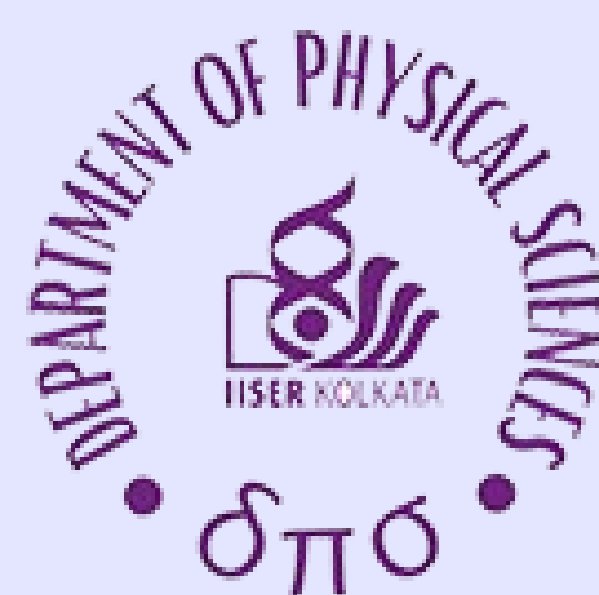




Applications are invited for the Doctor of Philosophy (PhD) program in Physics for Spring 2026

Minimum Eligibility criteria (Educational Qualification):

- A MS degree with at least 60% aggregate marks (55% for reserved categories) in Physical Sciences (Specific research projects will accept applications from candidates with equivalent degree in other disciplines, please see below), **OR**
- A 4-year BS degree with at least 75% aggregate marks (70% for reserved categories) in Physical Sciences (or in other disciplines in some cases, as given above), **OR**
- Final-year MS/BS students in disciplines mentioned above who have not yet obtained their degree may also apply. However, they must complete their MSc/MS/BS degree with the required aggregate marks at the time of admission.

Selection Channels:

1. **Self-Funded Category:** Candidates applying through this channel must satisfy the minimum eligibility criteria and possess a valid PhD fellowship, such as UGC/CSIR-JRF or NET Category-1.
2. **Institute-Funded Category:** Candidates applying through this channel must satisfy the minimum eligibility criteria and must have a valid rank in one of the following national-level examinations: **GATE** (rank < 500), **JEST** (rank < 500), **NET-LS** (all ranks), **NET Category-2** (all ranks), **NET Category-3** (Percentile > 75%). Candidates with INSPIRE Fellowship should apply only if they possess the “**Provisional Offer of Research** Studentship under INSPIRE Fellowship”.

The selection of candidates will be carried out as per the Government of India (GoI) norms. Candidates belonging to reserved categories must submit the relevant certificates and supporting documents.

Available Positions (Page-1/2)

Prof. Anandamohan Ghosh (Non-linear dynamics and Statistical physics)

Available Positions: Self Funded: 01 & Institute Funded: 01

1. Random Matrix Theory and Quantum Chaos

Prof. Arindam Kundagrami (Theoretical Soft Condensed Matter Physics, Polymer Physics, Biological Physics)

Available Positions: Self Funded: 01 & Institute Funded: 01

[For following projects application from students with MS/MSc degree in Chemical Sciences (emphasis: Physical/Theoretical) with at least 60% aggregate marks (55% for reserved categories), or with 4-yr BS/BSc degree in Chemical Sciences (emphasis: Physical/Theoretical) or B.Tech/M.Tech degree in Chemical or Mechanical Engineering with at least 75% aggregate marks (70% for reserved categories), will also be considered.]

1. Theory of Phase Transitions and Kinetics of Phase Separation & Phase Formation in polymers, biopolymers, intrinsically disordered proteins (IDPs); Liquid-liquid phase separation in biomolecular condensates; Physical properties of charged biopolymers using methods of statistical mechanics and soft matter physics.

Prof. Bhavtosh Bansal (Condensed Matter Physics Experiment)

Available Positions: Self Funded: 02

1. Experimental Condensed Matter Physics–Statistical physics of phase transitions; Physics in very high magnetic fields; Light-matter interaction and spectroscopy of semiconductors.

Prof. Bipul Pal (Condensed Matter Physics Experiment)

Available Positions: Self Funded: 01 & Institute Funded: 01

1. Probing the optoelectronic properties and ultrafast dynamics of advanced functional materials using steady-state and time-resolved optical spectroscopy, nonlinear optical techniques, and related spectroscopic methods.

Prof. Chiranjib Mitra (Condensed Matter Physics Experiment/ Quantum Information)

Available Positions: Self Funded: 01

(For following projects application from students with B.Tech/M.Tech degree with at least 75% aggregate marks (70% for reserved categories) in Electronics & Electrical engineering will also be considered.)

1. Quantum condensed matter Experiment, Topological Insulator and Weyl Fermions, Quantum Information Processing using Nitrogen Vacancy Center in Diamond.

Prof. Dhananjay Nandi (Optics/Spectroscopy)

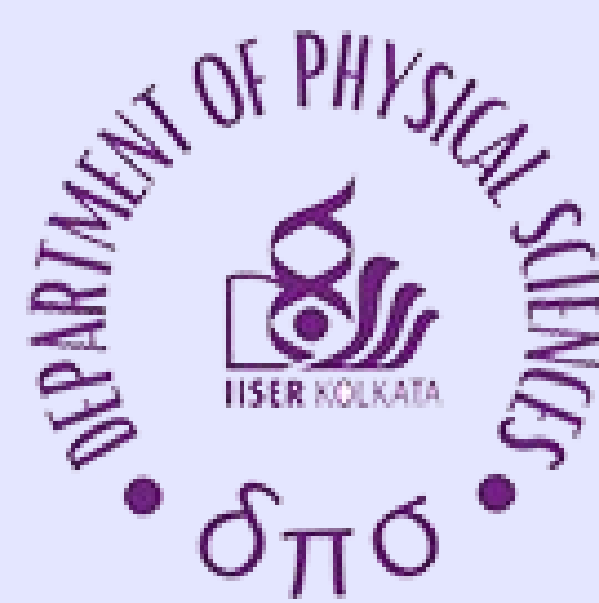
Available Positions: Self Funded: 02

1. Low energy electron-impact molecular fragmentation dynamics using novel experimental techniques developed Indigenously

Prof. Goutam Dev Mukherjee (Condensed Matter Physics Experiment)

Available Positions: Self Funded: 01 & Institute Funded: 01

1. Quantum materials at extreme conditions of pressure and temperature; optoelectronic material systems; frustrated magnetic systems using high-pressure and low temperature Raman spectroscopy, optical absorption, transport measurements, XRD and XFAS with synchrotron visits



Applications are invited for the Doctor of Philosophy (PhD) program in Physics for Spring 2026

Available Positions (Page-2/2)

Prof. Kamaraju Natarajan (Condensed Matter Physics Experiment)

Available Positions: Self Funded: 02 & Institute Funded: 01

1. Ultrafast and terahertz spectroscopy of quantum materials, including two-dimensional and magnetic materials, charge-density-wave systems, altermagnets and emerging quantum materials, with emphasis on nonlinear optical response, ultrafast electron, phonon, spin, exciton and other quasi particle dynamics and THz emission. The research explores nonequilibrium phenomena and coupled spin, charge, lattice and excitonic dynamics using femtosecond optical and THz spectroscopy.

Prof. Partha Mitra (Condensed Matter Physics Experiment)

Available Positions: Self Funded: 01

1. Experimental Condensed Matter- Spintronics

Prof. Pradeep K. Mohanty Non-equilibrium Statistical Physics)

Available Positions: Self Funded: 01 & Institute Funded: 01

1. Field theory of active matter, Nonequilibrium Thermodynamics, Exact steadystates, Thermalization of Quantum systems

Prof. Ritesh K. Singh (High Energy Physics)

Available Positions: Self Funded: 02

1. Particle Physics, Collider Physics, Dark Matter at Colliders, Machine Learning and AI

Prof. Rumi De (Biological Physics, Nonlinear dynamics, Statistical Physics, Soft Condensed Matter Physics)

Available Positions: Self Funded: 01 & Institute Funded: 01

To develop theoretical and computational models to understand the collective dynamics of active, out-of-equilibrium systems by using the tools from statistical physics, nonlinear dynamics, and soft condensed matter physics.

Prof. Satyabrata Raj (Condensed Matter Physics)

Available Positions: Self Funded: 04

1. Electronic and Magnetic structure of strongly correlated systems by synchrotron based Photoemission Spectroscopy (Both AI- and AR-PES) (*experiment*)
2. Electronic, Optical, Magnetic, and Transport properties of novel Nanomaterials (*experiment*)
3. Electronic, Optical, and Magnetic structure of 2D and 3D-strongly correlated systems by Density Functional Theory (DFT) approach (*theory*)

Prof. Sourin Das (Quantum Condensed matter, Quantum Information/Computation and Quantum Machine Learning)

Available Positions: Self Funded: 01

1. Quantum condensed matter theory (topological matter, Quantum hall effect- flat bands and quantum Metric, Open quantum systems and Quantum Heat engines, Non-Hermitian systems)
2. Quantum information/Computation (Unitary designs, Universal Quantum Circuits, Entanglement transition)
3. Quantum Machine Learning (Quantum Boltzmann Machines and Learnability transition)

Prof. Subhasis Sinha (Condensed matter and Statistical physics (Theory))

Available Positions: Self Funded: 01 & Institute Funded: 01

1. Quantum condensed matter theory and Statistical physics (Ultracold quantum gases, Non-equilibrium dynamics, Open quantum systems, Quantum information and technologies)

Prof. Suman Mandal (Condensed Matter Physics Experiment)

Available Positions: Self Funded: 01

1. Neuromorphic devices and their applications

Important timelines:

Application portal opens: 20.09.2026, Application portal closes: 25.10.2026, Publication of shortlist for the Interview by: 31.10.26

Selection Interview window: 11.11.26- 13.11.26, Publication of PhD interview results by: 27.11.2026

Additional benefits:

- Every PhD student will be sponsored to attend an international conference abroad based on the availability of institute funds.
- Chairman's Medal of Commendation for excellence in extracurricular activities for PhD students.
- Every PhD student is entitled to 30 academic leave days per year.

Contact Information:

- You can write to us for clarifications/doubts regarding the advertisement at dps.phd.application@iiserkol.ac.in
- Visit the department website for more information at <https://physics.iiserkol.ac.in/> or <https://www.iiserkol.ac.in>