



List of TAP/RAP topics

Name	Project Title	Specialisation
Dipankar Saha	GaN Based RF High Electron Mobility Transistors for High Frequency Integrated Circuits	EE 7
Dipankar Saha	InP High Electron Mobility Transistor Fabrication and Characterization for Low Noise Amplifier for quantum bit readout	EE 7
Sandeep Anand	SiC and GaN based Power Electronics for Electric Vehicles	EE 3
Gaurav S. Kasbekar, Manjesh Hanawal	Resource Optimization in Space-Air-Ground Integrated Networks	EE 1
Kasturi Saha	Development chip-scale magnetic field sensor integrated with drone	EE 5, EE 7
Kasturi Saha	Development quantum diamond microscope for semiconductor chip diagnostics	EE 5, EE 7
Ashwin A. Seshia	MEMS-based gas and flow sensors	EE 5, EE 7
Ashwin A. Seshia	Reliability Physics of Vibrating and Impacting Nonlinear Microelectromechanical Devices	EE 5, EE 7
Kumar Appaiah, Sibi Raj Pillai, Sharayu Moharir	Intelligent Spectrum Innovation	EE 1
Shiladri Chakraborty	Multi-functional wireless charger for LEVs with minimal on-board power electronics	EE 3
Shiladri Chakraborty	GaN based DC-DC converters for next-generation EV power electronic subsystems	EE 3
Shiladri Chakraborty	Design and Implementation of Modular High-power Off-board Chargers for Two-Wheeler /Three-Wheeler Application	EE 3
Rahul Singh	RF/Analog IC Design for Various Applications (Wireless, Quantum etc)	EE 5, EE 6
Prasanna Chaporkar	Sustainable 6G: AI/ML techniques for Energy-aware and Intelligent Wireless Networks	EE 1
Prasanna Chaporkar	Core Network for 6G and Beyond	EE 1
Anwasha Mukhopadhyay	Design and Development of Wireless Charging Setup for UAV	EE 3

Name	Project Title	Specialisation
Chetupalli Srikanth Raj	Audio Source Separation and Extraction	EE 1
Anirban Sarkar	Development of Advanced Phased Array Antenna System for Satcom on the Move Communication (C/Ku/Ka band)	EE 1, EE 6
Bhaskaran M	ML integrated design and testing of single-pixel IR photodetectors for space applications	EE 7
Bhaskaran M	Design of 2D-devices for single photon detection	EE 7
Saravanan Vijayakumaran	Development of an open-source consent management platform for compliance with the DPDPA Rules 2025	EE 1, EE 2
Jayanta Mukherjee	High Efficiency Power Amplifier Design	EE 1, EE 6
Siddharth Tallur	Long term structural health monitoring (LT-SHM) systems for sustainable built environment	EE 1, EE 2, EE 3, EE 5, EE 6, EE 7
Siddharth Tallur	Precision, stable, low-noise electronic systems for quantum sensing	EE 1, EE 2, EE 3, EE 5, EE 6, EE 7
Sandip Mondal	Design and fabrication of multi-level Charge Trapping Memory Devices	EE 5, EE 6, EE 7
Apurba Laha	Design, Fabrication, and Characterization of Ultra-High-Frequency, High-Q Sezawa-Mode Resonators Using Scandium-Doped Aluminum Nitride ($Al_{0.8}Sc_{0.2}N$) on	EE 7
Bikash Kumar Dey	Finite blocklength communication rates of channels	EE 1
Anupama Kowli	Impact Assessment (E-RIDES)	EE 1, EE 2, EE 3
Bikash Kumar Dey	Coding with privacy	EE 1
Udayan Ganguly	Neural Networks Hardware - Efficient Models for Speech & Vision (Spiking & Non Spiking)	EE 1, EE 2
Udayan Ganguly	Neural Networks Analog Mixed Signal IC Design (Spiking & Non Spiking)	EE 5, EE 6
Udayan Ganguly	Devices & Technology - Memory, Synapse, Neurons (Spiking & Non Spiking)	EE 7
Virendra Singh	Security of Futuristic Technology (AI/ML/AR/VR/Quantum Computing)	EE 1, EE 2, EE 5, EE 6
Saurabh Lodha	2D Photodetectors for Quantum Applications	EE 7

Name	Project Title	Specialisation
Saurabh Lodha	Development of Ga2O3 devices for next generation power electronics	EE 7