SRIC/06

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
(Electronics and Communication Engineering)

Dated: 10/06/2026

ADVERTISEMENT TO FILL UP PROJECT POSITIONS*

Applications are invited from Indian nationals only for project position(s) as per the details given below for the consultancy/research project(s) under the Principal investigator (Name: Sourajeet Roy), Dept./Centre Electronics and Communications Engineering Indian Institute of Technology, Roorkee.

1. Title of project: Physics Informed Neural Operators (PINO): A Scientific Machine Learning Approach for the Extremely Fast First-Principles Monte Carlo Analysis of Nanoscale FETs
2. Sponsor of the project: Anusandhan National Research Foundation (ANRF)
3. Project position(s) and number: Junior research fellow, 01 (one position)
4. Qualifications:
   - Master's or bachelor's degree in ECE/EE/CSE or equivalent with CGPA above 7.0 (on 10.0 scale) or percentage greater than 70% aggregate irrespective of category
   - It is desirable for the candidate to have qualified GATE or Nation Eligibility Tests UGC-NET or CSIR NET including lectureship (Note: Bachelor's or master's from IITs, NITs, or any other CFTIs with a CGPA of 8.0 or above on a 10 point scale are exempt from the requirement of GATE/NET)
5. Emoluments: Rs. 37,000/month
6. Duration: 1 year (can be extended up to project duration depending on performance reviews)
7. Job description: The JRF will be involved in the development of physics-informed machine learning paradigms such as neural networks and neural operators for the modeling and simulation of nanoscale field-effect transistors (e.g., fin-shaped FETs, nanosheet FETs, forksheet FETs, complimentary FETs etc.). The JRF will be required to develop, train, test, and benchmark the physics-informed neural operators for the steady-state and dynamic operation of nanoscale FETs, prototype the neural operators for industrial adoption, and disseminate the research findings in scientific journals and conferences. The JRF must possess
   - Sound knowledge of governing physics and mathematics of nanoscale semiconductor devices
   - Strong background in machine learning with special focus on neural network training and testing
   - Experience with first-principle electronic design automation tools such as TCAD for physics-based modeling of semiconductor devices
   - Expertise with SPICE-compatible circuit model development of semiconductor devices
   - Experience with Python/MATLAB coding

Application Process:

1. Candidates before appearing for the interview shall ensure that they are eligible for the position they intend to apply.
2. Candidates desiring to appear for the Interview should email their applications with the following documents to the office of Principal Investigator (email: sourajeet.roy@ece.iitr.ac.in) with subject as 'Application for Project Position' and file names as FirstName_LastName_DocName:

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- Application in a plain paper with detailed CV including chronological discipline of degree/certificates obtained.
- Experience including research, industrial, field and others.
- Attested copies of degree/certificate and experience certificate merged into a single PDF file.

3. The interview will be online and the candidate may be asked to show the original degree(s)/certificate(s) and experience certificate(s) at the time of interview/joining for verification.
4. Preference will be given to SC/ST candidates on equal qualifications and experience.
5. Please note that no TA/DA is admissible for attending the interview.

Note: The selected candidate may get an opportunity for PhD admission subject to performance and satisfying the institute eligibility criteria.

The submission deadline for applications is 1st July by 5 PM.

The interview details including meeting link, date and time will be conveyed to shortlisted candidates.

Tel: +91-1332-285762
Name and signature of Principal Investigator: **Sourajeet Roy**

Email: sourajeet.roy@ece.iitr.ac.in

*To be uploaded on IIT Roorkee website and copy may be sent to appropriate addresses by PI for wider circulation.

APPROVED

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