RAMAN RESEARCH INSTITUTE

Announcement of opportunity for exciting research in
Satellite based Quantum Communications

Raman Research Institute invites applications from individuals for **Project Engineer positions.** The candidates must possess excellent and consistent academic record and core competence and research aptitude.

The Quantum Information and Computing (QuIC) lab of RRI is working on a mega project on Quantum Experiments with Satellite Technology (QuEST) in collaboration with the UR Rao Satellite Centre (URSC) of the Indian Space Research Organization (ISRO). (http://www.rri.res.in/quic/quest1_overview.php)

The project is aimed at developing quantum communications technologies using satellites. As algorithmic breakthroughs and imminent advent of quantum computers both pose immense threats to classical key distribution-based communication tools, quantum key distribution proves to be the only available means of providing information theoretically secure avenues of secure communications, especially important in strategic sectors like banking and defence.

We are currently looking for **two** appointments within the Quantum Information and Computing lab, Light and Matter Physics group of the Institute. The appointment is on a contractual basis. The candidates will be associated with the **Quantum Information and Computing lab, LAMP Group** of the Institute **for a period of one year, with a possible extension up to four years or coterminous with the project (whichever is earlier). The yearly extension will be based on annual performance review which will be conducted at RRI.** The two successful candidates will work on development of radiation hardened, space qualified detector systems for detection of single photons as well as development of a time tagger/correlator unit using state of the art, space qualified Field Programmable Gate Arrays (FPGAs) and take part in characterization of the aforementioned systems. There will be an initial probationary period of two months.

Remuneration:

A consolidated remuneration of Rs. 38,000/- for the first year; Rs.40,000/- for the second year; Rs.42,000/- for the third year will be paid to the selected candidates.

Eligibility:

Age: Not more than **30 Years** as on the closing date for receiving the completed application forms online. Age relaxation may be considered for candidates with relevant research experience.

Essential: BE/B.Tech with 75% or 7.5 CGPA

Desirable:

1. ME/ M.Tech with 75 % or 7.5 CGPA with a research project experience.

2. Aptitude for research.

3. Prior hands on experience in handling Test and measurement instruments (Oscilloscopes, Spectrum analyzer, Signal Generator etc.)

4. Knowledge of Hardware description languages (Verilog, VHDL or HLS) and familiarity with tools from major FPGA companies.

5. Knowledge of PCB design softwares.

6. Familiarity with programming languages like C, C++, MATLAB and Python.

General Information:

- Those who are already working in Government/Semi Government/PSU/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 in the advertisement. Mere fulfilling the essential and desired qualifications will not entitle an applicant to be called for interview.
- Age relaxation will be applicable as per Govt., of India rules for the candidates belonging to SC/ST/OBC/Persons with disabilities categories.
- The institute reserves the right to relax any of the above requirements in exceptional cases.
- The Institute reserves the right not to fill the posts herein advertised. Canvassing in any form shall disqualify the candidate.

Selection procedure:

Those who wish to apply may send their CV to: usinha@rri.res.in with a copy to savithamd@rri.res.in. Two referral letters in support of application are going to be beneficial in the shortlisting process. Referral letter may be sent to usinha@rri.res.in.
The last date for receipt of applications is 31ˢᵗ March 2021. Applications received after the last date will not be considered.
Candidates who qualify in the required criteria may be called for an interview. The interviews will be held online for shortlisted candidates.