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IIT Indore

Date: 21-May-2025

Recruitment for Project Positions

Applications are invited from motivated and eligible candidates for the project positions of Junior Research Fellow (three positions), Senior Research Fellow (one position) and Project Engineer (one position) in project titled: **“Quantum Internet with Local Access (QuILA)”** in the Thematic Hub (T-Hub): “Quantum Communication” sponsored by Department of Science and Technology (DST), Government of India, under National Quantum Mission.

Selected candidates will be involved in:

- Developing and optimizing high-performance quantum routers and switches to manage hybrid quantum-classical data traffic, ensuring low latency and minimal noise in quantum communication networks.
- Designing and testing quantum network protocols using quantum network simulators, including implementing quantum cryptographic schemes like BB84 and simulating security attacks for enhanced resilience.
- Researching entanglement management techniques and quantum routing strategies to facilitate long-distance quantum key distribution and secure quantum communication.
- Contributing to the development of disaster-aware algorithms and optimization techniques for robust and scalable quantum networks.

The candidates are expected to have a good knowledge in Network analysis, protocol implementation and testing, and preferably good understanding of Quantum Communications.

1. Junior Research Fellow (JRF) – Two positions

Duration: Initial appointment would be for one year, which is extendable further based on performance.

Emolument: 37000 p.m. + 16% HRA.

Eligibility:

Essential Qualification: Master’s degree in the relevant branch of Electronics/ Electronics and Communication Engineering/ Optoelectronics/ Microwave engineering/ Electrical Engineering/ Computer Science or

equivalent, preferably with a GATE score. Post two years' experience, the (selected) candidate(s) will be eligible for SRF position.

Age limit: As per DST/Institute norms. Relaxation for SC/ST/OBC candidates as per Government of India norms.

2. Senior Research Fellow (SRF) – One position

Duration: Initial appointment would be for one year, which is extendable further based on performance.

Emolument: 42000 p.m. + 16% HRA

Eligibility:

Essential Qualification: Ph.D. and/or Master's degree in the relevant branch of Electronics/ Electronics and Communication Engineering/ Optoelectronics/ Microwave engineering/ Electrical Engineering/ Computer Science or equivalent, preferably with a GATE score.

Age limit: As per DST/Institute norms. Relaxation for SC/ST/OBC candidates as per Government of India norms.

How to Apply: Interested candidates are requested to send their detailed CV to Prof. Vimal Bhatia, Department of Electrical Engineering, Indian Institute of Technology Indore, and Dr. Sumit Gautam, Department of Electrical Engineering, Indian Institute of Technology Indore, via e-mail to vbhatia@iiti.ac.in with a copy (cc) to sumit.gautam@iiti.ac.in **bearing the subject line:**

1. For JRF: “[JRF] Application for project position under National Quantum Mission: QuILA”.
2. For SRF: “[SRF] Application for project position under National Quantum Mission: QuILA”.

Note: CV should include academic grades starting from 10th standard onwards with details of the year of passing, University or Institute, etc., and work experience and nature of work if applicable. Complete details of NET/GATE such as year of passing/validity, discipline, marks, **All India Rank**, and number of candidates who appeared should be mentioned in the CV. Incomplete applications will be rejected. Only shortlisted candidates will be intimated by email for an interview. No **TA/DA** will be paid to appear in the interview.

Last Date for Application Submission: **07-June-2025.**

Webpages:

1. Prof. Vimal Bhatia: <https://sites.google.com/view/signalsoftware/sasg>
2. Dr. Sumit Gautam: <https://sites.google.com/site/sumitgautamjbp/>