Sl. No.	Name of PRL Faculty	Email Address of PRL faculty member	Number of Students required for project	Division	Tentative title(s) of Project(s)	Duration of the prosed project(s)	Preferred discipline requirement for the project training
					FSTP 2022_List of Projects and requirement of students (ONLINE mode only)		
1	Kapil Kumar	kapilb@prl.res.in	01	Astronomy and Astrophysics	Structural Testing and Data Analysis	3-4	Mechanical Engineering
2	kapil kumar	kapilb@prl.res.in	01	Astronomy and Astrophysics	Designing Al filament arrangements for a coating chamber	3-4	Mechanical Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
3	Manash Samal	manash@prl.res.in	02	Astronomy and Astrophysics	1. Understanding the dissolution processes of the star clusters with the Gaia space observatory. 2. Understanding the chronology of star formation and disk evolution in the Orion cloud complex.	1. 6-12 months 2. 6-12months	Computer Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
4	Shashikiran Ganesh	shashi@prl.res.in	2	Astronomy and Astrophysics	Integration of observatory components with Remote Telescope System	3-4 months (If more time is available then the project goals maybe extended after initial discussion)	Computer Engineering
5	Vishal Joshi	vjoshi@prl.res.in	02	Astronomy and Astrophysics	Observational studies of accreting white dwarf binary stars	4 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
6	Shashikiran Ganesh	shashi@prl.res.in	1	Astronomy and Astrophysics	Image simulation of astronomical sources	6-12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics

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7	Rajesh R Shah	rajesh630825@gmail.com	3	Astronomy and Astrophysics	Making 3 phase and 2 phase BLDC motors with drive. Perment magnet, Magnetic sensors and DRIVE for slow high torque high efficiency, small motors for control application for telescope control. ARDONO c programming, Power electronics, PC making, small mechanical parts fibcration will be part of project.	6-12 months	Instrumentation and Control, Electronics Engineering
8	Rajesh kumar	kushawaha@prl.res.in	1	Atomic, Molecular and Optical Physics	Femtosecond filamentation dyanmics	6-12	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Chemistry/Chemical Science
9	Rajesh kumar	kushawaha@prl.res.in	02	Atomic, Molecular and Optical Physics	Strong-field ionization of atoms and molecules	6-12	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Chemistry/Chemical Science
10	Rajesh kumar	kushawaha@prl.res.in	02	Atomic, Molecular and Optical Physics	Femtosecond Plasma chemistry: study the C2 and CN formation in the graphite plasma plume	6-12	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
11	Satyendra Nath Gupta	satyendra@prl.res.in	1	Atomic, Molecular and Optical Physics	Light-matter coupling in plasmonic cavities	12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Chemistry/Chemical Science
12	Naveen Chauhan	chauhan@prl.res.in	1 (ME, Mtech)	Atomic, Molecular and Optical Physics	Development of exo-electron system	12 Months	Electronics and Communications, Instrumentation and Control, Electronics Engineering

FSTP 2022_List of Projects and requirement of students (ONLINE mode only)

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					FSTP 2022_List of Projects and requirement of students (ONLINE mode only)		
13	Bhalamurugan Sivaraman	bhala@prl.res.in	5	Atomic, Molecular and Optical Physics	[1] Mechanobiology [2] Layered astrochemical ices [3] Astrobiology [4] Mars analogue [5] Icy moons	6-12 months	Mechanical Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines, Chemistry/Chemical Science
14	B. K. Sahoo	bijaya@prl.res.in	2	Atomic, Molecular and Optical Physics	Machine learning for atomic calculations	for either 3-4 months or 6-12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
15	Ravindra Pratap Singh	rpsingh@prl.res.in	02 (1 B.Tech. and 1 M.Tech.)	Atomic, Molecular and Optical Physics	1. Source development for free space quantum communication (Short term) 2. Quantum Random Number Generator and Characterization (Long term)	For project 1 - 3-4 months For project 2 - 6-12 months	Electronics and Communications, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
16	Tejas N. Sarvaiya	tejas@prl.res.in	02	Computer Center	WiFi User management & Usage Analytics	3-4 months	Computer Engineering
17	Girish Padia	padia@prl.res.in	01	Computer Center	Smart Document Sharing	3-4 months	Computer Engineering
18	Dinesh Mehta & Bhushit Vaishnav	dinesh@prl.res.in	01	Dean's Office	PRL Research Scholars Academic Information Managemen System [PRSA-IMS]	3-4 Months	Computer Engineering/Information Technology/MCA
19	Manan Shah	manans@prl.res.in	01	Geosciences	Automated Rain Water Sampler	3-4	Mechanical Engineering
20	Manan Shah	manans@prl.res.in	01	Geosciences	IOT based control and communication using Android application	3-4	Electronics and Communications, Computer Engineering
21	Ravi Bhushan	bhushan@prl.res.in	02	Geosciences	Radiocarbon Dating of Ocean Sediments using AMS Application of Cosmogenic Radionuclides	3-4 months	Geology/Geosciences/Marine Sciences/ and allied disciplines, Chemistry/Chemical Science

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22	Neeraj Rastogi	nrastogi@prl.res.in	1	Geosciences	Aerosol Characterization through Measurements Data	3-4 months	Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines, Chemistry/Chemical Science
23	Arpit Patel	arpitp@prl.res.in	4	Planetary Sciences and Exploration	Interpolation technique implementation in FPGA, Matlab simulation for template matching algorithm for pulse amplitude measurement	3-4	Electronics and Communications, Electronics Engineering
24	Dipak Kuamr Panda	pdipak@prl.res.in	1	Planetary Sciences and Exploration	Temperature controlled system for sample heating	6-12	Electronics and Communications, Instrumentation and Control
25	K. Durga Prasad	durgaprasad@prl.res.in	03	Planetary Sciences and Exploration	1. Thermophysical Behaviour of Distinct Sites on Mars 2. Scouting for water-ice in lunar polar regions 3. Planetary meteorology using miniature Sensors	6-12	Electronics and Communications, Electronics Engineering, Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines
26	Jayesh Pabari	jayesh@prl.res.in	3	Planetary Sciences and Exploration	1. Mars magnetometer data analysis (PG/Dual Degree, 3-4 Months) 2. Forces affecting dynamical evolution of dust particle in solar system (CE or other with programming knowledge, 3-4 Months) 3. Analysis of dust observation in solar system (PG/Dual Degree, ~1 Year)	1. 3-4 Months 2. 3-4 Months 3. ~1 Year	Electronics and Communications, Computer Engineering, Electronics Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines

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27	Rishitosh K. Sinha	rishitosh@prl.res.in	01	Planetary Sciences and Exploration	Project 1. Geological investigation of the Moon's surface using Chandrayaan-2 datasets - In this project we will be using high resolution Terrain Mapping Camera -2 and Orbiter High Resolution Camera datasets (both are from Chandrayaan-2) for investigation of impact craters and mass wasting features to get new insights into the triggering mechanisms and their time of formation. Project 2. Application of machine learning techniques for geological investigation of the Moon's surface using Chandrayaan-2 datasets - This project will have two parts. First part will focus on automated detection of geological landforms on the Moon's surface using machine learning techniques. Second part shall focus on geological investigation of the detected features for studying the geological evolution of the Moon.	1. For project 1 - 3-4 months 2. For project 2 - 6-12 months	Electronics and Communications, Computer Engineering, Geology/Geosciences/Marine Sciences/ and allied disciplines
28	Shiv Kumar Goyal	goyal@prl.res.in	02	Planetary Sciences and Exploration	Hard X-ray position sensitive detector	3-4 months	Electronics and Communications
29	Shiv Kumar Goyal	goyal@prl.res.in	02	Planetary Sciences and Exploration	Python based data processing for particle detectors	3-4 months	Computer Engineering
30	Sanjay K. Mishra	sanjaym@prl.res.in	02	Planetary Sciences and Exploration	1. Dusty Plasma Thrusters 2. Satellite charging	3-4 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines

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31	Varun Sheel	varun@prl.res.in	02	Planetary Sciences and Exploration	Software Development to study the Climate on Mars	3-4 months & 6-12 months	Computer Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines, Atmospheric Science
32	Amit Basu Sarbadhikari	amitbs@prl.res.in	02	Planetary Sciences and Exploration	1) Textural and mineralogical study of planetary samples; 2) Chemical analysis of planetary samples	3-4 months or 6-12 months	Geology/Geosciences/Marine Sciences/ and allied disciplines, Chemistry/Chemical Science
33	Chandan Kumar	chandankr@prl.res.in	03	Planetary Sciences and Exploration	Design of FPGA based processing electronics for future space missions, Design of signal conditioning electronics for di-electric measurement	3-4 months,6-12 months	Electronics and Communications, Instrumentation and Control, Electronics Engineering
34	Vijayan	vijayan@prl.res.in	2	Planetary Sciences and Exploration	1. Remote sensing exploration of Mars/Moon 2. Remote sensing exploration of icy bodies	4 & 12	Geology/Geosciences/Marine Sciences/ and allied disciplines
35	Shiv Kumar Goyal	goyal@prl.res.in	01	Planetary Sciences and Exploration	MAVEN-NGIMS and MOM2-MENCA data analysis	6-12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
36	Dipak Kuamr Panda	pdipak@prl.res.in	2	Planetary Sciences and Exploration	Major element and minor elemental analysis of Chondrules	6-12 months	Geology/Geosciences/Marine Sciences/ and allied disciplines, Chemistry/Chemical Science
37	Neeraj Srivastava	sneeraj@prl.res.in	02	Planetary Sciences and Exploration	Reflectance Spectroscopy of planetary materials under simulated conditions	6-12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics

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38	Sanjeev Kumar Mishra	sanjeevm@prl.res.in	01	Planetary Sciences and Exploration	Design and Development of electronics for water-ice detection on Moon. Development of Phase detection algorithm and data analysis.	6-12 months	Electronics and Communications, Electronics Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
39	Megha Bhatt	megha@prl.res.in	03	Planetary Sciences and Exploration	1) Machine learning approach for determining the distribution of lunar surface composition Description: We will use data from Chandrayaan-1 and Chandrayaan-2 missions and apply MLR and SVR techniques for determining the distribution of lunar surface composition 2) Development of a spectral unmixing algorithm based on bidirectional reflectance theory Description: Global NIR data from Chandrayaan-1 will be used for identification of the percentages of major lunar minerals, average particle sizes and a spaceweathering parameters 3) Exploring lunar poles using microwave experiments Description: We will use multifrequency data from Chandrayaan and LRO missions from multiple polar sites and integrate response for better understanding of polar water ice exposures.	6-12 months for all three mentioned project	Computer Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics

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40	Kinsuk Acharyya	acharyya@prl.res.in	Four	Planetary Sciences and Exploration	(1) Protostellar Collapse: A numerical Study using open-source CODE RAMSES (Topic - Star-Formation). (2) Study of molecular Complexity in the star-forming regions (Topic - Astrochemistry) (3) Study the water production rate in Comets (4) Numerical modelling of transport of volatiles in lunar poles.	Both for 3-4 and 6-12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Chemistry/Chemical Science
41	JANMEJAY KUMAR	janmejay@prl.res.in	02	Planetary Sciences and Exploration	1. Design of 1.5 m CFRP boom and its deployment mechanism for MOM -2 Mission. 2. Design of in vacuum 3-axis automatic manipulator for reflectance spectroscopy probe.	for project (1) 6-12 months for project (2) 3-4 months	Mechanical Engineering
42	Kushagra Upadhyay	kushagra@prl.res.in	01	Solar Physics	Development of front end electronics and tracking system for the radio antenna.	3-4 month	Electronics and Communications
43	A Raja Bayana	bayanna@prl.res.in	1	Solar Physics	Image restoration of defocused images	3-4 months	Electronics and Communications, Computer Engineering, Electronics Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
44	T. A. Rajesh	rajeshta@prl.res.in	01	Space and Atmospheric Sciences	Study of atmospheric black carbon and CO pollutants	6-12	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines

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45	Ravindra Pratap Singh	ravindra@prl.res.in	01	Space and Atmospheric Sciences	Sudden Stratospheric Warming	6-12	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines
46	Ravindra Pratap Singh	ravindra@prl.res.in	01	Space and Atmospheric Sciences	Image processing and analysis	6-12	Computer Engineering, Instrumentation and Control
47	Aaditya Sarda	aaditya@prl.res.in	02	Space and Atmospheric Sciences	1. Particle in Cell Simulation of Langmuir Probe and spacecraft for design optimization. 2. Mechanism design for all-sky scanning potable photometry instruments based on optimized optical design.	3-4 months	Mechanical Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics
48	T. A. Rajesh	rajeshta@prl.res.in	01	Space and Atmospheric Sciences	Data acquisition, control and visualization over LAN	3-4 months	Computer Engineering, Instrumentation and Control, Electronics Engineering
49	K. Venkatesh	venkateshk@prl.res.in	1	Space and Atmospheric Sciences	Studies on upper atmospheric physics and space weather	3-4 Months and 6-12 Months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines
50	Narendra Ojha	ojha@prl.res.in	02	Space and Atmospheric Sciences	Trends in emissions of greenhouse gases; Air quality over South Asia: Present and Future	6-12 months	Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Geology/Geosciences/Marine Sciences/ and allied disciplines, Space Sciences/Meteorology/Climate Science and allied disciplines

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51	Som Kumar Sharma	somkumar@prl.res.in	04	Space and Atmospheric Sciences	1.Development of Algorithm for Atmospheric Cloud Investigations 2. Automation of Atmospheric Boundary Layer detection in Indian Lidar Network Programme	Both, 3-4 months and 6-12 months	Instrumentation and Control, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines, Computer Science and/or MCA
52	Harish Gadhavi	hgadhavi@prl.res.in	3	Space and Atmospheric Sciences	(1) Firmware development for balloon borne sun-photometer (2) Development of algorithm to retrieve extinction coefficient using sun-photometer (3) Development of low cost sun-photometer	Overall project will be 12 months but can be split in short sub-project for student wishes to join for short project	Electronics and Communications, Computer Engineering, Electronics Engineering, Mechanical Engineering, Physics/Physical Sciences/Astronomy/Optics/Photonics/Engineering Physics, Space Sciences/Meteorology/Climate Science and allied disciplines
53	Navinder Singh	navinder@prl.res.in	2	Theoretical Physics	To be decided in consultation with the supervisor.	6-12 months	Electronics and Communications, Computer Engineering, Instrumentation and Control, Electronics Engineering, Mechanical Engineering