

**LIST OF PROJECTS FOR 2022-2023-I SEMESTER**

S.No	Name	Email	Project Tittle	Program	Remarks
1	Aditya Kelkar	akelkar	Investigating fragmentation dynamics of light molecules usinv Recoil ion momentum spectrometer	MSc	Open to All Student
2	Amit Dutta	dutta	Quantum information and dynamics	M.Sc/MS (BS-MS)	Open to All Student
3	Amit Dutta	dutta	Quantum Chaos in Many body systems	M.Sc/MS (BS-MS)	Open to All Student
4	Amit Kumar Agarwal	amitag	Nonlinear optics in massive graphene	MSc-Phd (Dual Degree)	Student is already selected
5	Anand Kumar Jha	akjha	Generation and detection of high-dimensional orbital angular momentum entanglement of photons produced by parametric down-conversion	MSc-Phd (Dual Degree)	Open to All Student
6	Anjan Kumar Gupta	anjankg	Quantum analogs in classical systems	MSc	Open to All Student
7	Anjan Kumar Gupta	anjankg	Trap states in 2D semiconductors	MSc	Open to All Student
8	Arijit Kundu	kundua	Quantum Chaos in Non-Hermitian Systems	MS (BS-MS)	Open to All Student
9	Arijit Kundu	kundua	Transport in Twisted Bi-Layer Systems Using Scattering Matrix Formalism	MSc	Open to All Student
10	Chanchal Sow	chanchal	MOKE set-up and studying magnetic anisotropy in novel Ferromagnets	MSc	Student is already selected
11	D Chowdhury	debch	Stochastic Models of Pattern formation in Nature	MSc	Open to All Student
12	D Chowdhury	debch	Stochastic Models of Decision Making in Nature	MSc	Open to All Student
13	Debtosh Chowdhury	debtoshc	Classical solutions in quantum field theory	MSc	Open to All Student
14	Debtosh Chowdhury	debtoshc	Theory of cosmological inflation	MS (BS-MS)	Open to All Student
15	Dipankar Chakrabarti	dipankar	Sudy of transverse momentum dependent gluon distribution functions [Gluon TMDs].	MSc	Open to All Student
16	Diptarka Das	didas	Effects of disorder in exactly solvable lattice models	MSc-Phd (Dual Degree)	continuing student

17	Diptarka Das	didas	Onset of chaos and thermalization in non-equilibrium systems	MS (BS-MS)	Open to All Student
18	Diptarka Das	didas	Entanglement entropy in quantum field theories	MS (BS-MS)	Open to All Student
19	Gautam Sengupta	sengupta	Quantum Entanglement in Conformal Field Theories	MSc	Open to All Student
20	Harshawardhan Wanare	hwanare	Anisotropic optics for vector beam		Open to all students
21	Joydeep Chakraborty	joydeep	Neutrino Oscillation and related phenomena	MS (BS-MS)	Open to All Student
22	K P Rajeev	kpraj	Low energy transmutation studies not involving hydrogen	MSc-Phd (Dual Degree)	Open to All Student
23	K P Rajeev	kpraj	Development of particle detectors to study low energy nuclear reactions	MS (BS-MS)	Open to All Student
24	Kaushik Bhattacharya	kaushikb	Gravitational collapse in Teleparallel gravity	MSc	Open to All Student
25	Krishnacharya	kcharya	Numerical investigation of surface/interfacial phenomenon in soft matter system.	MSc	Open to All Student
26	Mahendra K Verma	mkv	Analysing corona and solar wind heating using numerical simulations and solar wind observations	MSc-Phd (Dual Degree)	Open to All Student
27	Mahendra K Verma	mkv	Modelling the solar magnetic field reversal	MSc	Open to All Student
28	Manas Khan	mkhan	Irreversibility and Fluctuation Theorems in Active Brownian Dynamics	MSc	Open to All Student
29	Manas Khan	mkhan	Microrheology in soft glassy systems	MSc-Phd (Dual Degree)	Open to All Student
30	Manas Khan	mkhan	Dynamics of an asymmetric probe in viscoelastic media	MSc	Open to All Student
31	Narayan Rana	narayan	Relation between Feynman integrals having different space-time dimension	MS (BS-MS)	Open to All Student
32	Nilay Kundu	nilayhep	Constraining Cosmological perturbations with symmetry (prior knowledge of General Relativity will be useful/required)	MSc-Phd (Dual Degree)	Open to All Student
33	Rajeev Gupta	guptaraj	Synthesis and Properties of Vanadates	MSc	Open to All Student
34	Sagar Chakraborty	sagarc	Stochastic and Nonlinear Eco-Evolutionary Game Dynamics	MS (BS-MS)	Open to All Student
35	Sagar Chakraborty	sagarc	Adaptive Nonlinear Game Dynamics		
36	Saikat Ghosh	gsaikat	Correlated photons and atomic quantum memories	MS (BS-MS)	Open to All Student

37	Satyajit Banerjee	satyajit	Probing the modulation of local and bulk superconducting properties in the vicinity of novel defects. (presently a one semester project which can be extended into two semester depending on performance of student)	MSc-Phd (Dual Degree)	Open to All Student
38	Satyajit Banerjee	satyajit	Exploring the possibility of topological magnetic excitations in ultra low dimensional magnetic systems.	Dual Degree	
39	Saurabh Mani Tripathi	smt	Multimodal interference in optical fibers	MS (BS-MS)	Open to All Student
40	Sivasurender Chandran	schandran	Mechanical interactions underlying the formation of bacterial biofilms	MS (BS-MS)	Open to All Student
41	Sivasurender Chandran	schandran	Structure formation in evaporating polymer solutions.	MSc	Open to All Student
42	Sivasurender Chandran	schandran	Mechanical interactions underlying the formation of bacterial biofilms	MS (BS-MS)	
43	Soumik Mukhopadhyay	soumikm	Generation and detection of pure spin current	MSc-Phd (Dual Degree)	Open to All Student
44	Soumik Mukhopadhyay	soumikm	Long range magnetic ordering in 2D van der Waals crystals	MS (BS-MS)	Open to All Student
45	Soumik Mukhopadhyay	soumikm	Study of magnetization dynamics of correlated topological Kagome metals	MSc	Open to All Student
46	Sudeep Bhattacharjee	sudeepb	Investigation of fluctuations in a steady state plasma confined in a dipole magnetic field	MS (BS-MS)	Open to All Student
47	Sudeep Bhattacharjee	sudeepb	Study of plasmas at cryogenic temperatures : collisional cooling, strongly coupled regime and wave induced phenomena	MSc-Phd (Dual Degree)	Open to All Student
48	Sudeep Bhattacharjee	sudeepb	Controlled focusing of ion beams through micro-glass capillaries beyond the self focusing limit	MSc-Phd (Dual Degree)	Open to All Student
49	Sudipta Dubey	sudiptad	Excitonic effect in van der Waal heterostructures	MSc-Phd (Dual Degree)	Open to All Student
50	Supratik Banerjee	sbanerjee	Turbulent heating of solar corona	MSc	Open to All Student
51	Supratik Banerjee	sbanerjee	Sub-alfvenic turbulence in near sun solar wind	MSc-Phd (Dual Degree)	Open to All Student

52	Supratik Banerjee	sbanerjee	Turbulence in accretion discs	MS (BS-MS)	Open to All Student
53	Taraknath Mandal	taraknath	Lipid and protein corona formation by nanoparticles	MSc	Open to All Student
54	Taraknath Mandal	taraknath	Study of micelle rheology using molecular simulations	MSc	Open to All Student
55	Tarun Kanti Ghosh	tkghosh	Transport properties in triple component semimetals	MSc	Student is already selected
56	Venkatajayasurya Yallapragada	jayasurya	Interferometric reflectance microscopy	MS (BS-MS)	Open to All Student
57	Vijaya R	rvijaya	Imaging with meta-optics	MSc-Phd (Dual Degree)	Student is already selected
58	Zakir Hossain	zakir	Crystal Growth and physical properties of SrAgBi and YbAgBi	MSc-Phd (Dual Degree)	Open to All Student
59	Zakir Hossain	zakir	Characterization of magnetic/superconducting thin films	MSc-Phd (Dual Degree)	Open to All Student