



INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE (IACS)

A Deemed to be University under de novo category

Jadavpur, Kolkata-700032

Admission notice for the PhD program for the academic year 2024-25
(Session starting from August 2024)

Advertisement No. Acad/ PhD/Autumn Sem-2024

Date: 15.03.2024

Applications are invited for regular full-time PhD students to the PhD Programme in Autumn Semester of 2024 under different Schools, namely Applied and Interdisciplinary Sciences, Biological Sciences, Chemical Sciences, Material Sciences, Mathematical and Computational Sciences and Physical Sciences, of IACS (A deemed to be University).

Eligibility:

1. 55% or equivalent in masters is mandatory for general candidates, while for SC/ST/OBC (non-creamy layer)/Differently-abled and other categories 50% marks is necessary.
2. Minimum eligibility criteria as per UGC rules. Qualification and eligibility requirements for each School are given separately (*vide infra*).
3. Selection of the regular full-time students will be done on the basis of their academic record, their performance in the appropriate national level examination, and finally, their performance in the written test and/or interview as decided by the respective Schools.
4. Relaxation of the selection criteria for the candidates belonging to SC/ST/OBC (non-creamy layer)/Differently-abled and other categories will be levied according to the norms of UGC and Government of India.
5. Merely satisfying the eligibility criteria does not guarantee that a candidate will be shortlisted for interview.

Fellowship: As per IACS/CSIR/UGC/INSPIRE rules.

Age limit: Should be below 28 years on the closing date of application. Age relaxation is applicable as per Government of India rule.

Nationality: The applicant must be an Indian citizen.

Selection Procedure:

1. Applicants will be shortlisted on the basis of merit by different Schools. Only shortlisted candidates will be informed via email and called for a written test and/or interview (to be decided by the School) for the final selection. IACS holds full right of choosing a candidate and even not selecting any, in case suitable applications are not received.
2. Vacancies given for each School are based on number of positions available in individual research groups in different research areas. Selection depends on the past academic record, performance in examination/interview by the School and also the availability of posts in particular research areas as opted by the shortlisted candidate.

Application Procedure: Applications have to be made online at <http://phdapplicationiacs.iacs.res.in/phd/>. Any queries may be sent to phdcell_iacs@iacs.res.in. The details of the online application and its procedure are given in the IACS website. Exact date and time of Admission Test/or Interview for each School will be announced on the IACS website.

Last Date of Submission of Applications: April 14, 2024

Tentative date of interview: 02-16 May, 2024 (tentative)

For further information in this regard, please contact Academic Office (Phone: 24734971; Extn: 2215, Email: phdcell_iacs@iacs.res.in).

Application/Examination Fees: Rs. 1200/- (Rs. 600/- for SC/ST candidates) will have to be transferred electronically to the account of IACS (Name of the Account: Indian Association for the Cultivation of Science University, A/C no: 37739525415, State Bank of India, Jadavpur University Branch, Branch Code: 0093. IFSC: SBIN0000093). The electronic transfer reference number should be mentioned in the application form.

Mode of Payment: Payment can be made through either of the following options:

- 1) Directly by NEFT bank transfer if an applicant can avail Online Banking facility;
- 2) By depositing the amount at any SBI Counter having CBS facility.

Fees to be paid during admission: One time admission fee (Rs. 15000/-) and caution deposit (Rs. 10000/-) to be paid during the time of admission. The rest of the annual fees for the first year to be paid within 6 months from the date of joining. The fee structure and timeline for payment of fee for the subsequent years are given at the IACS website <https://iacs.res.in/modules/texteditor/imagesfiles/Fees%20Structure.pdf>.

Scholarship: All regular PhD students who join are eligible for scholarship from IACS/CSIR/UGC/INSPIRE as per rules.

Details of the PhD positions and the qualification and eligibility details for the different Schools are given below.

School of Applied and Interdisciplinary Sciences (SAIS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
1 (one)	Energy Applications of Conducting Polymers (SAIS 01)	MS / M. Sc. in Chemistry with CSIR-NET (JRF) or other fellowships.
1 (One)	Design and Synthesis of Solid-State Luminescent Materials (SAIS 02)	MS / M. Sc. in Chemistry with CSIR-NET (JRF) or other fellowships.
1 (One)	Design and Synthesis of Ionic Functional Materials (SAIS 03)	MS / M. Sc. in Chemistry with CSIR-NET (JRF) or other

		fellowships.
1 (One)	Precision Supramolecular and Macromolecular Assemblies and their Functions (SAIS 04)	MS / M. Sc. in Chemistry with CSIR-NET (JRF) or other fellowships.
2 (Two)	Organic optoelectronics – Device fabrications and Testing (SAIS 05)	MS /M. Sc. in Physical Chemistry or Physics with CSIR-NET (JRF) or other fellowships.
2 (two)	Organic synthesis – Self-assembled conjugated chromophores for optoelectronics device applications (SAIS 06).	MS / M. Sc. in Chemistry (Organic Chemistry) with CSIR-NET (JRF) or other fellowships. Exceptional candidate may be considered for Institute fellowship.
1(one)	Pyroelectric heat harvesting and sensing materials (SAIS 07)	MS / M. Sc. in Chemistry / Physics with CSIR-NET (JRF) or other fellowships.
1(one)	Materials and devices for piezo bio-mechanics (SAIS 08)	MS / M. Sc. in Chemistry / Physics with CSIR-NET (JRF) or other fellowships.

School of Biological Sciences (SBS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
2	Peptide based biomaterials and nanomaterials in health care (SBS01)	NET/INSPIRE/any national level test qualified with MSc. in Chemistry/Biochemistry/Biophysics/SAIS/Material science students of IACS or its equivalent
2	Bio-Organic Chemistry/Biomedicine in Therapeutics (SBS02)	MSc in Chemistry/Biochemistry/Allied Subject domain with Fellowship (CSIR/UGC/DST-INSPIRE/DBT/others)
1	Nanoscale electron transport in proteins (SBS03)	M.Sc. in Chemistry with Fellowship (CSIR/ UGC/DST-INSPIRE/DBT/others)
1	Splicing in neuronal cells (SBS04)	MSc in Biochemistry or Chemistry with Fellowship (CSIR/ UGC/DST-INSPIRE/DBT/others)
2	Cancer Biology/ Cancer Immunology/ Organic bioactive molecules synthesis (SBS05)	MSc in any discipline of Biological Science/ MSC in Chemistry (desirable Organic Specialization) with Fellowship (CSIR/ UGC/DST-INSPIRE/DBT/others)
2	Breast cancer and molecular mechanism of DNA damage response with Topoisomerase inhibitors (SBS06)	MSc. in Biotechnology/ Zoology/Genetics/Microbiology/Biochemistry/any field of life sciences with mandatory own fellowship from NET(UGC-CSIR) /DBT-JRF/ICMR-JRF/Others
2	Cell biophysics, cell mechanics (SBS07)	NET/INSPIRE/any national level test qualified with MSc. in Zoology/Physics/

		Chemistry/Biochemistry/Biophysics
1	Host-pathogen interactions (SBS08)	M.Sc. in Biology with NET/equivalent qualification Fellowship (CSIR/UGC/DST-INSPIRE/DBT/others)

School of Chemical Sciences (SCS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
	General area (SCS01): Physical chemistry	M.Sc. In Chemistry or Physics with UGC/CSIR/DST-INSPIRE
4	Computational and theoretical physical chemistry: Statistical mechanics; biophysics; phase transitions, emergent phenomena in complex supramolecular systems.	
1	Computational and Theoretical Chemistry, Electronic structure theory, quantum chemistry	
2	Laser spectroscopy	
2	General area (SCS02): Organic Chemistry Natural Product Synthesis	M.Sc. In Chemistry with UGC/CSIR /DST-INSPIRE
	General area (SCS03): Supramolecular, polymer and macrocyclic Chemistry	M.Sc. in Chemistry with external fellowship (UGC/CSIR-JRF (8))
4	High valent Organometallic Carbaporphyrinoids	
1	Supramolecular Chemistry and Catalysis	
1	Responsive polymers/polypeptides and self-assembled nano-structures	
	General area (SCS04): Inorganic and bio-inorganic chemistry	
2	Biomimetic Inorganic Chemistry and Bioinspired Catalysis	M.Sc. Chemistry with CSIR/UGC/ INSPIRE
2	Bio-inorganic chemistry	M.Sc. Chemistry with CSIR/UGC/ INSPIRE /Institute fellowship available
1	Reaction Mechanism	M.Sc. Chemistry with CSIR/UGC/ INSPIRE
3	Inorganic Chemistry	M.Sc. Chemistry with CSIR/UGC/ INSPIRE

School of Mathematical and Computational Sciences (SMCS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
1	Natural Language processing OR Image processing	MS/MTech in Computer Science or relevant area. UGC NET JRF qualified or with external funding.

School of Materials Sciences (SMS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
01	Semiconductor Physics/Optoelectronic Devices (SMS01)	Master in Physics/Chemistry/Materials/Electronics with NET-JRF
01	Photo-Electrochemical H ₂ generation and Super capacitors (SMS02)	Master in Physics/Chemistry/Materials/Electronics with NET-JRF
01	Catalysis (SMS03)	Master in Chemistry with NET-JRF
2	Nanomaterials for energy harvesting (SMS04)	MSc in Chemistry with NET/GATE
2	Nano biotechnology (SMS05)	MSc in Chemistry with NET/GATE
01	Materials for Battery (SMS06)	Master in Chemistry/Physics with NET-JRF
01	Water technology, nucleation, growth and mineralization (SMS07)	Master's in Chemistry/Physics, NET/UGC/Inspire preferred.

School of Physical Sciences (SPS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
3	Experimental condensed matter physics and optoelectronic devices of 2D quantum materials (SPS01)	GATE/NET CSIR/CSIR UGC/DST INSPIRE fellow in addition to Physics major in M. Sc and B. Sc and other UGC criteria for Ph. D admission.
1	Magnetoelectric coupling in multiferroics	M.Sc. in Physics with CSIR/UGC/INSPIRE/JEST/GATE

	(SPS02)	qualified
2	Anomalous Hall effect in quantum materials (SPS03)	M.Sc. in Physics with CSIR/UGC/INSPIRE/GATE qualified
1	Theoretical condensed matter physics (SPS04)	Funding through NET CSIR JRF
1	Theoretical Particle/Astro Particle Physics. (SPS05)	Funding with CSIR/UGC/IACS Int. PhD fellowship
1	Area: Condensed matter theory and statistical mechanics (SPS06)	Funding through CSIR JRF
1	Topic: Theoretical Particle/Astro-particle physics. (SPS07)	One student with CSIR/UGC/IACS Int. PhD Fellowship.
1	Particle Cosmology, Quantum Field Theory for Early Universe Cosmology (SPS08)	M.Sc. in Physics with NET/JEST qualified
1	Work on aspects of gravitational wave physics. (SPS09)	With CSIR/UGC NET fellowship
2	Electronic Structure of Quantum Matter. (SPS10)	CSIR/UGC-NET JRF or GATE/JEST. The student selected with GATE/JEST will be initially supported by SERB project
2	The topic will be experimental condensed matter physics. (SPS11)	Funding through NET CSIR JRF or Inspire Fellowship.
1	Experimental condensed matter physics (SPS12)	Funding through NET CSIR JRF.
<u>1</u>	Experimental soft condensed matter physics (SPS13)	Funding through <u>net CSIR JRF (Physical Science/Chemical Science)</u>
<u>1</u>	Conformal field theory and string theory (SPS14)	M.Sc. in Physics with GATE/NET

PhD Coordinator