

Assistant Research Professor
Worcester Polytechnic Institute

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Posted Sep. 29, 2025, set to expire Jun. 30, 2026

Job Title Assistant Research Professor
Department Electrical & Computer Engineering Department
Institution Worcester Polytechnic Institute
Worcester, Massachusetts

Date Posted Sep. 29, 2025

Application Deadline Open until filled
Position Start Date Available immediately

Job Categories Assistant Professor

Academic Field(s) Electrical and/or Electronics

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Job Description

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JOB TITLE

Assistant Research Professor

LOCATION

Worcester

DEPARTMENT NAME

Electrical & Computer Engineering Department

DIVISION NAME

Worcester Polytechnic Institute - WPI

JOB DESCRIPTION SUMMARY

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The Research Assistant Professor will support research activities related to the development and integration of a hybrid-reality wireless networking testbed for unmanned ground vehicle (UGV) missions. This role involves hands-on work with software-defined radios (SDRs), wireless channel emulators, and network emulation platforms to enable accurate modeling of wireless communication environments. In collaboration with a university-wide multidisciplinary team, the Research Assistant Professor will contribute to the technical implementation, experimentation, data analysis, and reporting efforts of this overall project. Additionally, the Research Assistant Professor will be responsible for the instruction of several ECE undergraduate courses in wireless communications and embedded systems technology.

JOB DESCRIPTION

Responsibilities:

- Technical Development & Integration
- Configure and deploy EMANE-based network emulation environments.
- Integrate EMANE with SDR platforms (e.g., LimeSDR Mini 2, USRP X310) and the KeySight PROPSIM channel emulator.
- Implement PHY, MAC, and NET layers for BLE-compliant wireless networking nodes.
- Develop and test multi-path fading channel models and other RF propagation effects.
- Experimentation & Evaluation
- Conduct controlled experiments to assess wireless network performance under ideal and impaired conditions.
- Benchmark emulated results against simulated models to validate accuracy.
- Analyze data and document findings for internal and external dissemination.
- Research & Documentation
- Support literature reviews and contribute to addressing core research questions.
- Assist in drafting technical reports, publications, and presentations.
- Prepare visualizations, figures, and tables for peer-reviewed articles.
- Project Coordination & Reporting
- Maintain detailed logs of experimental setups and outcomes.
- Contribute to bi-monthly technical progress reports and final project documentation.
- Participate in bi-weekly AVMI meetings and quarterly GVSC technical reviews.
- Infrastructure Support
- Maintain and monitor high-performance compute servers and virtualization environments (e.g., ProxMox).
- Ensure proper operation of networking infrastructure, including 10GB switches and SDR arrays.
- Assist in transitioning the testbed to support future wireless standards (e.g., 5G/6G/FutureG).

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- Undergraduate Education
- Instruct undergraduate students in the theoretical concepts of wireless communication system design and embedded system implementation.
- Coordinate and operate hands-on laboratory sessions and project-based experiences for students enrolled in undergraduate courses in wireless communications and embedded systems.
- Provide timely feedback and evaluation of student performance in these undergraduate courses.

Requirements:

- PhD degree in Electrical and Computer Engineering.
- Experience with wireless communication systems, SDR platforms, embedded systems, and network emulation tools.
- Proficiency in Python, C++, Bash scripting, and XML configuration.
- Familiarity with BLE protocols and RF channel modeling.
- Preferred:
- Experience with EMANE, OpenAirInterface, or similar platforms.

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/Assistant-Research-Professor_R0003273

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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

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