

PHT180 News: Spring 2026

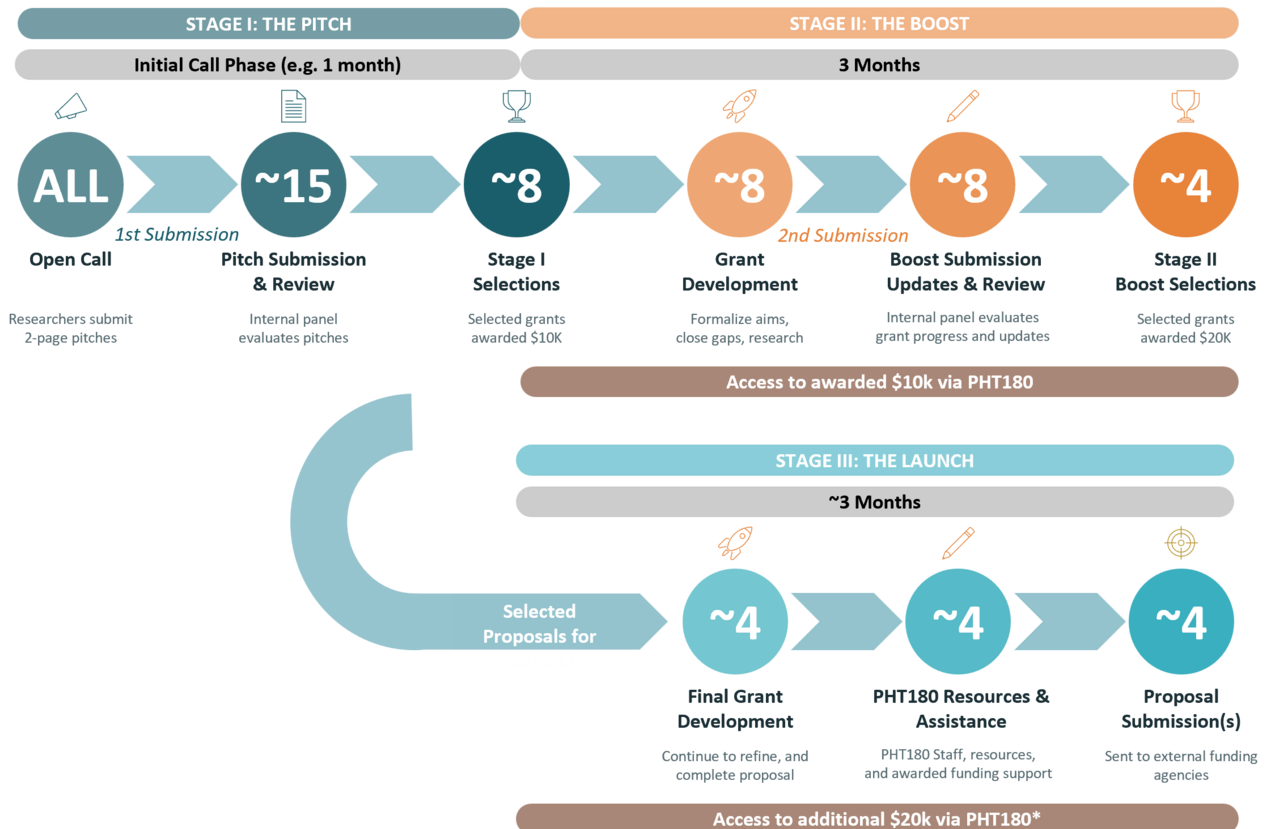
PHT180 Updates

Proposal Development Accelerator Program (PDAP)

PHT180 has launched a new **Proposal Development Accelerator Program!** Through this two-stage program, PHT180 affiliates can **be awarded up to \$40k** to support the development of competitive proposals for external submission.

This proposal-development support is intended to provide resources to remove bottlenecks such as sponsor alignment, team formation, targeted feasibility evidence, and grantsmanship. **First stage submissions are due April 13.** More information on the program and submission requirements can be found on the [PDAP web page](#).

If you have any questions on the program, please contact pht180@rit.edu.



* Stage II selected proposals have access up to an additional \$10,000 in PHT180 awards available through a 50/50 cost sharing commitment from a departmental/college fund. This is beyond both Stage 1 and Stage awards.

Illustration Services

Did you know that PHT180 employs student illustrators from RIT's Medical Illustration program? Our illustrators are available to support your design and illustration needs to promote your research and visually enhance your journal articles, grant proposals, posters, and presentations. If you are in need of illustration services, please contact Gina Lamanna at gmlpht@rit.edu.

New Research Awards



PI: Zhongwang Dou, Assistant Professor, Department of Biomedical Engineering

Sponsor: NSF

Project: CAREER: Unsteady Inertial Flow Dynamics in a Confined Domain Excited by Analytical and Empirical Actuation Patterns

Motivated by the desire to understand how human body movement affects blood flow in aneurysms, this project focuses on the influence of unsteady Coriolis forces on flow dynamics inside the aneurysm generated by physical activity. While previous works assume patients are stationary, this research fills a critical gap by using an integrated robotic-phantom-velocimetry system to simulate body motions and measure the resulting flow dynamics, with the goal of developing a predictive scaling law that links motion to aneurysm flow dynamic behavior. The findings could help inform safer, personalized exercise plans for patients with aneurysm. This project also includes interdisciplinary lectures for nursing students, public engagement through cardiovascular flow exhibit, hands-on research experiences for undergraduates, and outreach workshops for K-12 students. Together, these activities advance scientific understanding and promote broader impacts in engineering approaches to health innovation.

PI: Haibo Yang, Assistant Professor, Department of Computing and Information Sciences PhD

Sponsor: NSF/OSU

Project: AI Institute for Future Edge Networks and Distributed Intelligence (AI-EDGE)

We will develop the key underlying technologies for distributed and networked intelligence to enable a host of future transformative applications such as intelligent transportation, remote healthcare, distributed robotics, and smart aerospace. It is a national priority to educate students, professionals, and

diversify the workforce. We will develop novel, efficient, and modular ways of creating and delivering educational content and curricula at scale, and to spearhead a program that helps build a large diverse workforce in AI and networks spanning K-12 to university students and faculty.



PI: Ji Hwan Park, Assistant Professor, School of Interactive Games and Media

Sponsor: DOD/University of Oklahoma

Project: Identifying Protein Motifs in Cas9 Essential for Bacterial Virulence

This project will use deep learning algorithms to identify Cas9 protein motifs that are unique to a specific type of Cas9 protein sequence. In the proposed work, we aim to identify specific motifs that relate to pathogenic Cas9s. The data will be compared with the motifs identified from the Hidden Markov Model, which will strengthen our approach of identifying protein motifs that are uniquely related to bacterial pathogenicity. Further validation of the selected motifs with experimental analysis will not only confirm the functional significance but will also test the strength of predictions by computational methods. This project has the potential to create data that can be developed into larger analysis of CRISPR-mediated bacterial pathogenesis using our combined expertise.

Welcome New Affiliates!



Ali Baheri

Assistant Professor
Department of Mechanical Engineering

Research Areas: AI in healthcare and intelligent systems



Sneh Bangar

Assistant Professor
Department of Packaging and Graphic Media Science

Research Areas: Packaging science, sustainable materials, food safety, shelf-life extension, antimicrobial and active packaging, smart and intelligent packaging systems



Marco Pinto-Orellana

Assistant Professor
Integrated Sciences Academy

Research Areas: Computational modeling of brain function using noninvasive neuroimaging (EEG and fNIRS); signal signatures, or features, discovery for health and cognitive applications; network modeling and analysis of temporal and causal relationships in neural signals; high-dimensional stochastic dynamic system estimation in neural data



Ke Xu

Assistant Professor
School of Physics and Astronomy

Research Areas: Edge-AI for biomedical signal processing, real-time physiological data analytics, intelligent biosensing and smart diagnostics, neuromorphic computing for healthcare systems, low-power medical devices and embedded AI



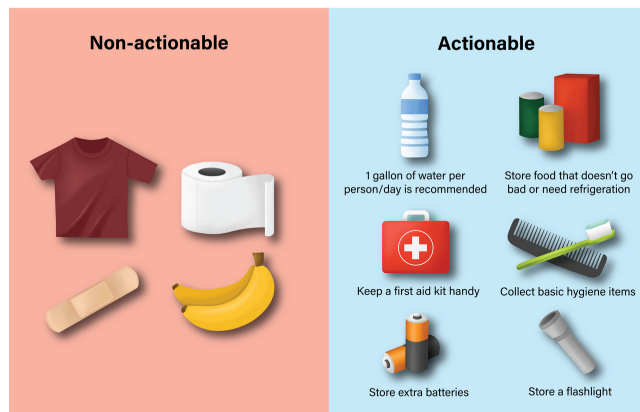
Zhiheng Xu

Visiting Assistant Professor
Department of Mechanical Engineering

Research Areas: Biomedical sensors and biosensing technologies, wearable and flexible health monitoring systems, point-of-care diagnostic devices and microfluidic systems, electrochemical sensing for biomedical and environmental health applications, printed electronics and additive manufacturing for biomedical devices, AI-assisted health data analysis and intelligent sensing systems

Illustrations

"Collect basic household items you may need in the event of an emergency"



Aastha Soni created an illustration for **Kaitlin Stack Whitney** for her forthcoming publication in *Case Studies in the Environment* titled "Closing the Preparedness Divide: A Case for Inclusive Climate Disaster Communication for People with Intellectual and Developmental Disabilities in the United States." (*in press*)

Affiliate Highlights

Other Awards and Honors

- ♦ **Michael Kuhl** (Professor, Department of Industrial and Systems Engineering) received the INFORMS Simulation Society Distinguished Service Award at the Winter Simulation Conference.
- ♦ **Esa Rantanen** (Associate Professor, Department of Psychology) has been appointed associate editor of *Human Factors*.
- ♦ **Lea Michel** (Professor, School of Chemistry and Materials Science) was named a 2026 Fellow of the American Society for Biochemistry and Molecular Biology.
- ♦ **Andre Hudson** (Dean, College of Science) was added to the Wiley Index of Inspiring Black Scientists.

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