

**RAMAN RESEARCH INSTITUTE**  
**BANGALORE 560080**  
**Advt. No. 10/2019**

The Raman Research Institute, funded by the Government of India, is a premier institute engaged in research in basic sciences. More information about the Institute, the fields of research, and other details can be viewed at its website [www.rri.res.in](http://www.rri.res.in)

Applications are invited for THREE POSTS of RESEARCH ASSISTANT on a temporary basis for the PRATUSH project in RADIO ASTRONOMY. PRATUSH is a proposed space-based radio telescope in lunar orbit to carry out precision measurements of the radio sky spectrum. This would enable the much sought-after detection of spectral distortions in the cosmic radio background arising from formation and evolution of the very first stars and galaxies in the Universe. The project is funded by Indian Space Research Organization (ISRO) for pre-project activities.

The three appointees would work towards design and development aspects of the project catering to antenna, analog, and digital subsystems of the telescope. The website of the group is at [www.rri.res.in/DISTORTION](http://www.rri.res.in/DISTORTION) and the physicists/engineers appointed as research assistants for this activity would be part of this experimental group and participate in the research given in the website.

The appointments would be for a period of one year, extendable to second year, subject to satisfactory performance and project status. We seek motivated individuals, with good academic background, proficiency and aptitude in experimental research, seeking 1 to 2-year internships with a research team engaged in cutting-edge research on an open problem in modern astrophysics. We prefer candidates seeking experience of observational/experimental activity in astronomy and astrophysics; with intent to pursue a research career in these fields. Ability to work with a team is essential. The details of the required qualifications and experience are given below.

**Job Description:**

**Research Assistants in PRATUSH project**

The three successful candidates would work on the project PRATUSH, working in the fields of

1. antenna,
2. analog receiver and
3. digital receiver.

The work would involve participating in the design and development of the sub-systems for PRATUSH, spanning across electromagnetic simulations, radio frequency (RF) system science, and digital signal processing.

**Remuneration:** A consolidated remuneration of Rs.23,500/- per month at commencement + HRA (24% of consolidated remuneration) will be paid to the selected candidates. An increment of Rs.1000/- will be provided in the second year.

**Essential Qualification:**

BE/BTech degree in Electronics or Electronics & Communication Engineering, with at least 70% marks or 7.5 CGPA in the qualifying examination, or an MSc degree with Physics specialization with at least 70% marks or 7.0 CGPA in the qualifying examination. A valid JEST or CSIR-UGC NET or GATE score in respective specialization or a GRE score is essential.

The applicant is expected to provide documentary evidence of previous pursuits of interest in astronomy/astrophysics.

Ability to work in teams and field stations is essential – although the positions and work will be based at the Raman Research Institute campus at Bangalore, it may be needed to make field trips with the team members for testing and validation of radio astronomy receivers and/or system tests and measurements.

**Desirable:**

Demonstrated interest in pursuing a research career is desirable.

Domain knowledge and experience in practical night sky astronomy with telescopes, analog and digital electronics, programming in C, Python and VHDL scripts, and project experience pertaining to cubesats and/or other space-based experiments is desirable. Experience with use of electromagnetic simulation packages like CST, HFSS, WIPL-D etc, RF design software like Genesys or ADS etc would be an added advantage. The application may document examples of project work or experience in these domain areas.

**The last date for receipt of applications is 10<sup>th</sup> June 2019.** All applications received till the due date would be given due consideration. If no suitable candidate is subsequently selected by the screening and interview process, the position would be kept open in the Institute website till filled.

**Upper Age Limit:** The upper age limit is 30 years as on last date of application. Applicants above 30 years may be considered if accompanied by commensurate experience and competency.

### **General Information:**

1. Age relaxation will be applicable as per Govt. of India rules for the candidates belonging to SC/ST/OBC/PWD categories.
2. The Institute reserves the right to restrict the number of candidates for test/ interview to a reasonable limit, on the basis of relevant qualification and experience higher than the minimum prescribed in the advertisement.
3. Second Class train fare for attending interview shall be reimbursed to the candidate on
4. provision of original tickets.
5. Candidate should be self-driven, motivated and have leadership skills to manage the personnel working with him/her.
6. Mere fulfilling the essential and desired qualifications will not entitle an applicant to be called for interview.
7. The Institute reserves the right to relax any of the above requirements in exceptional cases.
8. The Institute reserves the right not to fill the post herein advertised.
9. Canvassing in any form shall disqualify the candidate.

### **How to apply:**

Interested candidates can apply by filling up an online form, and uploading all the relevant documents/images, including:

1. Scanned colour copies of educational certificates and marksheets,
2. Curriculum Vitae (1-2 page),
3. Statement of purpose (1-2 page), as to what motivates the applicant to apply for the above post and why the applicant is the appropriate choice for the opening,
4. A recent passport size photograph and signature

Each applicant would need to provide references of two individuals whom the Institute could contact for referral letters. In case of any queries/help, please contact [recruitment@rri.res.in](mailto:recruitment@rri.res.in)

**Link to the application: <http://www.rri.res.in/openings/rapratush.html>**

Incomplete applications, particularly those without a Statement of Purpose, will not be considered.

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