



**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 | | CS & IS | | |
| 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 |

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| 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 |

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| 6.5 | Dr. Mainak Banerjee | Chemistry | Design and synthesis of amino-sulfone based new anti-microbial-resistant (AMR) agents. | Drug Discovery |
| 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 | | Physics | | |
| 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 |