

List of Projects for final semester project training January-April 2021

| Sr. No. | Name of PRL Faculty | Requirement | Division | Tentative title(s) of Project(s) | Preferred Discipline |
|---------|------------------------|-------------|------------------------------------|--|--|
| 1 | Manash Ranjan Samal | 2 | Astronomy and Astrophysics | 1. Understanding the Evolution of Star Clusters with the GAIA Space Observatory. 2. Examining the Role of Stellar Feedback in Regulating Star Formation Processes of Molecular Clouds. | Computer Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics |
| 2 | Vishal Joshi | 2 | | Astronomical data analysis and visualization | Computer Engineering |
| 3 | Rajesh R shah | 3 | | 1 BLDC motor hardware to make and test. 3 phase & 2 phase 2 VB 6.0 software and control of TCC to upgrade with VB 14 and above version 3 ESP-32 Development kit use and control object robot. Any two only student selection | Electronics and Communications, Computer Engineering, Instrumentation and Control, Electronics Engineering |
| 4 | Amzad Hussain Laskar | 2 | Geosciences | 1. Spatial and seasonal variations of stable isotope ratios in Indian rivers: implications to river water dynamics 2. Mixing ratios and stable isotopes in CO ₂ and N ₂ O in a coastal station of a western Pacific island: quantification of influences from regional and long range transported sources | Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines |
| 5 | Manan Shah | 1 | | Rain Water Sampler | Mechanical Engineering |
| 6 | DIPAK KUMAR PANDA | 2 | Planetary Sciences and Exploration | 1 characterization of chondrules of different types of meteorite 2. Raman Analysis for meteorite samples. | Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Geology/Geosciences/Marine Sciences/ and allied disciplines |
| 7 | Sanjay K. Mishra | 1 | | Dust influence on planetary plasma environment | Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines |
| 8 | Kinsuk Acharyya | 2 | | Topics related to the field of Astrochemistry | Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines |
| 9 | Kuljeet K Marhas | 2 | | 1. Soluble organic matter from Meteorites 2. Interstellar material and nucleosynthesis | Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Chemistry |
| 10 | Vijayan S | 2 | | 1. Impact craters on the Moon and their modification 2. Impact craters on the Mars and its role in fluvial activities | Geology/Geosciences/Marine Sciences/ and allied disciplines |
| 11 | Sanjeev Kumar Mishra | 1 | | Software based FPGA/DSP implementation of digital filters for Space Applications | Electronics and Communications, Instrumentation and Control, Electronics Engineering |
| 12 | Jayesh Pabari | 2 | | 1. Study related to planetary lightning 2. Study related to interplanetary dust | Electronics and Communications, Electronics Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics |
| 13 | Amit Basu Sarbadhikari | 2 | | 1. Modelling core growth and mantle formation during accretion in terrestrial planets 2. Recent understanding of Lunar magnetism | Computer Engineering, Geology/Geosciences/Marine Sciences/ and allied disciplines |
| 14 | Varun Sheel | 1 | | Mesoscale Modeling of Martian Atmosphere on HPC Linux Cluster | Computer Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines |

List of Projects for final semester project training January-April 2021

| Sr. No. | Name of PRL Faculty | Requirement | Division | Tentative title(s) of Project(s) | Preferred Discipline |
|---------------------------|------------------------|-------------|--------------------------------|---|--|
| 15 | NIRBHAY KUMAR UPADHYAY | 2 | | 1. Drilling load/parameters modelling in planetary sampling 2. Mechanical design of deployable antenna of payloads for future planetary exploration | Mechanical Engineering |
| 16 | Dr. K. Durga Prasad | 2 | | 1. Thermal analysis of the Moon from Remote Sensing Datasets 2. Local Meteorology on Mars from Recent Missions | Computer Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines, Remote Sensing and GIS |
| 17 | Ramakant R. Mahajan | 1 | | Study of lunar regolith | Geology/Geosciences/Marine Sciences/ and allied disciplines, M. Sc. Geology/Geosciences |
| 18 | RISHITOSH KUMAR SINHA | 1 | | Study of the Mars 2020 Perseverance rover landing site using the remote sensing datasets | Geology/Geosciences/Marine Sciences/ and allied disciplines |
| 19 | Megha Bhatt | 2 | | Topographic modeling and fine-scale analysis of craters using photogrammetric and photogrammetric approach | Computer Engineering, Electronics Engineering |
| 20 | Ravindra Pratap Singh | 2 | Space and Atmospheric Sciences | 1. Spectral image processing 2. Mesospheric temperatures using spectroscopic techniques | Computer Engineering Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics |
| 21 | Partha Konar | 2 | Theoretical Physics | Neural Network And Machine Learning Applications For Theoretical Physics and Solar Physics Research (Prerequisite: Proficiency In DNN, CNN, Python etc For Machine Learning Applications) | Electronics and Communications, Computer Engineering, Deep Machine Learning and Artificial Intelligence |
| Total requirements | | 37 | | | |