fire Design”, 14th Structural Engineering Convention (SEC-2024), National Institute of Technology Tiruchirappalli.
 32. **Biligiri, K. P. (2025).** “Tire-Derived Aggregates Modified using Postconsumer Recycled Plastics for Subsurface Pavement Applications: A Study on Absorption and Swelling Effects”, 104th Annual Meeting of the Transportation Research Board, Washington, DC, USA, 5–9 January. (*Presented by Neetu Gopakumar)
 33. **Biligiri, K. P. (2025).** “Utilization of Steel Slag Aggregates in Pervious Concrete Pavements to Alleviate Surface Temperatures: A Resource-Efficient Strategy”, 104th Annual Meeting of the Transportation Research Board, Washington, DC, USA, 5–9 January. (*Presented by SrinivasJadala)
 34. **Biligiri, K. P. (2025).** “Asphalt Mix Material Parameters Identification using Dynamic Semi-circular Bending Tests through Extended Finite Element Model”, 104th Annual Meeting of the Transportation Research Board, Washington, DC, USA, 5–9 January. (*Presented by Surya Marimuthu)
 35. **Hazim, S., Biligiri, K. P., and Ramaiah, B. J. (2024).** “Utilization of Municipal Solid Waste Incineration Fly Ash in Modifying Asphalt Binder through the Wet Process: Optimization and Performance Characterization”, 15th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries, IIT Bombay, India, 18–20 December. (*Presented by Sheikh Hazim)
 36. **Biligiri, K. P. (2024).** “Development of a Wireless Power Transfer System Incorporated within Pavement Infrastructure for Transporting Electric Vehicles”, IRF Global R2T Conference 2024, Paving the Future of Roadways, International Road Federation, Orlando, Florida, USA, 10–13 December.
 37. **Biligiri, K. P. (2024).** “Investigating the Effect of Aging on Hot-Mix Asphalt Performance: A Holistic Case Study based on Laboratory-Field Correlations”, IRF Global R2T Conference 2024, Paving the Future of Roadways, International Road Federation, Orlando, Florida, USA, 10–13 December.
 38. **Biligiri, K. P. (2024).** “A Systematic Framework to Quantify Social Discount Rate for Roadway Infrastructure: Towards Robust Pavement Lifecycle Cost Analysis”, IRF Global R2T Conference 2024, Paving the Future of Roadways, International Road Federation, Orlando, Florida, USA, 10–13 December.
 39. **Biligiri, K. P. (2024).** “Exploring the Potential of Fly Ash-Derived Synthetic Zeolite as Foaming Warm-Mix Asphalt Additive in Reducing the Production Temperatures of Asphalt-Rubber Mixtures”, IRF Global R2T Conference 2024, Paving the Future of Roadways, International Road Federation, Orlando, Florida, USA, 10–13 December.
 40. **Biligiri, K. P. (2024).** “Compatibility Assessment and Performance Evaluation of Asphalt Binder Modified with Recycled Composite Waste and Crumb Rubber”, IRF Global R2T Conference 2024, Paving the Future of Roadways, International Road Federation, Orlando, Florida, USA, 10–13 December.
 41. **Gopakumar, N., and Biligiri, K. P. (2024).** “Utilization of Recycled Plastics in Asphalt-Rubber Roads: A Green Solution to Solid Waste Management”, International Conference on Resource Sustainability icRS 2024, Bangkok, Thailand, 5–8 November. (*Presented by Neetu Gopakumar)
 42. **Mattaparthi, S. G., and Biligiri, K. P. (2024).** “Application of Rice Husk-Derived Zeolites for Green Roadway Production for Enhanced Resource Sustainability and Reduced Environmental Impact”, International Conference on Resource Sustainability icRS 2024, Bangkok, Thailand, 5–8 November. (*Presented by Sri Gangadhar)

43. **Gopakumar, N., and Biligiri, K. P.** (2024). "Morphological and Rheological Assessment of Waste Plastic-Modified Asphalt-Rubber Binder", 10th International Conference on Maintenance and Rehabilitation of Pavements (MAIREPAV10), Guimaraes, Portugal, 24–26 July. (*Presented by Neetu)
44. **Mattaparthi, S. G., and Biligiri, K. P.** (2024). "Bentonite-Based Zeolite-like Foaming Warm-Mix Additive: Synthesis, Characterization, and Rheological Evaluation on Virgin and Asphalt-Rubber Binders", 10th International Conference on Maintenance and Rehabilitation of Pavements (MAIREPAV10), Guimaraes, Portugal, 24–26 July. (*Presented by Gangadhar)
45. **Shravani, K., and Srivastav, R.** (2025). "River-System Digital Twin for Flood Hazard Mapping", EGU General Assembly, Vienna, Austria, 28 April – 2 May.
46. **Panikkar, U. R., and Srivastav, R.** (2025). "A New Lens for Water Management: Embracing Complexity in Hydrology", PMRF Annual Symposium, IIT Hyderabad, 16–17 March.
47. **Panikkar, U. R., and Srivastav, R.** (2024). "Effect of Anthropogenic Induced Changes in Watershed Characteristics on Streamflow Generation", AGU 2024 Fall Meeting, Washington, DC, USA, 9–13 December.
48. **Gowri, A.** (2024). "Traffic Flow Dynamics: Data, Models and Methods", SPARC Workshop in Collaboration with IIT Kanpur, Technical University Dresden, and Israel Institute of Technology, Online, 17–18 October.
49. **Gowri, A.** (2025). "Data Driven Statistics in Transportation", Short Term Course (Sponsored by MoE under SPARC scheme), IIT Kanpur and IIT Tirupati, Hybrid Mode: Offline at IIT Kanpur, Online via Zoom platform, 3–7 March.
50. **Kalahasthi, L. K.** (2025). "Advances in Autonomous Driving and Vehicular Networks (ADVnet)", Workshop, COMSNETS, Bengaluru.
51. **Kalahasthi, L. K.** (2025). "Advances in Autonomous Driving and Vehicular Networks (ADVnet)", Workshop in a Conference, IISC Bangalore and IIT Madras, Bengaluru, 6–10 January.
52. **Kalahasthi, L. K., Aditya, A., Prajwal, G., and Abhishek, A.** (2025). "Integrated Autonomous Deliveries", City Logistics Conference, Penang, Malaysia.
53. **Bijily, B.** (2024). "Reassessment and Strengthening of Existing Bridges", Seminar by Prof. Balthasar Novak, University of Stuttgart, Germany, AB2-001, 24 May.
54. **Bijily, B.** (2024). Attended the UL International Conclave on Sustainable Construction: Innovative Technologies and Practices, IIIC Kollam, Kerala.
55. **Bijily, B.** (2024). Attended the International Conference on Concrete under Service Conditions – Environment and Loading (CONSEC24), IIT Madras.
56. **Pancheti, J.** (2024). "Fire Behaviour of Steel Structures", Workshop, IIT Tirupati and Dr. Lakshmi Priya, IIT Madras, IC&SR Auditorium, IIT Madras, 7 June.
57. **Pancheti, J.** (2025). "Fire Resistant Glazing", Conference, IIT Tirupati, Glazing Society of India, and Bureau of Indian Standards – CHD, 10 March.
58. **Behera, P. K.** (2024). "Characterization of Cementitious Materials and Laboratory Testing", National SERB Workshop– Karyashala, TC1, 18–24 March.
59. **Behera, P. K., Bhanuprakash, M., and Naveen Kumar, V.** (2024). "Electronic Properties of Oxide Films Formed on Different Steel Bars in Cementitious Systems", 18th NCB International Conference, New Delhi, 27–29 November.
60. **Narasamma, N.** (2024). "Wastewater: A Threat to the Environment vs Resource Recovery", APPCB, 10 April. **Narasamma, N.** (2025). "Advanced Treatment Techniques for Wastewater Treatment and Energy Recovery", SRM AP, 1st Water Elixir Meet (WE Meet) 2025, 28 February – 2 March.
61. **Narasamma, N.** (2025). "Modified Electrooxidation Reactor for Enhanced Emerging Contaminants Removal", IIT Madras / IInvenTiv 2025, 1–2 March.
62. **Nithyadharan, M., Subramanyam, V., and Pandurangan, V.** (2024). "A Machine Learning Based Inverse Framework for Predicting the Transverse Thermal Conductivity of Carbon Fiber", 14th Structural Engineering Convention (SEC 2024), NIT Tiruchirappalli, India, 12–14 December.
63. **Pancheti, J.** (2025). "Fire Resistant Glazing – Building Design, Standards and Testing", National Conference, One-Day Industry Conference, IIT Tirupati, 10 March.

Computer Science and Engineering

1. **Chimalakonda, S.** (2024). "AI-Assisted Software Engineering - Trends, Challenges and Need for Standards", *ISO/IEC JTC1/SC7 (Software and Systems Engineering)*, Berlin Plenary, 29 May.
2. **Tudu, J. T.** (2024). "Testing of AI Accelerator", *IIT Bombay Electrical Engineering*, June.
3. **Chimalakonda, S.** (2024). "The Crossroads of

Artificial Intelligence for Software Engineering via LLMs", *Microsoft Research India Academic Summit 2024*, 18 June.

4. **Yeturu, K.** (2024). "Fundamentals of RNNs and LLMs for Problem Formulation, Solution Design and Use Case Applications", *One Week National Level Faculty Development Programme on Gen AI: Generative Adversarial Networks*, Malla Reddy College for Women, 15–20 July.
5. **Chimalakonda, S.** (2024). "The Crossroads of AI for SE and SE for AI – What's Happening and Where Are We Going?", *RV College of Engineering*, 22 August.
6. **Yeturu, K.** (2024). "Machine Learning Problem Formulation and Solution Design", *AICTE ATAL FDP Activity*, Sri Venkateswara University College of Engineering, Tirupati, 25 October.
7. **Yeturu, K.** (2024). "AI Solutions in Healthcare", *St Joseph University, Bangalore*, 5 November.
8. **Vishnu, C.** (2024). "[AICTE FDP] Deep Learning", *Sri Venkateswara University College of Engineering, Tirupati*, October.
9. **Chimalakonda, S.** (2024). "The Crossroads of AI for SE and SE for AI – What's Happening and Where Are We Going?", *NIT Trichy*, 11 September.
10. **Chimalakonda, S.** (2024). "The Crossroads of AI for SE and SE for AI – What's Happening and Where Are We Going?", *Amrita (Coimbatore)*, 12 September.
11. **Chimalakonda, S.** (2024). "Careers in Computing - Why AI is (not) the (only) route for Computer Science folks?", *RGUKT, RK Valley*, 28 September.
12. **Chimalakonda, S.** (2024). "Careers in Computing - Why AI (alone) is not enough in the long-term for a career in computing!", *NIT Andhra Pradesh*, 25 November.
13. **Chimalakonda, S.** (2024). "LLMs for Code Tasks Via Security - Current and Future Trends", *NIT Warangal*, 1 December.
14. **Yeturu, K.** (2025). "AI in Biology Workshop", *IISc Bangalore*, 16 January.
15. **Yeturu, K.** (2025). "Anusandhan National Research Foundation - Inclusivity Research Grant - Expert Committee - Reviewed about 100 Proposals", *ANRF Delhi*, 5–8 February.
16. **Yeturu, K.** (2025). "Academic Offerings to Temple Operations, Management and Knowledge Systems", *IIT Tirupati, The International Temples Convention and Expo (ITCX)*, 18 February.
17. **Tudu, J. T.** (2025). "Next Generation System Level Test", *IIT Gandhinagar*, 4 March.
18. **Tudu, J. T.** (2025). "National Co-Development

Center on System Level Electrical Test", *ISPEC-2025, Mahatma Mandir Gandhinagar*, 7 March.

19. **Yeturu, K.** (2025). "Chief Guest Lecture at Cynosure 2K25", *Sri Venkateswara University College of Engineering, Tirupati*, 27 March.

Electrical Engineering

1. **Vyaharae, P.** (2024). "Distributed Learning with Partial Information Sharing", *JTG/IEEE ITSoc Summer School*, IIT Hyderabad 25 June.
2. **Mohapoatra, P. K.** (2024). "Role of Shared Keys in Secure Communication for Interference-Limited Environments", *Department of Electrical Engineering, IIT Madras*, 30 May.

Humanities and Social Sciences

1. **Vishnu, C. R.** (2024). "Supply Chain Risk Management in the Healthcare Sector," Webinar Series on Hospital and Healthcare Management, *School of Management, Apollo University, Chittoor, AP*, 19 November.
2. **Vishnu, C. R.** (2024). "Strategies and Tools to Ensure Success in Academic Research," Faculty Development Programme, *Department of Mechanical Engineering, Vignan Institute of Technology and Management, Berhampur, Odisha*, 27 August.
3. **Vishnu, C. R.** (2024). "Adoption of AI in Higher Education: Opportunities and Challenges," Faculty Development Programme, *Farook Institute of Management Studies (FIMS), Calicut, Kerala*, 2–3 May.
4. **Vishnu, C. R.** (2024). "Interpretative Structural Modelling (ISM) Applications in Supply Chain Risk Management," Virtual Research Workshop, *College of Economic and Management Sciences, University of South Africa (UNISA)*, 22 April.
5. **Vishnu, C. R.** (2024). "Classical Network Problems in Operations Research," Operations Research & Management Course for Integrated MTech Students, *VIT Business School, VIT Chennai, Tamil Nadu*, 18 April.
6. **Bahinipati, C. S.** (2025). "Climate-Induced Extreme Events, Loss and Damage, and Adaptation: Evidence from India," *INET & YSI Conference on Climate Change Adaptation and Resilience in Agriculture, KREA University, India*, 17 March.
7. **Bahinipati, C. S.** (2025). "Economics of Agricultural Adaptation in a Changing Climate in India," *Department of Economic Sciences, Indian Institute of Science Education and Research, Bhopal*, 7 March.
8. **Bahinipati, C. S.** (2025). "Issues and Challenges

Associated with Estimating Loss and Damages from Climate Extreme Events in India," Workshop on Water-related Disaster Risk Assessment: Data and Methods, *CTARA, Indian Institute of Technology Bombay*, 6 March.

9. **Bahinipati, C. S. (2025).** "Climate-Induced Extreme Events, Coping or Adaptation, and Farmers' Wellbeing: Evidence from India," 57th Annual Conference, *Odisha Economic Association, Ravenshaw University, Cuttack, Odisha*, 8 February.
10. **Bahinipati, C. S. (2025).** Invited Expert, Brainstorming Workshop on Adaptation to Climate Change in Agriculture Sector, *Centre of Excellence on Adaptation to Climate Change, Indian Institute of Technology Delhi*, 28 January.
11. **Bahinipati, C. S. (2025).** "Consumer Behavior Revisited: Utility, Choices, and Decisions" and "Market Structures and Competition: From Perfect to Imperfect Markets," Refresher Course in Commerce, Economics, Management, and Tourism Management, *MMTT, Berhampur University, Odisha*, 21 January.
12. **Bahinipati, C. S. (2025).** Invited Resource Person, Conference on Sustainable Rural Transformation in India: A Pathway to Vikshit Bharat@2047, *Khemundi College, Odisha*, 17–18 January.
13. **Bahinipati, C. S. (2025).** Panel Speaker, "Sustainable Development Goals Perspective & Policy Making: Challenges and Opportunities in Building Ecological, Regenerative and Sustainable Societies," Workshop on *Aglibrete 2025 Eco- Alliance for Participatory Growth, Aglibrete, Coimbatore*, 11 January.
14. **Bahinipati, C. S. (2024).** "Tricks on Publishing in Scopus, Web of Science and ABDC Journals," Winter School Workshop on Research Proposal Writing, Large-Scale Data Analysis, and Academic Paper Publishing, *Babasaheb Bhimrao Ambedkar University, Lucknow*, 27 December.
15. **Bahinipati, C. S. (2024).** "The Economics of Energy Conservation: Supply vs. Demand Management," Faculty Induction Programme, *S.V. University, Tirupati*, 6 December.
16. **Bahinipati, C. S. (2024).** "Adoption of Water-Efficient Technologies: Evidence from India," *Wednesdays for Water Forum*, 4 December.
17. **Bahinipati, C. S. (2024).** Panel Speaker, "Communicating Climate Risk Information to Local Stakeholders," Workshop on Effective Mechanism for Local-level Climate Risk Assessment and Adaptation Actions in Agri-food Systems, *GIZ- India, Chennai*, 2 December.
18. **Bahinipati, C. S. (2024).** "Introduction to Longitudinal Studies in Agriculture: Lessons and Opportunities," *Council for Social Development, Hyderabad*, 19 November.
19. **Bahinipati, C. S. (2024).** "Climate-smart Agriculture, Adoption, and Farmers' Wellbeing: Empirical Evidence from India," *Jain University, Bengaluru*, 18 October.
20. **Bahinipati, C. S. (2024).** "An Introduction to Systematic Literature Review" & "An Introduction to Program Evaluation," Short-term Course Research Methodology – Social Science & Humanities, *UGC-Human Resource Development Centre, Kannur University, Kerala*, 10 August.
21. **Bahinipati, C. S. (2024).** "India's Experience with the Adoption of Climate-Smart Agriculture Practices," *NCAER Virtual Dialogue Room, National Council of Applied Economic Research (NCAER)*, 14 June.
22. **Varun, V. (2025).** "AI/ML Applications in Transportation Planning: Implications for Transport Policy," Invited Lecture, Faculty Development Programme on Transforming Water Resources Management, Traffic Systems, and E-Mobility with Quantum Computing and AI, *National Institute of Technology Patna*, 25 February.
23. **Pandey, A. K. (2025).** Keynote Speaker, NITI Online Winter School in Public Policy and Good Governance, "Active Citizenship and Participatory Governance," 2 February.
24. **Pandey, A. K. (2025).** Resource Person, Three-Day Online Workshop on Hands-on Analysis of EUS & Periodic Labour Force Survey (PLFS) Data Using Stata Software, *VART Consulting Pvt. Ltd, Mumbai*, 25–27 April.
25. **Pandey, A. K. (2025).** Keynote Speaker, One-Day National Seminar on Data and Computing in Social Sciences, "Role of Data and Evidence for Policymaking in India," *Department of Computational Social Science, Central University of Andhra Pradesh*, 19 April.
26. **Pandey, A. K. (2025).** Invited Lecture, "Leveraging Municipal Bonds for Financing India's Urban Infrastructure," *Department of Planning, School of Planning and Architecture (SPA), New Delhi*, 9 April.
27. **Pandey, A. K. (2025).** Invited Lecture, "Measuring Migration in India," *School of Public Policy and Governance, Tata Institute of Social Sciences, Hyderabad*, 30 April.

Mathematics and Statistics

1. **Banerjee, S. (2024).** "(Anti-)Classification Results in Dynamical Systems and Ergodic Theory," *National University of Singapore (NUS)*, 17 April.

2. **Mariappan, P.** (2024). "Cutting-Edge GPU Solutions for the BGK Model of the Boltzmann Equation: Semi-Lagrangian and ALE Approach," *TU Kaiserslautern, Germany*, 9 July.
3. **Rajesh, S.** (2024). "Fixed Point Theorems for Isometry Mappings," *Thiruvalluvar College, Papanasam, Tirunelveli, Tamil Nadu*, 9 August.
4. **Rajesh, S.** (2024). "Fixed Point Theorems for Isometry Mappings," *IISER Tirupati*, 23 August.
5. **Rajesh, S.** (2024). "Fixed Point Theorems for Isometry Mappings," *ADM College, Nagapattinam*, 30 August.
6. **Rajesh, S.** (2024). "Some Properties of Banach Spaces," *NIT Karaikal, Puducherry*, 30 August.
7. **Balakrishna, N.** (2024). "Models for Non-Gaussian Time Series," *IIT Tirupati*, 7 August.
8. **Mariappan, P.** (2024). "Applications of Calculus in Bioinformatics and Lunar Landers," *VIT Vellore*, 24 October.
9. **Mariappan, P.** (2024). "From Calculus to Code: The Role of Integration in Algorithm and Design," *VIT Vellore*, 24 October.
10. **Mariappan, P.** (2024). "Applications of Mathematics in Engineering - Part I," *Chaitanya Bharathi Institute of Technology*, 14 November.
11. **Mariappan, P.** (2024). "Applications of Mathematics in Engineering - Part II," *Chaitanya Bharathi Institute of Technology*, 14 November.
12. **Mariappan, P.** (2025). "Research Ethics and Plagiarism," *Kalasalingam Academy of Research and Education*, 4 January.
13. **Mariappan, P.** (2025). "Introduction to Matlab/Mathematica," *AJ College, Sivakasi*, 4 January.
14. **Mariappan, P.** (2025). "Mathematical Foundations and Computational Advancements in Large Language Models," *National Engineering College, Kovilpatti*, 22 February.
15. **Mariappan, P.** (2025). "Calculus for Machine Learning," *National Engineering College, Kovilpatti*, 22 February.
16. **Mariappan, P.** (2025). "Dynamic Learning: Teaching Series, Sequences with Desmo," 11 March.
17. **Mariappan, P.** (2025). "Mastering Calculus Through the Power of Python – One Week Faculty Development Program on Modern Tools for Teaching, Learning and Research," *Gayatri Vidya Parishad – Prof. V. Lakshmikantham Institute for Advanced Studies*, 12 March.
18. **Mariappan, P.** (2025). "Finite Difference Method Value Added Course on Mathematical Modelling in Ocean Engineering," *VIT Vellore*, 18 March.
19. **Mariappan, P.** (2025). "Generalized Finite Difference Method Value Added Course on Mathematical Modelling in Ocean Engineering," *VIT Vellore*, 18 March.
20. **Mariappan, P.** (2025). "How to Approach a Potential Supervisor? DAAD Workshop on Guidance on Writing a PhD Proposal," *Bharathiar University, Coimbatore*, 19 March.
21. **Mariappan, P.** (2025). "Careers in Mathematical Sciences, DAAD Workshop on Guidance on Writing a PhD Proposal," *Bharathiar University, Coimbatore*, 19 March.

Mechanical Engineering

1. **Sahu, G. N.** (2024). "Transforming Manufacturing with Advanced Technologies," *Narayana Engineering College, Nellore, India*, Faculty Development Program (FDP), 4 December.
2. **Sahu, G. N.** (2024). "Industrial Automation and Safety, Smart Sensors and Actuators, and Hands-on Training on Raspberry Pi and PLCs," *IIT Tirupati* (Jointly conducted with IIF Chennai), Long-Term Course on Introduction to AI and Machine Learning for Foundries, 20 June – 13 July.
3. **Sahu, G. N.** (2024). "Emulations and Active Control of Chatter using HiL Simulation," *IIT Tirupati, USA-India International Research Experience for Students (IRES) program*, 24 June.
4. **Kumar, A.** (2025). "Additive Manufacturing," *Marwadi University, Rajkot-Morbi, Gujarat, India*, Expert Talk, 23 January.
5. **Kumar, A.** (2025). "Microwave Processing for Functional Materials – From Fundamentals to Future Technologies," *KLS Gogte Institute of Technology, Belagavi, Karnataka, India*, Online ATAL Faculty Development Program, 1 February.
6. **Kumar, A.** (2024). "Next Generation Technologies: Design and Manufacturing," *IIT Madras, India*, International Conference on Next Generation Technologies (ICNGT 2024), 13–15 November.
7. **Kumar, A.** (2024). "3D Printing and Additive Manufacturing Technologies," *The Lalit Ashok, Bangalore, India*, 13th International Conference and Exhibition (AM 2024), 24–25 October.
8. **Kumar, A.** (2024). "ASM Bangalore Chapter Talk Series," *ASM Bangalore Chapter, India*, 28 September.

9. **Kumar, A.** (2024). "The Role of Digitization in Foundry Industry and Opportunities," *The Institution of Engineers (India), Kolkata*, One-Day Seminar on "Industry and FOUNDRY 4.0," 5 August.
10. **Kumar, A.** (2024). "Handholding: Pre-Incubation, Incubation Facility Management & How to Convert Idea into Startup," *IIC LNCT, Bhopal*, 17 August.
11. **Kumar, A.** (2024). "Reverse Cladding of Austenitic Stainless Steel to Aluminum-Silicon Alloy Through the Casting Route," *Ballari Institute of Technology and Management, Ballari, Karnataka, India*, 1st International Conference on New Frontiers in Materials for Engineering Applications (ICNFMEA-2024), 26–27 July.
12. **Kumar, A.** (2024). "Ceramics for Frontier Sectors: Emerging Advances and Prospects," *IIT Roorkee*, 4th Global Ceramic Leadership Roundtable (CerAP2024), 11–12 March.
13. **Subramanian, B.** (2025). "Fixed Wind Drone-Based Wind Measurement System," *NIT Warangal*, Faculty Development Programme (FDP) on "Unmanned Aerial Systems (UAS): Design, Development and Deployment," 17–27 March.
14. **Subramanian, B.** (2024). "Wind Energy Systems for Sustainability," *VIT Vellore*, 3-Day International Seminar on Sustainable Energy, 17–19 April.
6. **Rao, V. V.** (2024). "Physics Education for National Mission Programs", Exposure Visit for CBSE School Principals, Center for Continuing Education, India, 6 May.
7. **Sharma, A.** (2024). "Warm vapor atomic clocks", Invited Seminar, SSPL, New Delhi, India, 11 June.
8. **Sharma, A.** (2024). Attendee, "Seminar on Navigating the Depths: Innovations in Underwater Navigation", IIT Delhi Research Park, India, 14 June, organised by IIT Tirupati Navavishkar I-Hub Foundation.
9. **Koteswararao, B.** (2024). "A brief on India Science Technology Engineering Facilities Map (I-STEM)", In-House Training for Technical Staff, IIT Tirupati, India, 22 July.
10. **Sharma, A.** (2024). "Progress Towards Precision Spectroscopy of a Single Trapped Calcium ($^{40}\text{Ca}^+$) Ion for Quantum Technology Applications", BTDG Colloquium on Quantum Technologies, BARC Campus, Anushakti Nagar, Mumbai, India, 3 July.
11. **Aravinda, S.** (2024). "Foundations of quantum computational advantage" (3 lectures), Faculty Development Program, NIT Warangal, India, July.
12. **Rao, V. V.** (2024). "Lectures on Vacuum Technology and Process Applications", InCent-LGD Research Group, IIT Madras, 15–19 July.
13. **Joglekar, A.** (2024). "Neutron star heating with inelastic dark matter", Frontiers in Particle Physics Conference, IISc Bengaluru, August.
14. **Modak, R.** (2024). "Quantum channel and many-body quantum systems", EQCMP 2024, IOP Bhubaneswar, August.
15. **Majety, V. P.** (2024). "Attosecond science: role of multiphoton processes and their first principle modeling", IISER Tirupati, 26 September.
16. **Koteswararao, B.** (2024). "Unconventional physics of highly frustrated quantum magnets", ICEMA-2024, Auxilium College, Vellore, 12 September.
17. **Koteswararao, B.** (2024). "Unconventional Magnetism in Highly Frustrated Spin Chains", i-ReAd MAGMA 24, VIT- AP University, Amaravati (online), 26–30 November.
18. **Gangwar, R. K.** (2024). "Integration of Machine Learning approaches in spectroscopic diagnostic of nonthermal atmospheric pressure plasmas", 8th Asia-Pacific Conference on Plasma Physics, Malacca, 3–8 November.
19. **Rao, V. V.** (2024). "Vacuum Technology for IC Chip Manufacturing", Workshop on Vacuum Technology & IC Fabrication, IITH & IITT, 9–10 November.

Physics

1. **Sharma, A.** (2024). "Progress towards a trapped ion-based all-optical, portable atomic clock", 1st Indo-French Workshop on Light-Matter Interaction, Université Claude Bernard Lyon 1 and CNRS, Lyon, France, 22–24 May.
2. **Majety, V. P.** (2024). "Multiphoton processes in atoms and molecules using tRecX-haCC", 1st Indo-French Workshop on Light-Matter Interaction, Université Claude Bernard Lyon 1 and CNRS, Lyon, France, 22–24 May.
3. **Koteswararao, B.** (2024). "Quantum magnets with robust spin entanglement features: Challenges and efforts", Workshop on Quantum Materials & Devices, Sri Venkateswara University, India, 9 May.
4. **Koteswararao, B.** (2024). "Theory and demonstration on X-ray diffraction", High-End Workshop (Karyashala) on Characterization of Cementitious Materials and Laboratory Testing, IIT Tirupati, India, 18–24 March, sponsored by SERB-Accelerate Vigyan Scheme.
5. **Gangwar, R. K.** (2024). "Application of plasma diagnostics in developing efficient plasma reactors", IPPD 2024, IIT Delhi, India, 10 May.

20. **Singh, M.** (2024). "Linker based strategies for tuning optical and mechanical response of plasmonic nanocrystal gels", Physics of Complex Systems 2024, TIFR Hyderabad, 18–24 November.
21. **Rao, V. V.** (2024). "Introduction to Semiconductor Manufacturing", UNIT-2024 FDP, Haldia Institute of Technology, 23 November.
22. **Khaire, V.** (2024). "Modeling the extragalactic background light from radio to gamma-rays", AstroParticle Symposium 2024, Institut Pascal, Paris (online), 12 November.
23. **Rao, V. V.** (2024). "Vacuum Technology for Semiconductors", Semiconductor Manufacturing Skills – Training Workshop, IISc Bengaluru, 6 December.
24. **Gangwar, R. K.** (2024). "Interaction Lecture with students", KV VSN Foundation Day, KV VSN, Nagpur, 15 December.
25. **Rao, V. V.** (2024). "Vacuum Technology for Materials Processing", Pre-conference workshop, PAMFP 2024, IIT Hyderabad, 10 December.
26. **Majety, V. P.** (2024). "Multiphoton ionization in the vicinity of Fano resonances", 13th Asian Symposium on Intense Laser Science, Udaipur, 15–18 December.
27. **Rao, V. V.** (2024). "Concepts of Vacuum Technology and setting up a Vacuum technology lab in College", ATAL FDP on Cryogenic and Vacuum Technology, CV Raman Global University, Bhubaneswar, 16–17 December.
28. **Khaire, V.** (2024). "Searching weak Oxygen absorption lines in the intergalactic medium", Baryons Beyond Galactic Boundaries 2024, IUCAA Pune, 3 December.
29. **Gangwar, R. K.** (2024). "Development of efficient non-thermal atmospheric pressure plasma reactors for environmental applications using optical diagnostics", 1st International Workshop on Cold Plasma and Pulse Power Technologies for Food, Health, and Agriculture, IIT Jodhpur, 21–22 December.
30. **Dolui, K.** (2024). "Spin torque and spin pumping in spin-orbit-proximitized antiferromagnets", Young Investigators Meet on Quantum Condensed Matter Theory 2024, IISER Pune, 16–18 December.
31. **Dolui, K.** (2024). "Accelerating the Discovery of Ambient-Pressure High Temperature Superconductors through Ab- initio Structure Search and Machine Learning", DAE-SSPS 2024, BARC, Mumbai, 18–22 December.
32. **Aravinda, S.** (2024). "Foundational questions of quantum theory and its technological implications", PRAYOGA Institute, Bangalore, 17 December.
33. **Khaire, V.** (2024). "A brief overview of optical technosignatures", Breakthrough Listen Technosignature Workshop, Goa, 14 December.
34. **Koteswararao, B.** (2025). "Highly frustrated magnetism in spin chains", NSETAFM-2025, Acharya Nagarjuna University, 20–21 March.
35. **Koteswararao, B.** (2025). "Celebrating National Science Day", Annamacharya Institute of Technology and Sciences, Tirupati, 28 February.
36. **Rao, V. V.** (2025). "Fused Silica for Hemispherical Resonator", Materials and Mechanisms for Avionics - Current and Future trends, RCI, DRDO, Hyderabad, 1 March.
37. **Rao, V. V.** (2025). "Vacuum Technology in Semiconductor Manufacturing & Packaging: Innovations, Applications and Challenges", AICTE ATAL FDP, NorthCap University, Gurgaon, 24 February – 1 March.
38. **Aravinda, S.** (2025). "Science and Literary Experience", International Conference on Science and Kannada Language, Mahajana College, Mysore University, 24 February.
39. **Aravinda, S.** (2025). "Quantum Ergodic Hierarchy, Thermodynamics and Complexity: An information theoretic perspective", Young Quantum Investigators Meet, IIT Madras, 7 March.
40. **Aravinda, S.** (2025). "Foundations of Quantum Computational Advantage", Bridging Many Phases of Matter Conference, SDM College Ujire, Karnataka, 14 March.
41. **Kaushalya J.** (2025). "Beyond Moore's Law - Harnessing spins and photons for next generation computing", TIFR Mumbai, 15 April.

APPENDIX- IV

Awards and Achievements

Department of Chemical Engineering

1. **Adithiyan T** received the DAAD Fellowship for 6 months of MTech project under the KOSPIE program in the Technical University of Munich, Dr Miranda Minceva, TUM School of Life Sciences.
2. **Neha Naijo Areekal** was awarded the Prime Minister Fellowship by ANRF (Anusandhan National Research Foundation) and CII (Confederation of Indian Industries) for Doctoral Research with Marico Limited, Mumbai, India.
3. **Penima R Marak** was awarded the Prime Minister Fellowship by ANRF (Anusandhan National Research Foundation) and CII (Confederation of Indian Industries) for Doctoral Research with APIT (Agri Process Innovations and Technologies) Machinery Private Limited.
4. **Prashanth** received the DAAD Bi nationally supervised Ph.D program fellowship (12 months) in Leibniz University (TU), Germany.
5. **Neha Naijo Areekal** received the AFST(I)-Springer Travel Grant Award during the 30th ICFoST 2024.
6. **Joseph Abhisheka Rao Boravelli** was selected as a member of the Early Career Board for the American Chemical Society's Journal of Chemical and Engineering Data (JCED).



Department of Chemistry

1. **G. P. Roy** was awarded the Professor R. D. Desai 80th Birthday Commemoration Award 2023 by the Indian Chemical Society Award during the Centennial Jubilee Year (Est.: 1924).
2. **Dr. G. P. Roy** was associate editor of Frontiers in Chemistry, Medicinal and Pharmaceutical Chemistry.
3. **Dr. G. P. Roy** was part of the Board of Studies, NIT Andhra Pradesh.
4. **Likesh Kumar** was selected to participate in the 74th Lindau Nobel Laureate Meeting, Lindau, Germany, from 29 June - 4 July 2025.

Department of Civil and Environmental Engineering

1. **Dr. A V Rahul** received the *Special Concretes Award* for the year 2024 by the Indian Concrete Institute under the "Innovations in Special Concrete" category for the design of a special type of self-compacting concrete used in the construction of the IISER Tirupati campus.
2. **Dr. B. Krishna Prapoorna** received the IET India Mobility Award, The Institution of Engineering and Technology, UK, September 2024.
3. **Dr. B. Krishna Prapoorna** received the Research Excellence Award, Indian Institute of Technology Tirupati, September 2024 (First recipient of the Institute since its inception in 2015).
4. **Dr. B. Krishna Prapoorna** is appointed Chair, Committee on Sustainable & Resilient Pavements, International Road Federation (Global), December 2024-Present.
5. **Dr. N. Narasamma's** Patent application titled "Inclined Electrode Reactor (IER) for Electrochemical Cell: A High- Efficiency Approach for Wastewater Treatment" was under process.



6. **Dr. Roshan Srivastav** received the "National Geospatial Faculty Fellow Award" under the National Geospatial

Awards 2024, an initiative of the FOSSEE project, IIT Bombay, on 15th September 2024.

7. **Dr. Jashnav Pancheti** was honored as a working group member of the Bureau of Indian Standards (BIS), contributing to the panel on fire safety aspects under Glass and Glazing, CED 46:P20, which falls under the National Building Code Sectional Committee, CED 46.
8. Investigators of the project titled "Photo-nonthermal atmospheric plasma (Photo-NAP): A rapid and non-invasive method of removing mycotoxins from food crops", Gandhi, T.P., Shriyash, P., Dr. Gangwar, R.K. (PI), Dr. **Maliyekkal, S.M.** have been selected for the InvenTiv 2025 under the theme "Medical/Healthcare Engineering".
9. **M.S.V. Naga Jyothi** is the runner-up in the 10th Royal Society of Chemistry (RSC) global online poster conference under the RSC Environmental category for the project title "Closed-loop approach for upcycling of spent adsorbents". The conference is held on LinkedIn on March 4-5, 2025.
10. **M.S.V. Naga Jyothi's** project titled "Nanotechnology-Enabled Multi-Pollutant Water Purifier and Valorisation of Spent Materials" is at top 3 under "Basic Science" theme at Anveshan 2024 South Zonal Level Student Research Convention held at MS Ramaiah University of Applied Sciences, Bengaluru in collaboration with Association of Indian Universities (AIU) on Feb 20 and 31, 2025 and selected for AIU Anveshan 2024-25, an International Student's Research Convention, scheduled to be held on March 10-11, 2025, at Chitkara University, Punjab (Third prize).
11. **Manuj Sharma** was awarded 3000 euros as a travel grant for presenting the conference paper "Bottom-up approach to estimate the present and future air emissions under different policy scenarios in a Tier-2 non-attainment city in India" to the European Geophysical Union General Assembly, Vienna, Austria.
12. **Manuj Sharma** secured the 2nd position for presenting the technical paper as an open presentation entitled "Assessment of Physio-Chemical Characteristics and Source Apportionment of Airborne Particulate Matter from Construction Activities, at the International Conference on Air Quality Monitoring & Modeling (AQMM'25)", India, 19-20th March, 2025.
13. **Ms. Vajitha G's** project titled "Low Carbon

Construction and Repair Materials" got selected under "social science" theme at ANVESHAN 2025 south zonal level Student Research Convention held at MS Ramaiah University of Applied Sciences, Bengaluru in collaboration with Association of Indian Universities (AIU) on Feb 20 and 21, 2025 and selected for AIU Anveshan 2024-25, an International Student's Research Convention, scheduled to be held on March 10-11, 2025, at Chitkara University, Punjab (First prize).

14. Revathy Sunil, Abins Aziz, Kedam Rahul; PI: **Dr. Shihabudheen M. Maliyekkal** and **Dr. A. V. Rahul**-the project titled "Low Carbon Construction and Repair Materials" has been selected for the InvenTiv 2025 under the theme "Smart City & Infrastructure" and the category "R&D". They received the Poster Presentation Award and International Student Research Convention Award.
15. **S.M. Allabakshi's** PhD thesis, guided by has been selected for the prestigious global competition 'JWPE 3-Minute Pitch - 'My Life in Water' by the editorial team of the Journal of Water Process Engineering, Elsevier, recognizing it as one of the best Ph.D. thesis works globally in the area of water treatment technology.
16. **Vajitha G-** received first prize along with a cash prize of Rs. 75,000 in the All India Universities (AIU) ANVESHAN 2025 International Student Research Convention for her project titled "A continuous flow membrane-modified capacitive deionization for clean drinking water" under the "health science" category at Chitkara University, Punjab, on March 10 and 11, 2025. This is among 79 projects, including all over India, along with a few International teams, and 6 first prizes were given under six different categories.
17. Vajitha G, and Arunima R; PI: **Dr. Shihabudheen M. Maliyekkal** received a project titled "A continuous flow membrane-modified capacitive deionization (MCDI) system for clean drinking water" has been selected for the InvenTiv 2025 under the theme "Rural technology" and the category "Startup".
18. **Vajitha G's** project titled "A continuous flow membrane-modified capacitive deionization for clean drinking water" got selected under the "health science" theme at ANVESHAN 2025 south zonal level Student Research Convention held at MS Ramaiah University of Applied Sciences, Bengaluru in collaboration with Association of Indian Universities (AIU) on Feb 20 and 21, 2025 and selected for AIU Anveshan 2024-25, an International Student's Research Convention, scheduled to be held on March 10-11, 2025, at Chitkara University, Punjab (First prize).

Department of Computer Science and Engineering

1. **Dr. Sridhar Chimalakonda** joined as one of the "Executive Council Members" in ACM ISOFT, March 2025.
2. **Dr. Sridhar Chimalakonda** serves as the "Digital Learning Co-Chair" for ACM SIGSOFT, February 2025.
3. **Dr. Sridhar Chimalakonda** was appointed as one of the "Convenor of Ad hoc Group for AI-Assisted Software Development (AHG 9) 2024", ISO/IEC JTC1/SC7 (Software and Systems Engineering), to investigate and propose potential standards on AI-Assisted Software Development, July 2024.
4. **Dr. Sridhar Chimalakonda** was appointed as one of the "Steering Committee" of the ACM Innovations in Software Engineering Conference (ISEC), February 2025.
5. **Jahnvi Kumar** received the "Microsoft Research India Travel Grant 2024" to present research work at EASE 2024 and ICSE 2024, May 2024.

Department of Humanities and Social Sciences

1. **Dr. C.S. Bahinipati** received the OEA Young Economist Award, 2024, conferred by the Odisha Economic Association at Ravenshaw University, Cuttack, Odisha, India.
2. **Dr. C.S. Bahinipati** served as the mentor for Saleemul Huq Memorial Scholarship Awardees for Loss and Damage Research, International Institute for Environment and Development (IIED), London, November 2024 to October 2025

Department of Mathematics and Statistics

1. **Dr. Anjana Mondal** received Prof. A R Kamat - Best PhD Thesis Award, Indian Society for Probability and Statistics (ISPS), December 2024
2. **Dr. N. Balakrishna** received the Fellow of ISPS (Indian Society for Probability and Statistics), February 2024.
3. **Dr. P. Mariappan** received the DAAD Research Ambassador, DAAD, 2022-2025.

Department of Mechanical Engineering

1. **Dr. Abir Dutta** received the Honorary Lecturer (November 2024 – Present) position from the Department of Orthopaedics and Musculoskeletal Science, Division of Surgery and Interventional

Science, University College London, Stanmore, United Kingdom.

2. **Dr. Ajay Kumar** serves as one of the Senior Individual Member of the Indian National Academy of Engineering (INAE) Indian National Academy of Engineering (INAE) Senior Individual Member 31st January 2025
3. **Dr. Govind N Sahu** received the Best Technical Paper Award for the paper "Emulating lobes and lenses in turning process using hardware-in-the-loop experiments," presented at the 13th International Conference on Precision, Meso, Micro, and Nano Engineering (COPEN 13), December 13-15, 2024, NIT Calicut, India.
4. **Dr. Mohd Furquan** was the Winner of the Constructive Suggestion, 8th National Finite Element Developers'/FEAST Users' Meet, February 01, 2025, IIT Hyderabad.
5. **Dr. P Muthukumar** appeared in the World's Top 2% Scientists published by Stanford University, USA, 2024, 2023, 2022, and 2021.
6. **Dr. P Muthukumar** serves as the Assistant Editor, International Journal of Hydrogen Energy (Elsevier), October 2024 onwards.
7. **Dr. P Muthukumar** serves as the Chairman, PAC sub-Committee on Hydrogen Storage & Transportation, MNRE, October 2024.
8. **Dr. P Muthukumar** is one of the Guest Editors, Special Issue on NCRAC 2024, Solar Compass (Elsevier), December 2024 onwards.
9. **Dr. P Muthukumar** serves as one of the Guest Editors, Special Issue on NCRAC 2024, Thermal Science and Engineering Progress (Elsevier), October 2024 - Onwards.

Department of Physics

1. **Dr. Aravinda S** is appointed as a member to draft the "policy document on quantum technologies", Karnataka Science and Technology Association, Ministry of Science and Technology, Govt. of Karnataka.
2. **Dr. Arijit Sharma** was nominated to the "DCC Sub-Committee of Quantum Technology Division for preparation of standards in Quantum Technologies", Telecommunication Engineering Centre (TEC), Department of Telecommunications, Govt. of India (2024-25).
3. **Priyanuj** received the "Best Poster Award" for "Topological Properties of SSH Model in Curved Spacetime", in AC2MP- 2024, IIT Patna, 8-11 December 2024.

APPENDIX– V

Membership of Professional Bodies

The institution and its members maintain active participation in national and international professional bodies. They contribute to high-level committees, serve on academic and advisory boards, and hold editorial or leadership positions in reputed journals and organizations. These affiliations reflect a strong commitment to academic governance, industry standards, and the advancement of research and professional practice.

1. **Professor Sunil Kumar Thamida** is a member of the Andhra Pradesh High-Level Committee on drafting guidelines for safety in industrial operations in the chemical and pharmaceutical sector.
2. **Professor Sunil Kumar Thamida** serves as a Board of Studies member for the Department of Chemical Engineering, SVU, Tirupati, 2025–2027.
3. **Professor S. Gumma** serves as an Associate Editor for the *Journal of the International Adsorption Society: Adsorption* (Springer Nature).
4. **Professor G. P. Roy** is a Fellow of the Indian Chemical Society (FICS).
5. **Professor P. Gandeepan** is a Life Member of the Chemical Research Society of India.
6. **Professor P. Gandeepan** has been a Member of the American Chemical Society (ACS) since July 2023.
7. **Professor P. Gandeepan** is a Professional Member of the Institute of Scholars (InSc), Bengaluru, India, since March 2020.
8. **Professor S. Chakraborty** is a member of the RSC Advance Reviewer Panel, 2024.
9. **Professor S. Haldar** is a Member of the Royal Society of Chemistry (MRSC), 2024.
10. **Professor A. V. Rahul** served as a Standing Appeal Committee (SAC) member of AICTE for the evaluation of technical institutes during 2023–2024.
11. **Professor B. Krishna Prapoorna** is the Chair of the Committee on Sustainable & Resilient Pavements, International Road Federation (Global), since December 2024.
12. **Professor Jashnav Pancheti** is a group member of the Bureau of Indian Standards (BIS) for fire safety aspects under the panel for Glass and Glazing, CED 46:P20, under the National Building Code Sectional Committee, CED 46.
13. **Professor C. S. Bahinipati** is the Joint Secretary of the Indian Society for Ecological Economics (INSEE).
14. **Professor C. S. Bahinipati** served as an Academic Advisor for a research study on the 'Adoption of Micro-Irrigation in Gujarat' at the Council on Energy, Environment, and Water (CEEW), New Delhi, India, from January to April 2025.
15. **Professor C. S. Bahinipati** is an Associate Editor of *The Indian Economic Journal*.
16. **Professor Ajay Kumar** is a member of The Aeronautical Society of India (AeSI), the Electron Microscope Society of India (EMSI), the Society of Automotive Engineers India (SAE India), and a Senior Individual Member of the Indian National Academy of Engineering (INAE).

APPENDIX– VI

Outreach Activities

1. **Prof. K. Anki Reddy** visited Cologne University and DLR, Germany, for a three-month visit under the DAAD Fellowship.
2. **Dr. M. Nabil** visited the University of Alberta, Canada, for one month to attend a conference.
3. **Prof. T. Sunil Kumar** served as a member of the Board of Studies for the Chemical Engineering Department at the National Institute of Technology, Andhra Pradesh, in 2024.
4. **Prof. KSMS Raghavarao** served as a Board of Studies member for the School of Food Technology, JNTU Kakinada, Andhra Pradesh.
5. **Prof. Arun K. Tangirala** co-taught an online course titled "Time-Series Analysis" for the e-Masters program on Data Science & Decision Making at IIT Gandhinagar, from 13th September to 25th December 2024.
6. **Dr. Trivikram Reddy** Nallamilli and Prof. KSMS Raghavarao collaborated with Prof. Leonard Sagis and Prof. Mehdi Habibi from the Department of Physics and Physical Chemistry of Foods, Wageningen University, The Netherlands, on a study titled "Interfacial and Foaming Properties of Ground Nut Whey Proteins."

7. **Prof. Anki Reddy** visited IIT Bombay as an external examiner for a PhD thesis on 9th January 2025 and conducted the PhD thesis viva online for SNU, Delhi.
8. **Prof. Sunil Kumar Thamida** participated in and set up a stall in coordination with the GAC team at the Pan IIT World of Technologies (PIWOT) Expo, Mumbai, from 17th to 19th January 2025, and at the PIWOT Satellite Event on 23rd January 2025, IIT Tirupati.
9. **Prof. S. Gumma** met with prospective faculty candidates at the AIChE Annual Meeting, hosted a joint reception with IITM, IITL, and IITB, and visited the UMICH Battery Center and Stanford Accelerator Laboratory.
10. **K. Manna:** Research advisory committee (RAC) member for conducting the 3rd RAC presentation of Ph.D. scholar Ms. Jumana Hasin M (Roll No. 20213207), Department of Chemistry, IISER Tirupati, 17th December 2024.
11. **K. Manna:** External examiner for the PhD Thesis Titled "Understanding Electrochemical Properties of Alternate Energy Storage Devices Using First-Principles Simulations", by S. Banerjee (CY16D038), Department of Chemistry, IIT Madras, Chennai, India, 13th February, 2025.
12. **K. Manna:** External examiner for the PhD Thesis Titled "Quantum Chemical Insights into the Periodicity and Electronic Structures of Actinide Complexes", by A. Jennifer G (RA2133003011045), Department of Chemistry, SRM Institute of Science & Technology, Chennai, India, 10th February, 2025.
13. **P. Gandeepan:** Research advisory committee (RAC) member for conducting the 1st RAC presentation of Ph.D. scholar Mr. Abhijit K. S, Department of Chemistry, IISER Tirupati, 06th January 2025.
14. **P. Gandeepan:** Research advisory committee (RAC) member for conducting the 1st RAC presentation of Ph.D. scholar Ms. Saumya Singh, Department of Chemistry, IISER Tirupati, 14th August 2024.
15. **P. Gandeepan:** External member for the Comprehensive viva meeting of PhD scholar Ms. Talararla Deepthi (22PHD0358), Department of Chemistry, School of Advanced Sciences, VIT, Vellore, 04 September 2024.
16. **P. Gandeepan:** External member for the Comprehensive viva meeting of PhD scholar Mr. Venkatesan K (22PHD0209), Department of Chemistry, School of Advanced Sciences, VIT, Vellore, 04 September 2024.
17. **P. Gandeepan:** External member for the Synopsis meeting of PhD scholar Ms. Preethi R (19PHD0101), Department of Chemistry, School of Advanced Sciences, VIT, Vellore, 12 April 2024.
18. **P. Gandeepan:** External thesis examiner for PhD scholar Ms. Silvia Cattani, Department of Chemistry, Universita' degli Studi di Parma, 43124 Parma, Italy, 13 February 2025.
19. **P. Gandeepan:** External thesis examiner for PhD scholar Ms. Anita Sahani, Department of Chemistry, Pondicherry University, Puducherry, India, 19 January 2025.
20. **P. Gandeepan:** External examiner for PhD Viva-voce examination of PhD scholar Mr. Kumaresan A, Department of Chemistry, SRM Institute of Science of Technology, Kattankulathur, India, 13th November 2024.
21. **P. Gandeepan:** External examiner for PhD Viva-voce examination of PhD scholar Mr. Shahid M, Department of Chemistry, IISER Tirupati, Tirupati, India, 19th November 2024.
22. **P. Gandeepan:** External thesis examiner for PhD scholar Mr. Shahid M, Department of Chemistry, IISER Tirupati, Tirupati, India, 07th October 2024.
23. **P. Gandeepan:** External thesis examiner for PhD scholar Mr. Kumaresan A, Department of Chemistry, SRM Institute of Science of Technology, Kattankulathur, India, 16th July 2024.
24. **P. Gandeepan:** External Member, Technical Committee for Procurement of Glove Box, Department of Chemistry, IISER Tirupati, 19th December 2024.
25. **P. Gandeepan:** External Member, 3rd Board of Studies meeting, K.M.G. College of Arts and Science, Gudiyatham, TN, India, 21st March 2025.
26. **P. Gandeepan:** External Member, 2nd Board of Studies meeting, K.M.G. College of Arts and Science, Gudiyatham, TN, India, 29th November 2024.
27. **P. Gandeepan:** External Member, 1st Board of Studies meeting, K.M.G. College of Arts and Science, Gudiyatham, TN, India, 17th May 2024.
28. **S. Chakraborty:** PhD selection committee member (external expert) for Dr. Shibaji Basak, GITAM University, Vizag, 12th March, 2024.
29. **S. Chakraborty:** External Member, 2nd Board of Studies meeting, Annamacharya Institute of Technology and Science, Tirupati, India, 19th July 2024.
30. **S. Chakraborty:** External examiner for Research Advisory Committee (RAC 1) of PhD scholar Ms. Arunima C, Department of Chemistry, IISER Tirupati, India, 8th August 2024.

31. **S. Chakraborty:** External expert (Doctoral Committee) for the Comprehensive viva meeting of PhD scholar Mrs. Keerthi Valsalan (22PHD7002), Department of Chemistry, School of Advanced Sciences, VIT, Vellore, 07 February 2025.
32. **G. P. Roy:** Evaluated the PhD thesis titled “Organelle-specific Phototheranostic Metal-based Curcumin Derivatives as CSC Targeting and Antiangiogenic Agents Selective to Cancer”, by Souryadip Roy, Department of Chemical Sciences, Indian Institute of Science Education and Research Kolkata (IISER Kolkata).
33. **G. P. Roy:** External Examiner for the PhD Thesis Titled “Organelle-specific Phototheranostic Metal-based Curcumin Derivatives as CSC Targeting and Antiangiogenic Agents Selective to Cancer”, by Souryadip Roy, Department of Chemical Sciences, Indian Institute of Science Education and Research Kolkata (IISER Kolkata).
34. **G. P. Roy:** Served as an Expert in curriculum revision, School of Sciences (Chemistry), NIT Andhra Pradesh. The Board of Studies meeting was conducted on 02 April 2025.
35. **G. P. Roy:** External Examiner, Synopsis presentation, Ph.D. thesis of Mr. Sathish R (Reg. No: 19PHD0248), School of Advanced Sciences, VIT, Vellore, 18 March 2025.

भारतीय प्रौद्योगिकी संस्थान तिरुपति
Indian Institute of Technology Tirupati
Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati-517619 A.P.
www.iittp.ac.in

