



DEPARTMENT OF PHYSICS SCHOOL OF NATURAL SCIENCES

GRADUATE PROSPECTUS PhD in Physics Spring 2027

Ver. 12 October 2026

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1 Overview

The physics department at Shiv Nadar Institution of Eminence (SNioE), Delhi-NCR, began operations in 2011. The mission of the department is to conduct outstanding research with national and international recognition by promoting creativity, excellence, and collaboration. The department currently focuses on the following broad areas of research:

- Experimental Condensed Matter Physics and Materials Science
- Experimental and Theoretical Soft Matter and Biophysics
- Experimental Nuclear Physics
- Theoretical Condensed Matter Physics
- Theoretical High Energy Physics
- Mathematical and Statistical Physics
- Cosmology and Astrophysics
- Quantum Information, Technologies, and Foundations

Our graduate program is designed to serve a wide range of research interests and extends an excellent learning and research environment to motivated and ambitious students. The department offers a vibrant and rigorous graduate program drawing on its many strengths, such as:

- It encourages and facilitates interdisciplinary research activities.
- It provides the opportunity to establish international collaborations, as many faculty members have worked at leading international research institutes and actively collaborate with leading scientists worldwide.
- The department encourages collaborative research with industry, and some faculty members are exploring joint research programs with renowned technology companies.
- The department hosts regular seminars, conferences, and workshops.
- It hosts advanced experimental and computational facilities.

2 Glimpse of the department and its activities pics



A and B blocks where the Department of Physics Labs and offices are located



R block where many Physics experimental labs are located



International Conference on Sustainable Nanomaterials Integration and Organisation for Energy and Environment (iSNIOE²) 2024



The International Conference on Wearables and Emerging Bioelectronics (ICWEB) 2025



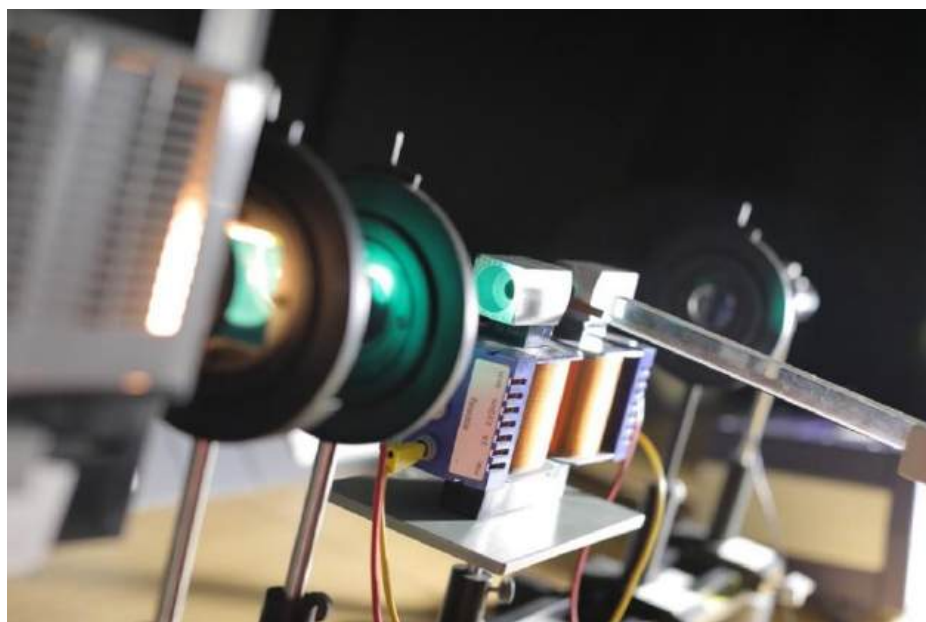
Soft Matter Meet 2024



Prof. Pulickel Ajayan from Rice University visited SNIOE



Computational Lab



Advanced Physics Lab for UG students



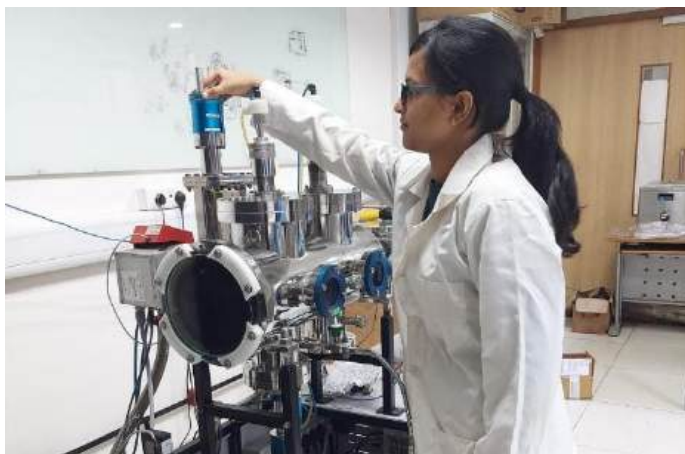
Preparing samples in a glove box



Wet Lab Fume Hoods for chemical work



Thermal and e-Beam system for thin film deposition



RF/DC Magnetron Sputtering system for thin film deposition



Scanning Probe Microscope



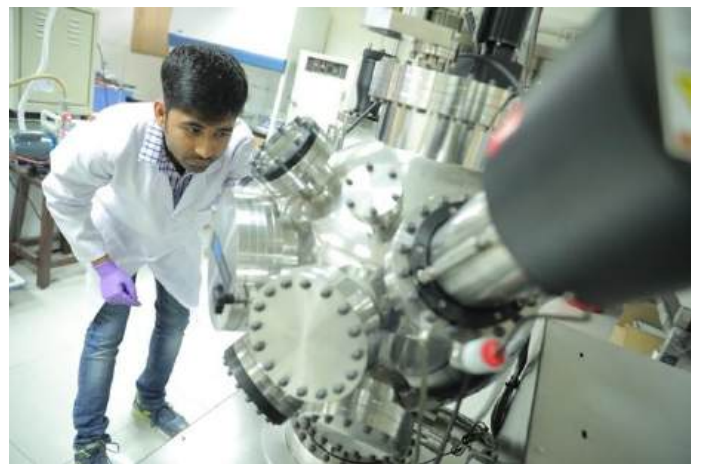
XRD for structural study



Probe Station for electrical measurement



Contact Angle Measurement system



PLD/PED for thin film deposition



SNioE Library



Reading room of SNioE Library



Hostel cluster and mess



Chess Park



The 2nd International Conference on Sustainable Nanomaterials Integration and Organisation for Energy and Environment (iSNIOE²) 2026 in Jan. 2026



A new Femtosecond Laser Laboratory, equipped with an advanced Transient Absorption Spectroscopy (TAS) system



Academic visit to the Inter University Accelerator Centre (IUAC) in Feb. 2026



Workshop on Particle physics, Astrophysics and Cosmology in March 2023

SHIV NADAR
INSTITUTION OF EXCELLENCE DEDICATED TO BE
UNIVERSITY
DELHI NCR

Workshop on:
Electrochemical Impedance Spectroscopy

Organised by: Department of Physics & Electrical Engineering



Organizers:
Dr. Bhaskar Kaviraj
Assistant Professor, Department of Physics,
School of Remote Sciences,
Shiv Nadar University, Delhi NCR



Speaker:
Dr. Pankaj Yadav
Department of Solar
Energy (ICEST), Banuraj Park, Gurugram,
Haryana



Organizers:
Dr. Upendra K Pandey
Associate Professor, School of Engineering,
Shiv Nadar University, Delhi NCR

11-12 December 2025 | 9:30 - 5:00 PM | VENUE: D128

Workshop Module (Major):

- Applications and Limitations of Electrochemical Impedance Spectroscopy (EIS)
- Electrical Characterization and Equivalent Circuit Modelling of Solar Cells
- EIS: Experimental Procedures and Quantifiable Outcomes in Photovoltaic Device Analysis
- Integrated Measurement Workflow: IV Characterization, EIS, and Circuit Model Fitting for Solar Cells



Scan to Register:

Hands-on Workshop on Electrochemical Impedance Spectroscopy

FLAGSHIP PHYSICS WORKSHOP
DEPARTMENT OF PHYSICS
PHYSICS SOCIETY

SHIV NADAR
INSTITUTION OF EXCELLENCE DEDICATED TO BE
UNIVERSITY
DELHI NCR

PRINCIPIA

07 FEBRUARY, 2026
10:30 AM
C021, SHIV NADAR UNIVERSITY

WORKSHOP HIGHLIGHTS

- Professor's Talk
- Ideathon
- Aero-Modelling Competition
- Laboratory Demonstration
- Poster Presentation



CHIEF GUEST & SPEAKER
PROFESSOR DEEPAK DHAR
PADMA BHUSHAN AWARDEE
International Centre for Theoretical Sciences (ICTS-TIFR), Bengaluru

Professor Dhar is a distinguished Indian theoretical statistical physicist known for his seminal contributions to statistical physics and stochastic processes, with influential work on topics such as self-organized criticality, phase transitions, fractals, and lattice models. He is the first Indian to be awarded the Boltzmann Medal (2022), the highest international recognition in statistical physics, and has also received the Padma Bhushan (2023) and the Shanti Swarup Bhatnagar Prize (1991) among several other honors.

One-day workshop, PRINCIPIA 2026



Opto-Electronic Materials & Device (OEMD) Laboratory



Industrial visit to the Solid State Physics Laboratory (SSPL) in April 2025

SHIV NADAR
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DEHLY NCR

Symposium on Women in Physics: Networking, Innovation, Opportunity and Equity

SWPNIOE

SHIV NADAR INSTITUTION OF EMINENCE, DELHI NCR
11-12 SEPTEMBER, 2026

Key Highlights

The Symposium on Women in Physics: Networking, Innovation, Opportunity and Equity (SWPNIOE) aims to bring together established and early-career researchers to strengthen gender equity and inclusion across the physics community.

The key highlights of SWPNIOE are

- Research talks featuring cutting-edge research by women across diverse areas in physics
 - Condensed Matter Physics
 - Cosmology, Astroparticle Physics, Astronomy and Astrophysics
 - High Energy Physics
 - Soft Matter, Applied Physics and Sustainable Energy Technologies
- Special Session dedicated to the Life and Journey of Professor Rohini Godbole (Padma Shri, 2019)
- Special Session featuring Success Stories
- Panel discussion on Code of Conduct and Best Practices
- Panel discussion on Mentorship and Networking
- Poster Session for students and post-doctoral fellows to facilitate cross-institutional collaborations and provide visibility to emerging work.

By combining research talks with panel discussion and mentorship forum, SWPNIOE aims to catalyze an equitable and supportive physics ecosystem that nurtures diverse talent at every career stage.

CONVENERS:
Sucheta Mondal (SNIOE) and Poonam Mehta (JNU and Chair, HEP-GIPWG)

LOCAL ORGANISING COMMITTEE:
Khushboo Agarwal (SNIOE), Binson Babu (SNIOE), Reeti Bajpayee (SNIOE), Debarshi Das (SNIOE), Reshma Raveendran (SNIOE), Sushanta Sinha Roy (SNIOE), Kapil Dev (Amity University)

Supported by

ACS, WILEY, Optochem International

Scan to register

Poster for the Symposium on Women in Physics: Networking, Innovation, Opportunity and Equity (SWPNIOE), scheduled on September 11-12, 2026

SHIV NADAR
UNIVERSITY
DEHLY NCR

INTERNATIONAL CONFERENCE
on
HORIZONS IN NUCLEAR PHYSICS 2026

SEPTEMBER 21 – 23, 2026
Shiv Nadar Institution of Eminence
Delhi-NCR, India
<https://nuclear.org.in>

ABOUT THE CONFERENCE
Horizons in Nuclear Physics 2026, the first edition of a biennial conference, will bring together leading scientists, researchers, and students to exchange ideas, initiate collaborations, and explore the horizons of Nuclear Physics and its applications.

THEMES OF THE CONFERENCE

- Nuclear Structure
- Nuclear Reactions
- Nuclear Astrophysics
- Applications of Nuclear Physics

The conference will comprise invited talks and poster presentations.

CONVENOR
Sujit K. Tandel
Head, Department of Physics
School of Natural Sciences
Shiv Nadar Institution of Eminence
Delhi – NCR 201314, India
✉ hnp@snui.edu.in

LOCAL ORGANIZING COMMITTEE (SNIOE)
Convenor: Sujit K. Tandel
Secretary: Arindam Chatterjee

Abstract Submission by
July 31, 2026
Last Date for Registration
August 14, 2026

Suitable accommodation will be provided to all participants on the SNIOE campus at a nominal cost.

REGISTRATION FEE
Indian Faculty/Scientists: ₹ 6000
Non-Indian Faculty/Scientists: US \$ 200
PhD students/postdocs: ₹ 3000
Fee includes food on all conference days.

The proceedings of the conference will be published in a SCOPUS-indexed journal. PhD students and postdocs may send their applications by email: hnp@snui.edu.in; supervisors should separately send a reference letter.

INTERNATIONAL ADVISORY COMMITTEE

D. Balabanski (ELI-NP)
P. Chowdhury (IITM)
U. Garg (Univ. of Notre Dame)
R-D. Herzberg (Univ. of Liverpool)
A. K. Jain (formerly IIT Roorkee)
R. V. F. Janssens (UNC, TUNL)
R. Kanungo (TRIUMF)
F. G. Kondev (ANL)
J. Meng (Peking Univ.)
V. Nanal (TIFR)
A. C. Pandey (IAC)
D. C. Radford (ORNL)
M. A. Riley (FSU)
A. Roy (formerly IUAC)
A. Shrivastava (BARC)
I. Wiedenhoever (FSU)

Participants will optionally have an opportunity (at a nominal cost) to visit the famed Taj Mahal in Agra, which is a three-hour drive from the SNIOE campus, the day after the conference. A cultural program showcasing Indian classical music is scheduled on the second evening of the conference. A tour will be arranged to the renowned bio-diversity park located on campus, along with visits to research laboratories.

Poster for the conference, Horizons in Nuclear Physics 2026, scheduled on September 21-23, 2026

SHIV NADAR
UNIVERSITY
DEHLY NCR

Soft Matter Meet 2026

Membrane Biophysics

Department of Physics, School of Natural Science
Shiv Nadar Institution of Eminence (Deemed to be University), Delhi - NCR

October 12- 14, 2026

Abstract submission closing: 31 August 2026
Registration closing: 13 September 2026

Soft Matter Meet 2026 - Membrane Biophysics is dedicated to discussing the advancement in the field of membrane biophysics. This focused meeting will bring together leading scientists and researchers to discuss and explore the current trends in the field.

Distinguished confirmed speakers

Prof. Prabali H. Maiti
IIS, Bangalore

Prof. Sanil Kumar
IIT - Madras, Chennai

Dr. Chen Shen
Deutsches Elektronen-Synchrotron
Germany

Prof. Antonio Benedetto
University College Dublin,
Ireland

Prof. John Kottaros
Oak Ridge National Laboratory, USA

Prof. Madan Rao
NCBS (TIFR), Bangalore

Prof. Sejal Kumar Ghosh
Convenor,
SNIOE, Delhi NCR

Contact: mam.biophy@snui.edu.in
Visit: <https://sites.google.com/snui.edu.in/smm2026/home>

Poster for the conference, Soft Matter Meet: Membrane Biophysics, scheduled on October 12-14, 2026

3 Faculty

The SNIoE Physics Department comprises faculty members who are equally passionate about their research and teaching. They are keen to bring the excitement of discovery in the classroom and in involving students in their research. Their research interests range from nanotechnology to the beginning of the universe. Many of them have worked at leading international research and academic institutions and continue to collaborate with them. The research interests of the faculty are summarised at <https://snu.edu.in/schools/school-of-natural-sciences/research-areas/>.

3.1 Sujit K. Tandel (Senior Professor and Head)



- <https://snu.edu.in/faculty/sujit-tandel/>
- Qualifications: PhD in Nuclear Physics, University of Mumbai
- Areas of Research Interest:
 - Spectroscopy of metastable states in superheavy elements
 - Isomeric states in atomic nuclei
 - Nuclear shapes and their role in understanding the strong interaction
 - New approaches for multi-parameter data reduction and analysis of nuclear spectroscopic data
 - Nuclear model calculations for spherical and deformed nuclei

3.2 Susanta Sinha Roy (Professor)



- <https://snu.edu.in/faculty/susanta-sinha-roy/>
- Qualifications: PhD from Jadavpur University
- Areas of Research Interest:
 - Thin Films and 2D Nanomaterials
 - Energy Storage and Sensing
 - Liquid Crystals
 - Microfluidics
 - Dielectric and Ferroelectric Materials

3.3 Aloke Kanjilal (Professor)



- <https://snu.edu.in/faculty/aloke-kanjilal/>
- Qualifications: PhD from the Indian Institute of Technology (IIT) Delhi
- Areas of Research Interest:
 - Nonvolatile memory and artificial synapse
 - Exotic properties at surfaces & interfaces
 - Hydrophobicity and hydrophilicity
 - Thin films of metals, oxides, composites, perovskites & quantum materials for optoelectronic applications

3.4 Priya Johari (Professor)



- <https://snu.edu.in/faculty/priya-johari/>
- Qualifications: PhD from the Indian Institute of Technology Bombay (IITB)
- Areas of Research Interest:
 - Structural, Electronic, Optical, Mechanical, and Transport Properties
 - Inorganic, Organic, and Hybrid Crystals
 - Low-dimensional Materials
 - Batteries, Solar cells, Electronic and Biomedical Devices
 - Interfaces/thin film Growth
 - Code development

3.5 Samarendra Pratap Singh (Professor)



- <https://snu.edu.in/faculty/samarendra-pratap-singh/>
- Qualifications: PhD from the Indian Institute of Technology Kanpur (IITK)
- Areas of Research Interest:
 - Physics of Semiconductor Materials and Devices
 - Charge Transport and Photo-physics in Semiconductors
 - Organic Semiconductors and Device Applications
 - Photovoltaic devices, Field-effect Transistors, Light-emitting devices
 - Applications: Biosensors, Neuromorphic Devices, LASERs, Printed and Flexible Electronics

3.6 Sajal Kumar Ghosh (Professor)



- <https://snu.edu.in/faculty/sajal-kumar-ghosh/>
- PhD from Raman Research Institute, Bangalore
- Areas of Research Interest:
 - Viscoelasticity of complex fluids
 - Membrane biophysics
 - Surface wetting and dewetting
 - Physics of DNA macromolecules

3.7 Bhaskar Kaviraj (Associate Professor)



- <https://snu.edu.in/faculty/bhaskar-kaviraj/>
- PhD from the Indian Institute of Technology Kharagpur (IITKGP)
- Areas of Research Interest:
 - Two-dimensional layered and non-layered materials
 - Spintronic nanodevices using materials with perpendicular magnetic anisotropy
 - Exploring microstructural and electronic properties of nanomaterials for energy harvesting and sensing

3.8 Syed Mohammad Kamil (Associate Professor)



- <https://snu.edu.in/faculty/syed-mohammad-kamil/>
- PhD from the Institute of Mathematical Sciences (IMSc), Chennai
- Areas of Research Interest:
 - Statistical Mechanics
 - Density functional theory
 - Soft Matter Theory
 - Mesoscopic simulation, such as Dissipative Particle Dynamics (DPD)

3.9 Subhra Sen Gupta (Assistant Professor)



- <https://snu.edu.in/faculty/subhra-sen-gupta/>
- PhD from the Indian Institute of Science (IISc), Bangalore
- Areas of Research Interest:
 - Electronic and Magnetic Phenomena in Condensed Matter Systems
 - Integrability and Quantum Chaos in Fermionic and Spin Systems
 - Applications of Random Matrix Theory to Disordered, Interacting Condensed Matter Systems
 - Magnetic Phenomena in Compact Astrophysical Objects

3.10 Kenji Nishiwaki (Assistant Professor)



- <https://snu.edu.in/faculty/kenji-nishiwaki/>
- PhD from Kobe University, Japan
- Areas of Research Interest:
 - Model building for physics beyond the Standard Model
 - Physics of dark matter, neutrinos, flavour and at colliders
 - Formulation of wave-packet quantum scattering
 - Phenomena at early stages of the universe
 - Neutron-star properties at extended gravitational theories

3.11 Arindam Chatterjee (Assistant Professor)



- <https://snu.edu.in/faculty/arindam-chatterjee/>
- PhD from the University of Bonn, Germany
- Areas of Research Interest:
 - Aspects of particle Dark Matter
 - Inflationary Cosmology and aftermath
 - Collider searches for BSM physics

3.12 Mayukh Majumder (Assistant Professor)



- <https://snu.edu.in/faculty/mayukh-majumder/>
- PhD from Saha Institute of Nuclear Physics, Kolkata
- Areas of Research Interest:
 - Topological quantum materials
 - Spin liquid
 - Frustrated magnetic systems
 - Ferromagnetic and antiferromagnetic quantum criticality

3.13 Binson Babu (Assistant Professor)



- <https://snu.edu.in/faculty/dr-binson-babu/>
- PhD from the Indian Institute of Science Education and Research, Thiruvananthapuram (IISR-TVM), Kerala
- Areas of Research Interest:
 - Nanomaterials for energy storage applications
 - Advanced electrolytes for energy storage applications
 - Rechargeable batteries (Metal (Li/Na/K)-ion batteries, Metal batteries, Solid-state batteries, Anode-free batteries, and Dual-ion batteries)
 - Hybrid-ion capacitor and Supercapacitor
 - Interfacial and bulk electrochemistry (In-situ/Operando/ex-situ studies)
 - Flexible and miniaturised energy storage devices

3.14 Sucheta Mondal (Assistant Professor)



- <https://snu.edu.in/faculty/sucheta-mondal/>
- PhD from S. N. Bose National Centre for Basic Sciences, Kolkata
- Areas of Research Interest:
 - Ultrafast magnetisation dynamics
 - Spin-orbitronics
 - Straintronics
 - Magnonics
 - Graphene spintronics
 - Optical and electrical switching of magnetic states
 - Designing of advanced spintronic devices
 - Magnetic data storage and recording application

3.15 Ipsita Mandal (Assistant Professor)



- <https://snu.edu.in/faculty/dr-hab-ipsita-mandal/>
- PhD from Harish-Chandra Research Institute (HRI), India (Affiliated to Homi Bhabha National Institute)
- Areas of Research Interest:
 - Unconventional superconductivity
 - Non-Fermi liquids (strange metals)
 - Semimetals
 - Layered heterostructures
 - Majorana quasiparticles
 - Non-Hermitian systems
 - Hydrodynamics of electron fluids

3.16 Subhrajit Mukherjee (Assistant Professor)



- <https://snu.edu.in/faculty/subhrajit-mukherjee/>
- PhD from the Indian Institute of Technology, Kharagpur (IITKGP)
- Areas of Research Interest:
 - 2D materials and van-der-Waals heterostructures
 - Optoelectronic devices (photodiode, phototransistors, LEDs)
 - Ferroelectric FETs (NVM and ORAM)
 - Neuromorphic FETs (memory and logic devices)
 - Liquid metal-oxide (LMO) printed electronic devices
 - Dielectrics/2D-material interfaces

3.17 Subhajit Sarkar (Assistant Professor)

- <https://snu.edu.in/schools/school-of-natural-sciences/faculty/subhajit-sarkar/>



- PhD from S. N. Bose National Centre for Basic Sciences, Kolkata
- Areas of Research Interest:
 - Non-equilibrium phases, dissipative time-crystals
 - Many-body theory, entanglement in quantum circuits via tensor-network simulations
 - Quantum transport theory, chirality-induced spin selectivity (CISS) in DNA, chiral supramolecular materials, and chiral crystals
 - Open quantum dynamics, projective measurements affecting system evolution
 - Ultrafast dynamics, non-thermal electrons in metallic systems

3.18 Debarshi Das (Assistant Professor)

- <https://snu.edu.in/schools/school-of-natural-sciences/faculty/debarshi-das/>



- PhD from Bose Institute, Kolkata
- Areas of Research Interest:
 - Quantum Entanglement
 - Bell Nonlocality
 - Testing Quantumness of Macroscopic Systems
 - Quantum Measurement
 - Quantum Information Processing and Communication Tasks
 - Certification of Quantum Devices
 - Quantum Channels
 - Testing Quantumness of Gravity

3.19 Bhaskar Biswas (Assistant Professor)



- <https://snu.edu.in/schools/school-of-natural-sciences/faculty/bhaskar-biswas/>
- PhD from IUCAA Pune, India
- Areas of Research Interest:
 - General Relativity and strong gravity
 - Neutron star and its equation of state
 - Gravitational waves and multimessenger astronomy
 - Numerical relativity and smooth particle hydrodynamics
 - Compact binary coalescence and data analysis

3.20 Swadesh M Mahajan (Distinguished Professor)



- <https://snu.edu.in/schools/school-of-natural-sciences/faculty/swadesh-m-mahajan/>
- PhD from the University of Maryland
- Areas of Research Interest:
 - Foundations of Physics
 - Basic Plasma Theory (non-relativistic and relativistic plasmas)
 - Thermo-nuclear fusion, fission, fusion-fission, Energy issues
 - Turbulence, collective phenomena
 - Nonlinear field theories, quantum plasmas, nonlinear quantum mechanics
 - High energy density physics, astrophysics and cosmology, including solar physics, accretion disks, plasmas in curved space time-origin of cosmic magnetic fields and flows, high energy cosmic rays

3.21 Anjan Barman (Adjunct Professor (Visiting))

- <https://snu.edu.in/schools/school-of-natural-sciences/faculty/anjan-barman/>
- PhD from the Indian Association for the Cultivation of Science (Jadavpur University), Calcutta
- Areas of Research Interest:
 - Ultrafast spin, charge, and phonon dynamics studied using femtosecond optical pump-probe techniques
 - Brillouin light-scattering spectro-microscopy of spin-wave dispersion and propagation in advanced magnetic structures and devices
 - Broadband and spin-torque ferromagnetic resonance investigations of spin waves and pure spin current
 - Magnonics: from conventional approaches to hybrid and quantum magnonic systems
 - Spin-orbitronics: pure spin currents, spin Hall effect, spin pumping, Dzyaloshinskii-Moriya interaction, and perpendicular magnetic anisotropy
 - Spintronics with quantum materials, Magnetic straintronics
 - Spin-texture-driven magnonics and spintronics, including magnetic domain walls, vortices, skyrmions, and artificial spin ice
 - THz time-domain spectroscopy of thin films and nanostructures
 - Dielectric relaxation spectroscopy of binary mixtures
 - Coherent control of ultrafast processes via optical pulse shaping



4 Physics Research Infrastructure

Physics research Laboratories are equipped with basic research facilities, which include clean room, thermal deposition, chemical vapour 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, polarisation loop-tracer, polarisation microscope, fluorescence microscope, surface profiler, viscometer, thermal conductivity, contact angle, hydraulic manual coin cell Crimper, automatic battery film coating machine, electrochemical workstation and battery cyclers, hydrothermal setup, and many other equipment within the School of Natural Sciences.

Computational facilities at SNS include a high-performance IBM cluster (“Magus”) consisting of 8064 cores (plus two nodes with GPU processors) delivering a theoretical peak performance of ~ 238 TF. Additionally, there are several stand-alone Linux workstations that are being used for teaching and research purposes. Several software programs for molecular modelling, molecular dynamics, quantum chemistry, statistical learning, bioinformatics, and cheminformatics are also available.

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

5 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 ecosystem of knowledge to promote recognition of the interconnectedness of ideas, systems, and environments within the campus and beyond. 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’s, Master’s, and Doctoral degrees along with a multidisciplinary curriculum to enable students to explore subjects and disciplines that may be widely different from their chosen Majors.

- In 2022, SNIOE was nominated as an “**Institutions of Eminence (IoE)**” by the Ministry of Education, Government of India.
- In the **QS** (Quacquarelli Symonds) World University Rankings 2027, SNIOE is ranked #38 amongst Indian universities, up from #43 last year. QS classifies the University as a small-sized institution with a ‘Very High’ research focus, a category. This category includes only 32 private universities globally (and only 2 Indian institutions, us an Shoolini University). SNIOE is placed in the 1001-1200 band (we entered the rankings only last year).
- In the **THE** (Times Higher Education) Impact Rankings, SNIOE is located in the 200-300th band. Out of the 17 **SDGs** (Sustainable Development Goals), for #2 (Zero Hunger) and #15 (Life on land), we are in the global top 100, and our biggest gain is in #10 (Reducing Inequality).
- SNIOE tops the **Careers360** Young University rankings 2026, where we are nominated as #1 India’s Best Young University (Private); #1 India’s Best Young Multidisciplinary University (Private); #2 India’s Best Young Stem University (Public and Private).

- In the **NIRF** (Government's National Institutional Ranking Framework), SNIOE has been the youngest institution in the 'top 100' Overall list, and the score has been rising steadily. SNIOE ranked 57th in the University category in the NIRF 2025 rankings.
- The university has been accredited with an '**A**' **Grade** by the National Assessment and Accreditation Council (**NAAC**), valid for a period of 5 years from 26 November 2019.
- The university is also among a select group of green-field institutions in the country, which was awarded the prestigious **Atal Incubation Centre** grant by the Niti Aayog, Government of India, in the very first round in 2017.

6 PhD Alumni and their current affiliation

Details of our PhD graduates and their current affiliations are provided below (graduated in 2024 or later).

Table 1: The current status of our graduated PhD students (graduated in 2024 or later).

No.	Name	Year	Current Affiliation	Current Designation
1	Aritra Laha	2024	Technion, Israel Institute of Technology	Postdoctoral Fellowship
2	Joshua Asirvatham	2024	Indian Institute of Technology, Delhi	Postdoctoral Fellowship
3	Rahul Ghosh	2024	Ben Gurion University of the Negev, Israel	Research Student
4	Debojyoti Kundu	2024	Springer Nature Group	Publishing Editor for Physics & Astronomy Books
5	Prashant Hitaishi	2024	Christian-Albrechts- Universitaet zu Kiel & DESY	Postdoctoral Fellowship
6	Sudipta Choudhury	2024	SN Bose National Center for Basic Sciences, Kolkata	Postdoctoral Fellowship
7	Sourav Sain	2025	NA	
8	Gunjan Sharma	2025	Indian Institute of Technology, Kanpur	Postdoctoral Fellowship
9	Shammi Kumar	2025	University of Twente, Netherlands	Postdoctoral Fellowship
10	Bisweswar Santra	2025	Technion, Israel Institute of Technology	Postdoctoral Fellowship
Continued on next page				

Table 1 – continued from previous page

No.	Name	Year	Current Affiliation	Current Designation
11	Bishwajit Mandal	2025	Gwangju Institute of Science and Technology, South Korea	Postdoctoral Fellowship
12	Surajit Adhikari	2025	Indian Institute of Technology, Bombay	Postdoctoral Fellowship
13	Lubna Khanam	2025	NA	
14	Deepak Sharma	2025	Wiley	Publishing Editor
15	Sayani Das	2025	Military University, Warsaw	Postdoctoral Fellowship
16	Atanu Samanta	2026	Kyungpook National University, South Korea	Postdoctoral Fellowship
17	Sauvik Sen	2026	NA	
18	Syed Adil Pasha	2026	Institute of Physics, Bhubaneswar	Postdoctoral Fellowship
19	Ajit Seth	2026	Kiel University and DESY	Postdoctoral Fellowship
20	Devansh Kaushik	2026	Indian Beamline at Photon Factory, Japan, JNCASR, Bangalore, India	Postdoctoral Fellowship
21	Ashutosh Dheer	2026	NA	
22	Abhishek Panghal	2026	Institute of Nano Science and Technology (INST), Mohali	Postdoctoral Fellowship

7 Ph.D. Program in Physics

The Department of Physics offers a comprehensive 5-year (Maximum) PhD. program in various streams of Physics. The broad areas of interest of our individual faculty have been listed earlier. PhD students can also carry out their research in collaboration with faculty in other departments.

Research Advisor: Every new graduate student will be assigned a research advisor. This will be a faculty member whose research interests overlap with those of the student. The advisor will help in initiating the student's research program.

Coursework: The aim of the coursework is to ensure that a graduate scholar has the required foundation for starting his/her research work. The coursework comprises Major Elective and Research Exploratory courses. Each scholar is expected to take a minimum of 12 credits per semester and a teaching/research assistantship throughout the graduate program. A scholar should complete three elective courses from Basket-A and three elective courses from Basket-B according to his/her research interest during the first two semesters. The Physics Graduate Advisor will assist all the PhD scholars in this process. The precise coursework requirements will be determined by the graduate student's qualifications and background.*

Table 2: Schematic panel of **Updated Program**

Course work				
Semester 1	PHY 5xxx: Physics Elective (3:0:0) (A)	PHY 5xxx: Physics Elective (3:0:0) (A) or (B)	PHY 5xxx: Physics Elective (3:0:0) (A) or (B)	PHY 5099: Explorations in Research (3:0:0)
Semester 2	PHY 5xxx: Physics Elective (3:0:0) (B)	PHY 5xxx: Physics Elective (3:0:0) (A) or (B)	PHY 5xxx: Physics Elective (3:0:0) (A) or (B)	DTD 8099: PhD Thesis (6 credits)
Research				
Semester 3	DTD 8099: PhD Thesis + PTC 8099 (12 credits)			
Semester 4	DTD 8099: PhD Thesis + PTC 8099 (12 credits), Comprehensive Exam			
Semester 5	DTD 8099: PhD Thesis + PTC 8099 (12 credits)			
Semester 6	DTD 8099: PhD Thesis + PTC 8099 (12 credits)		Advancement to candidacy , Synopsis submission, Thesis submission (<i>anytime after 6th semester, but within 10th semester</i>)	
Semester 7	DTD 8099: PhD Thesis (12 credits)			
Semester 8	DTD 8099: PhD Thesis (12 credits)			
Semester 9	DTD 8099: PhD Thesis (12 credits)			
Semester 10	DTD 8099: PhD Thesis (12 credits)			
Doctoral thesis defense				
Note: Minimum credit requirement per semester is 12.				

Mandatory Courses

- PHY 5099: Explorations in Research, 3 Credits

Mandatory Program

*A minimum GPA of 7.00 has to be maintained by the student at the end of the first semester for continued registration. The registration shall be terminated if the CGPA falls below the 7.0 threshold. The schools may have additional criteria above the prescribed minimum.

- DTD 8099: PhD Thesis
- PTC 8099: Practicum in Teaching

Graduate Elective Courses (Basket A)

- PHY 5006: Classical Mechanics, 3 Credits: (3:0:0)
- PHY 5007: Statistical Physics, 3 Credits: (3:0:0)
- PHY 5008: Quantum Mechanics, 3 Credits: (3:0:0)
- PHY 5009: Electrodynamics, 3 Credits: (3:0:0)
- PHY 5050: Condensed Matter Physics, 3 Credits: (3:0:0)
- PHY 5060: High Energy Physics, 3 Credits: (3:0:0)

Graduate Elective Courses (Basket B)

- PHY 5051: Nanomaterials and Nanophysics, 3 Credits: (3:0:0)
- PHY 5056: Quantum Field Theory, 3 Credits: (3:0:0)
- PHY 5061: Advanced High Energy Physics, 3 Credits: (3:0:0)
- PHY 5062: Elements of Nuclear Physics, 3 Credits: (3:0:0)
- PHY 5063: Computational and Numerical Analysis, 3 Credits: (3:0:0)
- PHY 5065: Theory of General Relativity, 3 Credits: (3:0:0)
- PHY 5067: Quantum Phases of Matter, 3 Credits: (3:0:0)
- PHY 5068: Semiconductor Physics and Devices, 3 Credits: (3:0:0)
- PHY 5072: Soft Matter Physics, 3 Credits: (3:0:0)
- PHY 5073: Characterisation of Materials, 3 Credits: (2:0:1)
- PHY 5078: Introduction to Thin Films, 3 Credits: (3:0:0)
- PHY 5090: Introduction to Astronomy and Astrophysics, 3 Credits: (3:0:0)
- PHY 5095: Astroparticle Physics and Cosmology, 3 Credits: (3:0:0)

Degree Requirements:

To earn a PhD degree in Physics, the student must:

- Complete the required coursework.
- Pass the Comprehensive Examination, which consists of Qualifying Examinations and a Research Seminar, by the end of the 4th semester.
- Publish one research paper in a refereed journal before thesis submission.

- Following the synopsis talk and report, submit and defend the doctoral thesis.

Ph.D. Admission Process:

All interested candidates should apply online at <https://snu.edu.in/home/>. After online submission and payment of the application fee, send a demand draft for the application fee (if the online fee payment mode is not used) by speed post to the contact address given in the ‘Contact us’ section.

Eligibility:

- A candidate who has passed M.Sc. in Physics, or M.Tech. in Solid State Technology/Material Science/Nanoscience/Nanotechnology, or an allied field in Natural Sciences with minimum 55% (or equivalent grade) marks.*
- Merely meeting eligibility criteria does not guarantee a candidate’s shortlisting for the written test and/or the interview session.

Selection Process:

- The department will shortlist applicants based on merit. Only shortlisted candidates will be contacted via email and will be called for a written test.
- The written test will be conducted offline at the Shiv Nadar IoE, Delhi NCR campus in Gautam Buddha Nagar District (near Greater Noida), U.P.
- Shortlisted candidates (based on the written test cut-off) will be called for Interview. Interviews will be conducted at the Shiv Nadar IoE, Delhi NCR campus.
- 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 a valid CSIR-NET-JRF fellowship will be exempted from the written test.

Fees and Financial Assistance:

The duration of our PhD program in Physics is five years. All full-time PhD students admitted into the program shall receive a doctoral award (teaching and research assistantship) consisting of a tuition-fee waiver (as per the department’s Physics Graduate Prospectus 20 policy) and **a monthly stipend of Rs. 45,000 for the first two years, and Rs. 50,000 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 in compliance with all University regulations. Moreover, all full-time PhD scholars will receive **an annual tuition waiver of Rs. 60,000 and an annual hostel fee subsidy of Rs. 60,000**. Note that hostel accommodation will be provided, subject to its availability. Deserving PhD students will also be eligible for **a travel research grant of Rs. 1,50,000** to support conference travel (only for Scopus-indexed conferences), both domestic and international, during the five-year PhD program. More details can be found at <https://snu.edu.in/admissions/graduate-programs>.

Application Fees:

*Please enquire in case you are uncertain about your eligibility for any reason.

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

Application Instructions:

All interested applicants shall apply online from the link given below or on the website. Please follow the instructions carefully. **Please note that the application will not be considered without all the necessary prescribed documents and the application fee.**

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

Important Dates:

- Last date for the receipt of completed application forms and application fees: **31st October 2026 [Sat]**.
- Written test and interviews may be conducted in person at the Shiv Nadar IoE, Delhi-NCR campus on **2nd-3rd December, 2026**.

8 Contact us

For further details and/or clarifications, please write to the following address.

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