Applications Invited for Post-Doctoral Research Fellowship

CLEANZ Centre of Excellence, IIT Hyderabad

Position: Post-Doctoral Research Fellow in AI-Driven Scale-Up of Graphene Synthesis and Process Optimization under the CLEANZ Centre of Excellence

Duration: One year. Extension is subject to performance, through a review process.

Fellowship: ₹58,000 to ₹78,000 per month, plus 30% HRA (if applicable), based on experience

Experience: Fresh Ph.D. (at least a provisional degree certificate awarded). Some post-doctoral experience is preferred.

Eligibility

Essential Qualifications

- Ph.D. in **Materials Science, Metallurgical, Chemical or Mechanical Engineering**, or in **Artificial Intelligence / Computer Science**, with relevant experience in AI/ML or data-driven materials research.
- **BE/BTech or equivalent** in Materials Science, Metallurgical, Chemical or Mechanical Engineering.
- At least three publications in Scopus-indexed journals.

Desirable Qualifications

- Research or industrial experience in machine learning, Bayesian optimization, materials informatics, advanced AI or generative modelling. Experience in clean coal technology is an advantage.
- Experience in process model development.
- Familiarity with the synthesis of graphene or other 2D materials.
- Working knowledge of materials characterization techniques.
- Experience in applying AI/ML to optimize material growth and structure.
- Knowledge of automated experimentation and AI/ML-based process optimization.
- A good academic record throughout, with good writing and communication skills.

Job Description

- Develop a definite research product or outcome at Technology Readiness Level (TRL) 5/6.
- Review the relevant literature and coordinate the work with the team.
- Prepare reports, write research articles and manage the laboratory.
- Interact with the sponsoring agencies and travel for project execution, if needed.
- Develop AI/ML models to optimize the flash Joule heating process for bulk graphene synthesis.

Performance Metrics

- IP generated.
- AI/ML-driven approaches that improve the yield and quality of bulk graphene.
- New knowledge and technology solutions in clean coal technologies.

Expected Outcomes

IP, scalable technology, research-oriented technical minds, new application areas of coal using AI, and start-ups.

Domain Areas of Interest

1. AI/ML-based optimization of bulk graphene synthesis
2. Bayesian optimization and active learning for materials synthesis
3. Predictive modelling of graphene yield and quality
4. Automated experimentation for bulk graphene production

How to Apply

- Apply here: https://forms.gle/vHVBR6cnbTUuhVuR9
- Candidates who fulfil the eligibility criteria should apply through the above link by **5:00 pm, 25.11.2026**.
- For more details, please visit https://cleanz.coe.iith.ac.in/index.html
- Contact: deepu.babu@msme.iith.ac.in

Selection Procedure

- Candidates will be shortlisted based on the eligibility criteria, academic record and relevant experience.
- Only shortlisted candidates will be informed by email about the interview with the selection committee.
- Meeting the criteria alone does not guarantee a call for an interview.
- If no suitable candidate is found, the position will remain vacant, and a new advertisement with an extended date will be issued.

Other Conditions

- CLEANZ will not provide accommodation.
- Accommodation at IIT Hyderabad is subject to availability (without the HRA component, as per norms).
- The position is on-site, within the IIT Hyderabad campus.