



**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
BHUBANESWAR**

Advt.No:NISER/ACAD/Ph.D/2020-21(2)

Notice for Admission to Ph.D Program: 2020-21 (Winter Session)

Applications are invited from Indian citizens for admission to Ph.D program scheduled to commence from 5th January, 2021 in the following schools of NISER, Bhubaneswar:

1. School of Biological Sciences (SBS)
2. School of Chemical Sciences (SCS)
3. School of Computer Sciences (SCPS)
4. School of Earth & Planetary Sciences (SEPS)
5. School of Mathematical Sciences (SMS)

Candidates short-listed in School of Biological, Chemical, Computer, Earth & Planetary, Physical, Humanities & Mathematical Sciences vide advertisement No NISER/ACAD/Ph.D/2020-21(1) summer session **NEED NOT APPLY AGAIN**. Their names are already available on the NISER homepage and will be called for test/interview.

School of Physical Sciences and School of Humanities is not inviting fresh applications this time. Admissions into these two schools will be open only for candidates who are already short listed in summer (refer to the list available on the website).

1. Eligibility

School	Minimum Educational Qualifications
Biological Sciences	60% or equivalent GPA in Masters or M. Tech or M. Pharm in any branches of Agricultural Sciences, Biology, Life Sciences, Pharmacy (any specialization), Veterinary Sciences, Computer Sciences, Bioinformatics and Biotechnology. Students with Master's degree in Physics, Chemistry or Mathematics having interest in pursuing a career in Biology are also encouraged to apply.
Chemical Sciences	60% or equivalent GPA in Masters in Chemistry or allied Chemistry fields. Student with Master's degree in any branches of Basic Sciences with undergraduate degree in Chemistry (or chemistry as one of the subjects) or M.Tech in applied Chemistry or Computer Sciences with interest in pursuing a career in Chemistry are also encouraged to apply.
Computer Sciences	60% or equivalent GPA in Masters in Computer Science, Electrical, Electronics Engineering or related fields, or Mathematics.
Earth & Planetary Sciences	60% or equivalent GPA in Masters in Physics, Astronomy & Astrophysics, Chemistry, Space, Earth, Atmospheric and Oceanic Sciences OR M.Tech in Engineering Physics, Space Sciences & Technology, Hydrological and Earth System Sciences. In addition to the above criteria, candidates should

	possess mathematical, physical or chemical science based Bachelor's degree.
Mathematical Sciences	60% or equivalent GPA in Masters in Mathematics or Computer Science.

2. Requirement of Qualifying in National Level Examinations for pursuing Ph.D program

School of Biological Sciences—Candidates should have qualified at least one of the National Level Examinations i.e. CSIR-UGC-NET (JRF) /DBT/ICMR and be eligible to receive fellowship from these agencies valid for the academic year 2020-2021 and must be financially supported from a scholarship / fellowship from CSIR-UGC NET (JRF)/DBT/ICMR during their PhD program at NISER.

School of Chemical Sciences -Candidates should have qualified at least one of these National Level Examinations i.e. CSIR-UGC NET(LS or JRF)/GATE valid for the academic year 2020-2021.

School of Computer Sciences –Candidates should have qualified at least one of these National Level Examinations i.e. CSIR-UGC-NET(LS or JRF) /GATE/JEST valid for the academic year 2020-2021.

School of Earth and Planetary Sciences –Candidates should have qualified at least one of these National Level Examinations i.e. CSIR-UGC-NET (LS or JRF) /GATE/JEST valid for the academic year 2020-2021.

School of Mathematical Sciences - Candidates should have qualified at least one of these National Level Examinations i.e. CSIR-UGC-NET(JRF)/GATE/NBHM* or any other equivalent national level examination valid for the academic year 2020-2021.

*A student will be considered to be qualified in National Level Written Examination conducted by NBHM if he/she has received interview call letter from NBHM to appear in the interview for PhD fellowship 2020 (irrespective of getting selected for NBHM PhD fellowship 2020 or not).

Important Note:

(a) The cut off marks for national examination such as GATE/JEST/NBHM/CSIR-UGC-NET etc will be further decided by each School for the relevant subject area.

(b) Those who have appeared for CSIR-UGC-NET examination held **recently in 2020** and awaiting results may also apply in all Schools (except for School of Mathematical Sciences). However, such candidates, if shortlisted have to produce the qualifying mark statement of CSIR-UGC-NET (LS or JRF) exam on the date of Ph.D written test / interview failing which his/her candidature will be rejected automatically.

(c) As per HBNI Ordinance, student having INSPIRE Fellowship Doctoral Fellowship ONLY, without qualifying any other national level written examination will not be considered for admission to Ph.D program in NISER.

(d) Candidates with GPA in qualifying degree may need to produce the conversion note (in case it is not mentioned in their mark sheet) from their institution towards calculation of percentage.

3. Fellowship

1. The institute fellowship given by NISER is Rs. 31,000/- for first two years, which will subsequently be enhanced to Rs. 35,000/- for remaining three years, subject to the condition that he/she fulfills all the requirements of the Institute that will be stipulated from time to time.
2. Students with external fellowship from agencies viz. CSIR, UGC etc will be eligible to draw fellowship as per the extant rules of the respective funding agencies.

4. Research Areas for some schools

School of Biological Sciences

- Regulation of cell adhesion and cell-cell communications in gastric cancer. (Dr.Asima Bhattacharyya Lab)
- Molecular Genetics and Epigenetics of Ageing Disorders: Neurodegeneration and Cancer (Dr. Debasmita Pankaj Alone Lab)
- Understanding the Translatinal Control mechanism in Eukaryotes (Dr Pankaj V Alone Lab)
- Molecular Microbiology: Functional significance of membrane proteins and mechanisms underlying bacterial persistence. (Dr. HarapriyaMohapatra Lab)
- Cell based models for characterizing small molecules in the area of drug discovery (Dr. V. BadireenathKonkimalla Lab)
- Interaction of light and auxin in shaping development in plants; Role of splice variant of constsns, CO like and GIGANTEA in the regulation of Florigen(Dr. Kishore C. Panigrahi Lab)
- Molecular Genetics of Gallbladder cancer; putative angiogenic regulators and tumorigenesis (Dr. Manjusha Dixit Lab)
- Neuroendocrine regulation, Neural circuitry of energy balance and reproduction (Dr. Praful S. Singru Lab)
- Cellular Regulation of morphogenesis and degradation of complex cell shapes (Dr. Renjith Mathew Lab)
- Mechanism of membrane remodelling during host-pathogen interactions. (Dr. Mohammed Saleem Lab)
- Mechanism and regulation of nuclear remodelling: Role of dynamin related protein (Dr Abdur Rahaman Lab)

NOTE: The final number of vacancies filled will be the prerogative of the School.

For more information please visit: <https://www.niser.ac.in/sbs/page/faculty-and-area-research>

School of Computer Sciences

- Research Areas: Algorithms focusing on Game Theory, Social Choice theory, and Online Computation, Computational Geometry, Cryptography and Cyber Security, Cyber Physical Systems, Graph Algorithms, Information Theory, Machine Learning.

School of Earth and Planetary Sciences

- **Star and Planetary Formation Research**: Origins of the planets in the disks of gas and dust orbiting young stars: Astrochemistry: Observational Astronomy (ALMA, NASA's SOFIA and JWST telescopes); Exoplanets.
- **Earth and Planetary Composition Research**: Planetary geology and early Earth geology; Planetary mineralogy and morphology using spacecraft data (e.g., ISRO's Chandrayaan, NASA Dawn, NASA Cassini, ISRO and NASA Mars missions, etc.); Asteroids & comets & meteorites & analogues and the early solar system science; Geochemical and geologic evolution of planetary bodies; Geology and evolution of planetary bodies & analogues
- **Regional Hydro-Climatology Research**: vegetation-climate interactions, especially in forested ecosystems of Amazonia, the Indian subcontinent and Himalayas; boundary layer and atmospheric modeling; physical processes behind convection; Heat wave phenomenology and regional vulnerability; thermodynamic impacts of aerosols and implications on regional climate.

For more information please visit: <http://www.niser.ac.in/seps/page/faculty>

School of Mathematical Sciences

- Algebraic Geometry, Cryptography, Differential Equations, Differential Geometry, Discrete Mathematics, Functional Analysis, Harmonic Analysis, Incidence Geometry, Number Theory, Probability Theory.

5. Selection Procedure

- The selection committee of the respective schools will short-list the candidates among those who meet the minimum educational qualifications and satisfy additional criteria which each school may set as deemed necessary.
- The short-listed candidates will be called for an interview, supplemented by a written test, if necessary, for the admission.
- Based on the academic record and the performance of the candidates in the selection process, the selection committee of the school will recommend candidates to the Chairman, Academic Council for admission to the Ph.D. program.
- All candidates called for the Test / Interview will be paid to and from single, second-sleeper class railway fare by the shortest route from their place of residence to the Institute. They have to produce evidence (railway ticket) in support of their claim.

6. How to Apply

- The application form has to be filled up online at <http://www.niser.ac.in> and candidates should follow stepwise instructions mentioned to complete the application submission process. At the time of application, along with this online form, the candidate should upload soft copy of the supporting documents as per the eligibility criteria.
- Candidates intending to apply for more than one school should fill up separate online application forms for each school with appropriate supporting documents.

- Two sealed letters of reference in the prescribed format with signature of the referee on the envelope should be produced by the student at the time of interview. The copy of the reference letter is available online.
- NISER does not demand any application fee from the candidates who apply for Ph.D program.
- **Candidates short-listed in School of Biological, Chemical, Computer, Earth & Planetary, Physical, Mathematical Humanities & Social Sciences vide advertisement No NISER/ACAD/Ph.D/2020-21 (1) summer session NEED NOT APPLY AGAIN. Their names are already available on the NISER homepage and will be called for test/interview.**

School of Physical Sciences and School of Humanities is not inviting fresh applications this time. Admissions into these two schools will be open only for candidates who are already short listed in summer (refer to the list available on the website).

7. Important dates:

- Online application will be activated on – **21.10.2020 (Wednesday)**
- Last date for filling up online application – **05.11.2020 (Thursday)**
- Short-listed candidates list will be uploaded on NISER website latest by **10.11.2020**
- Dates for test/interview are as follows.

1. School of Biological Sciences	:21.12.2020 - 23.12.2020
2. School of Chemical Sciences	:07.12.2020 - 09.12.2020
3. School of Computer Sciences	: 14.12.2020 - 15.12.2020
4. School of Earth & Planetary Sciences	:10.12.2020 - 13.12. 2020
5. School of Mathematical Sciences	: 16.12.2020 - 18.12.2020
6. School of Humanities and social Sciences	: 25.11.2020
7. School of Physical Sciences	: 26.11.2020 - 28.11.2020
- Each school will send the call letters to the candidates separately. Kindly refer to the website for the announcement of the selected candidates.
- The registration is scheduled to be held on **4th January, 2021 (Monday)**.
- If you have any further query, please send an email to the concerned schools in the following email ids:

cpsbs@niser.ac.in (Biological Sciences)
 cpscs@niser.ac.in (Chemical Sciences)
 cpscps@niser.ac.in (Computer Sciences)
 cpseps@niser.ac.in (Earth and Planetary Sciences)
 cpsms@niser.ac.in (Mathematical Sciences)
 cpshss@niser.ac.in (Humanities and Social Sciences)
 cpsps@niser.ac.in (Physical Sciences)

- Applicants are encouraged to visit school web page for more information on research activities.

Address for communication and more details

Dean (Academic Affairs),
National Institute of Science Education and Research (NISER),
P.O.-Jatni, Dist-Khurda, Odisha-752050
Phone: 0674-2494013, Fax-0674-2494004
Email: dean_aa@niser.ac.in

Checklist for application submission

During online submission, you will need to have the following ready with you for uploading;

- JPEG file of your passport size photo.
- JPEG file of your valid signatures.
- Birth Certificate/10th pass certificate in support of date of birth.
- Certificate in support of category (SC/ST), only if applicable.
- Certificate and mark sheets in support of passing qualifying examination i.e Master's degree. In case the original pass certificate is not issued by University then a certificate from the University on its letter head with seal of the concerned authority certifying the completion of degree should be submitted.
- Certificate/document in support of qualifying national level examination(s) viz. CSIR-UGC NET/GATE/ DBT/ICMR/JEST/NBHM or any other as applicable.
- For students applying for Ph.D in Mathematics through NBHM PhD written test-2020 need to upload the interview call letter received from NBHM.
- Candidates who have appeared CSIR-UGC-NET exam held recently in 2020 and are awaiting the result are required to upload the CSIR-UGC-NET admit card at the time of submission of online application.

Dean, Academic Affairs