



SAHA INSTITUTE OF NUCLEAR PHYSICS
(Autonomous Research Institute under the Dept. of Atomic Energy, Govt. of India)
Sector –I, Block – ‘AF’, Bidhannagar, Kolkata – 700064

No. SINP/Estt/Advt/10/2025

Date: 24.09.2025

ENGAGEMENT OF PROJECT ASSISTANT

Position Available: Project Assistant Position in *Simulating Topological matter on a Quantum Processor*

Applications are invited for one Project Assistant position in the research project “*Exploring the response of flat bands and nexus fermions in topological systems to periodic gauge fields and simulating the dynamics on a quantum processor*” at the Saha Institute of Nuclear Physics (SINP), Kolkata. The project is funded by the Prime Minister Early Career Research Grant (PMECRG) under the Anusandhan National Research Foundation (ANRF).

About the project: The selected candidate will contribute to developing theoretical and computational frameworks for studying the response of flat bands, anomalous Landau levels, and nexus fermions to inhomogeneous fields, as well as explore their quantum simulation using superconducting processors. The work will involve building continuum and tight-binding models, analyzing correlated quantum phases, and designing prototype quantum circuits. This position offers a unique opportunity to acquire advanced skills in topological band theory, many-body physics, and quantum information, alongside hands-on experience with numerical simulations and quantum computation.

Duration: The appointment will be for an initial period of **8 months**, with the possibility of extension up to 12 – 14 months or until the completion of the project (whichever is earlier), subject to satisfactory performance.

Monthly Emolument: Rs. 27,000/- + HRA as per institutional rules.

Essential Qualification:

- M.Sc./Integrated M.Sc./M.S. in Physics.
- Candidates should preferably be below 25 years of age as on the last date of receiving applications.

Desirable Qualifications:

- Programming skills, preferably in Python and Mathematica.
- Background or prior exposure to condensed matter physics.
- Solid understanding of core concepts in physics.

Application Procedure: Interested candidates are requested to send their CV to estt.fellow@saha.ac.in and krishanu.roychowdhury@saha.ac.in with the following information on or before 24 October 2025. Additionally, a recommendation letter is to be sent directly to krishanu.roychowdhury@saha.ac.in on or before 24 October 2025.

Applicant's CV should include the following information:

Section 1: Personal Information

Full Name
Date of Birth
Email Address
Phone Number
Current Address

Section 2: Academic Background

Highest Degree Completed
Specialization
University / Institute
Year of Completion
CGPA/Percentage

Section 3: Skills & Experience

Programming Experience
Experience in Condensed Matter Physics
A brief description of the Masters thesis (within 200 words)

Section 4: Statement of Interest

Briefly describe your motivation for applying to this project and how your background fits (within 300 words).

Section 5: Supporting documents (to be attached with CV)

Transcripts for B.Sc+M.Sc/Integrated M.Sc/BS-MS(all semesters)

Section 6: References

Name, designation, and contact details of one academic referee.

All applications are to be received on or before 24.10.2025.