

MECHANICAL ENGINEERING DEPARTMENT

February 04, 2025

ADVERTISEMENT FOR JUNIOR RESEARCH FELLOW

Project Title: Development of a Novel Process for Fabrication of Cost-Effective CFRP/Ti/Al Stacked Composites for Structural Aerospace Applications

Position: Junior Research Fellow (JRF)

Duration: 24 (months)

Stipend: Rs 37,000 per month for 2 years with 9% HRA

- **About the project:** This research aims to advance materials science and aerospace engineering by developing an effective methodology for producing Titanium (Ti) and Aluminum (Al) laminates using Large Strain Extrusion Machining (LSEM). It examines machining parameters' effects on Ti/Al laminates and integrates them with Carbon Fiber Reinforced Polymer (CFRP) to create stacked composites. The study focuses on cost-effective, high-performance aerospace composites, potentially leading to patentable innovations. Outcomes include scholarly articles, detailed reports, and a doctoral thesis. Ultimately, this research seeks to revolutionize laminate manufacturing, enhance composite performance, and contribute significantly to aerospace engineering through innovative methods and academic dissemination.

Qualifications:

Essential: M.E./M.Tech. in Mechanical Engineering / Design Engineering / CAD/CAM Engineering / Production Engineering or relevant Discipline.

Desirable: This project requires expertise in materials science, machining processes (LSEM), composite manufacturing, mechanical testing, and metallurgical analysis, along with proficiency in CAD, Ansys, FEM simulations, data analysis tools and report writing.

Last date of application: **14th February, 2025**

How to Apply:

1. Interested candidates are requested to submit a detailed CV to through email (with the subject as "Project Vacancy to Stacked Composites for Structural Aerospace Applications") to the PI (rsjoshi@thapar.edu) before the last date.
2. Shortlisted candidates will be intimated for the online interview by email only.
3. The candidate selected for the above positions may also get enrolled for Ph.D. degree simultaneously as per the Institute norms.
4. In case of any query related to above project, kindly email to **Dr. Ravinder Singh Joshi** (98889-97298) or **Dr. Rohit Kumar Singla** (98783-02177).

Dr. Ravinder Singh Joshi (PI), **Dr. Rohit Kumar Singla** (Co-PI) & **Dr. Kishore Khanna** (Co-PI),
Mechanical Engineering Thapar Institute of Engineering and Technology, Patiala