Area of Winter Internship 2025 for the Postgraduate Students

Name of Faculty Mentor	Area of Winter Internship 2025
Department Of Astronomy, Astrophysics and Space Engineering (DAASE)	
Dr. Saurabh Das	Space weather, Remote Sensing
Dr. Bhargav Vaidya	Space Weather, Space Plasma, Heliophysics
Department of Biosciences and Biomedical Engineering (BSBE)	
Dr. Hem Chandra Jha	Gut-Brain axis
Professor Mirza Saqib Baig	Inflammation and Cancer
Department of Chemical Engineering	
Dr. Sravana Chaithanya Kanala Venkata	Microhydrodynamics, Biological Active Matter, Active Nematics
Dr. Jacob John	Dynamics of protein stabilised emulsion droplets
Department of Chemistry	
Professor Chelvam Venkatesh	1. Total synthesis of biologically important natural products 2. Design and synthesis of heterocycles and carbocycles of biological importance 3. Developing new methodologies for the construction of C-C and C-X (X =N, O, S, P) bonds 4. Design, synthesis, and diagnostic applications of new targeting ligands for cancers and inflammatory diseases 5. Drug delivery systems, near-infrared fluorescence, nuclear Imaging, and bio-conjugate chemistry 6. Synthesis of Inhibitors for the drug target

Professor Sampak Samanta	Sustainable Methods for accessing bioactive compounds
Dr. Abhinav Raghuvanshi	Coordination chemistry/metal-organic frameworks
Dr. Dipak Kumar Roy	Organometallic and main group chemistry
Professor Suman Mukhopadhyay	1. Metallogels as Biomaterials 2. Porous Organic Polymers in Environmental Applications
Professor Rajneesh Misra	Organic/Organometallic
Dr. Tridib K Sarma	Nucleotide Hydrogels
Professor Apurba K. Das	Organic Chemistry
Department of Civil Engineering	
Dr. Ashootosh Mandpe	Environmental Sustainability, Waste Valorization, and Circular Resource Management
Dr. Mayur Shirish Jain	Techno-Economic Studies; Fate of Emerging Contaminants
Professor Manish Kumar Goyal	AI and ML applications in Water and Climate
Dr. Priyank J. Sharma	Flood modelling, Compound extremes, Hydroclimatology, Non-stationarity assessment
Dr. Ravinder	ML/AI Applications in Civil Engineering
Department of Computer Science and Engineering (CSE)	
Professor Somnath Dey	AI/ML, Computer Vision, Smart Health Care
Professor Aruna Tiwari	Generative AI/Deep Learning
Dr. Puneet Gupta	Artificial Intelligence, Deep learning
Dr. Ayan Mondal	IoT and Edge Intelligence
Professor Surya Prakash	Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), and Computer Vision (CV)
Dr. Lawqueen Kanesh	Graph Theoretic Algorithms
Dr. Chandresh Kumar Maurya	AI, ML, NLP
Professor Neminath Hubballi	Network Security
Professor Gourinath Banda	Systems Engineering (RT/OS,IoT, CyberSec, Robotics, AI/ML, CAVs, Avionics

Department of Electrical Engineering (EE)	
Professor Mukesh Kumar	Semiconductor Photonics, Nanoelectronics, Optoelectronics, VLSI Technology
Dr. Ayush Tripathi	Biomedical signal processing, EEG, Airwriting recognition, sleep analysis
Dr. B Prathap Reddy	Power Electronics and Machines for EVs
Dr. Subhadeep Paladhi	Power System Protection
Dr. Lokesh Kumar Dewangan	Power Systems and Power Electronics
Professor Santosh Kumar Vishvakarma	Semiconductor Chip Design for AI
Professor Vimal Bhatia	1. AI/ML for Wireless Communications 2. AI/ML for Quantum Communications 3. AI/ML for Cyber-Physical Systems
Professor Shaibal Mukherjee	RRAMs in Image Processing, Circuit Design; Quantum Sensors for Healthcare and Environment
Professor Trapti Jain	Inertia Estimation of power system using Machine Learning
School of Humanities and Social Sciences (SHSS)	
Dr. Mohanasundari Thangavel	Agricultural and Resource Economics, Agripreneurship, Forest Economics
Dr. Aratrika Das	Medical humanities
Dr. Kalandi Charan Pradhan	Development economics; Socioeconomic Impacts of Climate Change; Applied Econometrics
Department of Mathematics	
Professor Sk Safique Ahmad	Applied Linear Algebra in Data Science and Machine learning
Dr. Santanu Manna	Fractional Fourier transform with DATA Sciences
Dr. Mohd. Arshad	Statistics and Data Science
Department of Mechanical Engineering (ME)	
Dr. Satyanarayan Patel	Piezoelectric materials for energy harvesting
Professor Shanmugam Dhinakaran	Computational Fluid Dynamics (CFD)
Professor Pavan Kumar Kankar	Machine learning applications

Professor Shailesh I. Kundalwal	FEM, Composites, Hydrogen Storage
Dr. Harekrishna Yadav	Fluid Flow, Heat Transfer and Energy
Professor Santosh Kumar Sahu	Thermal management of battery modules, CFD modelling on HVAC, jet impingement
Dr. Aman Khurana	Design and development of futuristic smart actuators.
Mehta Family School of Sustainability	
Professor Kiran Bala	Environmental Economics
Department of Metallurgical Engineering and Materials Science (MEMS)	
Professor Rupesh S. Devan	Materials for Energy storage and conversion
Dr. Venkata Vamsi Koruprolu	Alloy design
Dr. Dhirendra Kumar Rai	Energy storage and harvesting
Dr. Sumanta Samal	High Entropy Alloys (HEAs) for Electrocatalytic applications
Department of Physics	
Professor Rajesh Kumar	Nanomaterials, Device Physics, Raman spectroscopy and Raman Imaging
Dr. Dipankar Das	The Metropolis-Hastings Algorithm
Professor Preeti A. Bhobe	Experimental Condensed Matter Physics
Professor Pankaj R Sagdeo	Condensed matter physics, spectroscopy, nano science and technology, experiment physics
Professor Sarika Jalan	Nonlinear dynamics and Complex Systems

Important Note:

1. **Fee once paid is non-refundable.**
2. **The Undergraduate Students are requested to contact the concerned faculty mentor for any query/clarification.**

3. Consent from the faculty mentor of IIT Indore is a must.