

Regular call for Ph.D. admission in Physics

AY 2026-2027

(GATE/CSIR/UGC/NET/INSPIRE/JEST)



Department of Physics IIT Ropar

We are inviting bright and motivated young minds for pursuing Ph.D. in the Department of Physics, IIT Ropar for following research areas:

- ❖ Condensed Matter Physics & Material Science
- ❖ Light Matter Interactions and Quantum Information
- ❖ Nuclear & Particle Physics
- ❖ Gravity & Strings

HOW TO APPLY?

Click for further details and application:
<https://www.iitrpr.ac.in/studentportal/>



KEY HIGHLIGHTS

- ❖ Faculty driving impactful and interdisciplinary research
- ❖ State-of-the-art research facilities
- ❖ ₹2.0 Lacs support for global conference participation
- ❖ Modern campus with dynamic research culture

WHO CAN APPLY?

- ❖ Candidates must hold a Master's degree in Physics or a related field
- ❖ Qualified GATE/CSIR-JRF/UGC-JRF/ DST-INSPIRE/JEST, or an equivalent fellowship

IMPORTANT DATES

Application deadline: 10th May, 2026
Interview dates: 21st-23rd May, 2026



For more details, please visit: <https://www.iitrpr.ac.in/physics>

Venue: Physics Department, A Block, 3rd Floor, Har Gobind Khorana Building, IIT Ropar



Explore, Innovate, Transform @ Physics, IIT Ropar

Indian Institute of Technology Ropar, Rupnagar, Punjab, 140001, India

The Department of Physics at IIT Ropar, established in 2009, is committed to excellence in teaching and cutting-edge research across experimental, theoretical, and interdisciplinary areas of physics. The department supports the institute's undergraduate curriculum and offers BTech in Engineering Physics, BSc-BEd, MSc, and PhD programs. Our research-driven environment nurtures young scientists, preparing them to lead in science and technology and engage meaningfully with society. Doctoral and postdoctoral researchers work in a wide range of fields, including (but not limited to): flexible nanostructures for renewable energy, ion-beam surface engineering, graphene and nano-devices, low-dimensional correlated systems, nonlinear optics, bio-interfaces, nuclear structure and dynamics, astrophysics, neutrino physics, mesoscopic systems, optomechanics, nanophotonics, metamaterials, quantum optics, quantum information, and quantum gravity.



Condensed Matter Physics



Prof. Rajeev Ahuja
• Computational materials science
• Hydrogen storage & production
• Sensors & high-pressure physics



Dr. Subhendu Sarkar
• Ion beam nanostructuring and applications
• Self-assembly and applications



Dr. Rakesh Kumar
• Topological Materials
• Two-dimensional Materials
• Magnetic & superconducting materials



Prof. Mukesh Kumar
• Functional & renewable energy materials
• TMDC & Sensor Broadband Photodetector



Dr. Sandeep Gautam
• Quantum degenerate gases at zero and finite temperatures
• Solitons and vortices
• Ultracold atoms-Boson & Fermions



Dr. Debangsu Roy
• Insulating spintronics
• Spin-orbit torque in magnetic heterostructure
• Magnetic nanostructure



Dr. Vivekanand Shukla
• Computational Materials Physics
• Energy materials
• Magnetism and spintronics
• Method Development



Dr. Ritu Gupta
• Crystal Growth and Design of Quantum Materials
• Superconductivity and Magnetism
• Topological Materials
• Van der Waals Systems.



Dr. Lakhan Bainsla
• Quantum materials thin films & devices
• Spintronic oscillators
• Magnetic tunnel junctions for computing & memory applications



Dr. Vijay K Singh
• Quantum materials
• Nanotechnology
• Nanoelectronics
• Optoelectronics
• Green energy generation
• Energy storage

Light Matter Interaction & Quantum Information



Dr. Shubhrangshu D Gupta
• Quantum optics
• Quantum plasmonics
• Quantum biology



Dr. Asoka Biswas
• Quantum computation & information
• Quantum Thermodynamics Cavity
• Optomechanics



Prof. Rajesh V Nair
• Quantum Materials, Devices & Applications
• Quantum photonics & Technologies
• Nanophotonics and Meta-materials
• Laser spectroscopy and Photonics



Dr. Kailash C Jena (Head of the Department)
• Nonlinear Laser Spectroscopy at Surfaces and Interfaces
• Physics of Droplets and Fluid Flow
• Laser-Induced Graphene Synthesis for Sensing Applications
• Bio-Photonics



Dr. Vishwa Pal
• High-power from phase-locked lasers
• Quantum-inspired computing with lasers
• Structured light & Topological photonic
• Quantum light sources & Quantum imaging



Dr. Danveer Singh
• Semiconductor & plasmonic Meta-optics
• Nanophotonics
• Optical Instrumentation



Dr. Girish Kulkarni
• Quantum Imaging with entangled photons
• Entanglement & foundations of quantum theory
• Optical coherence theory



Dr. Srinivasa Rao Konda
• THz-time-domain spectroscopy
• Time-resolved transient absorption spectroscopy
• Nonlinear Optical Characterization
• Higher-Order Harmonic and THz Generation



Prof. Gagan Kumar
• Terahertz optics
• Plasmonics and metamaterials
• Guided wave devices.
• Ultrafast spectroscopy



Dr. Rajesh Kumar (Associate faculty)
• Biomedical-Photonics
• Raman Spectroscopy
• Nonlinear Optical Microscopy
• Physics in Medicine

Nuclear and High Energy Physics



Dr. Pushpendra P Singh
• Low-energy nuclear reactions using accelerators
• Rare decay measurements for neutrinoless double-beta decay
• Nuclear instrumentation for societal use



Dr. Deepika Choudhury
• High spin nuclear structure physics Lifetime
• measurements and isomers
• Nuclear Fission studies



Dr. Shankhadeep Chakraborty
• AdS/CFT correspondence and its flat limit.
• Boundary conformal field theory String theory



Dr. Rajesh K Gupta
• Black holes
• Quantum field theory
• Modular forms

Support Staff



Mr. Rahul
Office Staff



Mrs. Athira Ashokan
Jr. Laboratory Assistant



Mr. Mohit
Jr. Laboratory Assistant



Mr. Parvesh Kumar
Office attendant



Mr. Sahil Kapoor
Jr. Laboratory Assistant

Activities@Physics IIT Ropar



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Scan Me

For further details, please visit us
<https://www.iitrpr.ac.in/physics>