RAMAN RESEARCH INSTITUTE

Announcement of two Quantum Scientist / Quantum Engineer positions in experimental quantum networks under India's National Quantum Mission

Advt. No. NQM/QuiC/US-04 dt.19 November 2026

Lead part of the experimental build of a multi-node quantum repeater network, with your own consumables budget and a team of students to build it with.

Raman Research Institute, in collaboration with the IITM CDoT Samgnya Technology Foundation, invites applications for two Quantum Scientist / Quantum Engineer positions in the Quantum Information and Computing (QuIC) laboratory. The positions are for experimental physicists and engineers with a PhD in optics who want to lead experiments, not only contribute to them.

QuIC leads QuEPRAN, the National Quantum Mission technology group building a multi-node quantum repeater network for entanglement-based quantum communication, with partners at HRI Prayagraj, IIT Tirupati, IIT Patna and IISER Mohali. Professor Urbasi Sinha is the Lead Principal Investigator. Repeater-based networks have so far been demonstrated worldwide with only a few nodes; the first QuEPRAN node is being built at RRI. QuIC demonstrated India's first quantum key distribution over a free-space atmospheric link and its first with a moving receiver.

What you will do

- **Lead experiments on one or more subsystems of the repeater node:** colour centres in diamond (nitrogen-vacancy, silicon-vacancy and other vacancy centres), entangled-photon sources compatible with solid-state quantum memories, light–matter interfaces, and Bell-state measurement and entanglement swapping.
- **Design, build and commission** the node's optical, cryogenic and detection systems, and set the standard of calibration and documentation the laboratory works to.
- **Supervise JRFs and PhD students** day to day in experiment, analysis and writing.
- **Take your experiments through to publication,** as lead author on work you lead and as co-author on the papers of the students you supervise.
- **Contribute to the technology group's progress reviews and reports,** and to coordination with consortium partners, including travel within India where the project requires it.
- **Where results open a route to deployable technology,** take it forward with the Samgnya hub and industry partners.

What you get

- **Salary:** ₹1,00,000–1,50,000 per month (consolidated), with a 3% increase each year. The starting salary within this range is set by the selection committee, on the basis of the candidate's fit with the essential and desirable criteria and their performance at interview.
- **Research funds:** a consumables grant of up to ₹2,00,000 per year for your research.
- **Responsibility and record:** a subsystem of a national-mission repeater network to lead, students to supervise, and publications built on experiments you designed.

Qualifications

Essential

- A PhD in experimental optics or photonics, in physics or engineering, with hands-on optical alignment in both fibre and free space as part of the PhD work. Candidates who have submitted their thesis but not yet received the degree may also apply.
- Age not more than 35 years on the closing date.

Desirable

- Post-PhD research experience in optics laboratories.
- Single- and entangled-photon sources, by SPDC or other means.
- Colour centres in diamond or other solid-state emitters, including confocal microscopy.
- Cryogenic experiments.
- Quantum communication experiments.
- Fabrication or characterisation of integrated photonic devices.
- Taking laboratory results towards applications.

Tenure

One year in the first instance, extendable for the duration of the project (currently until 31 March 2031) subject to satisfactory performance in six-monthly reviews by an expert committee.

Selection procedure

Applications will be screened against the essential and desirable criteria. Shortlisted candidates will be interviewed, preferably in person, and asked to give a short talk on their research and on the experiment they would lead in QuIC.

How to apply

Apply only through the online form at: https://safal2.rri.res.in

Applications sent by email will not be considered. Upload:

- a CV with a full publication list;
- a cover letter (maximum two pages) on the experiment you would lead in QuIC and the experience you bring to it;
- copies of two representative papers, or a thesis chapter if you have no published papers yet;
- names and email addresses of three referees.

Applications without a cover letter will not be considered. Shortlisted candidates must bring copies of degree certificates and grade sheets for all degrees, school final and higher secondary examinations to the interview.

Closing date for receiving applications: 31 December 2026. Applications received after the closing date will not be considered.

General information

- Those already working in Government, Semi-Government, PSU or Autonomous Bodies shall submit their applications through proper channel.
- The Institute reserves the right to restrict the number of candidates for interview to a reasonable limit, on the basis of qualification and experience higher than the minimum prescribed. Mere fulfilment of the essential and desirable criteria does not entitle an applicant to be called for interview.
- Age relaxation will be applicable as per Government of India rules for candidates belonging to SC/ST/OBC categories, persons with disabilities and women (as per NPDF norms).
- This is a project-based position. Remuneration shall depend on availability of project funding.
- The Institute reserves the right to relax any of the above requirements in exceptional cases.
- The Institute reserves the right not to fill the positions advertised. Canvassing in any form shall disqualify the candidate.