

School of Natural Sciences
Department of Physics
Ph.D. Admissions Announcement: Monsoon 2023

The Department of Physics in the School of Natural Sciences at Shiv Nadar Institution of Eminence (SNIoE) Delhi-NCR invites applications for admission in the Ph.D. program starting from August 2023. Our graduate program is designed to serve a wide range of research interests and offers an excellent learning and research environment to motivated and ambitious students. Many of our research projects are interdisciplinary in nature, involving collaborations across multiple departments in the School of Natural Sciences, as well as other schools and research centers of the University.

Research Areas:

Department is looking for candidates who are interested in pursuing research in the below mentioned broad areas of interest:

- Experimental and Theoretical Condensed Matter Physics and Materials Science
- Experimental and Theoretical Soft Matter Physics
- Theoretical High Energy Physics
- Mathematical and Statistical Physics
- Cosmology and Astrophysics.

Students are encouraged to explore research interests, publications, and other relevant information of Department's faculty members at <https://physics.snu.edu.in/>

Eligibility:

- A candidate must have minimum 60% marks or equivalent grade point in 10th, 12th, B.Sc./B.Tech., and M.Sc./M.Tech.
- Applicants whose Master's results (final) are awaited can still apply if they secured at least 55% marks in their 1st year of Master's. However, those who are finally qualified must produce a proof of minimum of 60% marks or an equivalent grade point in M.Sc./M.Tech. before taking the admission in the Physics Ph.D. program.
- Applicant must have a degree in B.Sc. with a Physics major or a B.Tech. in Engineering Physics from a recognized technical institute*.
- Applicant should have a degree in M.Sc./M.Tech. in Physics, Material Science, Nanoscience, or Nanotechnology from a recognized technical institute or University.

*Master's degree is not mandatory for the applicants having a four year B.Tech. degree in Engineering Physics for taking admission in the Physics Ph.D. program.

Selection Process:

- Eligible candidates will be called for written test. The written test will be conducted in an online mode.
- Shortlisted candidates (based on written test cut-off) will be called for Interview. Interviews will be conducted at the Shiv Nadar IoE, Delhi NCR campus in Gautam Buddha Nagar District (near Greater Noida), U.P.
- While tentative dates are given below, any changes to the dates of the written test and interview will be communicated in due course.
- Candidates will be informed in advance about the platform for the online written exam.
- Syllabus: General Physics courses up to the level of M.Sc. (Classical Mechanics, Quantum Mechanics, Electrodynamics, Mathematical Physics, Condensed Matter Physics, Atomic and Molecular Physics, Nuclear and Particle Physics, Electronics, Thermal and Statistical Physics).
- Candidates with valid CSIR-NET-JRF fellowship will be exempted from the written test.

Fees and Financial Assistance:

All full-time Ph.D. students admitted into the program shall receive a doctoral award (teaching and research assistantship) consisting of full tuition-fee waiver (as per department's policy) and a monthly stipend of ₹40,000 for the first two years, and ₹45,000 for the next three years, subject to benchmarked performance. The continuation of the award is subject to satisfactory performance in the program evaluated continuously and compliance with all University regulations. Support will be available for deserving Ph.D. students to disseminate their work through conferences and publications. More details can be found at <https://snu.edu.in/admissions/graduate-programs>.

Application Fees:

You will be required to pay non-refundable application fees of **Rs. 1,200 (One Thousand Two Hundred Only)**. The application fee can be paid online during the application process.

Candidate may note that the University reserves the right to accept or reject any application based on its departmental screening criteria; hence, not all application may be shortlisted for written examination. Therefore, no requests for refund of the application fee shall be entertained whether or not the candidates are called for written examination.

Application Instructions:

All interested applicant shall apply online from the link given below or on the website. Please follow the instructions carefully.

- Fill all the mandatory fields
- **Online upload** of following document is required
 - Passport size color photograph
 - Current CV
 - All Mark sheets/Degree Certificates (10th Standard onwards)
 - Standardized Examination certificate- CSIR, UGC, GATE etc. (If applicable)
 - A Statement of Purpose

Please note that the application will not be considered without all the necessary prescribed documents and application fee.

Important Dates:

- Last date for the receipt of completed application form & application fee: 25th June 2023 (Sunday)
- Written Tests (only for the candidates called for admission process): 3rd July 2023 (Monday)
- Interview of the shortlisted candidates only (based on written test cut-off): 17th-18th July 2023

For any other information or query contact to:

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 EA to Prof. Susanta Sinha Roy, HOD Physics,
 School of Natural Sciences,
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Physics Research Infrastructure

Physics research Laboratories are equipped with basic research facilities, which include clean room, thermal deposition, chemical vapor deposition, pulsed electron deposition, magnetron sputtering, spin coater, ball-milling, vacuum annealing, high temperature oven, high temperature split tube furnaces, hydraulic press, glove box, microwave furnace, fume hoods, bio-safety cabinets, cryostat, XRD, AFM, Photo Luminescence, Raman Spectrometer, PPMS, Ellipsometry, FE-SEM, UV-visible-IR spectrophotometers, I-V measurement system, polarization loop-tracer, polarization microscope, fluorescence microscope, surface profiler, viscometer, thermal conductivity, contact angle, hydraulic manual coin cell Crimper, automatic battery film coating machine, electrochemical workstation and battery cyler, hydrothermal setup, and many others equipment within the school of natural science.

Computational facilities at SNS include a high performance IBM cluster (“*Magus*”) consisting of 1080 cores (plus two nodes with GPU processors) delivering a theoretical peak performance of ~120 TF. Additionally, there are several stand-alone Linux workstations that are being used for teaching

and research purpose. Several software for molecular modeling, molecular dynamics, quantum chemistry, statistic learning, bioinformatics and cheminformatics, are also available.

Our library, housed in a modern 5-storey building, provides online access from anywhere in the campus, to the e-books, electronic journals and databases from APS, AIP, ACS, RSC, AMS, SIAM, IOP, Springer, Elsevier, Wiley, Nature, and others.

About Shiv Nadar Institution of Eminence (Deemed to be University)

Shiv Nadar Institution of Eminence (SNIoE) is a comprehensive, multidisciplinary, research-focused and student-centric institution that is bringing a paradigm shift in higher education in India through its innovative curriculum, interdisciplinary focus, and cross-disciplinary thinking across a wide range of disciplines. The University is building an eco-system of knowledge to promote recognition of the inter-connectedness of ideas, systems, and environments in the world inside the campus, and those outside it. The University has 5 Schools, 23 Departments and 3 Research Centres engaged in teaching, practice, and research in disciplines as diverse as Engineering, Humanities & Social Sciences, Management, Natural Sciences, Academy of Continuing Education, Art, Design, Performing Arts, Communication, and Extended Education & Professional Development. The Schools offer Bachelor, Master's, and Doctoral degrees along with multidisciplinary curriculum to enable students to explore subjects and disciplines that may be widely different from their chosen Majors.

- The University has recently been chosen as one of the select ten private “**Institutions of Eminence (IOE)**” by the Government of India.
- In the **NIRF** (Government's National Institutional Ranking Framework), SNU has been the youngest institution in the 'top 100' *Overall* list, and the score has been rising steadily. SNU ranked 61 in the *University* category, and 94 '*Overall*' in NIRF 2022.
- The University has been accredited with ‘**A**’ **Grade** by the National Assessment and Accreditation Council (**NAAC**), valid for a period of 5 years from 26 November 2019.
- SNU is also among a select group of green-field institutions in the country, which were awarded the prestigious **Atal Incubation Center** grant by the Niti Aayog, Government of India, in the very first round in 2017.

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