CENTRE FOR CAREER DEVELOPMENT
IIT GUWAHATI

Department Placement Brochure.

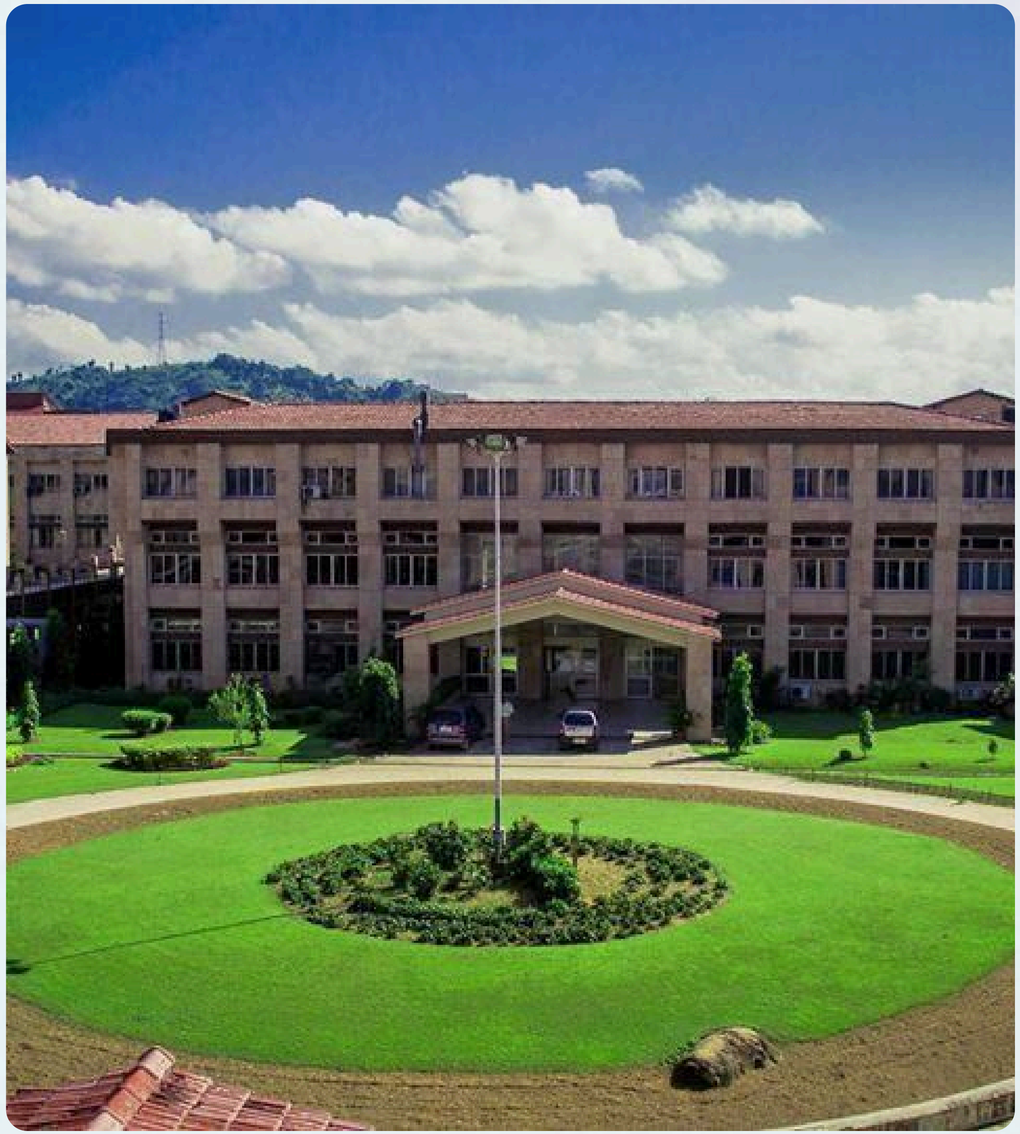
BATCH OF 2026 | Department of Electronics and Electrical Engineering

About IIT Guwahati.

Established in 1994, Indian Institute of Technology Guwahati is the sixth member of the IIT fraternity and one of India’s premier institutions for higher education, research, and innovation. Within a short span, the Institute has emerged as a global centre of excellence in science, technology, management, and design. The picturesque campus spans 285 hectares on the northern bank of the Brahmaputra River, approximately 20 km from the heart of Guwahati city. Surrounded by scenic hills and open spaces, it offers a perfect environment for learning, research, and holistic development. IIT Guwahati offers a wide array of academic programmes including B.Tech., B.Des., BSc (Hons), M.Tech., M.Des., M.Sc., MBA, M.A., MS(R) and Ph.D. across 11 departments, 9 interdisciplinary centres, and 5 schools, covering major disciplines in engineering, science, humanities, healthcare, and management.

The Institute has built world-class infrastructure and houses state-of-the-art laboratories and National Centres of Research that support cutting-edge research. Students are encouraged to take up interdisciplinary coursework, pursue minor degrees, and choose from a rich variety of open and interdepartmental electives. IIT Guwahati has signed MoUs with top international universities, facilitating semester exchanges and summer internships, thereby broadening students' global exposure. Our students regularly intern at leading global firms and research institutions, gaining invaluable real-world experience.

Ranked among the top 100 world universities under 50 years by Times Higher Education (THE), IIT Guwahati continues to excel globally. The Institute was ranked 42nd globally in 'Research Citations per Faculty' and 344th overall in QS World University Rankings.



About the Department .

The department was established in 1995, alongside the inception of the institute, as the Department of Electronics and Communication Engineering (ECE). From its commencement, the department has focused on delivering high-quality education, training, and research at the undergraduate, postgraduate, and doctoral levels, with a strong emphasis on the design aspects of electronic systems. In 2008, the department introduced a BTech program in Electronics and Electrical Engineering, designed to equip students with a solid foundation in electrical engineering, complemented by a robust background in electronics. In 2011, the department was renamed the Department of Electronics and Electrical Engineering (EEE).

The major areas of faculty expertise of the department include Biomedical Signal Processing, Communication Systems, Computer Networks, Control Systems, Digital Signal Processing, Image Processing & Computer Vision, Pattern Recognition, Instrumentation, Multimedia Security, Power Electronics, Power Systems, Radar Signal Processing, RF and Microwaves, Microstrip Antennas, Optoelectronic and Optical Communication, Speech Signal Processing, VLSI Systems and MEMS.

The Electronics and Electrical Engineering (EEE) department of our institute nurtures a diverse and talented pool of students, well-equipped to excel in the corporate world. Our students possess a unique combination of theoretical knowledge, practical skills, and a passion for innovation. With a comprehensive curriculum that covers a wide range of subjects including power systems, control systems, electronics, and communication, our students are equipped with a strong foundation in electrical engineering principles.

From the desk of HOD.

We are pleased to introduce you to the Department of Electronics and Electrical Engineering (EEE) at the esteemed Indian Institute of Technology Guwahati (IITG). It is with great pride that we present our exceptional pool of talent and invite you to explore the vast potential of our students. At IITG, we are dedicated to cultivating the next generation of leaders and innovators in electrical and electronics engineering. The EEE department is renowned for its academic excellence, pioneering research, and emphasis on practical application. Our students benefit from a robust theoretical foundation coupled with hands-on experience in cutting-edge laboratories.

A large number of faculty members in our department are young and have completed PhD degree or postdoctoral experience in the forefront technologies at highly reputed universities in the world. They are leading experts in their fields, providing inspiration and mentorship that drive students to push the boundaries of knowledge and devise innovative solutions to real-world challenges. Our curriculum is meticulously designed to offer a comprehensive education, preparing students to excel in their careers and be capable of contributing substantially to your organization. The EEE department at IITG offers a diverse range of specializations. Our students are equipped with advanced tools, software, and equipment, enabling them to undertake groundbreaking research and tackle complex problems. Through academic projects, internships, and industrial collaborations, they consistently demonstrate their ability to apply theoretical knowledge to practical scenarios. We emphasize the importance of collaboration and teamwork, encouraging students to engage in interdisciplinary projects, participate in national and international competitions, and involve themselves in co-curricular and extracurricular activities. These experiences enhance their communication, leadership, and problem-solving skills, making them valuable assets to any team or organization.

In addition, the strong industry connections of the EEE department ensure that our graduates are well-prepared to make an immediate impact in the corporate world. Our Training and Placement Cell collaborates closely with leading companies to provide internships, industrial visits, and placement opportunities that align with organizational needs. We invite you to explore the profiles of our talented students, each possessing a unique blend of technical expertise and leadership qualities. We are confident that you will find exceptional candidates capable of contributing to the growth and success of your organization. Our alumni have pursued excellence and achieved remarkable success across the fields, many holding prominent positions in academia and industry, and some of them have founded successful enterprises. We look forward to the opportunity to collaborate with you and showcase the exceptional talent of IIT Guwahati.

Prof. Harshal B. Nemade

Head of the Department

From Department Faculty Representative.

As a Faculty Placement Representative of the EEE Department, I, on behalf of the department, am thrilled to invite your esteemed organization to participate in our upcoming campus placement drive for this placement season. IIT Guwahati has always been a beacon of excellence, nurturing some of the brightest minds in the country. As a premier institution, we take pride in nurturing a pool of talented and industry-ready graduates from diverse fields equipped with the skills, knowledge, and professionalism that your organization seeks.

Our students have consistently demonstrated excellence in academics, research, and co-curricular activities. They are trained in the latest industry practices and technologies, such as quantum computing, the Internet of Things, blockchain, robotics, renewable energy, nanoelectronics, generative AI, federated learning, virtual reality, and many more. These are just the tip of the iceberg, and their breadth and versatility of skills will ensure they can contribute effectively to your organization's growth and success from day one. Here at IIT Guwahati, they undergo rigorous training for overall development, which includes Time management, Teamwork, Active listening, Confidence, Integrity, Critical Thinking, Relationship building, Adaptability and many more.

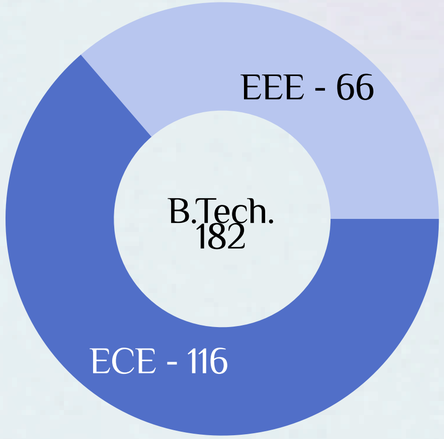
We believe that this collaboration can lead to a mutually beneficial relationship, providing your company with highly skilled professionals while offering our students the chance to start their careers with an industry leader. We look forward to the possibility of your esteemed organization's participation. Please feel free to contact us for any further information or to schedule your participation.

Dr. Anirban Dasgupta
Department Faculty Representative

Demographics.

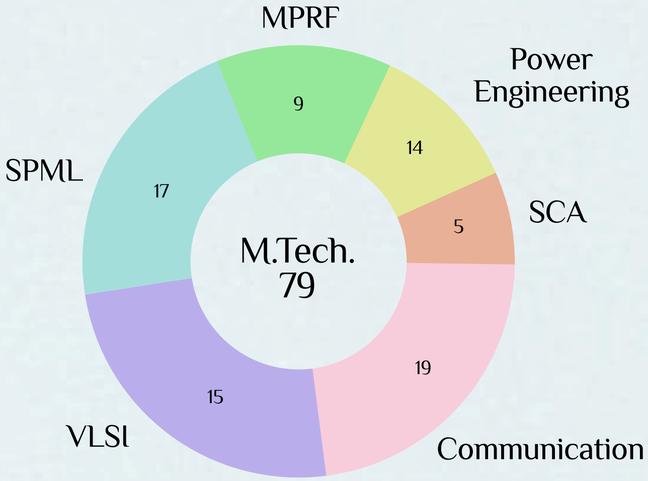
Undergraduate Program - B.Tech

The institute offers two BTech programs: Electronics and Communication Engineering (ECE) and Electronics and Electrical Engineering (EEE). The ECE program focuses on building a strong foundation in theoretical, practical, and design aspects, covering electronic circuits, devices, signal processing, and communication. The EEE program, launched in 2008, aims to develop engineers with a deep understanding of electrical engineering, complemented by a strong background in electronics.



Postgraduate Programs - M.Tech

In 2010, the department has started two new MTech programmes with specializations in Communication Engineering and Power & Control. In 2015, the department had started one new MTech programme with specialization in RF & Photonics. The department now offers MTech in following specializations: 1) Signal Processing and Machine Learning, 2) VLSI & Nanoelectronics, 3) Power Engineering, 4) Systems, Control & Automation, 5) Communications Engineering, 6) Microelectronics, Photonics & RF Engineering.



Courses Offered.

B.Tech Core Courses:

- Digital Communication
- Embedded Systems
- Digital Signal Processing
- Principles of Communication
- Electromagnetic Theory
- Analog Circuit
- Control System
- Measurement and Instrumentation
- Semiconductor Device
- Circuit Theory
- Digital Circuit
- Signals and Systems
- Electrical Machines
- Power Electronics
- Electrical Power System
- Advanced electrical engineering lab
- Microelctronics Lab

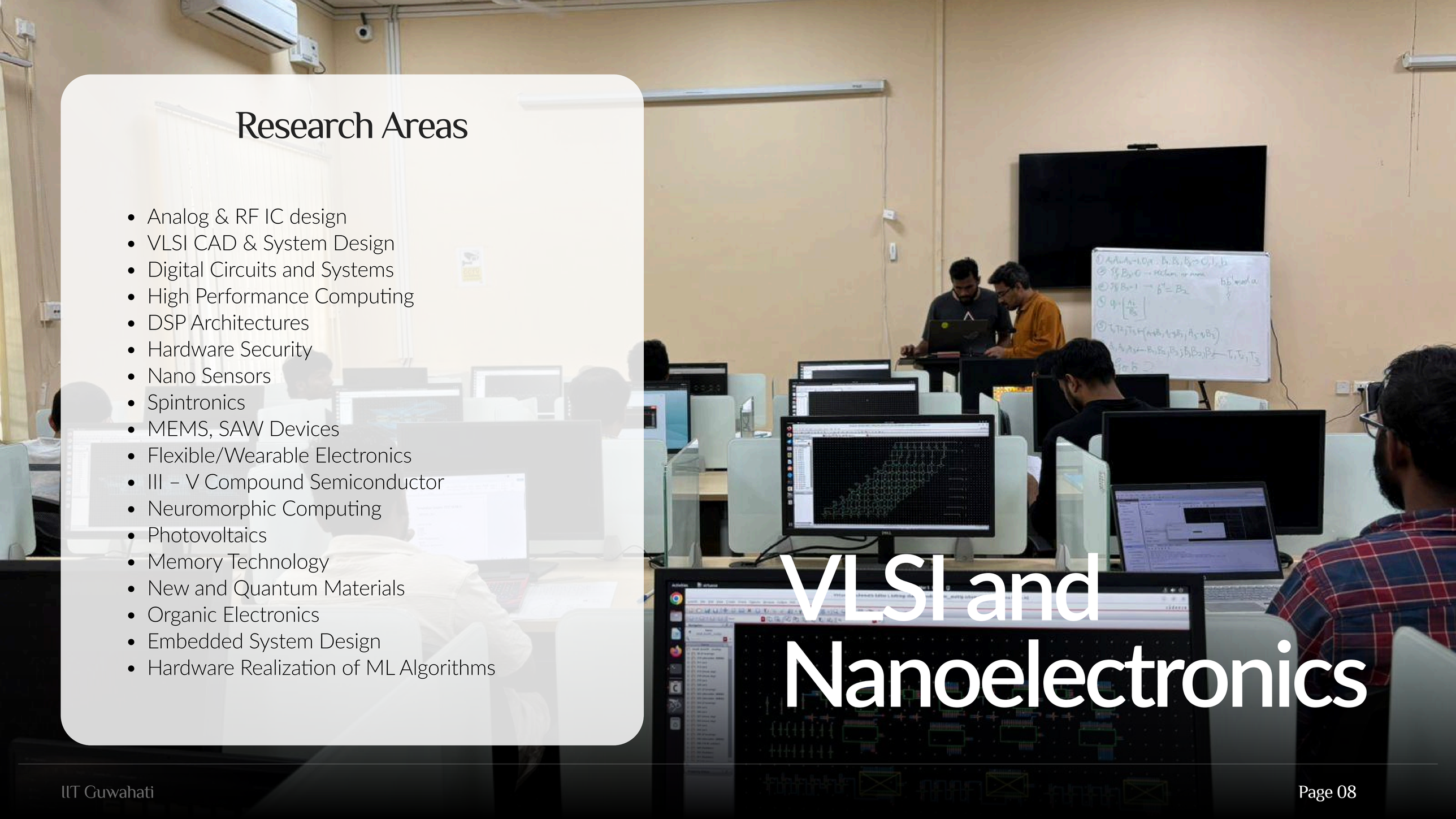
M.Tech Core Courses:

- Digital IC Design
- Analog IC Design
- Semiconductor Device Modelling
- RF IC Design
- VLSI System Design
- Semiconductor Device Packaging
- Communication System theory
- Information Theory
- Probability and Stochastic Processes
- Wireless Communication
- Data Communication Networks
- Photonics IC Design
- Power Electronics Converter
- Modern Power System
- Insulation and High Voltage Engineering

Department Electives and Laboratories.

- Optimization Techniques
- Medical Imaging
- Stochastic Analysis of Wireless Networks
- Biometrics
- Speech Signal Processing and Coding
- Fundamentals of VLSI CAD
- Micro sensors and Nano sensors
- Circuits for Sensor Signal Processing
- Optical Measurement Techniques and Applications
- Digital Control
- Modeling and Simulation of Dynamic Systems
- Introduction of Distributed Control Systems
- Smart Power Grids for a Sustainable Future
- Modeling and Control of Power Electronic Converters
- Blockchain Science & Technology

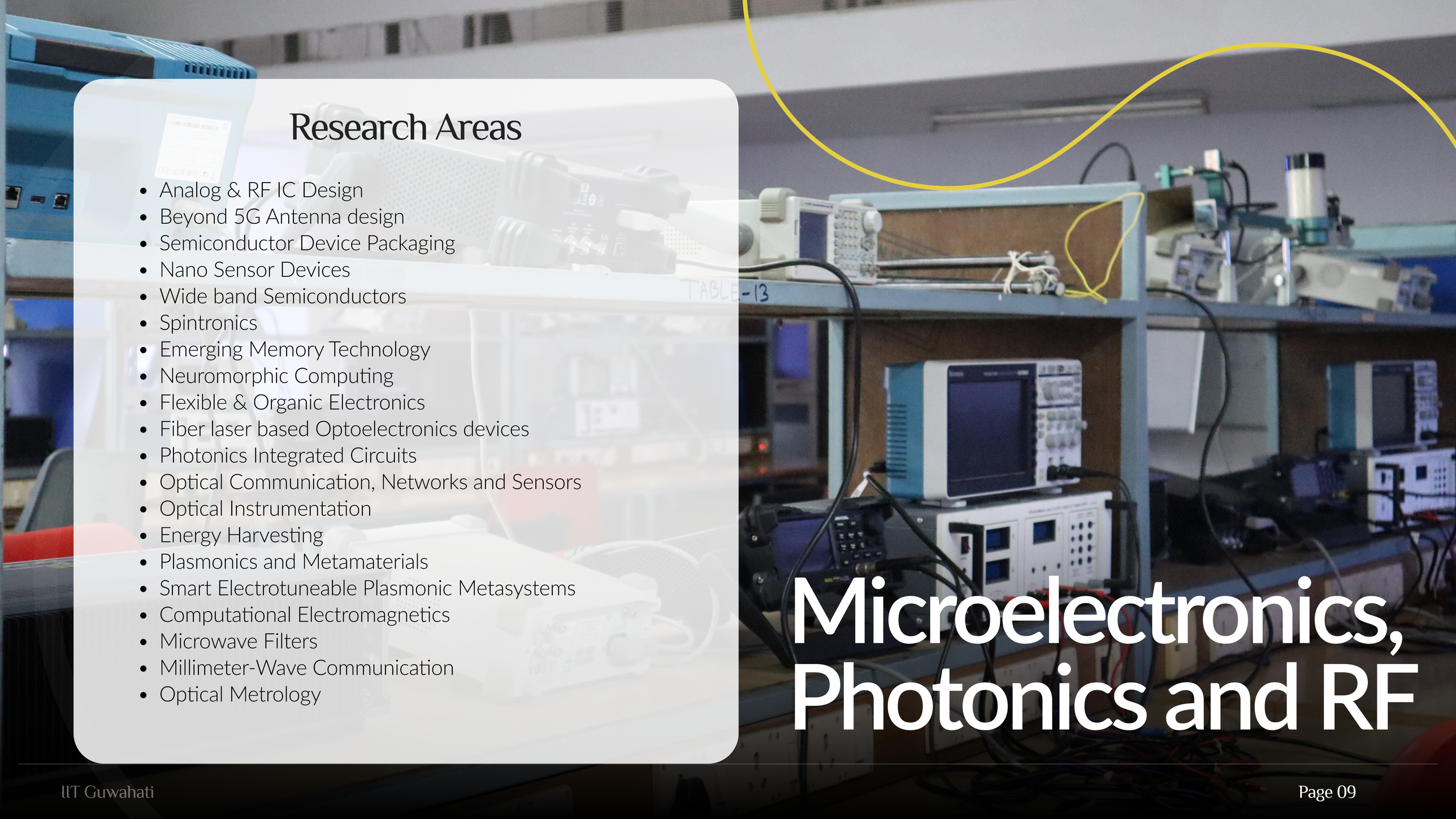
- Digital Circuits Laboratory
- Analog Circuits Laboratory
- Instrumentation Laboratory
- Control and Robotics Lab
- Communication and DSP Laboratory
- Electrical Machines Lab
- Wireless Communications Design Lab
- Machine Learning Laboratory
- Digital Signal Processors Lab
- Digital IC design Laboratory
- Analog VLSI Laboratory
- Photonic and Microelectronics Lab
- RF Laboratory
- Applied Control and RF Laboratory
- Power Electronics and Engineering Laboratory



Research Areas

- Analog & RF IC design
- VLSI CAD & System Design
- Digital Circuits and Systems
- High Performance Computing
- DSP Architectures
- Hardware Security
- Nano Sensors
- Spintronics
- MEMS, SAW Devices
- Flexible/Wearable Electronics
- III – V Compound Semiconductor
- Neuromorphic Computing
- Photovoltaics
- Memory Technology
- New and Quantum Materials
- Organic Electronics
- Embedded System Design
- Hardware Realization of ML Algorithms

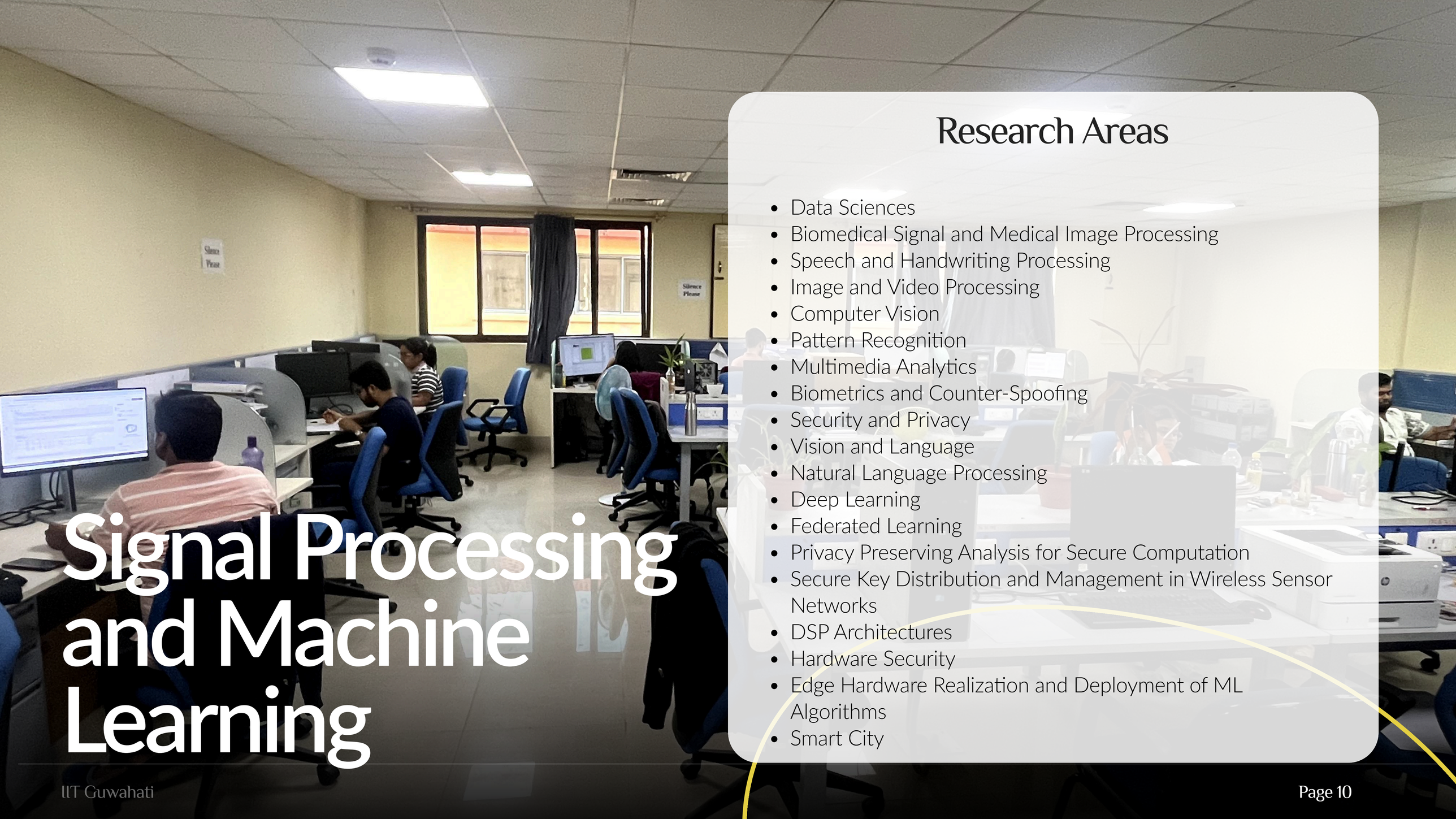
VLSI and Nanoelectronics



Microelectronics, Photonics and RF

Research Areas

- Analog & RF IC Design
- Beyond 5G Antenna design
- Semiconductor Device Packaging
- Nano Sensor Devices
- Wide band Semiconductors
- Spintronics
- Emerging Memory Technology
- Neuromorphic Computing
- Flexible & Organic Electronics
- Fiber laser based Optoelectronics devices
- Photonics Integrated Circuits
- Optical Communication, Networks and Sensors
- Optical Instrumentation
- Energy Harvesting
- Plasmonics and Metamaterials
- Smart Electrotuneable Plasmonic Metasystems
- Computational Electromagnetics
- Microwave Filters
- Millimeter-Wave Communication
- Optical Metrology

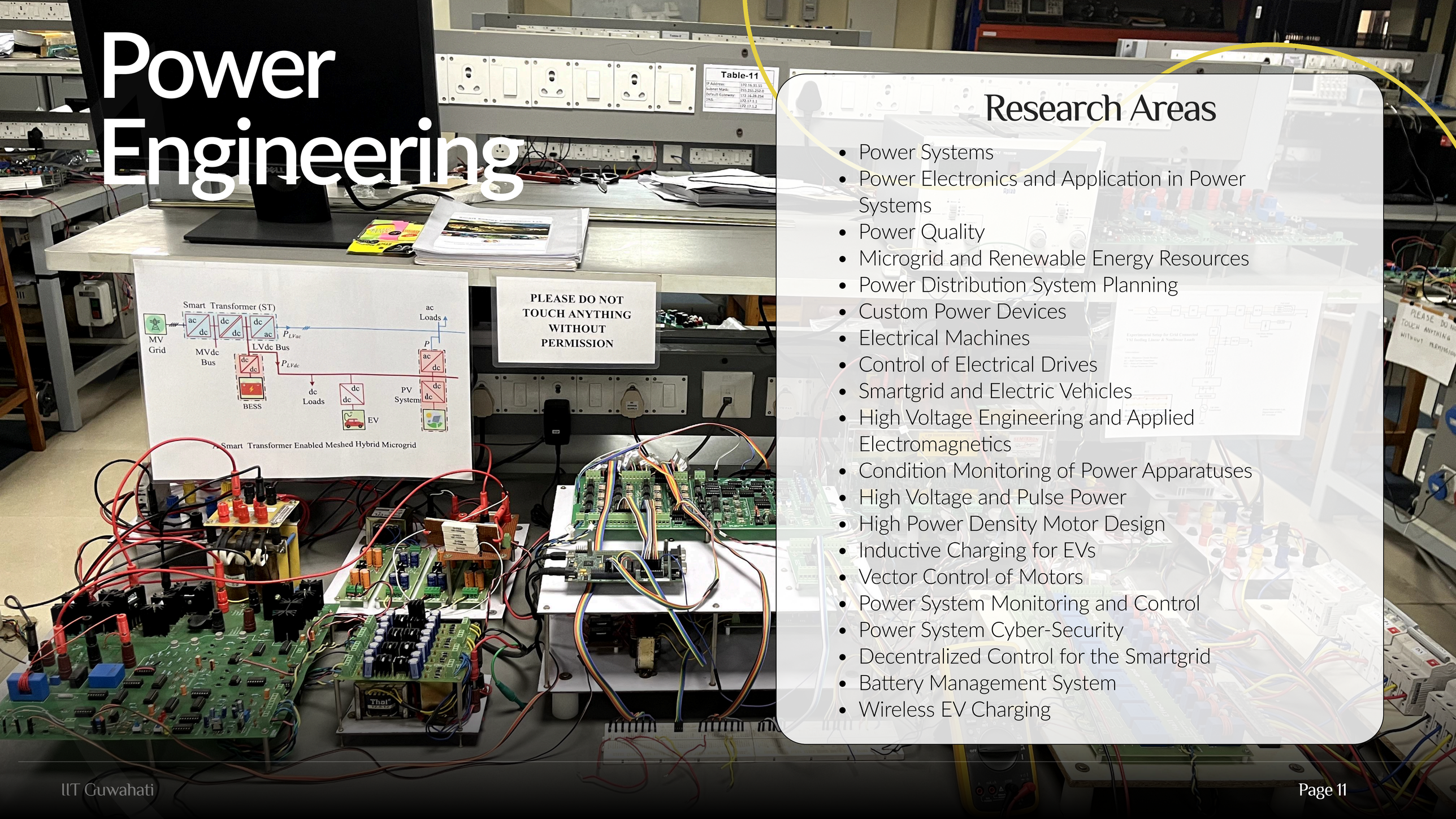


Signal Processing and Machine Learning

Research Areas

- Data Sciences
- Biomedical Signal and Medical Image Processing
- Speech and Handwriting Processing
- Image and Video Processing
- Computer Vision
- Pattern Recognition
- Multimedia Analytics
- Biometrics and Counter-Spoofing
- Security and Privacy
- Vision and Language
- Natural Language Processing
- Deep Learning
- Federated Learning
- Privacy Preserving Analysis for Secure Computation
- Secure Key Distribution and Management in Wireless Sensor Networks
- DSP Architectures
- Hardware Security
- Edge Hardware Realization and Deployment of ML Algorithms
- Smart City

Power Engineering



Research Areas

- Power Systems
- Power Electronics and Application in Power Systems
- Power Quality
- Microgrid and Renewable Energy Resources
- Power Distribution System Planning
- Custom Power Devices
- Electrical Machines
- Control of Electrical Drives
- Smartgrid and Electric Vehicles
- High Voltage Engineering and Applied Electromagnetics
- Condition Monitoring of Power Apparatuses
- High Voltage and Pulse Power
- High Power Density Motor Design
- Inductive Charging for EVs
- Vector Control of Motors
- Power System Monitoring and Control
- Power System Cyber-Security
- Decentralized Control for the Smartgrid
- Battery Management System
- Wireless EV Charging

Research Areas

- Wireless Communications and its Waveform Design
- Wireless Energy Transfer
- Information Theory and Coding
- Communication and Computer Networks
- Computational Photography
- Data Compression and Cryptography
- Quantum Error Correction and Communication
- 5G / 6G Communications
- Vehicular Communications
- AI/ML Application in Communications
- Adversarial Machine Learning
- Cognitive Radio
- Cell-free Massive MIMO Systems
- Ultra-dense Networks (UDN)
- Edge Computing Enabled Networks
- Orthogonal Time Frequency Space (OTFS) Modulation
- Intelligent Reflecting Surfaces
- Spectrum Sharing Techniques
- Adaptive and Statistical Signal Processing
- Low Complexity Multiple Antenna Diversity Techniques
- Cooperative Communication, Multi-hop Relaying Systems

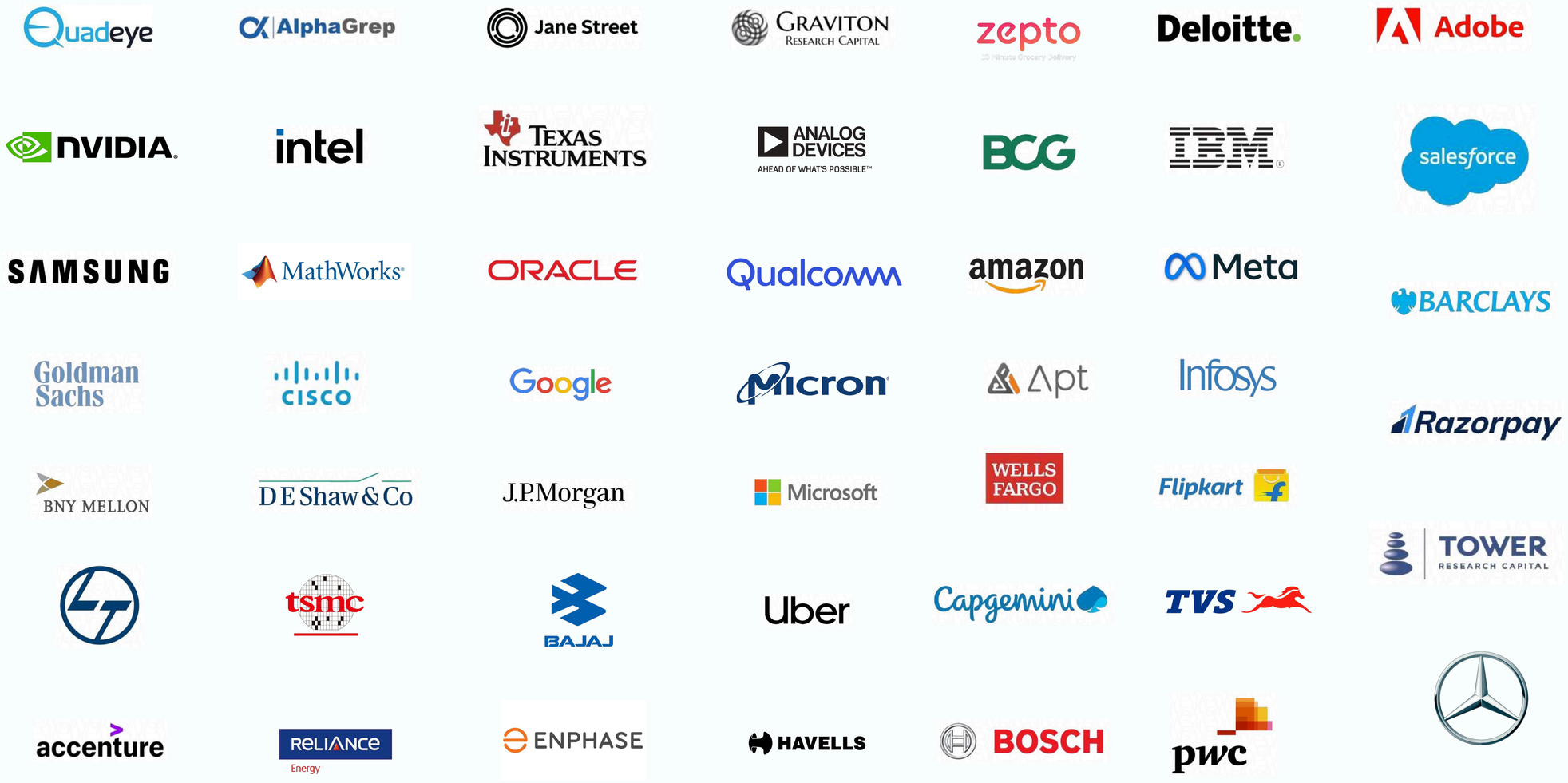
Communication Engineering

System Control & Automation

Research Areas

- Systems Theory
- Control Theory and Applications
- Artificial Intelligence based Control
- Identification and Control of Nonlinear Systems
- Control of Nonlinear Uncertain Systems
- Relay based Identification and Autotuning
- Adaptive, Optimal and Robust Control
- Robotics and Automation
- Cryptography
- Cooperative Control of multi-agent systems
- Model Predictive Control
- Reinforcement Learning
- Vibration Control of Flexible Structures
- Modelling and Control of Mechatronic and Robotic Systems
- Group-Coordinated Control of UAVs, UGVs and AUVs
- Connected Vehicle Platooning
- Passivity-based Control and Dissipativity
- Negative-imaginary Systems Theory
- Robust Control of Missiles, Spacecraft and Rockets
- Smart and Microgrid Control using a Multi-agent Framework
- Controller Design for Energy Management System in EVs

Past Recruiters.



Major Achievements.

Name of the Awardee/Team	Name of the Award	Name of Institution / Organisation bestowing the Award	Reason for the award
Team: FETManiacs	Second Runner-up	CDAC Analog Design Hackathon	Low Power Bandgap Current Reference Circuit in Analog Domain
Mr. M. James Singh (Student)	Best Paper Award	IEEE Conference on Biomedical Engineering and Sciences, Malaysia 2024	Best Research Paper in Conference
Mr. M. James Singh (Student)	Best Paper Award	International conference on Intelligent Cybernatics Technology & Applications, Bali 2024	Best Research Paper in Conference
Dr Tanmay Dutta (Faculty)	Young Associate of the INAE	Indian National Academy of Engineers (INAE)	Specializing in spintronics, advanced memory technologies contribution
Dr. Debabrata Sikdar (Faculty)	Emerging Leader 2023	Journal of Physics	For his Research
Prof. Chandan Kumar (Faculty)	Associate Editor	IEEE Transactions on Industrial Electronics	Associate Editor in IEEE TIE
Mr. Anandh N (Student)	Best Paper Award	IEEE National Power Electronics Conference	Best Research Paper award

Contact Details.

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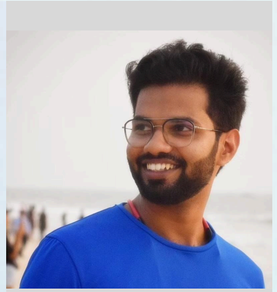

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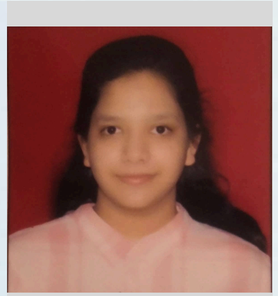

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Location

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