

**Post Doctoral Fellow
Worcester Polytechnic Institute**

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Posted Feb. 19, 2025, set to expire Jun. 18, 2025

Job Title	Post Doctoral Fellow
Department	Mechanical and Materials Engineering
Institution	Worcester Polytechnic Institute Worcester, Massachusetts
Date Posted	Feb. 19, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering Material/Metallurgy
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JOB TITLE

Post Doctoral Fellow

LOCATION

Worcester

DEPARTMENT NAME

Mechanical and Materials Engineering - NFR JM

DIVISION NAME

Post Doctoral Fellow Worcester Polytechnic Institute

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Worcester Polytechnic Institute - WPI

JOB DESCRIPTION SUMMARY

Materials Science Postdoctoral Research Fellow

JOB DESCRIPTION

Materials Science Postdoctoral Research Fellow **Responsibilities**

The Center for Heat Treating Excellence (CHTE) is seeking a candidate to take part in research and development activities within the center. CHTE is a center located within the Metal Processing Institute at WPI and it serves industrial members from the heat treating industry. CHTE bridges industrial research and development with academia (science). This implies that the center is engaged in both industrial development as well as scientific work. The focus of the center is on surface engineering and heat treatment of metallic materials with the purpose of improving materials performance. The candidate is expected to contribute to the research goals of the CHTE and to work on the projects defined by the industrial members. The initial project assignments will depend on the candidate's expertise. The candidate is expected to support the following activities in the center:

- Heat treatment of metals.
- Thermochemical surface engineering.
- Thermomechanical response of materials.
- Microstructure optimization.
- Tailoring of surface properties by surface engineering methods.
- Process development (heat treatment & surface engineering).
- Simulation of processes and materials properties/performance.
- Advanced microstructure characterization of metallic materials (e.g. light optical and electron microscopy, indentation techniques and X-ray diffraction).
- Operate new advanced equipment (dilatometry, calorimetry, thermogravimetry).
- Supervise and collaborate with undergraduate, master's, and PhD research students.
- Maintain research relationships for the research group with internal and external collaborators.
- Work closely together with industrial members.
- Write funding proposals to funding agencies and technical documentation (technical reports).
- Publish in relevant scientific and technical journals.
- Disseminate at relevant scientific and technical conferences and seminars etc.

Qualifications

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The successful candidate will have a strong background in Materials Science and Engineering (with emphasis on metals), laboratory experience, demonstrated (independent) technical & scientific work, contributed to experimental plans, data collection and analysis.

It is required that the candidate has:

- A Ph.D. degree in Materials Science and Engineering
- A background in metallurgy.
- Strong understanding of how microstructures affect properties and how processing can be used to design microstructures.
- Demonstrated technical leadership in project management and product development.
- Motivation and drive - and willingness to take ownership of projects that s(he) is responsible for.
- Materials characterization experience, including XRD, LOM, SEM & indentation techniques.
- Demonstrated strong communication skills (publications and presentations at conferences)
- Peer reviewed publications in relevant fields (cf. above)
- Proficient in English (both written and oral)
- Ability to work in a small team atmosphere

It is desired but not required that the candidate has:

- A Ph.D. thesis related to heat treatment of metallic materials (e.g. steels).
- A background in surface engineering and/or heat treatment of metals
- Experience with dilatometry and calorimetry/thermogravimetry
- Experience with gas-metal interactions (e.g. high temperature corrosion & thermochemical treatment)
- Strong understanding of steels and alloys containing interstitial elements.

FLSA STATUS

United States of America (Exempt)

WPI is an Equal Opportunity Employer that actively seeks to increase the diversity of its workplace. 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. It seeks individuals with diverse backgrounds and experiences who will contribute to a culture of creativity, collaboration, inclusion, problem solving, innovation, high performance, and change making. It is committed to maintaining a campus environment free of

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harassment and discrimination.

To apply, visit: https://wpi.wd5.myworkdayjobs.com/en-US/WPI_External_Career_Site/job/Worcester/Post-Doctoral-Fellow_R0002578

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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