

Department-wise Research Interests

Department of Bio-Technology	Department of Chemical Engineering
<ul style="list-style-type: none"> • Biotechnology/ Industrial Biotechnology • Food and Biochemical Engineering/ Bioprocess Engineering/ Bioprocess Technology • Biopharmaceutical Technology/ Bioinformatics • Nano-science and Engineering • Industrial Biotechnology • Enzyme & Fermentation Technology • Downstream processing 	<ul style="list-style-type: none"> • Phase Change materials • Synthesis and Applications of Nanoparticles • Interfacial Science • Environmental Engineering • Inorganic Membranes • Fruit Juice Clarification • Wastewater Treatment • Bio-Separations
Dept. of Civil Engineering	Dept. of Computer Science & Engineering
<ul style="list-style-type: none"> • Ground Improvement Techniques • Soil Dynamics and Geotechnical Earthquake Engineering • Foundation Systems for High-Rise Structures • Remote Sensing & GIS • GIS based hydrological modelling • Soft computing techniques • Water shed modelling • Water & Wastewater Treatment–Toxicity Studies • Emerging Contaminants- Fate & Transport • Life Cycle Assessment & Risk Assessment • Bio-Char based Contaminant Removal and Environmental Geo-technics • Constitutive Modelling of Materials • Smart Materials and smart composites • Concrete Materials Charecterization • Structural Health Monitoring • Impact of climate change on hydrological extremes • Surface Hydrology • Integrated watershed management • Fracture mechanics- Crack propagation analysis • Unsaturated Geomaterials • Thermal properties of soils • Sensors for soil crack monitoring 	<ul style="list-style-type: none"> • Machine Learning for language, vision and control • Text/ Web Mining • Parallel and Distributed Algorithms • Randomized and Approximation Algorithms • Educational Data Mining • Deep Learning for Vision and NLP • Query Optimization for Big Data Computing • Privacy Preserving Data Mining • Big Data Analytics • Soft Computing Cryptography& Information Security
	Dept. of Electronics & Communication Engg.
	<ul style="list-style-type: none"> • VLSI Signal Processing • Microwave/Millimeter wave Filters • High Power Microwave Devices • Vacuum Electron Devices. • UAVs for wireless networks • Distributed sensor networks • Data fusion in IoT • Resource Allocation in Wireless Networks, • Information Theory, and • Theory of Error Control Codes.

<p>Department of Electrical Engineering</p> <ul style="list-style-type: none"> • Power Electronics (DC - DC converters / High Power Factor converters / Multilevel Inverters) • Electric Drives (IM, PMSM, SRM, SynRM) • Design of Electric Machines • Renewable Energy and Microgrids (Off-grid / grid connected) • Hybrid and Electric Vehicles • Electric Vehicle Charging Infrastructure • Smart Grids Technologies and Integration • Artificial Intelligence & Machine Learning applications in Energy Systems / Power Systems • Modern Power Systems (Operation / Stability / Control / Optimization / Security) • DSP / FPGA based Real -Time Embedded Systems • Assistive Technologies 	<p>Department of Mechanical Engineering</p> <ul style="list-style-type: none"> • IC Engines • Emissions Control • Refrigeration and Air-Conditioning • Energy Efficient Buildings • Renewable Energy • Alternative fuels • Energy Systems • Alternative Energy Systems • Manufacturing (Forming and Casting) • Advanced and Smart Materials for Applications • Development and Properties evaluation of Metal and Polymer Matrix composites, Carbon - Carbon Composites • Advanced Materials • Additive Manufacturing • Advanced Machining Technologies • Manufacturing processes
<p>Dept. of Metallurgical & Materials Engg.</p> <ul style="list-style-type: none"> • Welding Metallurgy • Corrosion of Welds • High Temperature Materials • Composite Materials • Powder Metallurgy • High Temperature Materials • ODS Steels • Materials Characterization 	<p>Department of Mathematics</p> <ul style="list-style-type: none"> • Wave Mechanics, • Elasto-dynamics • Differential Equation • Linear Algebra • Functional Analysis • Mathematical Physics
<p>Department of Physics</p> <ul style="list-style-type: none"> • Experimental Condensed Matter • Strongly Correlated Electron Systems • Multifunctional Properties of Magnetic Oxides • Magnetism and Superconducting properties of bulk and thin films. • Multifunctional Properties of Bulk and Thin films of Heusler Compounds • Optical and Photonic Materials • Growth of Single crystals • Luminescent glasses • Nano Phosphor materials for white LED applications • Materials for Energy harvesting applications 	<p>Department of English</p> <ul style="list-style-type: none"> • African American Theatre • First Nations Theatre • Diaspora Studies • Gender Studies <p>Department of Management</p> <ul style="list-style-type: none"> • Human Resources • Finance • Operations • Public Relationship • Marketing • All other fields of Management
<p>Department of Chemistry</p> <p>Biomaterials</p>	