

**Department of Civil Engineering**

<b>Faculty</b>	<b>Area of Research Interest</b>
Prof. P. S. Choudhury	WRE, Flood Flow Modeling, GIS Application
Prof. A.I. Laskar	Concert Technology- Structural Engineering
Prof. Ashim K. Dey	Geo Tech, Foundation Engineering and modeling
Prof. S. Choudhury	Structural Dynamic
Prof. D. Chakraborty	Water Resource Engineering, Surface and Ground Water Hydrology, Application of soft Computing Technique
Prof. A. K. Barbhuiya	WRE, River Bank erosion modeling
Prof. M.A. Ahmed	Urban Transportation Planning; Transportation Engineering; Traffic Engineering; City Planning; Infrastructure Planning; Travel Demand Modelling; Service Quality of Mass Transit; Intermediate Public Transit (IPT).
Dr. P.J. Roy	WRE, Application of Soft Computing Technique in WRE
Dr. Nitesh A.	Structural Dynamics and Earth quake Engineering
Dr. Nirmalendu Debnath	Structural Engineering and Application of Finite element Method
Dr. Debjit Bhowmik	Foundation Engineering and Geo Technical Engineering
Dr. Monowar Hussain	Foundation Engineering and Geo Technical Engineering
Dr. Arjun Sil	Earthquake Resistant design of Structures, Geotechnical Earthquake Engineering, Seismic Microzonation, Seismic hazard analysis, site characterization, site response, liquefaction, Reliability/probability & its application in Civil engineering, solid mechanics/FEM, Seismic vulnerability, Applied elasticity & Plasticity, constitutive modeling, Retrofitting techniques, risk evaluation. Probabilistic landslide hazard evaluation. Air pollution, GIS & Remote sensing, Engineering Seismology, Geophysics, earthquake forecasting, modeling & planning in transportation, Condition assessment, Structural health monitoring, DT & NDT testing techniques
Dr. U. Kumar	Water, Environment and GIS
Dr. Prasanth J.	Hydrodynamic effects on water related structures.
Dr. Dilip Kumar Ghosh	Water resources engineering
Dr. MLV Prasad	Effect of New Materials in Concrete and Structural Elements
Dr.B.S. Sil	WRE, Application of Soft Computing Technique in WRE, GIS Application
Dr. Kh. Lakshman Singh	Transportation, Urban Transportation Planning and Management, Pavement Design
Dr. Bijan Kumar Roy	Structural Engineering and Application of Finite element Method
Dr. Susmita Ghosh	Sustainable Groundwater management, study of climate change impact on hydrology using remote sensing techniques.

### Department of Mechanical Engineering

Faculty	Area of Research interest
Dr. K.M. Pandey	Computational Combustion, CFD, Manufacturing Sciences
Dr. R.D. Misra	Biofuel usage in I.C. Engine, Refrigeration & Air Conditioning, Exergy Analysis of Thermal System, Boiling heat transfer
Dr. K. Chakraborty	Metal Machining
Dr. K.K. Sharma	Renewable Energy System, Robot Design
Dr. P.K. Patowari	Advanced Machining Processes, Micro Manufacturing
Dr. L. Roy	Tribology of bearings
Dr. A. Biswas	Solar Thermal Technologies, Water Turbines, Hybrid Renewable Energy System, Vertical Axis Wind Turbine (VAWT)
Dr. (Mrs). S. Debbarma	I.C. Engine
Dr. S. Halder	Nano Composites, Polymer Composites, Fracture Behaviour, Self-healing Composites, Molecular Dynamics, GFRP, CFRP
Dr. S. Bhowmik	Fatigue & Fracture behaviour, Composites, Application of Optimization Techniques, Renewable Energy
Dr. D. Bhanja	Heat Transfer, CFD, Renewable Energy, Microfluidics, Thermodynamics, Optimization
Dr. S. Nath	Heat Transfer, CFD, Renewable Energy, Atomization, Microfluidics, Thermodynamics, Optimization
Dr. Jagadish	Green Manufacturing, , Advance Manufacturing Process, Polymer Machining, Decision Making Tools, CAD, Rapid Prototyping, Soft Computing Methods
Dr. P. Deb Roy	Fluid Mechanics, CFD, Design of underwater object in flow field, Ocean Dynamics, Ocean Renewable Energy Conversion, Solar Energy
Dr. S. Pati	Micro-scale Fluid flow and heat transfer, non-Newtonian fluid flow, Natural and mixed Convective flows, Evaporation and Condensation
Dr. A.B. Deoghare	Bio Science, Bio-mechanics, Bio-materials, Medical Devices, Bionic
Dr. B. Das	CFD, Heat transfer, Wind Rotor, Sollar PVT, Biodiesel electronic cooling
Dr. S. Dey	Uncertainty Quantification, Composites, FGM-Bioinspired Materials, Computational Mechanics & Modelling, Molecular Dynamics, Reliability Failure Analysis, Inverse Problems
Dr. S. R. Maity	MCDM Techniques, Materials Selection, Fatigue, Fracture, Advance Optimization Techniques
Dr. P. Randive	Lattice Boltzman modelling, CFD, Heat Transfer, Fluid Mechanics, Solar Energy.

### Department of Electrical Engineering

Faculty	Area of Research interest
Prof. N. Sinha	Power System Optimization, Soft computing techniques, AGC, Brainwaves signal processing
Prof. B.K. Roy	Control Systems, Nonlinear Control System, Chaotic Systems, Industrial Automation
Dr. S. Chaudhury	Low Power VLSI, Nanoelectronics, Image Processing and Applications
Dr. N.B. Dev Choudhury	Power System Economics, Deregulated Power Systems, Application of Soft Computing
Dr. L.C. Saikia	Soft computing Techniques in Power Systems, Power Quality, AGC, LFC.
Dr. T. Malakar	Power system optimization, Analysis, Deregulation, Renewable Energy etc.
Dr. A.K. Goswami	Power Quality, Power System Planning, Reliability, Smart Grid, Energy Management.

Dr. J.P. Mishra	Power Electronic Control in Electric Power and Energy Systems; Power Quality and Management in Renewable based Generation and Distribution; Microgrid Control.
Dr. P.K. Tiwari	Power Sector Deregulation • FACTS Devices • Renewable Energy Sources
Dr. D.C. Das	Demand side management, renewable energy technologies (wind, solar PV, fuel cell, solar thermal system), energy storage devices and application of soft computing techniques in renewable based hybrid energy system
Dr. R. Dey	Control System (Mathematical Control – Robust control, time-delay control, optimization & Estimation, Eigenvalue problem), Control Application – Bio-medical, motion control, power system, Communication in Control.
Dr. C. Bhattacharjee	Power Quality Improvement of Distributed Renewable Energy Systems.
Dr. P.Roy	Control Systems: Nonlinear, Fractional Order, Sliding mode and PID Control
Dr. R.K. Biswas	Application of non-integer derivatives, Fractional order systems and control, Optimization
Dr. N. Soren	Renewable Energy Sources, Rural Energy Planning, Solid Waste Management System, Distributed Generation Systems, Demand Side Management.

### **Department of Electronics and Communication Engineering**

<b>Faculty</b>	<b>Area of Research interest</b>
Prof. Fazal Ahmed Talukdar	Signal processing, Analog VLSI and Power Electronics
Prof. Srimanta Baishya	Solid State Device, MEMS, Circuits
Dr. Prashanta Kumar Paul	Fiber Optic Sensor, Optical interconnect, Analog VLSI Circuit
Dr. Madhumita Paul	Optical Communication
Dr. Madhucchanda Choudhury	Microprocessor & Microcontroller, Electronic circuits, Digital circuits, Electronic measurements & Instrumentation, Bio-medical Instrumentation
Dr. Krishna Lal Baishnab	Analog VLSI, Digital VLSI, Cognitive Radio and Optimization of Engineering
Dr. Rabul Hussain Laskar	Speech Processing, Image and Video Processing, Biomedical Image Processing, Soft Computing, Multimedia Signal Processing
Dr. Brinda Bhowmick (Shome)	Solid State Device, Semiconductor Modelling and application
Dr. Koushik Guha	Microelectromechanical Systems (MEMS), RF MEMS, Bio MEMS, Analog Circuits, Optimization
Dr. Wasim Arif	Energy Harvesting issues in 5G, Spectrum management issues in CRN, Network load sharing in Multi rate CRAN and optimization
Dr. Trupti Ranjan Lenka	Microelectronics & VLSI Design
Dr. Ashraf Hossain	Wireless Sensor Network, wireless communication, wireless network, cognitive radio, Communication Systems
Dr. Ram Kumar Karsh	Image Processing
Mr. Ganesh Prasad Keshri	Cooperative wireless communications, underwater networks, free space optical communications, and green communications
Dr. Taimoor Khan	Dielectric resonator antennas, Electromagnetic bandgap structures and frequency selective surfaces, RF energy harvesting and wireless power transfer, Machine Learning Techniques in Electromagnetics
Dr. Banani Basu	Antenna Design

Dr. Susanta Kumar Tripathy	Renewable Energy, Electronic Material, Band Structure Calculation
Dr. Arnab Nandi	Wireless Sensor Networks, Antenna Design, Metamaterials Structures for RF Applications, RF MEMS
Dr. Ujjal Chakraborty	Microwave Engineering, Wireless Communication, Digital Signal Processing, Antenna Design and Circuit and Systems
Dr. Chandrajit Choudhury	Image Processing, Computer Vision and Machine learning
Dr. Robin Khosla	VLSI Technology

### **Department of Electronics and Instrumentation Engineering**

<b>Faculty</b>	<b>Area of Research interest</b>
Dr. R. Dasgupta	Drug Delivery System, Biosensors, Medical Instrumentation
Dr. M. Khanra	Modelling, Estimation, Optimal Control in Energy, Transportation, WSN, wearable devices
Dr. Manas Bera	Control Theory and its applications
Dr. R. Hazra	Communication Systems, Wireless Communication- D2D Communication, mmWave communication, UWB Communication, Energy Harvesting, MIMO, Cooperative Communication, 5G

### **Department of Computer Science and Engineering**

<b>Faculty</b>	<b>Area of Research interest</b>
Dr. S. Bandyopadhyay	Computer Processing of Indian Languages/ Database/ Machine Translation
Dr. B. Purkaystha	Soft-computing, Optimization
Dr. A. Bhattacharjee	Computer Network, Network modelling, Traffic Engineering, Performance Evaluation
Dr. Pinki Roy	Speech Processing, Machine Intelligence, Network Security, Cloud Computing, Neural Network, Language Identification
Dr. S.K. Borgohain	Natural Language Processing, Artificial Immune Systems, Computer Vision
Dr. S.K. Biswas	Software Engineering, Artificial Intelligence, Machine Learning Algorithms, Artificial Neural Networks, Case-based Reasoning, Fuzzy Logic and Data Mining Problems
Dr. Shyamoshree Pal	Mathematical imaging, Document image processing, Vectorization of Engineering Drawings, Graphic Recognition Combinatorial Image Analysis, Sensor Network System
Dr. S. Mukherjee	Verification and Testing in VLSI Design, Designing IoT devices Machine Learning Applications, Gait Analysis, Gesture recognition using ML on FPGAs
Dr. Dalton Meitei Thounaojam	Image processing, Video processing, Image hashing and retrieval, Video shot boundary detection in uncompressed domain, Application of soft computing in image and video processing.

### **Department of Physics**

<b>Faculty</b>	<b>Area of Research interest</b>
Dr. Asim Roy	RRAM, Nanostructured materials
Dr. Subrat Kumar Barik	Ferroelectrics and Multiferroics
Dr. Rupak Dutta	Theoretical High energy Physics

Dr. Avijit Chowdhury	Semiconductor nanostructure and devices, Polymer nanocomposites, Resistive switching memory
Dr. Saumya R. Mohapatra	Solid state Ionics, Energy storage materials, Resistive switching memory
Dr. Subhasis Panda	Mathematical Physics, Perturbation theory of Quantum Mechanics, Theoretical Condensed Matter Physics
Dr. Ranjith G. Nair	Solar Photovoltaics, Photocatalysts, Solar energy materials.

### Department of Chemistry

Faculty	Area of Research interest
Dr. P. Barman	Synthesis of Organo-Sulfur compounds and their applications. Synthesis of Metal complexes and their applications. Asymmetric synthesis. Green synthesis under Microwave and solvent free conditions
Dr. S.S. Dhar	Synthesis of nanocatalysts and their applications in photochemical and chemical transformations
Dr. Rano	Synthesis and characterisation of a catalyst /photocatalyst derived from a solid waste material for various organic transformation reactions Micro and nano-studies of ferrospheres for potential application in microelectronics Solid waste management for environmental protection
Dr. N. S. Moyon	Study of Photoexcited states in different pure solvents and microheterogeneous media
Dr. L. Rokhum	Organic synthesis, Solid phase synthesis, nanocatalysis, material chemistry and renewable energy
Dr. B. H. Shambharkar	Nanocatalyst for environmental remediation, Fabrication of dye sensitized solar cells
Dr. M.A. Zaman	Nanocatalysts, Synthesis and characterization of inorganic nanostructured materials (microporous zeolitic and mesoporous materials, clays, layered double hydroxides-LDHs, nanosized metals and metal oxides), as catalysts, sorbents or polymer reinforcing nano-additives. Nanomaterials, Greener methodologies for the production of noble metal and metal oxide nanomaterials, nano-composites, Application of nanomaterials in various organic transformations, photodegradation of industrially emerging pollutants and water treatment, waste-derived catalysts for various organic transformations and photodegradation of organic compounds, Adsorption/Interfacial Phenomenon, Development of low-cost and synthetic nano-adsorbents for wastewater treatment, Waste plastics recycling, Co-processing of petroleum vacuum residue with plastics and biomass, Cracking or pyrolysis of biomass Polymer composites and nano-composites, Polymers, Desulfurization, Solid waste Management.

### Department of Mathematics

Faculty	Area of Research interest
Dr. Ramesh Ganti	Complex Analysis, Fractal Geometry
Dr. Kedar Nath Das	Evolutionary Optimization Algorithms, Networking Optimization
Dr. Pankaj Biswas	Spectral Element methods for PDEs, Mathematical Modelling, Numerical Analysis.
Dr. Praveen Kumar Gupta	Mathematical modelling, Differential equations, Fractional calculus, Numerical methods
Dr. Juthika Mohanta	Fuzzy set theory, Fuzzy topology, Rough set theory.

Dr. Mausumi Sen	Algebra, Inverse eigenvalue problem, Integral equation and application, Fuzzy decision making
Dr. S. Roy	Fuzzy set theory Multiple sequence spaces of fuzzy numbers, fuzzy optimization.
Dr. P. K. De	Operation Research and optimization, fuzzy optimization, fuzzy statistics, mathematical modelling, Mechanics.
Dr. Maqbul	Functional and fractional differential equation
Dr. B.H.S. Raju	Numerical Methods, Computational Fluid Dynamics
Dr. S. Bera	CFD (Micro and nano fluidics modeling).

#### **Department of Humanities**

<b>Faculty</b>	<b>Area of Research interest</b>
Prof. Gurudas Das	Development Studies, International Trade, Regional Development, Political Economy
Dr. N. B. Singh	Agricultural Economics, Rural Development, Regional Development
Dr. Reena Sanasam	Post-colonial Literature, Indian writing in English, Feminist Literature
Dr. Avishek Ray	Comparative Literature, Cultural Studies, Media Studies & New Media, Colonial Historiography.

#### **Department of Management Studies**

<b>Faculty</b>	<b>Area of Research interest</b>
Dr. Ashim Kr Das	Small Business Management, Entrepreneurship, Corporate Finance
Dr. Soma Panja	Banking & Finance
Dr. Binoti Patro	Corporate Governance & Corporate Finance
Dr. Saurabh Verma	Marketing.