Research Scientist
Worcester Polytechnic Institute

Job Title	Research Scientist
Department	Mechanical Engineering
Institution	Worcester Polytechnic Institute Worcester, Massachusetts
Date Posted	Nov. 26, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Research Scientist/Associate
Academic Field(s)	Mechanical Engineering Engineering Physics
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Job Description

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JOB TITLE
Research Scientist

LOCATION
Worcester

DEPARTMENT NAME
Mechanical Engineering - NFR JM

DIVISION NAME

Research Scientist
Worcester Polytechnic Institute

Worcester Polytechnic Institute - WPI

JOB DESCRIPTION SUMMARY
We are seeking a highly skilled and driven individual with expertise in materials science and mechanical engineering to lead a project in materials and structures for extreme environments. This initiative is a collaborative venture between aerospace corporate partners and a multi-disciplinary team of researchers at WPI with the goal of developing novel coating technologies to enhance the durability and reliability of engine blade components. The Research Scientist position will involve designing methodology/setups and conducting experiments that will contribute to the development of novel thermal barrier coatings for advanced turbine airfoils. The candidate should be prepared to work in a fast-paced environment, which requires regular reports and presentations to research sponsors.

WPI is passionate about creating an inclusive workplace that promotes and values diversity. We encourage applications from candidates who can support our commitment to equity, diversity, and inclusion.

JOB DESCRIPTION
Responsibilities

- Design experimental methodology/setups for thermal gradient testing of thermal barrier coatings (TBCs) in engine turbine blades under high temperatures and aggressive environments
- Conduct spallation life testing of TBCs under a thermal gradient to assess the effect of factors such as temperature, cycle, and loading conditions on the life of TBCs
- Serve as a technical and programmatic liaison to engineers and scientists at our corporate partners on the development of testing methods and conducting testing of TBCs
- Coordinate with the research team at WPI on experimental investigations and modeling to quantify mechanical and interfacial behavior of TBCs
- Coordinate with the research team at WPI for experimental investigations and modeling of thermo-mechanical fatigue of superalloys used in engine turbine blades
- Train personnel (graduate students, post-doctoral fellows, corporate researchers on testing methods, analysis, and characterization
- Collaborate with WPI faculty from various departments to deliver technical results and progress in the form of technical reports, publications, and presentations

Required Skills

- Ph.D. in Materials Science and Engineering, Mechanical Engineering, Aerospace Engineering,

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Applied Physics, or related fields
- Practical knowledge of design of experimental setups and standard lab practices
- Experience in experimental mechanics (in particular, mechanical testing, thermal and environmental testing, and basic material characterization (SEM, TEM, EBSD))
- Ability to work independently and in large multi-disciplinary teams
- Excellent oral and written communication skills

Desired Skills

- Experience designing, building, and conducting experiments that involve combustion and high temperature
- Experience with data acquisition, instrumentation, and/or signal conditioning
- Experience in the mechanical and thermal testing of coatings/thin films
- Basic knowledge of mechanics of materials (thermo-mechanical fatigue, creep, fracture mechanics), interface adhesion testing, and life predictions
- Basic knowledge of numerical modeling and finite element software

Required Documents

- Cover Letter / Statement of Interest
- Curriculum Vitae
- List of References

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 harassment and discrimination.

To apply, visit: https://wpi.wd5.myworkdayjobs.com/en-

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US/WPI_External_Career_Site/job/Worcester/Research-Scientist_R0002632

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.

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Contact Information

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

Contact

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