



13 September 2024

**Notification for Recruitment of Junior Research Fellow, Electrical Engineering**  
**Project funded by Science & Engineering Research Board**  
**Ref: IITPKD/2024/080/EE/SWS**

- **Project areas:** The project involves simulating scattering of weather radar signals at X-band. The details are as follows:
  - Simulate the scattering amplitude and phase of radar signal (at horizontal and vertical polarizations) at 9.4 GHz from cloud particles like dry pristine crystals (plates, dendrites and columns), aggregates and graupel and hail.
  - Simulate the radar variables at 9.4 GHz i.e., reflectivity, differential reflectivity, phase difference (differential phase shift) between horizontal and vertical polarization signals for dry pristine crystals (plates, dendrites and columns), aggregates and graupel and hail.
  - Develop a retrieval algorithm to estimate shape, size, orientation of particles based on simulated radar variables.
- **Required skills:**
  - Candidate should be proficient either in MATLAB or PYTHON as the simulation environment.
  - Candidate should have a clear understanding of electromagnetic waves transmission in air as well as scattering of electromagnetic waves from particle of different sizes in Rayleigh and Mei scattering regime. Microwave engineering knowledge is desirable where the candidate can simulate scattering from particles using HFSS.
  - Candidate should have a working knowledge of weather radar variables.
- **Eligibility:** Any of the below qualifications are acceptable
  - Candidates should have completed Master of Science (MSc) in Physics with courses in Electromagnetic Theory. Candidate with MSc in Physics should have qualified Joint Admission test for Masters (JAM) or GATE. (or)
  - Candidates should have completed a Master of Science in meteorology with courses in Electromagnetic Theory, Atmospheric Radiations or weather radars. Candidate with MSc in meteorology should have qualified Joint Admission test for Masters (JAM) or GATE. (or)
  - Candidates should have completed a Master of Technology in Electrical/Electronics Engineering with courses in Electromagnetic Theory and Radar signal processing. Candidates should have qualified in GATE.

- **Age:** Candidates who are not exceeding 31 years of age, as on the closing date of application, with relaxation to candidates belonging to OBC/SC/ST/PWD categories and women applicants as per Government of India norms.
- **Appointment duration:** Six months initially and extendable based on satisfactory performance and availability of funds.
- **No. of Positions:** One
- **Salary Particulars:** The monthly remuneration for this position will be Rs. 31,000/- (Thirty- One Thousand Rupees Only). Hostel accommodation may be provided at the institute based on availability on a chargeable basis. In case of non-availability of institute hostel, admissible HRA will be provided as per Government of India rules.
- **Deadline for application:** 28 September 2024 (Saturday)

Candidates satisfying the required skills may send their resumes and certificates pertaining to educational qualifications starting from class X (in a single PDF) to “[swaroop@iitpkd.ac.in](mailto:swaroop@iitpkd.ac.in)”. The subject of the application e-mail should be **Application for Junior Research Fellow - IITPKD/2024/080/EE/SWS**. The candidate is expected to join immediately after receiving the offer letter.