

राष्ट्रीय प्रौद्योगिकी संस्थान सिलचर  
NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR  
अध्यक्ष का कार्यालय (शोध एवं परामर्श)  
OFFICE OF THE DEAN (RESEARCH & CONSULTANCY)

No. Dean (RC)/242/

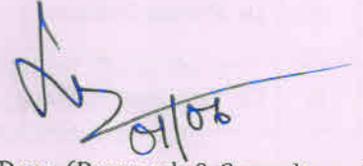
Date: 01-06-2020

सूचना / NOTICE

All the PhD students admitted under Group-A during the session Jan to June 2020 are hereby instructed to submit a maximum of FIVE options for broad areas of research as per the enclosed format (Annexure-II) through email to [directornits@gmail.com](mailto:directornits@gmail.com) and [deanrcnits@gmail.com](mailto:deanrcnits@gmail.com) within **10<sup>th</sup> June, 2020**. It should be noted that the students have to fill all the five options of Broad Area of Research and the name of the faculty should not be repeated.

The area of research must be as per the Annexure-I as enclosed.

Group-B students may submit their choice of Supervisors among all the faculty members of the concerned department irrespective of Annexure-I, with their consent.



अध्यक्ष (शोध एवं परामर्श) / Dean (Research & Consultancy)

Copy forwarded for information and action where necessary, to:

1. Director, NIT Silchar, for his kind information.
2. All Heads for information.
3. Dr. Ripon Patgiri, Assistant Professor, Department of Computer Science & Engineering with a request to upload the same in the Institute website.

**Broad Area of Research****Name of the Department: Civil Engineering**

Sl No.	Name of the Faculty	Designation	Area of Research
1.	Prof. D. Chakraborty	Professor	Hydrology, Water Resources Engineering , Optimization methods
2.	Prof. M. Ali Ahmed	Professor	Transportation planning
3.	Prof. A.K. Barbhuiya	Professor	Sediment transport / River Mechanics
4.	Prof. Upendra Kumar	Professor	Environmental Engineering , Water & Wastewater Engineering
5.	Dr. Tauhidur Rahman	Associate Professor	Structural Engineering/Earthquake engineering
6.	Dr. Nirmali Borthakur	Assistant Professor	Shallow foundation, deep foundation, machine foundation, soil dynamics, soil stabilization
7.	Dr. Parbin Sultana	Assistant Professor	Application of probability and reliability theory in geotechnical engineering
8.	Dr. Briti Sundar Sil	Assistant Professor	Surface Water Hydrology, Sediment Transport, Climate change, River Modeling
9.	Dr. Manowar Hussain	Assistant Professor	Ground improvement and Geosynthetics
10.	Dr. MLV Prasad	Assistant Professor	Construction Materials& Structural Engineering
11.	Dr. Susmita Ghosh	Assistant Professor	Water Resource Engineering , hydrological modeling, groundwater Engineering , Climate change impact in DRF
12.	Dr. Suprava Jena	Assistant Professor	Transportation Engineering. (Traffic Engineering )
13.	Dr. Ambika Kuity	Assistant Professor	Pavement Engineering
14.	Dr. Olympa Baro	Assistant Professor	Geotechnical Engineering / Earthquake Engineering
15.	Dr. Atanu Sahu	Assistant Professor	Vibroacoustics, Structural Dynamics and vibration control, Active Structural Acoustic Control (ASAC)
16.	Dr. Kulkarni Vihangraj	Assistant Professor	Environmental Engineering, Waste Management, Water and Wastewater Engineering

**Name of the Department: Mechanical Engineering**

Sl. No.	Name of the Faculty	Designation	Area of Research
1.	Prof. K.M. Pandey	Professor	Renewable Energy, Aerodynamics, Combustion
2.	Dr. P. Choudhury	Associate Professor	Mechanical Behaviour of FRP Laminated Composites
3.	Dr. (Mrs.) S. Debbarma	Assistant Professor	IC Engine, Bio fuel
4.	Dr. D. Bhanja	Assistant Professor	Analytical heat transfer , Heat transfer augmentation, Extended surface, Electronic cooling, Heat transfer through porous surface, Solar collector, Renewable energy , Optimization, CFD, Bioheat Transfer
5.	Dr. S. Negi	Assistant Professor	Additive Manufacturing; Polymeric Composite Materials; Optimization
6.	Dr. S. Kar	Assistant Professor	Surface engineering, thermal spray technology, abrasive machining, Machine tools and machining, Cutting fluid.

**Name of the Department: Electrical Engineering**

Sl No .	Name of the faculty	Designation	Area of research
1.	Prof. Binoy Krishna Roy	Professor	Control Systems, Industrial automation, Chaos theory, Control in microgrid, Nonlinear control theory, MPC, Nonlinear dynamic, Fault detection and diagnosis.
2.	Prof. Saurabh Chaudhury	Professor	Semiconductor devices, modeling and simulation, Low power VLSI, Nanomaterials, image processing,
3.	Prof. Nalin Behari Dev Choudhury	Professor	Power system reliability, Smart grid, Deregulated Power system.
4.	Dr. Jyoti Prakash Mishra	Associate Professor	Microgrid control, Ppower electronics, Power quality, Renewable energy, Electric vehicles
5.	Dr. Tanmoy Malakar	Assistant Professor	Power system Deregulation
6.	Dr. Prasanta Roy	Assistant Professor	Control system.
7.	Dr. Nirmala Soren	Assistant Professor	Renewable energy, Power systems.
8.	Dr. Rajeeb Dey	Assistant Professor	Control system, Biomedical Engg.
9.	Dr. Raj Kumar Biswas	Assistant Professor	Control system.
10.	Dr. Saheli Ray	Assistant Professor	Power system
11.	Dr. Amritesh Kumar	Assistant Professor	Power electronics converter for electric vechile, Gridinterface PV system.
12.	Dr. D. Koteswara Raju	Assistant Professor	Power system protection and control.
13.	Dr. Partha Kayal	Assistant Professor	Power system

Sl No	Name of the faculty	Designation	Area of research
14.	Dr. Nabanita Adhikary	Assistant Professor	Control system
15.	Dr. Tapan Pradhan	Assistant Professor	Signal & machine learning, Embedded system, Image processing, Numerical linear algebra
16.	Dr. Avadh Pati	Assistant Professor	Control system
17.	Dr. Jiwanjot Singh	Assistant Professor	Power electronics
18.	Dr. Asha Rani M. A	Assistant Professor	Power electronics, Renewable energy
19.	Dr. Sreejith. S	Assistant Professor	Power electronics, Smart grid, EV
20.	Dr. Risha Mal	Assistant Professor	Renewables, Thermoelectrics
21.	Dr. Swapna Mansani	Assistant Professor	Distribution system

**Name of the Department: Electronics and Communication Engineering**

SL. No.	Name of Faculty	Designation	Area of Specialization
1	Prof. F A Talukdar	Professor (HAG)	Signal processing, power electronics and Analog VLSI
2	Prof. S. Baishya	Professor	-
3	Dr. (Ms.) B B Shome	Associate Professor	Semiconductor device and Modelling, Bio sensor
4	Dr. Madhuchanda Choudhury	Associate Professor	Synthesis of nano particle and Application of Nanotechnology, Machine learning, Soft Computing Technique
5	Dr. R H Laskar	Associate Professor	Speech Processing, Image and Video Processing, Bio-medical Signal and Image Processing, Machine Learning, Soft Computing Techniques, Communication Engineering and the other areas related to Signal Processing.
6	Dr. T R Lenka	Assistant Professor	Nano electronics : HEMT, Perovskite Solar Photovoltaics, Nanotechnology: Nanowire LED, Energy Harvesting
7	Dr. A Hossain	Assistant Professor	Wireless Sensor Networks, Wireless Communications, Satellite Communications, Communication Systems
8	Dr. Arnab Nandi	Assistant Professor	Resonators for RF Applications, Metamaterial-Inspired Structures for Antenna Application, Cross-Layer Issues in Wireless Sensor Networks, Soft Computing Techniques in WSNs
9	Dr. Ganesh Prasad	Assistant Professor	Digital Communication, Information Theory and Coding, Signal and System, Satellite Communication, Mobile Communication and Wireless Networks, Cooperative Wireless Communications, Underwater Networks, Free Space Optical Communications and Green Communications.

SL. No.	Name of Faculty	Designation	Area of Specialization
10	Dr. Ramkumar Karsh	Assistant Professor	Image Processing, Biomedical Image processing, Multimedia authentication, Machine learning and pattern recognition.
11	Dr. D S Gurjar	Assistant Professor	Wireless Communications, Wireless Sensor Networks, MIMO, Physical Layer Security, RF Energy Harvesting, Cooperative Communications, Cognitive Radio Networks, Signal Processing for Communications, 5G Techniques
12	Dr.Kavicharan Mummaneni	Assistant Professor	Semiconductor device and Modelling, VLSI Interconnects, Digital VLSI design, Sensors, Stretchable electronics, Machine learning for physical design.
13	Dr. Pukhrabam Puspa Devi	Assistant Professor	Optical Fibre Communication, Opto-Electronic Devices, III-V Semiconductors, Photonic Integrated Circuits, Biosensors.
14	Dr.Tripti Goel	Assistant Professor	Medical Image Processing, Digital Image Processing, Machine Learning and Deep Learning, Pattern Recognition, Optimization Techniques.
15	Dr. P Pattanayak	Assistant Professor	5G Communication Techniques, Wireless Communications, Wireless Communication Systems/Networks (Cognitive Radio Networks, Wireless Sensor Networks, Cooperative Communications), Soft Computing Techniques, Smart Grid Communications, Energy efficient \ Green Communications, Massive MIMO Communications, Millimetre Wave Communications, Cooperative MIMO Communications, NOMA, MIMO Communications, MIMO-OFDM Communications, IoT, Signal Processing for Communications, Antenna Communications, Efficient scheduling of wireless resources, and various aspects of all other recent forms of communications.
16	Dr. R. Murugan	Assistant Professor	Digital Image Processing, Medical Imaging, Digital Signal Processing, Embedded Systems, Machine Learning and Deep Learning.
17	Dr. Bijit Choudhury	Assistant Professor	Semiconductor Device
18	Dr. Chandrajit Choudhury	Assistant Professor	Computer Vision, Image Processing, Machine Learning / Deep Learning applications in image processing and computer vision.
19	Dr. Gaurav Singh Bhagel	Assistant Professor	RF MEMS, Machine Learning for Microwave & mm-Wave Devices, Microwave Imaging, Sensors, MIMO Antenna System, Metamaterials for mm-wave Structures.
20	Dr. M.V. Swati	Assistant Professor	Active and Passive Microwave Devices, Microwave Imaging, Smart Antenna Systems, Cyber Security.

**Name of the Department: Computer Science and Engineering**

Sl. No	Name of the Faculty	Designation	Area of Research
1	Dr.Ujwala Baruah	Assistant Professor	Signal Processing with applications in Speech Processing, Image/Video Processing and Text Processing.
2	Dr. Naresh Babu Muppalaneni	Assistant Professor	Machine Learning, Cryptography
3	Dr. Partha Pakray	Assistant Professor	Natural Language Processing
4	Dr. L. Dolendro Singh	Assistant Professor	Cryptography, Watermarking, Steganography, Image compression
5	Dr. Badal Soni	Assistant Professor	Image Processing, Machine Learning and Machine Translation.

**Name of the Department: Electronics and Instrumentation Engineering**

Sl. No.	Name of Faculty	Designation	Area of Research
1.	Dr. Munmun Khanra	Associate Professor	Control (modelling, estimation, optimal control, optimization) applications in Energy storage, Transportation systems, Smart building; Renewable energy systems; Fractional order systems.
2.	Dr. J. Hazarika	Assistant Professor	1. Biomedical signal processing 2. Neuroscience 3. Machine learning algorithms 4. Digital Image processing
3.	Dr. L. Seban	Assistant Professor	Control of aquaponics system, Statistical process control, Process optimisation
4.	Dr. Sudarshan Sahoo	Assistant Professor	1. Condition monitoring and fault diagnosis using advanced signal processing techniques. 2. Signal processing. 3. Biomedical signal processing. 4. Intelligent instrumentation. 5. Industrial instrumentation. 6. Application of machine learning and artificial intelligence
5.	Dr. S. K. Pandey	Assistant Professor	1. Emerging memories with artificial intelligence (AI) applications 2. Emerging memory technologies (PCM, RRAM): Materials, Device Fabrication & Characterization. 3. Advanced applications of non-volatile memories such as multi-bit data storage, threshold switch, logic devices, Neuromorphic Computing etc. 4. Nanoelectronics and semiconductor devices
6.	Dr. Sudipta Chakraborty	Assistant Professor	1. Linear, Non-linear and Robust control. 2. Control of Renewable Energy systems. 3. Modelling and control of fractional order processes. 4. Decentralized control.

Sl. No.	Name of Faculty	Designation	Area of Research
7.	Dr. Shankar K.	Assistant Professor	1. Biomedical Instrumentation. 2. Objective Pain Measurement. 3. Virtual Reality in Pain Management, Pain Inducer. 4. Human Factors Engineering /Automation. 5. Environmental Instrumentation. 6. Technology for Societal issues.
8.	Dr. A. K. Sharma	Assistant Professor	1. Smart nanosensors for biomedical instrumentation. 2. Renewable energy devices. 3. Energy harvesting systems. 4. Air and water quality monitoring systems based on nanosensors. 5. Thin film supercapacitors for electrical vehicles. 6. IOT based health care monitoring systems. 7. Biosensors and biomedical image processing.
9.	Dr. Vipin C. Paul	Assistant Professor	1. Linear and Nonlinear Control. 2. Robust & Adaptive Control. 3. Lyapunov Stability. 4. Modeling of Dynamical Systems. 5. Linear and Nonlinear Multi- Dimensional Systems, 6. Biological Control Systems.

**Name of the Department: Humanities and Social Sciences**

Sl No.	Name of the Faculty	Designation	Area of Research
1.	Prof. Gurudas Das	Professor	Development Economics, Industrial trade, Political Economy
2.	Dr. N.B. Singh	Associate Professor	Agricultural Economics, and Rural Development.
3.	Dr. Reena Sanasam	Associate Professor	Women's Writing in India, Post colonial Literature.
4.	Dr. Avishek Ray	Assistant Professor	Literary and cultural studies; media studies

**Name of the Department: Mathematics**

Sl No.	Name of the Faculty	Designation	Area of Research
1.	Dr. M. Sen	Associate Professor	Inverse eigenvalue problem, Functional integral equation, Fuzzy optimization.
2.	Dr. K. N. Das	Assistant Professor	Nature-inspired algorithms Evolutionary Optimization.
3.	Dr. P. K. Gupta	Assistant Professor	Differential equation, Mathematical Modelling.
4.	Dr. P. Biswas	Assistant Professor	C.F.D (Computational Fluid Dynamics)
5.	Dr. B. H. S. Raju	Assistant Professor	Numerical Methods, application to incompressible flow and heat transfer.
6.	Dr. J. Mahanta	Assistant Professor	Fuzzy topology, Fuzzy Set theory and its application.

**Name of the Department: Chemistry**

<b>Sl No</b>	<b>Name of the Faculty</b>	<b>Designation</b>	<b>Area of Research</b>
1	Dr. S S Dhar	Associate professor	Synthesis of Nanocatalysts and their applications in photochemical and Chemical transformation
2	Dr. M A Zaman	Associate professor	Physical Chemistry, Nanoscience and Nanotechnology, Nanocatalysts, Synthesis and characterization of inorganic nanostructured materials (microporouszeolitic and mesoporous materials, clays, layered doubled 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 nano-materials, 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.
3	Dr. P Barman	Associate professor	Green Chemistry, Microwave Synthesis, Bivalent Organosulfur compounds and their Applications, Synthesis of Chiral and Achiral Metal Complexes and their Catalytic and Biological Activity.
4	Dr. Ruma Rano	Assistant Professor	1. Synthesis and characterization of fly ash based nano aggregates for various application 2. industrial waste management
5	Dr. B H Shambharkar	Assistant Professor	Photocatalysis, Dye sensitized solar cells
6	Dr. L Rokhum	Assistant Professor	Organic synthesis, Heterogeneous catalysis, Renewable energy
7	Dr. N S Moyon	Assistant Professor	Studying the photophysical and photochemical processes of organic fluorophores in homogeneous and heterogeneous environments using fluorescence spectroscopy; protein-ligand interaction
8	Dr. B N Ghosh	Assistant Professor	Synthesis, characterization and application of transition metal complexes of nitrogen based heterocyclic ligands; development of chemosensor for anion sensing

**Name of the Department: Management Studies**

<b>Sl.No.</b>	<b>Name of the Faculty</b>	<b>Designation</b>	<b>Area of Research</b>
1	Dr. Ashim Kumar Das	Assistant Professor	Financial Accounting, Entrepreneurship and Small Business
2	Dr. Soma Panja	Assistant Professor	Security Analysis and Portfolio Management, Behavioral Finance and Financial Accounting
3	Dr. Binoti Patro	Assistant Professor	Corporate Governance, Financial Accounting, Sustainable Finance and Financial Analytics
4	Dr. Saurabh Verma	Assistant Professor	Consumer psychology, Organizational Behavior, Intellectual Property Right and Marketing
5	Dr. Rama Koteswara Rao Kondasani	Assistant Professor	Marketing
6	Dr. Tanaya Nayak	Assistant Professor	Human Resource and Organizational Behavior

**Option for Broad Area of research**

Name of the candidate:

Selected in the Department:

I am interested in the following Broad Area of Research as per my preference based on notification dated 1<sup>st</sup> June, 2020.

Option	Name of the Faculty (No repetition)	Area of Research (as per Annexure-I)	E_mail consent of the faculty
1			
2			
3			
4			
5			

I am interested to work in any of the above mentioned area of research.

Signature of the candidate

Date: \_\_\_\_\_

*Note:*

- 1. All five options, as above, must be filled up.*
- 2. Same Faculty name should not be repeated.*
- 3. The final allocation of the Supervisor to a selected candidate will depend on the Institution.*