



BITS Pilani
K.K Birla Goa Campus

BITS-Pilani K.K. Birla Goa Campus Summer Research Programme(BGSRP)

BGSRP - 2024

BGSRP-2024 Summer Project Proposal data

Sr. No.	Name of the Investigator	Department	Title of the Project problem	Area of the project problem
1.1	Dr. Rajesh Kumar	CS & IS	Investigating privacy attributes in betting apps	Software Engineering
1.2	Dr. Rajesh Kumar	CS & IS	Pacemakers: formally verified	Software Engineering
2.1	Dr. Sampatrao D Manjare	Chemical Engineering.	Machine Learning Prediction of Lignin Dissolution in Natural Solvents for Sustainable Biomaterials	Machine Learning
3.1	Dr. Dhananjay M Kulkarni	Mechanical Engineering	3 D Printing and Material Characterization of Dog-bone Specimens for the Orthopedic Implants	Orthopedic Implants
3.2	Dr. Pravin M Singru	Mechanical Engineering	Vibration based condition monitoring using machine learning	Vibration, machine design
3.3	Dr. Kiran D. Mali	Mechanical Engineering	Synthesis of nanocomposite materials for bio-medical applications	Biomaterials and Nanoscience
3.4	Dr. Siddhartha Tripathi	Mechanical Engineering	Sperm cell sorting in microfluidic devices	Bio-engineering & Fluid Mechanics
3.5	Dr. Vaibhav Joshi	Mechanical Engineering	Numerical development for compressible flows using Discontinuous Galerkin (DG) technique	Computational Mechanics
3.6	Dr. Sandeep Jose	Mechanical Engineering	Aerospace structural analysis using Machine Learning	Structural engineering, Machine learning, Aerospace structures
4.1	Dr. Amalin Prince A.	Electrical & Electronics Engineering	Development of Deep Learning Techniques for Leather Authentication	Machine Learning and Artificial Intelligence, Cloud Computing

4.2	Dr. Sudeep Baudha	Electrical & Electronics Engineering	Design and investigation of antenna for 5 G mm-wave communication	Antenna and Microwave Communication
4.3	Dr. M. K. Deshmukh	Electrical & Electronics Engineering	Development of AI based Diagnostic Tools for Electric Power Distribution Systems with on-grid Solar PV Systems	Electrical Engineering, Power Systems and Management
5.1	Dr. Arnab Banerjee	Biological Sciences	Effect of novel synthesized sirtuin 1 analogue for poly cystic ovarian syndrome (PCOS) management	Reproductive biology and Endocrinology
5.2	Dr. Ravi Aduri	Biological Sciences	Exploring Natural Compounds as Small Molecule Inhibitors against Nucleoprotein of Nipha Virus	In silico drug design
5.3	Dr. Kundan Kumar	Biological Sciences	Functional characterization of rice 'With No Lysine' kinase gene in abiotic stress	Plant molecular Biology
5.4	Dr. Sonal Ayakar	Biological Sciences	Development of enzymatic bioprocess for textile biopolishing	Biotechnology
6.1	Dr. Narendra Nath Ghosh	Chemistry	Development of nanostructured photocatalysts for the degradation of industrial dyes in water under simulated solar light	Nanomaterial
6.2	Dr. Narendra Nath Ghosh	Chemistry	Development of highly efficient nanostructured electro-catalyst for the production of H ₂ and O ₂ from water	Nanomaterial
6.3	Dr. Narendra Nath Ghosh	Chemistry	Development of nanocomposites from agricultural waste and their application as electrode materials for high-performance energy storage devices (battery/ supercapacitor)	Nanomaterial
6.4	Dr. Amrita Chatterjee	Chemistry	Design and synthesis of Chiral Deep Eutectic Solvent (DES) for enantioselective detection of Glutamic acid.	Organic Synthesis, Molecular Sensor
6.5	Dr. Mainak Banerjee	Chemistry	Design and synthesis of amino-sulfone based new	Drug Discovery

			antimicrobial-resistant (AMR) agents.	
6.6	Dr. Mainak Banerjee	Chemistry	Mechanochemical distal C-H bond activation of heteroaromatic systems.	Synthetic methodology (green synthesis)
6.7	Dr. Rabi Narayan Panda	Chemistry	Synthesis, materials characterization and magnetic properties of selected metal oxide nanomaterials	Solid State chemistry and Nano-magnetism
6.8	Dr. Rabi Narayan Panda	Chemistry	Inorganic coating on metallic metal and alloy nanomaterials: synthesis and magnetic studies	Solid State chemistry and Nano-magnetism
7.1	Dr. P. Danumjaya	Mathematics	Mathematical Modelling and Simulations to Real-Life Applications	Differential Equations
8.1	Dr. Radhika Vathsan	Physics	Berry phase and the effect of gravitational self interaction	Quantum Foundations
8.2	Dr. Radhika Vathsan	Physics	Measure of entanglement using correlation matrix	Quantum Information Theory
8.3	Dr. Prasanta Kumar Das	Physics	A Simple Model for the Distribution of Dark Matter	Astronomy & Astrophysics
8.4	Dr. Prasanta Kumar Das	Physics	Low Reynolds Number: Flow and Applications	Nonlinear dynamics, Statistical Physics, BioPhysics
8.5	Dr. P Nandakumar	Physics	Studies on Stem Cell differentiation and associated metabolism using confocal and two-photon microscopy	Stem cells, NADH/FAD fluorescence
8.6	Dr. P Nandakumar	Physics	Single Photon sources for quantum technologies	confocal fluorescence microscope, single photon source
8.7	Dr. Indrakshi Raychowdhury	Physics	Hamiltonian simulation of quantum many body systems	Quantum many body systems, quantum algorithm
9.1	Dr. V V S N V Prasad Chundru	Economics & Finance	Adoption of Metaverse: Business and Consumers	Marketing
9.2	Dr. R. L. Manogna	Economics & Finance	Fintech, green finance, and sustainable economic growth	Innovation and Economic Growth
9.3	Dr. Arfat Ahmad Sofi	Economics & Finance	Green Growth, inequality and Welfare Interface	Economic Growth and Environment

9.4	Dr. Richa Shukla	Economics & Finance	Energy intensity and market structure of technology oriented manufacturing firms in India	Industrial Economics
10.1	Dr. Mohan Kumar Bera	Humanities & Social Sciences	Floods in Indian Cities: A study of disaster vulnerability of urban dwellers	Disaster management