

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**OFFICE OF DEAN (RESEARCH AND CONSULTANCY)**

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No. Dean (RC)/242/

Dt: 19-07-2019

**NOTICE**

This is for the information of all candidates who will be getting selected (including waitlisted candidates) under Group-A into the Ph.D. programme for the academic session 2019-20. They are to follow the following instructions:

1. The successful candidates will have to submit maximum of FIVE options for broad areas of research as per Annexure-I (as enclosed) through email to [directornits@gmail.com](mailto:directornits@gmail.com) and [deanrcnits@gmail.com](mailto:deanrcnits@gmail.com) within 21<sup>st</sup> July, 2019 as per the attached format (Annexure-II).
2. Waitlisted candidates will have to submit maximum of FIVE options for broad areas of research as per Annexure-I (as enclosed) through email to [directornits@gmail.com](mailto:directornits@gmail.com) and [deanrcnits@gmail.com](mailto:deanrcnits@gmail.com) within 25<sup>th</sup> July, 2019 as per the attached format (Annexure-II).
3. Waitlisted candidates are requested to be present and report to the office of Dean (R & C) at 11 am on 26<sup>th</sup> July, 2019. Spot admission will be completed on 26<sup>th</sup> July, 2019 from the waitlisted candidates reported on 26<sup>th</sup> July, 2019 within 11 am according to the rank in the waitlist, till the vacancy exists in respective departments. Reporting on 26<sup>th</sup> July, 2019 does not assure admission.
4. No TA / DA will be provided to the candidates.

**Sd/-**  
**Dean (R & C)**

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

### Department: Civil engineering

Sl No.	Name of the Faculty	Area of Research
1	Dr. Dilip Kumar Ghose	Soft computing techniques and applications to hydrology & hydraulics. Climate Change impact on water resources.
2	Dr. S. Choudhury	Performance based seismic design
3	Dr. Nitesh Ahir	Earthquake resistant design
4	Dr. D. Chakraborty	Hydrology, Water Resources Engineering , Optimization methods
5	Dr. S. Ghosh	Water Resource Engineering , hydrological modeling, groundwater Engineering , Climate change impact in DRF
6	Dr. M. Ali Ahmed	Transportation planning
7	Dr. D. Bhowmik	Slope stability and landslides, Soil dynamics of foundations, Static and dynamic behavior of pile foundations, ground improvement using innovative materials
8	Dr. U. Kumar	Environmental Engineering , Water & Wastewater Engineering
9	Dr. A.K. Barbhuiya	Sediment transport
10	Dr. Ashim Kanti Dey	Geotechnical Engineering
11	Dr. S. Jena	Transportation Engineering. (Traffic Engineering )
12	Dr. A. Kuity	Pavement Engineering
13	Dr. Olympa Baro	Geotechnical Engineering

### Department: Mechanical Engineering

Sl. No.	Name of the Faculty	Area of Research
1.	Prof. K.M. Pandey	Computational Combustion, CFD
2.	Dr. K.K. Sharma	Renewable Energy, Machine Design
3.	Dr. L. Roy	Tribology of Bearing
4.	Dr. S. Debbarma	Alternative Fuel, Combustion
5.	Dr. S. Halder	Heterogeneous materials (advanced laminated composites, energy harvesting materials, functionalized materials, smart self-healing materials), meso-scale characterization

Sl. No.	Name of the Faculty	Area of Research
6.	Dr. S. Bhowmik	Composite Materials, Renewable Energy, Optimization Techniques
7.	Dr. Y. Singh	Robotics and Control, Mechanism, Parallel Manipulator, Kinematic and Dynamics, Smart actuation, Complaint Mechanism
8.	Dr. A. Bisoi	Dynamics and Vibration (Rotor Dynamics and Fault diagnosis)
9.	Dr. R.N. Gupta	Tribology, Nano lubricant, Composite Materials, Surface Engineering and Coatings
10.	Dr. S. Negi	Additive Manufacturing ( 3D printers), Composite Materials, CAD/CAM

### Department : Electrical Engineering

Sl. No.	Name of the Faculty	Area of Research
1.	Dr. Nidul Sinha	Automatic Generation Control, Control in Micro-grid, Brainwaves analysis, Soft computing techniques and applications
2.	Dr. B K Roy	Control systems, Nonlinear dynamics and chaos, MPC, Networked control systems, Robotics and their control, Industrial automation.
3.	Dr. Saurabh Chaudhury	Semiconductor Devices-modelling and simulation, VLSI circuits and Systems, nanomaterials, Image Processing and Applications
4.	Dr. J.P. Mishra	Power Electronics based Control of Electric Power and Energy Systems: (a) Renewable Energy System (Wind, SPV, Hybrid) Control, Microgrid Control (Power Quality, Management, Stable operation, EMI etc. issues); (b) Applications of Custom Power Devices and their control; (c) Electric Vehicles control and operations; (d) Electric Drives control and operations
5.	Dr. Arup Kumar Goswami	Smart Grid, Power Quality, Renewable Energy Management, Machine learning application in power system, Electricity Market.
6.	Dr. Prasanta Roy	Control Systems (Fractional Order Control, QFT, SMC)
7.	Dr. Rajeeb Dey	Control System Engineering
8.	Dr. R. K. Biswas	Optimal control, Application of fractional derivatives, Fractional order systems and control.
9.	Dr. Partha Kayal	Power Distribution System Planning and Modelling; Data Analytics in Smart Grid; Demand Response and Energy Management
10.	Dr. Nabanita Adhikary	Control Systems

<b>Sl. No.</b>	<b>Name of the Faculty</b>	<b>Area of Research</b>
11.	Dr. Amritesh Kumar	Design, Control of Power converters and its application in Electric vehicle, renewable energy, Multilevel system, active filters
12.	Dr. D Koteswara Raju	Power system operation, control and protection, Mitigation of SSR using FACTS devices, Application of Phasor measurement units in power systems
13.	Dr. Saheli Ray	Power System
14.	Dr. Tapan Pradhan	Instrumentation and Signal Processing, Image Processing, Numerical Linear Algebra, Embedded System Design and Programming.
15.	Dr. Avadh Pati	Control engineering, Maglev systems and its applications, Network Control System, Model order reduction, Internal model control, Conventional and higher-order sliding mode control, Optimization techniques
16.	Dr. Asha Rani M. A.	Power Electronics Application in Power Systems (Grid Integration of Renewable Energy Systems)
17.	Dr. Sreejith. S	Power Electronics Applications to Power systems, Multilevel Inverters, Smart Grid, Electric Vehicles.
18.	Dr. Jiwanjot Singh	Power quality improvement systems, Control and analysis of high-power converters with the modulation techniques, Applications of converters/inverters in renewable energy systems and electric vehicles.

### **Department : Electronics & Communication Engineering**

<b>SL. No.</b>	<b>Name of Faculty</b>	<b>Area of Specialization</b>
1	Dr. Pukhrambam Pusp Devi	Optoelectronics Devices, Photonics and Optical Communications.
2	Dr. Tripti Goel	Image Processing, Pattern Recognition, Neuro Imaging.
3	Dr. R. Murugan	Image Processing, Medical Imaging and Retinal Image Analysis, Embedded Systems, Machine Learning.
4	Dr. Kavicharan Mummaneni	VLSI Circuits, Digital Design, Interconnects, Device Modelling, Flexible Electronics.
5	Dr. Robin Khosla	Materials for Semiconductor Devices, High-K, CMOS Logic and Non-volatile Memory Devices.
6	Dr. Gaurav Singh Bhagel	Microwave Components, MMICs
7	Dr. M.V. Swati	Microwave Components, Computational Electromagnetics.

<b>SL. No.</b>	<b>Name of Faculty</b>	<b>Area of Specialization</b>
8	Dr. D S Gurjar	5G Wireless Communications, Wireless Sensor Network, Physical layer Security, Wireless Information and Power Transfer, Vehicular -to-vehicular Communications, Signal Processing for Communications
9	Dr. T R Lenka	Compact Modeling of Micro/Nanoelectronics Devices, Nano-optoelectronics, Solar Photovoltaics and Energy Harvesting
10	Dr. P Pattanayak	5G Communications, Wireless Communications, Wireless Communication Systems/Networks (Cognitive Radio Networks, Wireless Sensor Networks, Cooperative Communications), Soft Computing Techniques, Smart Grid, Energy efficient \ Green Communications, Massive MIMO Communications, mmWave Communications, Cooperative MIMO Communications, NOMA, MIMO Communications, MIMO-OFDM Communications, Efficient scheduling of wireless resources, and various aspects of all other recent forms of communications
11	Dr. Arnab Nandi	Antenna Design, Metamaterials Structures for Antenna, Wireless Communication, Cognitive Radio, Wireless Sensor Networks
12	Dr. Ganesh Prasad	Wireless Networks, Cooperative Communications, Underwater Networks, Free-Space Optical Communications, Green Communications, Machine Learning and Artificial Intelligence assisted Self-Sustainable Networks
13	Dr. Ashraf Hossain	Wireless Sensor Network, Wireless Communications
14	Dr. Ujjal Chakraborty	Antenna Design using Metamaterial and MIMO structures
15	Dr. S Baishya	Device physics, Electronic Circuits and MEMS
16	Dr. Ramkumar Karsh	Image Processing
17	Dr. Gopal Rawat	Microelectronics Engineering and Semiconductor Devices
18	Dr. Chandrajit Choudhury	C-Vision, Robotic Vision (vision of bots and drones), medical image
19	Prof. F A Talukdar	Signal processing, power electronics and Analog vLSI
20	Dr. (Ms.) B B Shome	Semiconductor device simulation and modelling, Microelectronics
21	Dr. Madhuchanda Choudhury	Nanotechnology and instrumentation, machine learning

## Department: Computer Science & Engineering

Sl. No	Name of the faculty	Area of Research
1	Dr. Ripon Patgiri	Big Data, Computer Networking, Data Structures, Distributed Systems, Cloud Computing
2	Dr. Anish Saha	Networking, Quantum Computing, Optimization
3	Dr. Malaya D. Borah	Data Mining, Machine Learning, BigData and Cloud Computing, Block Chain Technology
4	Dr. Anupam Biswas	Social Network Analysis, Evolutionary Computation, Machine Learning and Computational Music
5	Dr. Partha Pakray	Natural Language Processing, Cyber Security
6	Dr. L. Dolendro Singh	Multimedia cryptography, Watermarking, Steganography
7	Dr Th Doren Singh	NLP, Applied Machine Learning, Text Mining and Analytics, Machine Translation, Big Data, Cloud Security, Text Retrieval
8	Dr M Naresh Babu	Computer Networks, Bioinformatics, Machine Learning

## Department: Electronics & Instrumentation Engineering

Sl. No.	Name of Faculty	Area of Research
1	Dr. S. H. Laskar	Measurements, Sensors & Transducers, Instrumentation, Biomedical Instrumentation & Signal Processing.
2.	Dr. Munmun Khanra	Measurements, Control and Machine Learning Applications in Energy Systems.
3.	Dr. J. Hazarika	Biomedical Signal Processing, Machine Learning Algorithms, Applications of Neural Networks and Fuzzy logic.
4.	Dr. L. Seban	Control of aquaponics system, Statistical process control, Process optimisation
5.	Dr. S. K. Pandey	(1) Emerging memory technologies (PCM, RRAM): Materials, Device Fabrication & Characterization. (2) Advanced applications of non-volatile memories such as multi-bit data storage, threshold switch, logic devices etc. (3) Nanoelectronics and semiconductor devices
6.	Dr. Sudipta Chakraborty	Fractional order systems & Control, Time-delay systems, Robust Control.
7.	Dr. Shankar K.	Bio-Medical Instrumentation, Human Factors Automation, Environmental Instrumentation.

## Department : Physics

Sl No.	Name of The Faculty	Area of Research
1	Dr. Rupak Dutta	High Energy Physics
2	Dr. Subhasis Panda	Theoretical Condensed matter Physics
3	Dr. Avijit Chowdhury	Experimental Condensed matter Physics
4	Dr. R G. Nair	Experimental Condensed matter Physics
5	Dr. S. K Barik	Experimental Condensed matter Physics
6	Dr. P. Srinivasan	Experimental Condensed matter Physics
7	Dr. Asim Roy	Experimental Condensed matter Physics
8	Dr. Saumya Ranjan Mohapatra	Experimental Condensed matter Physics

## Department: Chemistry

Sl No	Name of the faculty	Area of Research
1	Dr M A Zaman	Synthesis of nanostructured materials and their applications in adsorption/ interfacial phenomenon
2	Dr P Barman	Green Synthesis and application of Organo-sulfur compounds
3	Dr Ruma Rano	Utilization of solid waste materials as nanocatalysts in organic transformations and microelectronics
4	Dr B H Shambharkar	Synthesis of nanocomposites for dye-sensitized solar cells
5	Dr N S Moyon	Study of photoexcited states in different pure solvents and micro heterogeneous media; protein –ligand interaction
6	Dr B N Gosh	Synthesis, characterization and application of transition metal complexes

## Department: Mathematics

Sl. No.	Name of the Faculty	Area of Research
1	Dr. P.K.De	Operations Research / Elasto-dynamics / Wave Propagation / Mathematical Modelling / Fuzzy Optimization.
2	Dr. M. Sen	Integral equation, inverse eigenvalue problem, fuzzy set theory, fuzzy optimization.
3	Dr. P. Biswas	Numerical Computations, CFD (Computational Fluid Dynamics), Finite Element/Spectral Element Methods for Partial Differential Equations
4	Dr. Juthika Mahanta	Fuzzy set Theory, Fuzzy Topology, Generalized set theory.

## Department: Management Studies

Sl No.	Name of the Faculty	Area of Research
1	Dr. Ashim Kumar Das	Entrepreneurship and Small Business
2	Dr. Soma Panja	Finance & Accounting
3	Dr. Binoti Patro	Finance & HR
4	Dr. Saurabh Verma	Marketing & IPR

## Department : Humanities & Social Sciences

Sl. No.	Name of the Faculty	Area of Research
1.	Prof. Gurudas Das	Economics
2.	Dr. N. B. Singh	Agricultural Economics, Development Economics, Regional Economics & Econometric related Areas
3.	Dr. Reena Sanasam	Feminist Literature, Post-colonial Literature & Indian Writing in English
4.	Dr. Avishek Ray	Comparative Literature, Cultural Studies & Media Studies

**Option for Broad Area of research**

Name of the candidate:

Selected Department:

Sl No. in the list:

I am interested in the following Broad Area of Research as per my preference based on notification dated 19<sup>th</sup> July, 2019.

Option	Name of the Faculty	Area of Research (as per Annexure-I)
1		
2		
3		
4		
5		

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

Signature of candidate

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