

## Area of Summer Internship 2024 for the Undergraduate Students

Name of Faculty Mentor	Area of Summer Internship 2024	Remarks
<b>Department Of Astronomy, Astrophysics And Space Engineering (DAASE)</b>		
<a href="#">Dr. Unmesh Govind Khati</a>	<ol style="list-style-type: none"> <li>1. Remote sensing techniques</li> <li>2. Remote sensing applications</li> <li>3. AI/ML applications in earth observation</li> <li>4. AI/ML applications in remote sensing</li> <li>5. Modeling biophysical parameters using remote sensing data</li> <li>6. Drone based imaging and applications</li> <li>7. Drone sensor integration and calibration</li> </ol>	
<a href="#">Dr. Narendra Nath Patra</a>	Radio Astronomy	
<b>Department of Biosciences and Biomedical Engineering (BSBE)</b>		
<a href="#">Dr. Hem Chandra Jha</a>	<ol style="list-style-type: none"> <li>1. Role of pathogens in gastric cancer.</li> <li>2. Virus induced neurological disorders.</li> </ol>	
<a href="#">Professor Prashant Kodgire</a>	<ol style="list-style-type: none"> <li>1. Molecular Immunology</li> <li>2. Molecular Biology</li> <li>3. Infectious Biology</li> </ol>	
<a href="#">Dr. Kiran Bala</a>	Algal bioprocesses	
<a href="#">Dr. Hitendra Kumar</a>	Bidirectional membrane stretching platform development	

<a href="#">Dr. Mirza S. Baig</a>	Chronic Inflammation and Drug Discovery	
<a href="#">Dr. Lokesh Basavarajappa</a>	Development of multiparametric ultrasound imaging	
<a href="#">Dr. Sourav Chandra</a>	Digital Signal Processing, Biomedical Instrumentation	
<b>Department of Chemistry</b>		
<a href="#">Dr. Chelvam Venkatesh</a>	Total synthesis of biologically important natural products; Design and synthesis of heterocycles and carbocycles of biological importance; Developing new methodologies for construction of C-C and C-X (X =N,O,S,P) bonds; Design, synthesis and diagnostic applications of new targeting ligands for cancers and inflammatory diseases; Drug delivery systems, near-infra red fluorescence, nuclear Imaging and bio-conjugate chemistry; Synthesis of Inhibitors for drug targets	
<a href="#">Dr. Debayan Sarkar</a>	Visible Light Asymmetric catalysis.	
<b>Department of Civil Engineering</b>		
<a href="#">Professor Sandeep Chaudhary</a>	Sustainable Construction ( subareas listed below) 1. Improving the use of recycled aggregates, through aggregate treatment. 2. Development of naturally coloured construction materials for reducing plaster and paint requirements. 3. Use of discarded cement bags as fibres in concrete.	
<a href="#">Professor Neelima Satyam</a>	Geotechnical engineering, geohazards	
<a href="#">Dr. Mayur Shirish Jain</a>	Environmental Engineering; Waste Management; Renewable Energy	
<a href="#">Dr. Priyank J. Sharma</a>	Hydrology, Water Resources, Climate Change	

<a href="#">Dr. Kaustav Bakshi</a>	Dynamics of civil engineering structures, design of steel-concrete composites using Staad.Pro	
<a href="#">Dr. Gourab Sil</a>	Traffic Engineering, Road Safety, Geometric Design	
<a href="#">Dr. Baadiga Ramu</a>	Geosynthetic reinforced pavements and geotechnical engineering	
<a href="#">Dr. Sridharan Balakrishnan</a>	Hydraulic and water resources engineering	
<a href="#">Dr. Akshay Pratap Singh</a>	Geotechnical Engineering, sustainable construction	
<a href="#">Dr. Priyansh Singh</a>	Pavement Materials	
<b>Department of Computer Science and Engineering</b>		
<a href="#">Dr. Soumi Chattopadhyay</a>	AI, Machine learning	
<a href="#">Dr. Subhra Mazumdar</a>	Blockchain and Distributed Systems	
<a href="#">Dr. Puneet Gupta</a>	Deep Learning, Computer vision	
<a href="#">Dr. Chandresh Kumar Maurya</a>	ML, DL, NLP, GenAI	
<a href="#">Professor Neminath Hubballi</a>	Computer Networks, Cyber Security	
<a href="#">Dr. Surya Prakash</a>	Biometrics, Machine Learning, Deep Learning, Pattern Recognition, Computer Vision, Image Processing	
<a href="#">Professor Aruna Tiwari</a>	AI/ML, Big Data Analytics, Generative AI	
<a href="#">Dr. Ayan Mondal</a>	Edge computing for IoT	

<a href="#">Dr. Nagendra Kumar</a>	Natural Language Processing, Computer Vision, Machine Learning, Deep Learning, Data Mining	
<a href="#">Dr. Ranveer Singh</a>	Algorithms	
<b>Department of Electrical Engineering</b>		
<a href="#">Professor Ram Bilas Pachori</a>	Signal Processing and Machine Learning	
<a href="#">Professor Vimal Bhatia</a>	AI/ML, Wireless Communications, Quantum Communications	
<a href="#">Dr. Swaminathan Ramabadran</a>	6G and Beyond Wireless Communications, Deep Learning for Communication	
<a href="#">Professor Santosh Kumar Vishvakarma</a>	SRAM Memory Architectures In-Memory Computing for AI Chips (SRAM, RRAM/MRAM) AI Hardware Accelerators Reliable and Secure Circuits Silicon Photonics Circuits	
<a href="#">Dr. Sumit Gautam</a>	1. Optimization methods for SWIPT systems 2. Quantum Communications	
<a href="#">Professor Trapti Jain</a>	Data analytics and AI applications in smart grid	
<a href="#">Dr. Lokesh Kumar Dewangan</a>	Power Electronics and Power Systems	
<a href="#">Dr. Balasubramanyam Appina</a>	Image and video processing	
<a href="#">Dr. Saptarshi Ghosh</a>	1. Electromagnetics 2. Antennas 3. Reconfigurable intelligent surfaces	

	4. Frequency selective surfaces	
<b>School of Humanities and Social Sciences</b>		
<a href="#">Professor Pritee Sharma</a>	1. Environmental Economics 2. Agricultural Economics.	
<a href="#">Dr. Mohanasundari Thangavel</a>	Economics	
<a href="#">Professor Ruchi Sharma</a>	Economics	
<a href="#">Dr. Akshaya Kumar</a>	Media Studies, Platform Economy	
<b>Department of Mathematics</b>		
<a href="#">Dr. Santanu Manna</a>	AI-ML with Earthquake DATA, Earthquake Statistical Analysis, PDEs, Dynamic Stiffness Matrix Formulation	
<b>Department of Mechanical Engineering</b>		
<a href="#">Dr. Shanmugam Dhinakaran</a>	Computational Fluid Dynamics	
<a href="#">Dr. Santosh Kumar Sahu</a>	Thermal management of electronic devices, jet impingement cooling, synthetic jets, electric battery thermal management, phase change materials	
<a href="#">Professor Pavan Kumar Kankar</a>	Applications of machine learning, condition monitoring, reliability	
<a href="#">Dr. Harekrishna Yadav</a>	Fluid flow, heat transfer and renewable energy	

<a href="#">Professor Neelesh Kumar Jain</a>	Use of Computer Vision and Deep Learning in Additive Manufacturing	
<a href="#">Dr. Indrasen Singh</a>	Deformation behaviour of sandwich structures	
<a href="#">Dr. Vibhor Pandhare</a>	Data driven decision making in Healthcare and manufacturing applications	
<a href="#">Dr. Dan Sathiaraj</a>	Additive Manufacturing	
<a href="#">Dr. S. Janakiraman</a>	Advanced Materials for Electrochemical Energy Storage Applications	
<b>Department of Metallurgical Engineering and Materials Science (MEMS)</b>		
<a href="#">Dr. Hemant Borkar</a>	Lightweight materials for automotive applications Deformation behavior of lightweight materials Additive manufacturing of light alloys	
<a href="#">Dr. Rupesh Devan</a>	1. Materials for energy storage 2. Photo active materials for water remediation.	
<a href="#">Dr. Jayaprakash Murugesan</a>	Additive manufacturing, fatigue and fracture of advanced materials, alloy development, materials joining, mechanical behavior of materials	
<a href="#">Dr. Nisheeth Kumar Prasad</a>	Corrosion prevention	
<a href="#">Dr. Ram Sajeevan Maurya</a>	Alloy design and development, Metallic glass, Powder Metallurgy	
<a href="#">Dr. Ajay Kumar Kushwaha</a>	Nano and Quantum Materials Compound Semiconductors Green Hydrogen: Materials & Technologies	
<a href="#">Dr. Vinod Kumar</a>	1. Spark plasma sintering of advanced metallic systems. 2. Development of composite materials using industrial waste	

<a href="#">Dr. Dharendra Kumar Rai</a>	Energy harvesting and storage	
<b>Department of Physics</b>		
<a href="#">Professor Rajesh Kumar</a>	Raman spectroscopy and Raman Microscopy, Nanomaterials and nanodevices, Smart windows, Energy Storage Devices	
<a href="#">Professor Preeti Anand Bhohe</a>	Electrical transport in composites.	
<a href="#">Professor Sarika Jalan</a>	Nonlinear dynamics and Complex systems, Machine learning	
<a href="#">Professor Krushna R Mavani</a>	Experimental Condensed Matter Physics	
<a href="#">Dr. Manavendra N Mahato</a>	Topics in Quantum Field theo General relativity, Topics in Applied Quantum Mechanics.	
<a href="#">Professor Ankhi Roy</a>	Detector Physics	
<a href="#">Professor Somaditya Sen</a>	Material Characterization	
<a href="#">Dr. Debajyoti Sarkar</a>	Black hole physics, AdS/CFT duality, Quantum entanglement in field theory	
<a href="#">Dr. Dipankar Das</a>	Advanced topics in Quantum Mechanics, Introductory Particle Physics, Computational Methods in Physics	
<a href="#">Dr. Mritunjay Kumar Verma</a>	High energy physics, quantum field theory, General relativity, string theory	

**Important Note:**

- 1. Fees once paid is non-refundable.**
- 2. The Undergraduate Students are requested to contact concerned faculty mentor for any query/clarification.**
- 3. Consent from the faculty mentor of IIT Indore is a must.**