

List of Projects for 2023-24-I Semester

SNo	Name	email	Title	Program	Remarks
1.	Adhip Agarwala	adhip	Entanglement and topological phases	BS(555/556)	Open to all student
2.	Aditya Kelkar	akelkar	Simulation studies on an ion storage ring.	MS-MSc(563/565)	Open to all student
3.	Amit Kumar Agarwal	amitag	Nonlinear optical effects in quantum materials	MS-MSc(563/565)	Open to all student
4.	Anand Kumar Jha	akjha	Orbital angular momentum entanglement	MSPD(501/502)	Continuing student
5.	Anjan Kumar Gupta	anjankg	Niobium film based superconducting devices	MS-MSc(563/565)	Open to all student
6.	Arijit Kundu	kundua	Topological aspects in condensed matter physics	MS-MSc(563/565)	Open to all student
7.	Arjun Bagchi	abagchi	Non-Lorentzian structures and Conformal Field Theory	MS-MSc(563/565)	Student is already selected
8.	Arjun Bagchi	abagchi	Carrollian symmetries and applications	MSc	Student is already selected
9.	Chanchal Sow	chanchal	Single crystal growth of 2D vdW materials	MSPD (596/598/696/698)	Open to all student
10.	Debtosh Chowdhury	debtoshc	Axions in the Early Universe	MS-MSc(563/565)	Open to all student
11.	Debtosh Chowdhury	debtoshc	Positivity Bounds for Scalar Theories	MSc-Phd (Dual Degree)	Open to All Student
12.	Dipankar Chakrabarti	dipankar	Generative models in lattice gauge theory simulations	MS-MSc(563/565)	Open to all student
13.	Diptarka Das	didas	S-matrix computation in the Toda model	MS-MSc(563/565)	Open to all student
14.	Gautam Sengupta	sengupta	Black Hole Thermodynamics	MSPD(501/502)	Open to all student
15.	Gopal Hazra	hazra	Magnetic field in the M-dwarf stars	MSPD (596/598/696/698)	Open to all student
16.	Gopal Hazra	hazra	Exoplanet Atmospheres using numerical modelling and transmission spectroscopy	MSc-Phd (Dual Degree)	Open to All Student
17.	Gopal Hazra	hazra	Tidal deformation of planets and stars	MS (BS-MS)	Open to All Student

18.	Harshawardhan Wanare	hwanare	Vectorial beams point spread function	BS-MS	Student already selected
19.	Jayanta Kumar Bhattacharjee	jayantakb	Stochastically driven nonlinear oscillators	MS-MSc(563/565)	Open to all student
20.	Joydeep Chakraborty	joydeep	Effective Field Theory: integrating out heavy fields in covariant formalism	MS-MSc(563/565)	Student is already selected
21.	K P Rajeev	kpraj	Low Energy Nuclear Reactions: Co-deposition experiments	MS-MSc(563/565)	Open to all student
22.	Kaushik Bhattacharya	kaushikb	Junction conditions in modified gravity theories	MS-MSc(563/565)	Open to all student
23.	Krishnacharya	kcharya	Experimental and numerical investigation of ultrathin fluid films using white light interferometry.	MS-MSc(563/565)	Open to all student
24.	Krishnacharya	kcharya	Fundamental and applied aspects of zero interfacial tension fluids.	MSc-Phd (Dual Degree)	Open to All Student
25.	Mahendra K Verma	mkv	Modelling sun spots using spherical harmonics	MSPD(501/502)	Open to all student
26.	Mahendra K Verma	mkv	Modelling MHD turbulence	MSc-Phd (Dual Degree)	Open to All Student
27.	Mahendra K Verma	mkv	Using machine learning for forecast city temperature	MS (BS-MS)	Open to All Student
28.	Manas Khan	mkhan	Non-equilibrium fluctuations of a passive probe in active bath	MSPD (596/598/696/698)	Open to all student
29.	Manas Khan	mkhan	Dynamics of Brownian particles in soft glassy environment	MSc-Phd (Dual Degree)	Open to All Student
30.	Manoj K Harbola	mkh	Finding minimum well depth in one dimension to bind two electrons	BS (555/556)	Open to all student

31.	Manoj K Harbola	mkh	Study of Coulson Fisher wavefunction for electron correlations	MSc	Open to All Student
32.	Navaneeth Poonthottathil	navaneeth	Measuring neutrino oscillation using long baseline experiment.	MS-MSc (563/565)	Open to all student
33.	Nilay Kundu	nilayhep	Exploring connections between flat space scattering amplitudes and cosmological correlators in de-sitter space. (Knowledge of General Relativity would be useful)	MSPD (501/502)	Open to all student
34.	Rohit Medwal	rmedwal	Micromagnetic Simulation of Spin Torque Oscillators and spin Waves	MSPD (596/598/696/698)	Open to all student
35.	Rohit Medwal	rmedwal	Spin-pumping Inverse spin Hall effect in Heavy Metal/ferromagnet interfaces	MSc-Phd (Dual Degree)	Open to All Student
36.	Rohit Medwal	rmedwal	Classification task using Spin Hall Nano-Oscillators	MSc-Phd (Dual Degree)	Open to All Student
37.	Sabyasachi Chakraborty	sabyac	Applications of Soft Collinear Effective Field Theory	MSc-Phd (Dual Degree)	Open to all student
38.	Sabyasachi Chakraborty	sabyac	Axion Photon Conversions	MS (BS-MS)	Open to All Student
39.	Sagar Chakraborty	sagarc	Evolutionary Game Dynamics I	MS-MSc (563/565)	Open to all student
40.	Sagar Chakraborty	sagarc	Evolutionary Game Dynamics II	MSc	Open to All Student
41.	Saikat Ghosh	gsaikat	Quantum enhanced magnetometry	MS-MSc (563/565)	Open to all student
42.	Saikat Ghosh	gsaikat	Small scale heat engine	MS (BS-MS)	Open to All Student
43.	Sapam Ranjita Chanu	sranjita	Study and design of blade traps for ions quantum information processing	MSPD (596/598/696/698)	Open to all student

44.	Satyajit Banerjee	satyajit	Exploring a strongly correlated system via local probe technique	MS-MSc (563/565)	Student is already selected
45.	Sivasurender Chandran	schandran	Collective motion of Marangoni surfers	MS-MSc (563/565)	Open to all student
46.	Sivasurender Chandran	schandran	Kinetic pathways for controlling viscoelastic properties of two dimensional soft films.	MSc	Open to All Student
47.	Soumik Mukhopadhyay	soumikm	Spin transport in magnetic thin film heterostructures	MS-MSc (563/565)	Open to all student
48.	Soumik Mukhopadhyay	soumikm	Spin dynamics in 2D van der Waals ferromagnets	MSc	Open to All Student
49.	Soumik Mukhopadhyay	soumikm	Magnetoelectrically coupled quantum ferroic heterostructures	MSc	Open to All Student
50.	Sudeep Bhattacharjee	sudeepb	Development of a cryo-plasma set-up : Basic experiments and molecular dynamics simulations	MS-MSc (563/565)	Open to all student
51.	Sudeep Bhattacharjee	sudeepb	Generation of high beta plasmas confined in a dipole magnetic field	MSc	Open to All Student
52.	Sudeep Bhattacharjee	sudeepb	Investigation of plasma potential fluctuations in an atmospheric pressure micro-plasma	MSc	Open to All Student
53.	Sudipta Dubey	sudiptad	Optical control of valley in 2D materials	MSPD (501/502)	Open to all student
54.	Sudeep Kumar Ghosh	skghosh	Symmetry classification of superconducting order parameters	BS (555/556)	Open to all student
55.	Sudeep Kumar Ghosh	skghosh	Simulating twistrionics in cold atoms	MSc	Open to All Student
56.	Sudeep Kumar Ghosh	skghosh	Nonreciprocal transport in unconventional superconductors	MSc-Phd (Dual Degree)	Open to all student
57.	Supratik Banerjee	sbanerjee	Quantum plasma turbulence	BS (555/556)	Open to all student
58.	Supratik Banerjee	sbanerjee	Helicity and turbulence in solar wind	MSc	Open to All Student

59.	Supratik Banerjee	sbanerjee	Mystery of solar coronal heating	MSc	Open to All Student
60.	Tapobrata Sarkar	tapo	Numerical simulation of tidal disruption events near massive objects	BS (555/556)	Open to all student
61.	Taraknath Mandal	taraknath	Development of coarse-grained model for polymers	MS-MSc(563/565)	Open to all student
62.	Venkata jayasurya Yallapragada	jayasurya	Characterization and Calibration of CMOS photon counting arrays	MSPD (596/598/696/698)	Continuing student
63.	Vijaya R	rvijaya	Multi-wavelength fiber laser	MSPD (596/598/696/698)	Continuing student
64.	Y N Mohapatra	ynm	Electrical characterisation of flexible devices	MS-MSc (563/565)	Open to all student
65.	Zakir Hossain	zakir	Structure and properties of magnetic/superconducting thin films.	MS-MSc (563/565)	Student is already selected
66.	Zakir Hossain	zakir	Structure and Physical Properties of binary/ternary Pnictides.	MS-MSc (563/565)	Student is already selected
67.	Zakir Hossain	zakir	Low Temperature Properties of magnetic or superconducting materials	MSc-Phd (Dual Degree)	Student is already selected
68.	Zakir Hossain	zakir	Crystal Growth and low temperature properties of RTX compounds	MSc-Phd (Dual Degree)	Student is already selected