SNBNCBS-IISER Kolkata: Joint Ph.D. Programme
AY 2023-24

In order to foster interdisciplinary research and cooperation between S. N. Bose National Centre for Basic Sciences (SNBNCBS) and Indian Institute of Science Education and Research Kolkata (IISER-K), a joint Ph.D. programme in the general area of Physical and Chemical Sciences will be conducted.

Applications are invited from motivated students for admission to this programme for the Ay 2023-24. The selected candidates can do Ph.D. in any of the following topics under the joint supervision of faculty members from SNBNCBS and IISER-K (mentioned against respective topics).

A. Condensed Matter Physics, Material Sciences and Mesoscopic Physics:

- **Electrical transport, magnetic, topological, and optical conductivity studies of magnetic topological semimetals (Prof. Kamraju Natarajan & Dr. T. Setti)**
- **Application of DMRG in strongly correlated system (Prof. Mousumi Das & Prof. Manoranjan Kumar)**
- **The Dynamical processes in quantum system (Prof. Ashwani Tiwari & Prof. Manoranjan Kumar)**
- **Superconductivity and exotic phase in low Dimensional systems' (Prof. Siddharth Lal & Prof. Manoranjan Kumar)**
- **Physics under extreme conditions (Dr. Swastika Chatterjee & Prof. Tanusri Saha Dasgupta)**
- **Electronic structure of low dimensional topological insulators(Dr. Satyabrata Raj & Prof. Tanusri Saha Dasgupta)**

B. Physical Chemistry, Chemical and Biological Physics and Soft Matter:

- **Quantum Weak Measurement and Its Applications in Nano-photonics (Prof. Nirmalya Ghosh & Prof. Manik Pradhan)**
- **Microscopic Understanding of Azeotropes and Other Exotic Systems (Prof. Pradip Kumar Ghorai & prof. Ranjit Biswas)**
- **Dynamics of biomolecular hydration (Prof. Neelanjana Sengupta & Prof. Rajib Mitra)**

C. Physics of Complex System

- **“Collective Phenomenon in Biological Systems” (Prof. Anandamohan Ghosh & Prof. Sakuntala Chatterjee)**
- **“Dynamical Fluctuations in Active Systems” (Prof. P.K Mohanty & Dr. Urna Basu)**
- **"Mesoscopic physics and super symmetric quantum mechanics" (Prof. P. Panigrahi , Dr. Nirmalya Ghosh & Prof. P.S Deo)**
- **Intracellular dynamics of mammalian copper transporters (Prof. Arnab Gupta & Dr. Sakuntala Chatterjee)**
- **Interplay of interactions, disorder and topology in correlated quantum matter (Prof. Amit Ghoshal & Dr. Arijit Haldar)**
- **Topological entanglement entropy, quantum computation and quantum error correction (Prof. Sourin Das & Dr. Arijit Haldar)**

Basic qualification: Masters in Science/Technology with First Class/Division, i.e., minimum 60% (55% for SC/ST/OBC(non-creamy)/EWS/Differently-abled candidates) in relevant branch of basic sciences (Physics, Chemistry, Applied Mathematics, Biology, etc.).

CSIR-NET-JRF or UGC-NET-JRF (award letter should have validity up to Dec 2023)

OR
INSPIRE –PROVISIONALLY SELECTED and Award Letter should be valid up to December 2023

[The admission of INSPIRE applicants would be provisional and contingent upon acceptance of their proposal. They will be required to sign an undertaking at the time of their admission.]

Applications must be submitted through the online portal: https://admission2.bose.res.in/

Last date of application: 15/8/23

Date of Interview: .18/8/23

Age Limit: None. However, the last qualifying University examination (Masters in Science/Technology) should have been taken not earlier than 2021.

Application Fee:
There is a non-refundable application fee of Rs. 500/- for General category candidates & Rs. 250/- for reserved categories (including Women). The fee to be paid through NEFT / RTGS / UPI Mode only.

The account details are as follows:

Name of Account Holder	: S. N. Bose National Centre for Basic Sciences
Account Number	089302000000220
Bank Name and Branch	: Indian Overseas Bank, Salt Lake City Branch
Account Type	: Current Account
IFSC Code	: IOBA0000893

Tuition fee:
The Ph.D. degree will be awarded by IISER-K in collaboration with SNBNCBS and all admitted students need to follow the semester/tuition fee structure of IISER-K (please visit https://www.iiserkol.ac.in/web/en/student-affair/fee-structure/#gsc.tab=0 for updated guidance on the tuition fee structure). The students may have to travel to and stay in both the institutes to carry out their research related work and Ph.D. course work.