భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Opening of Junior Research Fellow (JRF) position at IIT Hyderabad

Centre of Excellence for CLEAN Energy and Environment (CLEANZ) at IIT Hyderabad
invites applications for the position of Junior Research Fellow under a Coal India Limited (CIL)-funded project on the

Recovery of Rare Earth Elements from Coal Sources (overburden, coal ash, fly ash, tailings, etc.)

Essential Qualifications: First class in ME/MTech/MS and BE/BTech/BS in Chemical/Metallurgy/Materials Engg/Materials science/Mining Engg/Production Engg/Environmental Engg.

Desirable Qualifications: 1. Research/industrial experience related to metal extraction/recycling/recovery processes; 2. Expertise on the extraction of rare earth, critical metals from secondary sources such as fly ash, coal, red mud, etc, 3. Hands-on experience in TGA/DSC, TEM, XRD, SEM-EDS, spectrometers, etc., and 4. Sound knowledge of thermodynamics & kinetics of processes.

Fellowship and allowances: Rs. 37,000/- monthly + HRA. Accommodation inside the IITH campus is subject to availability at the time of joining. This position is initially for one year and will be renewed every year based on the fund availability and satisfactory performance, for a consecutive 4 years.

If you meet the above criteria, please click Link to apply for the position

Application deadline : 7th August 2025
Tentative interview date : August 3rd week
Tentative date for joining : 1st Sep 2025

A successful candidate should be willing to do a PhD (if eligible) in the same research area at IITH

See the next page for project technical details....

If any queries about the position, please contact ashokk@msme.iith.ac.in

About the Project

Coal ash contains most of the rare earth elements, the concentrations of which are higher than those of the original coal; thereby, the REE concentration is about eight to ten times higher. Therefore, they serve as one of the potential secondary sources for REE. This project deals with the extraction & recovery of rare earth elements from such sources following physical separation (comminution, gravity separation, etc), pyro (roasting, calcination, etc), and hydrometallurgical (leaching, solvent extraction, ion exchange, precipitation, electrowinning, etc) processes. The project also involves extensive characterization of coal, ash, and other intermediate products using various techniques such as TGA/DSC, XRD, SEM-EDS, spectrometers, TEM, etc. In addition to experimental and characterization work, a rigorous theoretical (thermodynamics & kinetics modeling) approach is needed to design the extraction and recovery processes using various tools.