

## Quality Improvement Programme



QIP Centre (Minor)  
National Institute of Technology  
Arunachal Pradesh



### Contact

Dr. Manjula Das Ghatak

Coordinator, QIP Centre (Minor)

Email id: [manjula@nitap.ac.in](mailto:manjula@nitap.ac.in)/+919485231718 (M)





## About NIT Arunachal Pradesh

The National Institute of Technology, Arunachal Pradesh was established in the year 2010 by MHRD, Govt. of India and was inaugurated on 18<sup>th</sup> of August, 2010 as a member of a group of ten new NITs. These new NITs were established as centers of excellence in technical education to combat the growing need of technological professionals in India as well as in the world. It is one of the 31 National Institutes of Technology in India and is recognized as an Institute of National Importance. Presently the Institute is running in project phase with yearly intake of 190 undergraduate students in five major Engineering departments such as Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering and Mechanical Engineering. Each department is equipped with well established state of the art laboratories to cater holistic development of the students. Despite of few geographical constraints, the Institute has thrived through rigorous challenges and has evolved to see the new heights with present capacity of 760 students pursuing various bachelor, master as well as doctorate degrees from the departments. The faculty and student of the Institute are also engaged in various R&D projects sponsored by various Government agencies and the current value of such running project is around 5 Crore for 25 projects. The Institute participated in the NIRF 2021 and ranked 160 in the Engineering category.





# About Department of Mechanical Engineering

The Department of Mechanical Engineering at NIT Raipur was established in August 2008. The department offers four-year B.Tech. in Mechanical Engineering with an annual intake of 40 students. The department also offers a 2 years M.Tech. in Mechanical System Design & Innovation Technology (MSDIT) from July 2016 and Fluids and Thermal Engineering from July 2019 with an intake of 25 students each and has also been actively involved in initiating research programmes in various multi-disciplinary areas leading to Ph.D. since 2015-16. Moreover, the department emphasizes to excel in industry oriented research, testing and service to the society and benefit for the student community.

## About Faculty and their Research Areas

### 1) Prof. Dr. Anand Mahanta

Research Areas:

- Heat Transfer – Conjugate radiation
- Conduction and /or convection problems
- Renewable Energy- Biodiesel
- Biomass gasification and biogas technology
- Circulating Fluidized Bed Technology
- Energy Conservation
- Combustion and gasification of solid fuel
- Refrigeration and air conditioning



### 2) Dr. Poojash Sharma

Associate Professor

Research Areas:

- Fluid Mechanics
- Computational Fluid Dynamics
- Newtonian and Non-Newtonian fluids
- Stretching and stagnation flows
- Boundary-Layer Theory
- Heat and Mass transfer
- flow through porous media
- History of Mathematics





Professor  
Research Areas:  
Microscale phase change heat transfer  
Heat transfer  
Fabrication of micro/nanostructured surface using various techniques

- Bubble dynamics,
- Mixed convection
- Alternative fuels.



**4) Dr. Manjula Das Ghatak**

Professor  
Research Areas:  
Conservation and Renewable Energy  
Gasification  
Solid  
Biogas

- Biofuel
- Organic Fertilizer



**5) Dr. Anup Paul**

Assistant Professor  
Research Areas:  
Biological heat and mass transfer  
Thermal management  
Hydrodynamics  
Renewable energy



**6) Dr. Prases Kumar Mohanty**

Assistant Professor  
Research Areas:  
Design and Development of Autonomous Agents  
Motion Planning of Autonomous Agents  
Structural Health Monitoring, Additive  
Manufacturing Processes  
Soft-Computing Approaches





Manda  
Professor  
Areas:  
y, Optimization  
Coating  
convective heat transfer  
> Renewable energy-Biodiesel



8) **Shubhjit D.**  
Assistant Professor

Research Areas:

es, nanocomposites, hybrid e  
Manufacturing  
on, soft computing



Design & Development, Computer-Aided Design  
Waste Management

### Lab Facilities in the Department

- i. Strength of Materials Lab
- ii. Measurement Lab
- iii. Manufacturing Lab
- iv. IC Engine Lab
- v. Heat Transfer
- vi. Refrigeration & Air Conditioning Lab
- vii. Fluid Mechanics
- viii. Dynamics of Machine Lab
- ix. Design & Simulation Lab
- x. Fuel Lab
- xi. Material Science Lab
- xii. Two Phase Flow Lab
- xiii. Robotics Lab





## About Department of Electrical Engineering




The Department of Electrical & Electronics Engineering was established right from the inception of the Institute in 2010. It is renamed as the Department of Electrical Engineering in 2013-14 with the approval of Senate. The department now runs B. Tech in Electrical Engineering and M. Tech in Renewable Energy and Energy Management (REEM). The department now runs B.Tech with capacity 50 students of each batch in Electrical Engineering and M.Tech having the capacity 25 students of each batch in Renewable Energy and Energy Management (REEM).

### About Faculties and their Research Areas

Photo	Name	Research interest
	Dr. S.N. Deepa Associate Professor	Control System, Soft Computing Techniques
	Dr. Rajen Pudur Assistant Professor	Power System, renewable sources of energy, Power quality issues of renewable energy, Micro-hydro power plants and Renewable energy integration. SEIG for rural areas
	Dr. Abhik Banerjee Assistant Professor	Distributed Generation, soft computing Techniques etc.
	Dr. Rajib Jana Assistant Professor	Reflector Antennas, Matched feeds, Multi-mode Horns, Ultra Wideband Antennas, Advanced Numerical techniques for EMC. Wireless Charging





Photo	Name	Research interest
	Dr. Shantanu Chatterjee Assistant Professor	WECs, Power Electronics, Electrical Drives
	Dr. Ralli Sangno Assistant Professor	Renewable source of energy, Power system, Solar PV System, Solar cells, MEMS/NEMS distributed generation and power quality HEVs, Smart grid, Grid integration of renewable energy.
	Dr. Brajagopal Datta Assistant Professor	High Voltage Engineering, Electromagnetics, Power System Analysis

## Glimpse of Laboratories

### Electrical Machine Lab





## List of practical

:

- 1) Open Circuit Characteristics of a DC Shunt Generator.
- 2) Characteristics of a separately excited D.C Generator.
- 3) Characteristics of a D.C shunt motor
- 4) Speed control of a D.C motor.
- 5) Characteristics of a compound D.C generator (short shunt).
- 6) Measurement of the speed of a D.C series motor as a function of load torque.
- 7) Equivalent circuit of a single-phase transformer.
- 8) Predetermination of efficiency of a DC motor (Swinburn's test)
- 9) Testing the efficiency of a DC motor (Hopkinson's test)
- 10) Retardation (Run-Down) test on a DC shunt motor (to find the stray losses)
- 11) Separation of Core Losses
- 12) Different method of starting of 3 phase squirrel cage Induction motor and their comparison [D.O.L, Auto transformer and Star-Delta].
- 13) Speed control of 3 phase squirrel cage induction motor by different methods and their comparison [voltage control and frequency control].
- 14) Speed control of three phase slip ring Induction motor by rotor resistance control.
- 15) Determination of regulation of Synchronous machine by Potier reactance method.
- 16) Determination of regulation of an Alternator by Synchronous Impedance method.
- 17) Determination of equivalent circuit parameters of single phase Induction motor.
- 18) Load test on single phase slip ring induction motor to obtain the performance characteristics.
- 19) Determination of direct axis reactance [ $X_d$ ] and quadrature axis reactance [ $X_q$ ] of three phase synchronous machine by slip test.
- 20) Performance characteristics of wound rotor induction motor with load test.





## Control System Lab



### List of practical

- 1) Familiarization with MATLAB- control system tool box, MATLAB- Simulink tool box.
- 2) Determination of step response for first order and second order system with unity feedback and calculations of control system specifications like time constant, % peak overshoot, settling time etc., from the response.
- 3) Simulation of step response and impulse response for Type-0, Type-1 and Type-2 system with unity feedback using MATLAB and Pspice.
- 4) Determination of root locus, Bode-Plot, Nyquist Plot Using MATLAB- control system toolbox for 2nd order system and determination of different control system specifications from the plot.
- 5) Determination of PI, PD and PID controller action on 2nd order simulated process.
- 6) Determination of approximate transfer function of a process from bode plot.
- 7) Evaluation of steady state error, setting time, peak overshoot, gain margin, phase margin with addition of lead.
- 8) Compensator and by compensator in forward path of a transfer function for unity feedback control system using Pspice or otherwise.
- 9) A practical position control system and determination of control system specifications for variation of system parameters.

## Control System Lab





## List of practical :

- 1) Demonstration of various parts of TLS (Transmission line simulator) and it's working.
- 2) PU modelling of the given transmission line on given base value.
- 3) Calculating simulator impedance values to model the given transmission line.
- 4) Ferranti effect in the given line using TLS.
- 5) Calculating surge impedance of the given transmission line.
- 6) Estimating loading capability of the line and voltage regulation at given power factor.
- 7) Calculating shunt capacitive compensation to improve receiving end voltage and power factor.
- 8) Modeling of transmission faults using MATLAB programming.
- 9) System faults analysis using Bus impedance matrix in MATLAB.
- 10) Single line to Ground (LG) fault using program.
- 11) Double line to Ground (LLG) fault using program.
- 12) Triple line to Ground (LLL) fault using program.
- 13) Single line to Ground (LG) fault using program.
- 14) Line to line (LL) fault using program.
- 15) Unbalanced fault program.

## Power Electronics Lab



## List of practical

- 1) Characteristic of UJT and calculate inter-base Resistance and intrinsic standoff ratio.
- 2) Characteristics of MOSFET.
- 3) V-I characteristics of SCR.
- 4) V-I characteristics of TRIAC.
- 5) Characteristics of DIAC and plot its V-I Characteristics Curve.
- 6) Characteristics of IGBT.
- 6) Triggering of SCR using Op-Amp 741 IC.
- 7) Half-wave controlled rectifier with resistive load.
- 8) Full-wave controlled rectifier (mid-point configuration) with resistive load.
- 9) Characteristics of step-up chopper and step-down chopper.





## Circuits and Measurements Lab



### List of practical :

- 1) Verification of KVL and KCL (Simulation using MATLAB and Hardware)
- 2) Mesh Analysis (Simulation using MATLAB and Hardware)
- 3) Nodal Analysis (Simulation using MATLAB and Hardware)
- 4) Verification of Superposition Theorem (Simulation using MATLAB and Hardware)
- 5) Verification of Reciprocity Theorem (Simulation using MATLAB and Hardware)
- 6) Verification of Maximum Power Transfer Theorem (Simulation using MATLAB and Hardware)
- 7) Verification of Thevenin's Theorem (Simulation using MATLAB and Hardware)
- 8) Verification of Norton's Theorem (Simulation using MATLAB and Hardware)
- 9) Verification of Compensation Theorem (Simulation using MATLAB and Hardware)
- 10) Verification of Millman's Theorem (Simulation using MATLAB and Hardware)
- 11) Verification of Series and Parallel Resonance (Simulation using MATLAB and Hardware)
- 12) Determination of Self, Mutual Inductance and Coefficient of Coupling

## Post Graduate Energy Lab





## List of practical

- 1) Determining the intensity of solar radiation.
- 2) Arrangement of Photovoltaic cells.
- 3) Setting up of the Photovoltaic panel with the help of the given settings to get the maximum exposure of the sunlight.
- 4) Measurement of V/I Characteristics of the mono-crystalline cells
- 5) Measurement of V/I Characteristics of Polycrystalline cells
- 6) Connecting of Photovoltaic cells in series and measuring their V/I Characteristics.
- 7) Connecting of Photovoltaic cells in Parallel and measuring their V/I Characteristics.
- 8) Connecting of Monocrystalline and polycrystalline cells in series and parallel and measuring their characteristics
- 9) Connecting a battery to the inverter and measuring the output using a meter
- 10) Connecting a battery to the inverter and observing the waveform using a oscilloscope
- 11) Doing exp no 8 & 9 with different loads.
- 12) Connecting a solar panel with inverter and measuring the output using meter.
- 13) Connecting a solar panel with inverter and observing the output using Oscilloscope.
- 14) Study of the aero generator operation in function of wind speed variation.
- 15) Generator angle of incidence variation.
- 16) Operation differences using the three available configurations (aero generator with 6, 3 or 2 blades).
- 17) Operation differences depending on the angle of incidence.
- 18) Load variation influence on the aero generator.

## Lab Facilities in the Department (more useful for researchers)

- 1) Lucas Nulle Hydro Power Trainer
- 2) De-Lorenzo Process Control Trainer
- 3) De-Lorenzo Open Machine Setup
- 4) Wind Turbine Emulator
- 5) PSCAD Professional Educational License.





## About Department of Computer Science and Engineering

Computer Science & Engineering is a multidisciplinary branch of engineering which integrates several fields. The Department of Computer Science & Engineering was established right from the inception of the Institute in 2010. The Department offers a 4-year degree program (B. Tech) in Computer Science & Engineering with an annual intake of thirty (30) students. The department also runs one Post Graduate (M. Tech) programme in Computer Science and Engineering from 2015 with an annual intake of 20. The department also started Ph. D. programme from 2012.

### About Faculties and their Research Areas

Photo	Name	Research interest
	<b>Dr. Swarnendu Kumar Chakraborty</b> Assistant Professor Email Id: swarnendu@nitap.ac.in Ph:+91 9436271053	Data Networks/Wireless communication, Internet Cryptography.
	<b>Dr. Rajat Subhra Goswami</b> Assistant Professor Email Id: rajat@nitap.ac.in Ph: +91 9436271052	Information Security, Cryptography, Image Processing, Big Data, Network Traffic Classification.
	<b>Dr. Manash Pratim Dutta</b> Assistant Professor & Head of Department Email Id: manashpdutta@nitap.ac.in hodcse@nitap.ac.in Ph: +91 98000 98563/ 94358 56593	Information Security, Bioinformatics, Machine Learning
	<b>Dr. Koj Sambyo</b> Assistant Professor Email Id:kojsambyo@nitap.ac.in Ph: +91 9436270039	NLP






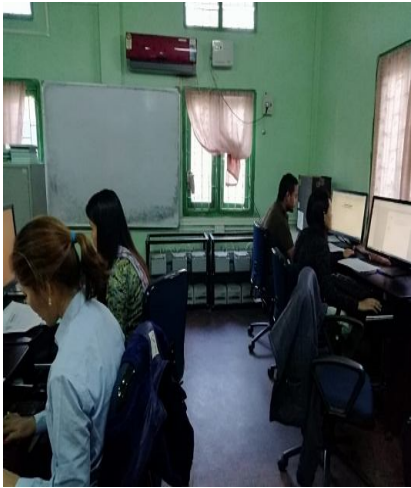

Photo	Name	Research interest
	<p><b>Dr. Subhasish Banerjee</b> Assistant Professor Email id: subhasish@nitap.ac.in Ph +91 9434985900, 9612081738</p>	Computer Networks, Data Structure, Data Base Management System, Algorithm Design and Analysis, Cryptography
	<p><b>Dr. Achyuth Sarkar</b> Assistant Professor Email id: achyuth@nitap.ac.in Ph +91 9436289227</p>	Computer networking, IoT, AI
	<p><b>Dr. Deepak Gupta</b> Assistant Professor Email id:deepak@nitap.ac.in Ph No +91-9485230593/9999778726</p>	Machine Learning, Support Vector Machine, Extreme Learning Machine for Classification and Regression Problems
	<p><b>Dr. Biri Arun</b> Assistant Professor Email id:biriarun@nitap.ac.in Ph No +91 9402424457</p>	Speech Processing, Machine Learning, Database Systems, Data Warehouse, Data Mining

### Lab Facilities in the Department

Sl. No	Name of Laboratory	No. of Nodes	Facilities
1	M.Tech Lab	30	<ul style="list-style-type: none"> <li>➤ Lab equipped with all the software, hardware and operating system required to perform various lab experiments.</li> <li>➤ All the computers are installed with O.S Like Kali, Ubuntu, Mint.</li> <li>➤ All Programming language such as python, C,C++ etc.</li> </ul>





Sl. No	Name of Laboratory	No. of Nodes	Facilities
2	Networking Lab 	30	<p>Following lab classes are held:</p> <ul style="list-style-type: none"> <li>➤ Computer Networking</li> <li>➤ Compiler Design</li> <li>➤ Creative Design</li> <li>➤ Programming in C</li> <li>➤ Soft Computing</li> <li>➤ Operating System</li> <li>➤ Artificial and Neural Network</li> </ul>
3		30	<p>Following lab classes are held:</p> <ul style="list-style-type: none"> <li>➤ Advanced Computer Architecture</li> <li>➤ Information Security</li> <li>➤ Computer Graphics &amp; Multimedia</li> <li>➤ Programming in C</li> <li>➤ Internet and Web Technology</li> <li>➤ Computational Numerical Methods</li> <li>➤ System Software and Administration</li> </ul>
4		30	<p>Following lab classes are held:</p> <ul style="list-style-type: none"> <li>➤ Design and Analysis of Algorithm</li> <li>➤ Programming in C</li> <li>➤ Data Base Management System</li> <li>➤ Data Structure and Algorithm</li> <li>➤ Object Oriented Programming</li> </ul>







## About Department of Electronics & Communication Engineering





The Department of Electronics and Communication Engineering was established right from the inception of the Institute in 2010. The Departments offer a 4-year degree program (B.Tech.) in Electronics and Communication Engineering with an annual intake of 30 students. The Department added two PG programme in VLSI & Embedded systems (earlier VLSI) and Electronics Design and Manufacturing (discontinued) from 2014 and 2013 respectively with an annual intake of 20 students each. The Department also initiated research programme leading to PhD from 2013-14 onwards.

### About Faculties and their Research Areas

Sl No	Name & Details	Area of Research	Photo
1	<b>Name:</b> Dr. Yaka Bulo <b>Designation:</b> Assistant Professor <b>Webpage URL:</b> <a href="https://www.nitap.ac.in/faculty/dr-yaka-bulo/">https://www.nitap.ac.in/faculty/dr-yaka-bulo/</a> <b>Google Scholar Link:</b> <a href="http://tiny.cc/c2t4kz">http://tiny.cc/c2t4kz</a> <b>No. of PhD Students:</b> 2 (Ongoing)	Wireless communication	
2	<b>Name:</b> Dr. Sahadev Roy <b>Designation:</b> Assistant Professor <b>Webpage URL:</b> <a href="https://www.nitap.ac.in/faculty/asdr/">https://www.nitap.ac.in/faculty/asdr/</a> <b>Google Scholar Link:</b> <a href="http://tiny.cc/f3t4kz">http://tiny.cc/f3t4kz</a> <b>No. of PhD Students:</b> 4 (Ongoing)	Embedded system & robotics	







Sl No	Name & Details	Area of Research	Photo
3	<p><b>Name:</b> Dr. Yang Saring  <b>Designation:</b> Assistant Professor  <b>Webpage:</b><a href="https://www.nitap.ac.in/faculty/dr-yang-saring/">https://www.nitap.ac.in/faculty/dr-yang-saring/</a>  <b>Google Scholar Link:</b>  <a href="http://tiny.cc/8xt4kz">http://tiny.cc/8xt4kz</a>  <b>PhD Students:</b>2 (Ongoing)</p>	Wireless communication, speech processing	
4	<p><b>Name:</b> Dr. Alak Majumder  <b>Designation:</b> Assistant Professor  <b>Webpage URL:</b><a href="https://www.nitap.ac.in/faculty/alak-majumder/">https://www.nitap.ac.in/faculty/alak-majumder/</a>  <b>Google Scholar Link:</b>  <a href="http://tiny.cc/v5t4kz">http://tiny.cc/v5t4kz</a>  <b>No. of PhD Students:</b> 3 (Awarded), 3(Ongoing)</p>	Analog & digital IC, low power techniques, clock gating & distribution, optical computing	
5	<p><b>Name:</b> Dr. Abir Jyoti Mondal  <b>Designation:</b> Assistant Professor  <b>Webpage URL:</b><a href="https://www.nitap.ac.in/faculty/abir-j-mondal/">https://www.nitap.ac.in/faculty/abir-j-mondal/</a>  <b>Google Scholar Link:</b>  <a href="http://tiny.cc/vjl8kz">http://tiny.cc/vjl8kz</a>  <b>No. of PhD Students:</b> 2 (Ongoing)</p>	Current mode circuits, design of drivers for high speed signaling	
6	<p><b>Name:</b> Dr. Sanjeev Kumar Metya  <b>Designation:</b> Assistant Professor &amp; HoD  <b>Webpage URL:</b>  <a href="https://www.nitap.ac.in/faculty/dr-sanjeev-kumar-metya/">https://www.nitap.ac.in/faculty/dr-sanjeev-kumar-metya/</a>  <b>Google Scholar:</b>  <a href="http://tiny.cc/f0t4kz">http://tiny.cc/f0t4kz</a>  <b>PhD Students:</b>3 (Awarded), 1 (Submitted), 2 (Ongoing)</p>	Optical communication, photonic crystals, all-optical systems, solar energy, optical computing	





Sl No	Name & Details	Area of Research	Photo
7	<p><b>Name:</b> Dr. Subhadeep Mukhopadhyay</p> <p><b>Designation:</b> Assistant Professor</p> <p><b>Webpage URL:</b> <a href="https://www.nitap.ac.in/faculty/15491/">https://www.nitap.ac.in/faculty/15491/</a></p> <p><b>Google Scholar Link:</b> <a href="http://tiny.cc/k4t4kz">http://tiny.cc/k4t4kz</a></p> <p><b>No. of PhD Students:</b> 1 (Awarded), 2(Ongoing)</p>	Semiconductor Devices	
8	<p><b>Name:</b> Dr. Preetisudha Meher</p> <p><b>Designation:</b> Assistant Professor</p> <p><b>Webpage URL:</b> <a href="https://www.nitap.ac.in/faculty/dr-preetisudha-meher/">https://www.nitap.ac.in/faculty/dr-preetisudha-meher/</a></p> <p><b>Google Scholar Link:</b> <a href="http://tiny.cc/74t4kz">http://tiny.cc/74t4kz</a></p> <p><b>No. of PhD Students:</b> 1 (Awarded), 4(Ongoing)</p>	VLSI and embedded systems	

### List of Laboratories

Sl No	Lab Name	Major tool/Equipment Name
1	Analog Electronics	All the basic equipment including CRO, Function Generator, Multi Utility Power Supply unit, TrainerKit, Modern Digital Multimeter, DSO
2	Digital Electronics	All the basic equipment including CRO, Function Generator, DSO, IC Tester
3	Analog & Digital Communication	All the basic equipment including CRO, Function Generator, DSO, Spectrum Analyzer
4	Microprocessor and Microcontroller	All the basic equipment including CRO, 8085 trainer kit, 8051 trainer Kit, PIC trainer Kit, Interface Modules





<u>Sl No</u>	<u>Lab Name</u>	<u>Major tool/Equipment Name</u>
5	Digital Signal Processing	Basic equipment like CRO, Function Generator, and Softwares like MATLAB, CCS, TMS320xDSP kit
6	Antenna & Wave Propagation	RF Trainer kit, Signal Analyzer, CRO, Function Generator, Power Meter, Power Sensor, TransmissionLine Analyzer, EMI EMC trainer, Microstrip PrintedAntenna, Microstrip Yagi Antenna, HFSS tool
7	Digital VLSI Design	Xilinx, Mentor Graphics, Zynq-7000, Zed Board, Nexys 3, Spartan 6, Vertex 5
8	Integrated Circuit & System	Cadence, Synopsys, Mentor Graphics, RSoft, TCAD, LT Spice
9	Embedded System and Robotics	Raspberry PI2 model B, 16822A Logic State Analyzer, 1 GHz Oscilloscope with 6 GHz Signal Analyzer, Keil, Arm Cortex Kit, Intel Galileo Development Board, High end FPGA Board, Xilinx Virtex 7 FPGA Board, Standalone Manufacturing Robotics Trainer, Function Generator 1 MHz Multi-waveform, DSO, PCB, Proteus, IOT Builder for Arduino.
10	Photonics	OptiSystem, OptiFDTD, Beam pro



## About Department of Management & Humanities

The Department of Management&Humanities was established as a full-fledged department in the year of 2014. Before that, Humanities had been established with the Department of Basic Sciences and Humanities right from the inception of the Institute in 2010. During 2014, Humanities was separated and merged with Management. M&H specializes various management and humanities areas such as Entrepreneurship, Engineering Ethics, Finance, HRM, Linguistics and Communication Skills.

### About Faculties and their Research Areas

Photo	Name	Research interest
	Dr. K. Vijayakumar Assistant Professor	➤English for Specific Purposes ➤Linguistics
	Prof. M. K. Shome Professor	➤Organizational Behavior ➤Human Resource Management ➤Talent Management ➤Cross-cultural Management ➤Organizational Change and Development ➤Psychometry ➤Disaster Management ➤Research Methodology ➤Industrial Management, and Entrepreneurship
	Dr. M. M. Singh Assistant Professor	➤Finance-Marketing-Inter ➤Disciplinary Entrepreneurship





## Sponsored Projects and Consultancy

Title of the Project	Sponsoring Agency	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
1. SMDP-Chip to System Design	MEITY, Govt. of India	ECE	PI: Dr. Alak Majumder; Co-PI: Dr. Swarnendu K Chakraborty	2015 - 2021	53.88	Ongoing
2. Visvesvaraya PhD Scheme	MEITY, Govt. of India	CSE	Dr. Rajat Goswami	2016 - 2021	129.85	Ongoing
3. Design and Synthesis of Carbohydrate Based Sensors for Efficient Determination of Heavy Metal Ions	DST SERB	Chemistry	Dr. Ananta Kumar Atta	2015 - 2018	25.56	Completed
4. Doxorubicin loaded hydroxyapatite nanoparticles: A new strategy for osteosarcoma	ICMR, New Delhi	Chemistry	PI: Dr. Nabakumar Pramanik, Co-PI: Dr. A. K. Atta	2016 - 2018	14.42	Completed
5. Synthesis and intermediates for amino sugars, amino acids, heterocycles and heavy metal sensors	CSIR, New Delhi	Chemistry	PI: Dr. A. K. Atta, Co-PI: Dr. Nabakumar Pramanik & Dr. A. Mahapatra	2016 - 2019	11.57	Completed
6. Experimental and numerical investigation on enhanced nitrate contamination in groundwater from wastewater applied agricultural field in the presence of colloidal particles.	SERB, Govt. of India	CE	PI: M. Berlin, Co-PI: Dr. M. Mallik	2016 - 2020	36.12	Completed
7. A symmetric study of application of Supersymmetric approach in Quantum physics	DST-SERB	Mathematics Division, Dept. of BAS	Dr. Debjit Dutta	2016 - 2019	8.03	Completed



Title of the Project	Sponsoring Agency	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
8. Survey and validation studies on local food and medicinal bioresources of Kameng and Tawang Districts of Arunachal Pradesh for supplementary rural Livelihood Security	IERP (MOEF)	BT	Dr. Pallabi Kalita Hui	2016 - 2019	16.06	Completed
9. Modelling, Fabrication and Motion Planning for Maximum Mobility of Quadrupedal Robot	SERB(DST)	ME	Dr.P.K.Mohanty	2017 - 2020	27.07	Ongoing
10. concentration in rivers using computational machine learning approaches	SERB, DST, Govt. of India	CSE	Dr Deepak Gupta	2017 - 2021	26.79	Ongoing
11. Effect particle size on solidification process under uniform magnetic field along with thermalsolutal convection effects with sinusoidal temperature distribution over Nanoparticle Enhanced Phase Change Materials	SERB DST	Mathematics Division, Department of BAS	Dr. A. Vanav Kumar	2017 - 2019	9.8096	Ongoing
12. Numerical and Experimental investigation of effect of thermally significant blood vessels during laser assisted thermal therapy	SERB DST	ME	Dr. Anup Paul	2017 - 2020		Completed
13. Proteomic biomarkers based sensing device for minimally invasive diagnosis of endometriosis	DBT	BT	Dr. Saikat K Jana	2017 - 2020	59.35	Ongoing
14. Biochemical and pharmacological evaluation, molecular characterization of Paris polyphylla Smith (Melanthiaceae) landraces from Eastern Himalayan Region of India for addressing livelihood issues	DST-SERB	BT	Dr. Pallabi Kalita Hui	2017 - 2020	36.91	Ongoing





Title of the Project	Sponsoring Agency	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
15. Arunachal Pradesh Aiming to Supply the Safe Drinking Water.	DBT	BT	Dr. Kimjolly Lhouvum	2017 - 2020	74.45	Ongoing
16. Identification of suitable serum proteomic biomarkers based electrochemical immunosensor for diagnosis of endometriosis	DST (SERB)	BT	Dr. Saikat K Jana	2017 - 2020	33.03	Completed
17. Phytochemical, Pharmacognostic and Nutritional characterisation of the Panax species (Araliaceae) from the Eastern Himalayan Region, India for Addressing Medicinal, Trade and Regional Livelihood Security Issues	DBT Twining	BT	Dr. Pallabi Kalita Hui	2020 - 2021	47.47	Ongoing
18. Study on Some Thin Film Coating Flow Problems Using Nanoliquid	CSIR	Mathematics Division, Department of BAS	Dr. Susanta Maity	2017 - 2020	16.78455	Ongoing
19. Analytical and Numerical Investigation of Unsteady Thin Film Flow over a Porous Stretching Surface	DST (SERB)	Mathematics Division, Department of BAS	Dr. Susanta Maity	2017 - 2020	6.0404	Ongoing
20. Synthesis of Triazolopyrimidine-based iridium (III) complexes: Application to the Fabrication of OLEDs	SERB	BAS(Physics)	Dr. Tushar Dhabal Das	2018 - 2021	50.92	Ongoing
21. Subsurface profiling landslide prone zone Itanagar	DST-SERB	CE	Dr J Taipodia	2018 - 2021	49.07	Ongoing
22. Development of DNA Aptamer/peptide based Dengue virus Paper based diagnostic kit	ICMR	BT	Dr. Saikat K Jana	2018 - 2020	19.55	Ongoing



Title of the Project	Sponsoring Agency	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
23. Development of sustainable technology for production of biomass pellet based fuel and herbal by-product from residue of pruned tea plant: Augmenting rural development	NMHS	BT	Dr. Saikat K Jana	2018 - 2021	48.9088	Ongoing
24. Enhancement of Tribological properties of various cutting tools through micro-texturing during manufacturing	CRS, ASTU; TEQIP-III	ME	PI: Dr Sangeeta Das; Co-PI: Dr. Shubhajit Das	2019 - 2020	3	Ongoing
25. Use of high percentage of Methanol fuel in a Diesel Engine	CSIR	ME	PI: Dr. Dipak Sen; Co-PI: Dr. S K Mandal & Prof. Asis Giri	2019 - 2022	17.59	Ongoing
26. Mixed surfactant based stable nanovesicles as excipient	NPIU, MHRD, Govt. of India, New Delhi	Chemistry	PI: Dr. S. Ghosh, Co-PI: Dr. Nabakumar Pramanik & Dr. V. K. Chaudhary	2019 - 2020	10.68	Ongoing
27. Integration of Variable Frequency Clock and Gated Clock Tree to Mitigate Power Supply Noise in Multi- core CPU	SERB, Govt. of India	ECE	Dr. Alak Majumder	2020 - 2023	38.88082	Ongoing
28. Non-linear plasma wave dynamics in unbounded planar or bounded planar geometry	CSIR	Mathematics Division, Dept. of BAS	Dr. Debjit Dutta	2020 - 2023	14.28	Ongoing
29. Design of Seating Plaza around the lake in Film and Training Institute- Arunachal Pradesh -A sustainable approach with the utilization/indigenous material	CPWD, Govt of India	CE	Dr. Mainak Mallik	2020 - 2021	0.36	Ongoing





Title of the Project	Sponsoring Agency	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
30. Effective use and utilization of local/indigenous materials with emphasis on sustainability for the design of Canteen Building in Film and Training Institute-Arunachal Pradesh	CPWD, Govt. of India	CE	Dr. Mainak Mallik	2020 - 2020	0.324	Ongoing
31. Insight into Putative Insulinase PF11_0189 in correlation to hyperglycemia during severe malaria	SERB	BT	Dr. Kimjolly Lhouvum	2020 - 2023	39.8	Ongoing
32. Investigation of Micro Hydro and Wind Power off-grid Integrated System using Electronic Load Controller with Pump Storage as a Dump Load for Rural Area	DST SERB	EE	Dr Rajen Pudur	2020 - 2023	35	Ongoing
33. Fluconazole Functionalized Zinc Oxide Nanobiocomposite: Processing and Bioengineering Applications	ICMR, New Delhi	Chemistry	PI: Dr. Nabakumar Pramanik, Co-PI: Dr. A. K. Atta	2020 - 2023	18.88	Approved
34. Development of Automatic Speech Recognition (ASR) System in Arunachali Native Language - Nyishi	SERB DST	ECE	PI: Dr. Yang Saring Co-PI: Dr. Biri Arun	2020 - 2023	23.21	Ongoing
35. Development of an automatic dialect identification (ADI) system for a low resourced, native Arunachali spoken language-Nyishi	SEED(DST), Govt. of India	ECE	PI: Dr. Yang Saring Co-PI: Dr. Biri Arun	2020 - 2023	28.66	Ongoing
36. Centre for skill development in Appropriate Technology	NECTAR (DST)	Institute	PI : Prof. P.Mahanta	2020 - 2025	140000	Ongoing
37. A Study On P-graphoidal Graph	DST	Maths	Dr. KRS	2016	4.67	Ongoing
38. Design and synthesis of sugar-based water compatible fluorometric anion receptors: Cell imaging studies and DFT calculation	CSIR	Chemistry	DR. A Atta	2021		Approved



Title of the Project	Sponsoring Agency	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
39. Machine translation of nyishi english pair and translation of ECCE syllabus to low resource nishi language	DST	CSE	Dr. Koj Sambyo	2021	30.208	Approved

### Start-up grant, NIT Arunachal Pradesh

Title of the Project	Department	PI & CO-PI	Duration	Sanctioned amount (in lakhs)	Status
1. Combined induced and forced convection cooling of electronic chip in a channel	ME	Dr. Dipak Sen	2016-2017	5	Completed
2. Inorganic-organic hybrid composite materials: Synthesis, surface modification, characterization and biomedical studies	Chemistry	PI: Dr. Nabakumar Pramanik, Co-PI: Dr. A. K. Atta	2016-2017	5	Completed
3. Study and Analysis on New Technique “Key Variation with Noise Burst Bit (KVNBB) in automatic variable key (AVK) in Cryptography	CSE	Dr R S Goswami, Dr M P Dutta, Dr. S K Chakraborty	2016-2017	5	Completed
4. CNT to enhance the performance of gas sensor	Physics	PI: S. Maity (ECE) Co-PI: DR. P. Chakraborty (Physics) Co-PI: Dr. P. K. Swain (Physics)	2016-2017	5	Completed
5. Design & Implementation of test run and control of BLDC motor, using rechargeable battery.	EE	PI-Dr Rajen Pudur, Co-PI - Dr Brajagopal Datta	2016-2018	5	Completed





# Other facilities

- 1) Hostels (Girls/Boys)
- 2) Married Scholar hostel
- 3) Medical Unit
- 4) Bank (Canara Bank)
- 5) Market complex
- 6) Sports Office
- 7) Pharmacy
- 8) Central Library



Academic Complex 1



Academic Complex 2



Academic Complex



Boys hostel



Faculty quarter



Girls hostel



Central workshop



Market complex 1



Market complex 2



Medical unit



Post office



