



यांत्रिक एवं औद्योगिकी अभियांत्रिकी विभाग
MECHANICAL & INDUSTRIAL ENGINEERING DEPARTMENT
भारतीय प्रौद्योगिकी संस्थान रुड़की
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Advt. no.: IITR/MI/PDF/25-26/AT-01

Dated: 05/07/2025

ADVERTISEMENT FOR POST DOCTORAL FELLOWSHIP POSITION

The Department of Mechanical and Industrial Engineering at the Indian Institute of Technology Roorkee invites applications from outstanding and enthusiastic researchers for a postdoctoral position under the mentorship of Prof Andallib Tariq focused on "Synthesis, physical and electrochemical characterization of Safe and High Energy Density Solid-State Batteries for Electrical Vehicles".

The last date for the submission of the application is **July 15, 2025**. Applications received after this date will not be considered.

QUALIFICATIONS, SPECIALISATION, EXPERIENCE and PROFILE

A. Essential qualifications:

1. The candidate must have a **PhD** from IITs or equivalent international universities of repute in Mechanical Engineering/ or Chemical engineering, with a research background in the field of batteries or solid oxide fuel cells with a good publication record.
2. Publication: **05** journal publication with minimum of 2 or 3 in Q1/Q2 (Clarivate index), and **05** reputed international conference papers.
3. **BTech/BE** in Mechanical or Chemical engineering from IITs/CFTI/NITs only.

B. Desirable qualification:

1. Proficiency in computational software packages MATLAB, EES, Material Studio, Sima Pro, Aspen, HSC Chemistry, ZSimpWin, ZView, Origin, ImageJ.
2. Strong knowledge of material synthesis techniques like Solid-state, Sol-gel, Glycine-nitrate, Co precipitation, melt infiltration methods, and freeze drying.
3. Solid understanding of surface science, catalysis, and reaction mechanisms, preferably with experience in the study of heterogeneous catalytic systems.

C. Prior experience in:

1. Electrochemical Characterization: CV, EIS, LSV, Chronoamperometry, ionic conductivity measurements (2/4-Probe method).
2. Materials Characterization: SEM, TEM, SAED, XRD, TGA/DTA, FTIR and related technique.
3. Fabrication Techniques: Tape Casting, Screen Printing, RF- sputtering, Electro spinning, Spin Coating, Ink-jet printing, Spray Pyrolysis.

D. Desirable Profile:

1. Candidates can lead independent research and may have demonstrated skill to do independent research; help in PhD supervision/ Project proposal writing/ Scientific report preparation.
2. Worked on green energy conversion devices orientation upon sustainability research.

DURATION & FELLOWSHIP AMOUNT

The duration of the fellowship will be 2 years. The Fellowship may be terminated by either side by giving one-month notice. A consolidated fellowship of **Rs. 80,000.00 per month** for two years and a **contingency of Rs. 50,000.00 per annum** will be awarded to Post-Doctoral Fellows.

HOW TO APPLY?

Candidates should clearly mention Advt. No. and date with title of the position applying for with a covering letter, curriculum vitae, three (03) names of referees, list of publications (**highlighted with the most relevant publication(s) for the post**), research statement describing past research and plans for future research in the context of the focus for which the post is being advertised (mandatory) all in a single PDF file by e-mail, to: atarig@me.iitr.ac.in

Notes:

- (i) Post-doctoral Fellows will be registered as students avail facilities of library, computer center, available hospital facilities etc. They will be entitled to 2.5 days of leave per complete calendar month. No carry forward for leave will be allowed beyond a calendar year. PDF positions are purely temporary. The benefits applicable to permanent employees like LTC and PDA are not applicable.
- (ii) The screened candidates will be intimated to attend interviews in-person (or online, as desired). No TA/DA will be re-imbursed for attending the interview.

ABOUT THE DEPARTMENT

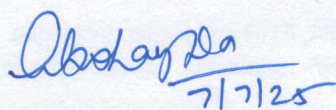
The Department of Mechanical Engineering came into being in the year 1946 and the first batch of Mechanical Engineers graduated in the year 1949. The department was renamed as the Department of Mechanical & Industrial Engineering on its silver jubilee in 1974 when an undergraduate programme in Industrial Engineering was started. At present it offers both undergraduate and postgraduate courses in various facets of Mechanical and Industrial Engineering. The department offers Master of Technology courses in Machine Design Engineering, Production and Industrial Systems Engineering, Thermal System Engineering, Welding Engineering and CAD, CAM and Robotics. The department has laboratory and workshop facilities with sophisticated modern equipment to carry out research in all areas related to Mechanical and Production & Industrial Engineering. The faculty actively participates in sponsored research and consultancy work.

(For more details, please visit: <https://me.iitr.ac.in/>)

ABOUT THE INSTITUTE

IIT Roorkee has its roots in the Roorkee College, which was set up in 1847. It was renamed as the Thomason College of Civil Engineering in 1854. The College laid the foundation of modern engineering education and the use of Civil Engineering practices in the infrastructure development of the country. The irrigation infrastructure in the form of dams and canals, roads and highways, railway, bridges, etc. in the country, all have been the outcome of the engineering education imparted in this, the only engineering institution in the country, at that point of time. It got elevated as the first technical University of the country in 1948 through the University of Roorkee Act, 1947 passed by the United Provinces Legislature. University of Roorkee also became the first institution in the country to offer postgraduate programs engineering and technology in 1955. On September 21, 2001, the University was converted into an IIT by the Government of India through an Act of Parliament and recognized as an Institution of National importance. Roorkee is the entry point of Uttarakhand state. It is on the way to Haridwar from Delhi.

(For more details, please visit <https://www.iitr.ac.in/>.)



(Head of the Department)

Department of Mechanical and Industrial Engineering
IIT Roorkee,

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भारतीय प्रौद्योगिकी संस्थान, रुड़की

Head, Department of Mechanical and Industrial Engineering

Indian Institute of Technology, Roorkee