

09 October 2026

Notification for Recruitment of Research Associate/ Post-Doctoral Fellow,
Mechanical Engineering
Project funded by the IPTIF IMPACT
Ref: IITPKD/2026/052/ME/KSG

● **Project Areas:**

Project title: Sensor-Integrated AI Platform for Optimal Monitoring and Control of Energy Systems.

Development of a cloud-native, modular control platform in which a central controller coordinates multiple wireless sensing nodes, with real-time dashboards and AI-based anomaly detection supported by a Retrieval-Augmented Generation (RAG) assistant. Advancing a TRL 4 prototype to TRL 5 for combustion, electrochemical-energy, and environmental-monitoring applications, and laying the groundwork for a startup spin-off.

Key responsibilities: (i) design and fabrication of modular sensor interface boards and a scalable wireless node, with real-time acquisition and control firmware; (ii) anomaly- detection models, cloud data pipeline (FastAPI + MySQL), web dashboards, and RAG- based experiment assistant; (iii) extended validation campaigns in combustion and electrochemical setups; (iv) patents, publications and startup proposals, and mentoring project interns and coordinating PCB / enclosure fabrication with IIT Madras and Amrita Vishwa Vidyapeetham.

● **Required Skills:**

- Embedded & Automation: Microcontroller embedded systems, C/C++, sensor development and integration, automation and control, LabVIEW.
- Software, Cloud & AI: Python, MATLAB, AWS cloud services; working knowledge of (or aptitude to lead) FastAPI, MySQL, React dashboards, ML-based anomaly detection and LLM/ RAG pipelines.
- Design & Fabrication: SolidWorks, AutoCAD, 3D design & 3D printing, custom hardware fabrication, enclosure and fixture design.
- Energy Systems: Hydrogen generation, thermochemical and photoelectrochemical water splitting, electrolyzers, solar PV systems, experimental design.
- Characterisation: Experience handling gas chromatograph, XRD, dataloggers, thermochemical reactors, etc.
- Professional: Project and team leadership, grant and technical writing, IP drafting, stakeholder coordination, fluent English (IELTS 7.5 or equivalent).

- **Eligibility:**

Essential qualifications: Ph.D. in an Interdisciplinary Research or Energy Engineering, or a closely allied field, from a recognised institute,

Essential experience:

- Minimum 5 years of combined work experience in technology development and experimental energy research.
 - Industrial experience in designing and implementing embedded-systems-based automation solutions; demonstrated record of building custom experimental prototypes from concept to working hardware.
 - Granted Indian patent and design applications in energy devices.
 - First-author publications in reputed journals in experimental energy research.
 - Hands-on work with electrochemical and energy test setups and associated measurement instrumentation.
 - Entrepreneurial experience in a deep-tech startup incubated, with success in raising competitive grants and cloud support.
- **Age:** Candidates who are not exceeding 35 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:** 6 Months.
 - **No. of Positions:** One
 - **Salary Particulars:** The consolidated monthly remuneration for this position will be in the range of Rs. 50,000/- to Rs. 60,000/- (Fifty Thousand Rupees to Sixty Thousand Rupees Only). Hostel accommodation may be provided at the institute based on availability on a chargeable basis.
 - **Deadline for application:** 16 October 2026 (Friday)

Candidates satisfying the required skills may send their resumes and certificates pertaining to educational qualifications starting from Class X, including a list of publications (in a single PDF) to “krishna.s@iitpkd.ac.in”. The subject of the application e-mail should be “Application for Research Associate/ Post-Doctoral Fellow Sensor-Integrated AI Platform) - IITPKD/2026/052/ME/KSG”. The candidate is expected to join immediately after receiving the offer letter.
