

School of Natural Sciences

Department of Chemistry

Integrated M.Sc.-Ph.D. Admissions Announcement: Monsoon 2021

The Department of Chemistry in the School of Natural Sciences at Shiv Nadar University (SNU) invites applications for admission in the Integrated M.Sc.-Ph.D. program starting **August 2021**.

Post-Graduate Courses

Chemistry PG courses are designed in such a fashion that allows the students to develop their knowledge further on both the fundamentals of chemistry viz. organic, inorganic, physical and analytical chemistry and simultaneously correlate the knowledge gained at the various probable interfaces. The knowledge acquired is further strengthened with the computational aspects, and related applications, wherever possible. A vast opportunity to choose a varied set of elective courses in the curriculum allow students to prepare for their future opportunities. Foundation courses in the first semester ensure that all students possess the requisite background to complete the course of study and benefit fully from the program. Well-equipped research labs offer good platform to the students to learn and improve the research skills, develop capabilities to write research proposals, research exposure via in-depth dissertation under the supervision of a research advisor, and enhance capability to present scientifically during the course structure. This includes literature seminars, presentation skills and more importantly a public thesis defense. The chemistry department offers a flexible and broad curriculum that prepares students in a step-wise manner not just for a career in chemistry and related fields upon graduation, but also assists in acquiring the leadership qualities.

The opportunities for research in chemistry at SNU are available in the following broad areas:

- Catalysis
- Chemical Biology
- Cheminformatics
- Computational Quantum Chemistry
- Crystallography
- Green Chemistry
- Materials Chemistry
- Medicinal Chemistry
- Metalloradical Chemistry
- Protein Chemistry
- Supramolecular Chemistry
- Synthetic Organic Chemistry
- Ultrafast Spectroscopy

Please visit <https://chemistry.snu.edu.in/people/faculty> to know more about the faculty members and their specific research interests.

Eligibility: A candidate should have a Bachelor's degree in Chemistry with a minimum of first division in both 10 & 10+2 levels and a minimum of 60% marks or an equivalent grade point in B.Sc. The students whose Bachelor's degree results are awaited can still apply, however, their final selection to the program will be subject to securing an overall 60% (or an equivalent grade) at the B.Sc. level.

Selection Process: Shortlisted candidates will be intimated for appearing in written test and interview.

Fees and Financial Assistance: Detailed information about the fee structure and the nature of assistantships are available on the website.

All students admitted into Integrated M.Sc.-Ph.D. program are eligible for five years of financial assistantship. Students admitted into this program shall receive a **teaching or research assistantship consisting of 75% tuition-fee waiver and 25% hostel-fee waiver** for the first year. The students shall also receive a **monthly stipend of ₹12,000 per month** during the first year of the program. The students shall receive **research and teaching assistantship consisting of 100% tuition-fee waiver and 70% hostel-fee waiver from second year onwards**. The student shall also receive a **monthly stipend of ₹50,000 for the first two years, and ₹55,000 for the next two years** subject to their benchmarked performance. The assistantship is subject to satisfactory performance in the program evaluated continuously and compliance with all University regulations.

Program Information

All students shall be admitted into Integrated M.Sc.-Ph.D. program with five year financial assistantship. The students shall complete the credit requirements of Masters degree in their first two years of the program along with advanced coursework.

Exit with M.Sc.

At the end of first year, students with less than 7 CGPA or students who do not wish to continue in the Integrated- Ph.D. program shall be switched to M.Sc. track with applicable regulations including fee and assistantship structure. They shall receive M.Sc. degree after the completion of required credits.

At the end of second year, students who have completed the credit requirements as prescribed by the department with minimum CGPA of 6.5 and successfully completed the comprehensive examination shall be directly registered into Ph.D. program in chemistry.

Students who do not qualify as per above requirement shall exit with M.Sc. degree.

Application Fees: You will be required to pay a non-refundable application fees of Rs. 1,200 (Rupees One thousand two hundred only) online. 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 the written examination. If the written test and interview are held on campus, the University will

provide a local transport, shared accommodation at the campus hostel, if required, and a food coupon on the day of written test/interview. Additionally, for the shortlisted candidates, a return train fare, equivalent to third-AC, will be reimbursed against their original tickets.

Application Instructions:

All interested applicants 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)
 - A Statement of Purpose

Additionally, you are requested to provide one reference letter, which the referee may send directly to hod.chy@snu.edu.in. The subject heading of the email should clearly mention, “Recommendation letter for the Integrated M.Sc.-Ph.D. Programme in Chemistry: *Applicant’s name*”.

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

Important Dates:

Online submission of application closes on Thursday, 10 July 2021.

The dates of written test and interview will be notified in the due course.

The session starts from Monday, 24 August 2021 (Tentative).

For any queries related to the application and admission, you may contact:

Ms. Saritha Rajan,
Executive Assistant to the HoD,
Department of Chemistry,
Email: saritha.rajan@snu.edu.in,
Telephone: +91 120 7170118

About Chemistry Department (<https://chemistry.snu.edu.in/>)

The Department is committed in pursuing research on fundamental and applied problems through scientific inquiry and to stimulate the development of innovative interdisciplinary research programs around key areas of excellence. The immediate mission of Chemistry Department is to:

- Contribute to the advancement and dissemination of chemical knowledge through educational programs, high quality publications in peer reviewed international journals and innovative patents.
- Devise robust and novel solutions to address the needs of society by promoting research into chemical and interdisciplinary projects.

- Train undergraduate, graduate students and research fellows to generate future independent scientists/administrators for serving the needs of society, academia and industries.

Our vision is to make our world a better place through societal-impact cutting-edge research and innovation at Shiv Nadar University.

Department was **ranked top 25** among the Chemistry Departments across Indian Institutions by **Nature Index** (data published between 1st Jan 2019 – 31 Dec 2019). The **Nature Index 2020 Annual Tables highlight the institutions and countries that dominated high quality research** in the natural sciences in 2019 ([Link](#)).

Research Infrastructure

Laboratories in the School of Natural Sciences (SoNS) have state-of-the-art research facilities including fume hoods, analytical and prep HPLC, FPLC, GPC, flash chromatography, GC, electrochemical analyser, MALDI-TOF with imaging, LCMS-qToF, DSC, TGA, AFM, Spectrophotometers (UV-visible, FTIR, NMR, Raman), Single-crystal and powder X-ray diffractometer, fluorimeter, thermal evaporator, glove box, microwave furnace, polarization loop-tracer, bio-safety cabinets (for mammalian, bacterial and plasmodium cultures), CO₂ incubators, shaker incubators, flow cytometry, inverted and polarizing microscope, confocal microscope, fluorescent microscope, electrophoresis apparatus, imaging systems, plate reader, cell counter, PCR, RT-PCR, *etc.*

Computational facilities at SNS include a high performance IBM cluster (“*Magus*”) consisting of 63 compute nodes (1008 cores +2 nodes with GPU processors) with a theoretical peak performance of 30 TF, plus 8 nodes with high-end CPUs and memory for application-specific needs. Additionally, several Linux workstations are used for teaching as well as research purposes. Software for bioinformatics and cheminformatics, molecular modeling, molecular dynamics, quantum chemistry, crystallographic analysis, data analysis and statistical learning are also available.

Please visit the following links to know more about our research laboratories and facilities.

<https://chemistry.snu.edu.in/research/laboratories>; <https://snu.edu.in/research/facilities>

About Shiv Nadar University

Shiv Nadar University (SNU) 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, 18 Departments and 6 Research Centers engaged in teaching, practice, and research in disciplines as diverse as Engineering, Humanities & Social Sciences, Management, Natural Sciences, 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 52 in the *University* category, and 77 '*Overall*' in NIRF 2019.
- 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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