

Research Associate
Worcester Polytechnic Institute

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Posted Nov. 28, 2025, set to expire Jun. 30, 2026

Job Title Research Associate
Department Robotics Engineering
Institution Worcester Polytechnic Institute
Worcester, Massachusetts

Date Posted Nov. 28, 2025

Application Deadline Open until filled
Position Start Date Available immediately

Job Categories Research Scientist/Associate

Academic Field(s) Robotics
Mechanical Engineering

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Job Description

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JOB TITLE

Research Associate

LOCATION

Worcester

DEPARTMENT NAME

Robotics Engineering - NFR JM

DIVISION NAME

Research Associate Worcester Polytechnic Institute

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Worcester Polytechnic Institute - WPI

JOB DESCRIPTION SUMMARY

We are seeking a highly motivated Postdoctoral Research Associate to lead the design, prototyping, and control of a bio-inspired robotic gate system. This system will mimic biological mechanisms to enable adaptive, efficient, and robust control for regulating passage in dynamic environments. The role involves mechanical design, actuation strategies, and intelligent control for real-world deployment.

JOB DESCRIPTION

Key Responsibilities:

- **Design & Analysis:**
 - Develop innovative bio-inspired concepts for a robotic gate mechanism that can block or allow traffic dynamically.
 - Perform structural and dynamic analysis to ensure reliability and safety.
- **Prototyping & Integration:**
 - Fabricate and assemble robotic gate prototypes using advanced manufacturing techniques.
 - Integrate sensors, actuators, and control hardware for autonomous operation.
- **Control & Automation:**
 - Implement control algorithms for adaptive opening/closing based on environmental and user inputs.
 - Test and validate system performance under various conditions.
- **Research & Dissemination:**
 - Publish research findings in top-tier journals and present at conferences.
 - Collaborate with multidisciplinary teams and mentor graduate students.
- **Leadership & Teamwork:**
 - Lead a group of students performing sub-tasks
 - Develop strong communication and collaboration among group members
 - Expand research to novel directions and assist in grant applications

Required Qualifications:

- Ph.D. in Robotics Engineering, Mechanical Engineering, or a related field.

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- Strong background in linkage mechanisms, robotic design, actuation, and control systems.
- Proficiency in programming (e.g., Python, MATLAB, ROS) and hardware integration.
- Hands-on experience with prototyping and deploying embedded robotic systems.

Preferred Qualifications:

- Knowledge of bio-inspired mechanisms and adaptive systems.
- Experience with soft robotics or compliant structures.
- Familiarity with safety standards for automated systems.

Compensation:

\$60,000 - This is an on-site position beginning January 2026 to August 15, 2026 with the possibility of extension.

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. It seeks individuals from all 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-US/WPI_External_Career_Site/job/Worcester/Research-Associate_R0003306

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

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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

N/A

Worcester Polytechnic Institute

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