Indian Institute of Technology Ropar

Fracture Mechanics Lab,
Department of Metallurgical and Materials Engineering

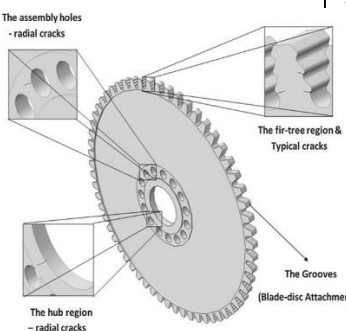## ADVERTISEMENT FOR THE POST OF Junior Research Fellow (JRF)

Applications are invited from interested and motivated candidates for the post of Junior Research Fellow (JRF) in a time bound research project for a period of 4 years, purely on contractual basis as per the following details.

AR&DB Project Title: "Damage modelling and Creep Fatigue Crack growth behavior of Gas Turbine disk fir tree using finite element analysis and material coupon test data"

Job Location: Fracture Mechanics Lab, Department of Metallurgical and Materials Engg., IIT Ropar, Rupnagar, Punjab, 140001

Broad area of the project: Continuum Mechanics, mechanical behaviour of metallic material

Post-I

Position Title	Junior Research Fellow (JRF), One (01)
Eligibility	• B.Tech degree in Mechanical Engineering/Metallurgical and Materials Engineering or related engineering such as Production Engg., Aerospace engineering, Material Science and Engg. Etc. (60% marks or CGPA of 6 and above) with qualified GATE. OR • M. Tech degree in Mechanical Engineering/Metallurgical and Materials Engineering or related engineering such as Production Engg., Aerospace engineering, Material Science and Engg. Etc. (60% marks or CGPA of 6 and above) with qualified GATE. Final (M. Tech.) semester students may also apply; they must submit the provisional degree at the time of joining. OR • BTech in aforementioned areas from CFTIs with 7.5 CGPA can apply without GATE.
Age limit	Must not be more than 28 years of age from the closing date of application (relaxation as per the norms/ orders of GOI).
Duration	1 year can be extended to a max of 4 years or the project completion date, whichever is earlier based on annual performance review
Fellowship for JRF	Rs. 37,000/- per month +HRA for the first 02 years Rs. 42,000/- per month +HRA for the third year and fourth year
Desirable qualifications	• Candidates with a strong background in mechanics of materials, including Finite element analysis. • Research publication in conferences or journals, interest in experimental testing and numerical modelling of plastic and creep deformation. • The selected candidates shall be encouraged to register for Ph.D. at IIT Ropar.
Job Description	In this project the candidate will be performing tensile, fatigue, fatigue crack growth, creep and creep-fatigue crack growth experiments along with numerical modelling of the same using Chaboche elasto-visco-plastic model for material qualification in fir tree design of gas turbine. The objective of the project is to use the numerical model for damage prediction in the fir tree region of the turbine disk. The candidate may have to visit the collaborating lab GTRE and other places as per need of the project.
Other	As per updated AR&DB (DRDO) norms
Application Procedure	Interested and eligible candidates are encouraged to submit the Google form: https://forms.gle/p5nXo7YN97Y1gcHMA
Due Date	22nd August 2025

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Other details	The prescribed educational qualifications are a bare minimum and mere possession of the same will not entitle candidates to be called for interview. Where the number of applications received in response to this notice of engagement is large, it may not be convenient or possible to interview all the candidates. Based on the recommendations of the Screening Committee, the Project Leader may restrict the number of candidates to be called for interview to reasonable limits after taking into consideration qualifications and experience over and above the minimum qualifications prescribed in the Notice. Therefore, it will be in the interest of the candidates to mention all qualifications and experience in the relevant field as on the date of advertisement. All shortlisted candidates will be required to appear before the Selection Committee for an online/offline interview. The URL link for online interview will be provided to shortlisted candidates. No interview call letter will be issued separately. Selected candidates will have to join duty immediately on receipt of the offer of engagement. **For any queries please contact:** Dr. Abhishek Tiwari, Assistant Professor, Metallurgical and Materials Engineering department, IIT Ropar, email: abhishek.tiwari@iitrpr.ac.in Phone: 01881-23-2410