Ongoing Projects under Regional Academic Centre for Space
(As of January 2025)
MNIT Jaipur, Jaipur

Sl. No.	Title of the Project
1.	Design, fabrication, validation and characterization of a low noise, high voltage analogue/mixed signal (AMS) bias driver ASIC for imaging photon sensors devices
2.	Design, Simulation & Characterization of Logic-In-Memory Computation within SRAM Array using SCL CMOS 180nm process and emerging ferromagnetic devices
3.	Developing a user friendly Chatbot system as an interface for information extraction in Natural language
4.	Development of novel $CoFe_2O_4/CaCu_3Ti_4O_{12}$/polymer composites for EMI attenuation
5.	Investigation on Mechanical, Thermal and Shape Memory Effect Characteristics of Microwave Cast Nitinol Shape Memory Alloy for applications in the deployable radiator
6.	Onboard spectral preprocessing for multispectral image compression using FPGA
7.	Simulation Analysis and Implementation of Soft Decision Forward Error Correction Codes for High Speed Free-Space/Satellite Optical Communication.
8.	Stacked Microstrip Patch Antenna for four frequency bands (L1, L2, L5 & S bands) (ISTRAC)
9.	The coating of CuNiFeCrMo- Graphene oxide Nano composites on CFRP – Carbon Fiber Reinforced Plastics/Composites to improve Thermal Conductivity & Electrical Conductivity properties of CFRP - Carbon Fiber Reinforced Plastics/Composites
10.	Utilizing satellite-based observations to correct the CMIP6 climate projections of sea level anomaly and significant wave height.

Gauhati University, Guwahati

Sl. No.	Title of the Project
1.	Graphene based conductive ink for flexible and wearable printable electronics
2.	Synthesis of spinel structured lithium based soft ferrimagnets for application in satellite communication

NITK, Surathkal

Sl. No.	Title of the Project
1.	Customized Reconfigurable Platform for Image/Video Compression based on Deep Learning Algorithms for Hyperspectral Image
2.	Design & Development of High-Power Multi-output GaN based DC-DC converter with 70V input and Digital Control Loop
3.	Design and Development of message Authentication Techniques for NavIC
4.	Design and Development of Multi Input/Multi Output Power Converter
5.	Design, Development of Multi-Harmonics Tuned GaN HEMT Power Amplifier over Broadband
6.	Improvement of the electrical and thermal properties of the surface of CFRP products for RF applications
7.	Programmable photonic microwave signal generation using on-chip spectral shaper for satellite communication

IIT (BHU) Varanasi

SI. No.	Title of the Project
1.	Autonomic Neural Performance Index estimation using Cardiovascular, Respiratory and Behavioral Recordings
2.	Design & Development of β-(AlxGa1-x)2O3 based deep UV photodetectors
3.	Design and development of Reconfigurable Reflectarray Antenna at X-band
4.	Design and Realization of Miniaturized LNA for S Band RF communication Applications
5.	Developing a reliable and secure processing system for telemedicine in space using space-based Wireless sensor network (SB-WSN)
6.	Development of Algorithms for water quality monitoring using ground instrumentation and optical sensors onboard Unmanned Airborne Vehicle
7.	Development of graphene/CNT FET based sensors for space applications
8.	Development of Variable data rate CCSDS compliant Direct Digital Demodulator
9.	Development of Wearable Internet of Medical Things for Continuous Health Monitoring of Astronauts
10.	Globally supported radial basis function based fractional order mesh free fast algorithms for image denoising and enhancement
11.	Metasurface-based various components for applications in microwave and beyond
12.	Recycling of of CFRP (Production of Composite Filaments using Reclaimed Carbon Fibre from CFRP Waste and Fabrication and Performance Analysis of 3D Parts Thereof)

NIT Kurukshetra

SI. No.	Title of the Project
1.	Development of a deep learning enabled algorithm for automatic modulation recognition in blind RF environment
2.	Development of a tunable optical frequency comb (OFC) source using a single dual-drive electro-optic modulator (EOM)
3.	Key management for secure multicast applications in Space Terrestrial Integrated Network

NIT Patna

SI. No.	Title of the Project
1.	Channel coding for satellite communication
2.	CMOS Compatible Mid-Infrared Tunable Metamaterial Absorbers for Sensors Applications
3.	Development of space qualified vapor chamber
4.	Programmable Holographic Metasurface for Beam Steering Applications