

A Postdoc Opening for Cardiovascular Fluid Mechanics Worcester Polytechnic Institute

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Posted Aug. 6, 2025, set to expire Dec. 6, 2025

Job Title	A Postdoc Opening for Cardiovascular Fluid Mechanics
Department	Biomedical Engineering
Institution	Worcester Polytechnic Institute Worcester, Massachusetts
Date Posted	Aug. 6, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Ocean Engineering Mechanical Engineering Engineering Physics Engineering Mechanics Computer Engineering Bioengineering (all Bio-related fields) Aerospace/Aeronautical/Astronautics Engineering - Other
Apply By Email	zwei1@wpi.edu

Job Description

Postdoc Openings for Cardiovascular Fluid Mechanics

The Artificial Intelligence and Modeling Lab for Cardiovascular Diseases ([AIMCardio Lab](#)) at the Worcester Polytechnic Institute currently offers one Postdoc position. We are seeking highly motivated, dependable, and enthusiastic candidates with a passion for fluid-structure interaction—both

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computational and experimental—and its applications in cardiovascular diseases and medical devices. The initial appointment is for one year, with the potential for renewal based on satisfactory performance.

The Artificial Intelligence and Modeling Lab for Cardiovascular Diseases (AIMCardio Lab) focuses on fluid-structure interaction (both computational and experimental) and its applications in cardiovascular diseases and medical devices. We have established long-standing collaborations with leading U.S. hospitals (e.g., Children's Hospital of Philadelphia, Boston Children's Hospital, UMass Chan Medical School, Children's Hospital of Atlanta, Geisinger Medical Center) and prominent medical device companies (e.g., Abbott, Edwards Lifesciences, Boston Scientific, Medtronic). You can find more information about our latest research here: AIMCardioLab.wpi.edu.

Required Qualifications

- * A PhD or equivalent degree in engineering (Mechanical, Biomedical, Electrical, and Aerospace), applied mathematics, or related fields.
- ** Experience with experimental flow visualization techniques, such as Particle Image Velocimetry (PIV), OR
- ** Experience with fluid-structure interaction simulations or finite element modeling in biological systems, OR
- ** Experience with data-driven flow modeling techniques, including physics-informed neural networks or reduced-order modeling

Preferred Qualifications

- * Conduct various team-oriented and independent investigations in planning, developing, and implementing original experimental procedures within the overall scope of the research project.
- * Collect, analyze, and report on experimental data; create and maintain accurate and timely records of test results and protocol design; publish research findings in conference proceedings and high-impact research journals.
- * Exercise independent responsibility for project outcomes and design research for others to conduct.
- * Actively participate in soliciting funds through various federally funded research grant mechanisms (NIH, NSF etc.), and translational research funds.

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- * Participate in industry projects.
- * Work on innovation-oriented technological projects with potential for commercialization.
- * Mentor graduate students, undergraduate students, and technicians.

Applications will be reviewed immediately. Please **send a single PDF** containing the following items to zwei1@wpi.edu with **“Postdoc Application” in the subject line.**

- * Curriculum Vitae
- * Three representative journal articles (please attach full PDF of the articles)
- * Contact information for 3 references

Contact Information

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

Contact Prof. Zhenglun Alan Wei
Worcester Polytechnic Institute
Worcester, MA