

**Post-Doctoral Fellow
Worcester Polytechnic Institute**

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Posted Jan. 23, 2025, set to expire May 22, 2025

Job Title	Post-Doctoral Fellow
Department	Mechanical Engineering
Institution	Worcester Polytechnic Institute Worcester, Massachusetts
Date Posted	Jan. 23, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering
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Job Description

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JOB TITLE

Post-Doctoral Fellow

LOCATION

Worcester

DEPARTMENT NAME

Mechanical Engineering - NFR JM

DIVISION NAME

Worcester Polytechnic Institute - WPI

JOB DESCRIPTION SUMMARY

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The iMdc program is searching for post-doctoral fellows to increase the number and diversity of projects in our research portfolio, with emphasis on advanced manufacturing technologies for high-integrity applications.

JOB DESCRIPTION

The successful candidate will be engaged in conventional and advanced materials manufacturing technologies, including additive manufacturing, cold spray fabrication, friction stir welding, and cast and wrought alloy processing, including high-entropy alloys. The candidate will perform advanced experimental investigations and computational modeling to simulate these processes (thermal histories, microstructure evolution, etc.), evaluate fatigue and high temperature performance and damage/failure mechanisms occurring in these materials, and optimize the materials and manufacturing processes for high-integrity applications. The candidate should have extensive knowledge of materials science (fatigue, thermo-mechanical fatigue, and creep, fracture mechanics and life predictions, materials processing and microstructures, dislocation mechanisms, stress analysis), experimental engineering experience (CNC machining, mechanical testing, metallography and fractography - scanning and transmission electron microscopy, including EBSD, X-ray diffraction, and digital image correlation are required), and analytical and computational modeling skills (knowledge of MATLAB, ANSYS, phase field and crystal plasticity modeling is highly desirable). Responsibilities will include design of experiments for fatigue, thermo-mechanical fatigue, and creep investigations, implementation of novel testing, characterization, and analysis schemes, and development of computational modeling tools for material, process, and performance prediction and optimization. In addition to the use of the mechanical testing and material characterization equipment, the candidate will coordinate training sessions for current and new students and researchers. The candidate will conduct research on multi-disciplinary projects, and will work in a fast-paced environment, which requires regular reports and presentations to research groups and funding agencies and sponsors. Excellent written and oral communication skills are essential requirements.

To apply please submit the following documents: Cover letter with areas of research interest that align with this position; CV with list of publications; names and contact information for three references (letters of recommendation encouraged)

FLSA STATUS

United States of America (Exempt)

WPI is an Equal Opportunity Employer. All qualified candidates will receive consideration for employment without regard to race, color, age, religion, sex, sexual orientation, gender identity, national origin, veteran status, or disability. We are seeking individuals with diverse backgrounds and experiences who will contribute to a culture of creativity and collaboration,

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inclusion, problem solving and change making.

To apply, visit: https://wpi.wd5.myworkdayjobs.com/en-US/WPI_External_Career_Site/job/Worcester/Post-Doctoral-Fellow_R0001221

About WPI

WPI is a vibrant, active, and diverse community of extraordinary students, world-renowned faculty, and state of the art research facilities. At WPI, we have competitive and comprehensive benefits, including health insurance, long-term care, retirement, tuition assistance, flexible spending accounts, work-life balance and much more.

Diversity & Inclusion at WPI

WPI is committed to creating an inclusive workplace where everyone feels valued and respected; a place where every student, faculty and staff member can be themselves, so that they can study, live, and work comfortably, to reach their full potential, and make meaningful contributions in order to meet departmental and institutional goals. WPI thrives on innovative practice and welcomes diverse perspectives, insight, and people from diverse lived experiences, to enhance the community environment and propel the institution to the next level in a competitive, global marketplace.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

N/A

Worcester Polytechnic Institute

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