


# 2026 ANNUAL REPORT

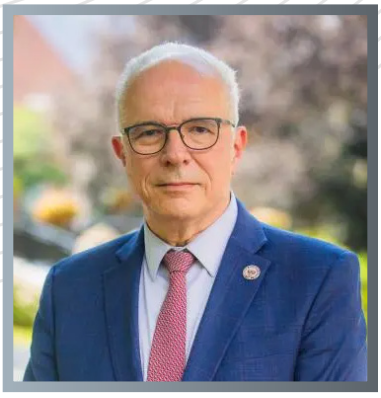
## Discovery and Innovation with a Purpose

# Dear Colleagues

*Fiscal Year 2026 (FY2026) was a year of exceptional growth for WPI's research enterprise. Despite increasing uncertainty in the federal funding environment, WPI achieved a record $68 million in research awards, a 42% increase over the past five years, while strengthening the foundations needed for long-term success.*

*This growth reflects both faculty excellence and a deliberate strategy to build a resilient, diversified research portfolio. Federal funding remained strong at $48.5M (71% of awards), while state and local funding grew to $14.6M (21%), reducing reliance on any single funding source. Within the federal portfolio, WPI expanded support from high-priority agencies, including the National Institutes of Health (NIH, $16.2M) and the Department of Defense (DOD, $13.6M), positioning the university at the forefront of national priorities in health, security, and advanced technologies.*

*The accomplishments highlighted in this report span areas of growing societal importance. WPI researchers secured major awards in artificial intelligence, robotics, biotechnology, advanced manufacturing, clean energy, and defense technologies, including National Science Foundations (NSF)-supported AI research led by Neil Heffernan and Jacob Whitehill, NIH-funded work on data-driven chronic pain treatment led by Jean King and Emmanuel Agu, and DOD investments in autonomous and human-machine systems led by Vladimir Vantsevich and Lee Moradi.*



*Equally important, FY2026 saw significant growth in partnerships and infrastructure that amplify research impact. Collaborations with organizations such as Draper, Saint-Gobain, ProAmpac, Natick Soldier Center, Massachusetts Biomedical Initiatives, and Tennessee State University expanded opportunities for research, workforce development, and innovation. State investments from the Massachusetts Life Sciences Center (MLSC), Massachusetts Technology Collaborative (MassTech), and Massachusetts Clean Energy Center (MassCEC) supported new initiatives including the Cell Tech Institute (CTI), the Central Massachusetts BioHub, PracticePoint's Medical Innovation and Training Center, and the Climatetech Hub Innovation Center, strengthening WPI's role as a driver of economic development and technological innovation across the Commonwealth.*

*These achievements were made possible by the creativity and dedication of our faculty, students, staff, partners, alumni, and trustees. Together, they underscore WPI's growing reputation as a university that combines research excellence with real-world impact. As we look ahead, we remain committed to expanding opportunities for discovery, fostering strategic partnerships, and developing solutions to the complex challenges facing society.*

## Bogdan Vernescu
## Vice President and Vice Provost for Research
## Worcester Polytechnic Institute

# Research Awards

Research funding demonstrates the institution's growing competitive strength in the national funding landscape (Fig. 1). Over the past five years, total research awards have increased 42% from $48M to $68M in FY2026. Beyond direct funding for faculty research, these awards generate substantial indirect cost recovery—critical revenue that supports research infrastructure, both physical and administrative support structure. The healthy trajectory positions the university competitively for continued growth in external funding and strengthens our capacity to attract and retain faculty researchers.

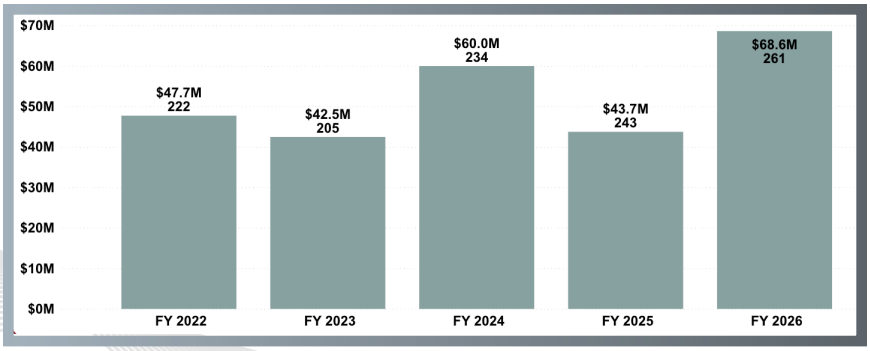



**Fig. 1. Research Awards Growth and Award Increments received through Office of Sponsored Programs (OSP).**

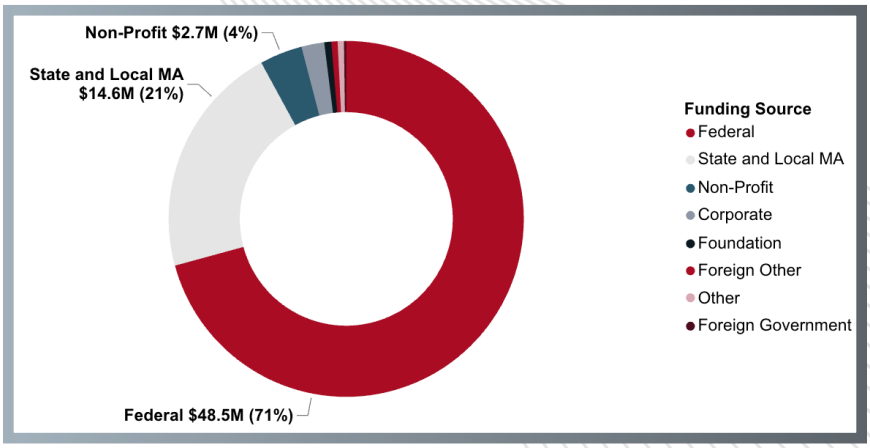



**Fig. 2. Awards by Funding Source.**

## Research Enterprise Resilience

As the federal funding landscape grows increasingly competitive, WPI has strategically diversified its research portfolio to reduce institutional vulnerability to federal fluctuations (Fig. 2). While federal funding remains strong at $48.5M (71%), the institution achieved significant growth in state and local funding ($14.6M, 21%). Continuing to invest in diversified funding development and stakeholder relationships beyond federal agencies, WPI is strengthening the resilience of its research enterprise and creating multiple pathways for faculty success.

## Federal Research Portfolio Demonstrates Competitive Strength in High-Impact Areas

WPI's federal research portfolio in FY2026 reflects exceptional wins in two critical areas: NIH ($16.2M) and DOD ($13.6M) represent notably strong performance this fiscal year, driven by specific high-profile awards in biomedical research and autonomous systems (Fig. 3). Complementary support from the NSF ($11.9M), Department of Education (DoED, $2.8M), and Department of Energy (DOE, $2.3M) provides portfolio breadth and reduces dependence on any single agency. Together, this year's federal distribution demonstrates that WPI can compete effectively across the full spectrum of federal research priorities. As federal priorities evolve and agency budgets fluctuate, this diversified federal portfolio positions the university to adapt while maintaining research momentum.

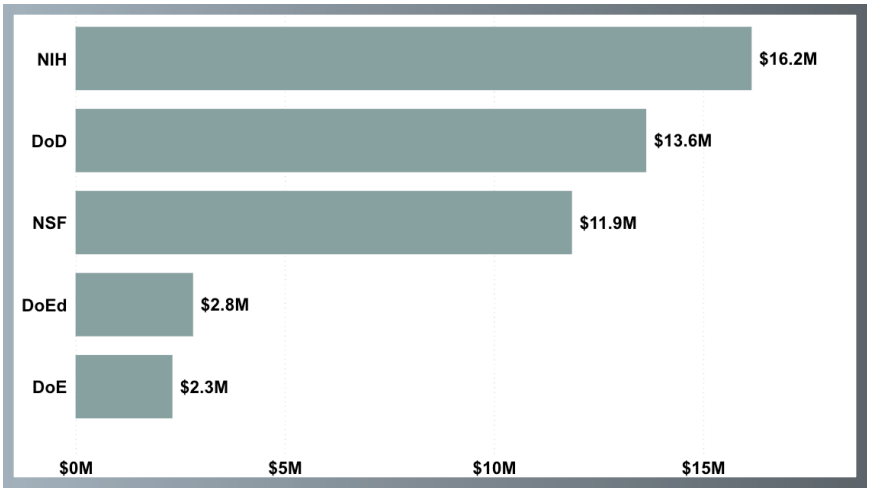



**Fig. 3. Federal Research Portfolio.**

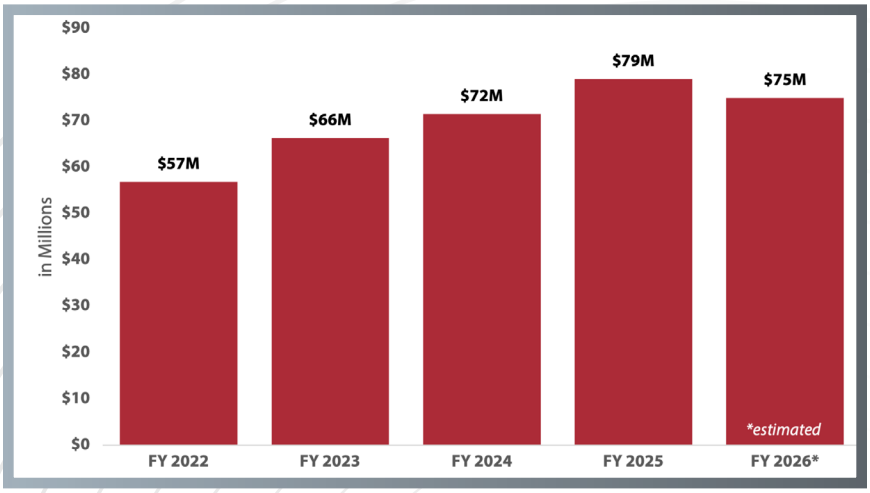



**Fig. 4. Research Expenditures Based on NSF HERD Survey.**

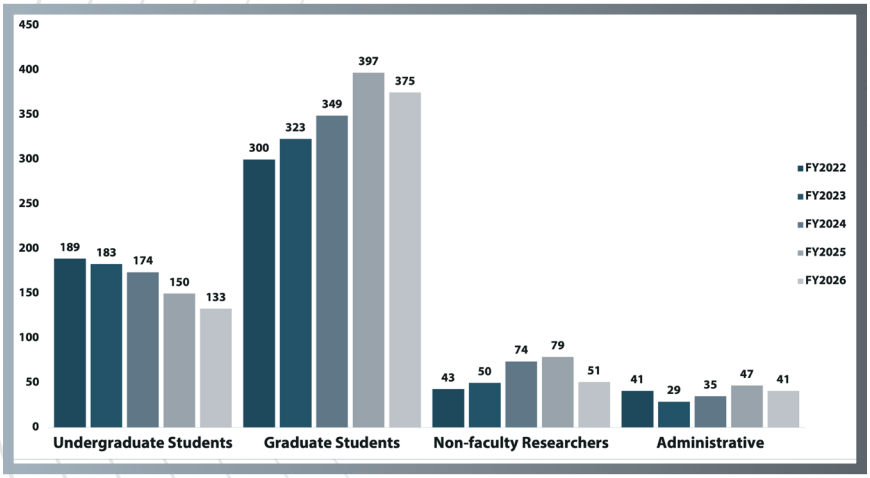



**Fig. 5. Personnel on Supported Grants.**

# Research Expenditure Growth and Strategic Investment

WPI's research expenditure trajectory demonstrates the institution's expanding capacity and commitment to research excellence. Total Higher Education Research and Development (HERD) expenditures have grown from $57M in FY2022 to a peak of $79M in FY2025, reflecting both increased external funding and strategic reinvestment in research infrastructure and personnel (Fig. 4). While FY2026 reflects a slight adjustment to an estimated $75M —partly driven by shifts in federal spending patterns—the sustained expenditure level well above FY2022 baseline underscores institutional resilience and allows continued confidence in our research enterprise. This growth parallels the 42% increase in research awards over the same period, indicating that external funding gains are translating into expanded research capacity.

The composition of research expenditures reveals WPI's strategic priorities. Graduate student support remains the largest personnel investment, reflecting the university's commitment to developing the next generation of researchers and problem-solvers (Fig. 5). Undergraduate student engagement in research has stabilized at elevated levels, demonstrating our integra-

tion of research into the educational experience. Growth in non-faculty researcher positions—including post-doctoral researchers and research scientists—indicates WPI's investment in sustained research teams that extend faculty capacity and accelerate discovery. Together, these personnel investments signal that our growth is not simply in grant volume, but in our ability to deploy talent strategically across research missions.

# Award Highlights

## AI, Data Science, and Robotics



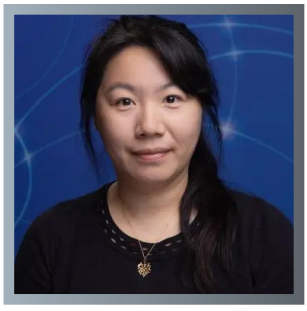
*Neil Heffernan, William B. Smith Professor of Computer Science*

**Neil Heffernan**, Computer Science and Learning Sciences, has received a grant from the NSF for a three-year project that will give educators a clearer view of the mathematical misconceptions that trip up math learners. Heffernan, will lead a team that will build a dataset illustrating the errors that students make while solving math problems in ASSISTments, a digital math platform developed at WPI for students and teachers. The goal of the project is to develop a resource that researchers, app developers, and educators can explore with artificial intelligence (AI) tools to understand students' reasoning and develop interventions.



*Jacob Whitehill and collaborators meeting at Boston University*

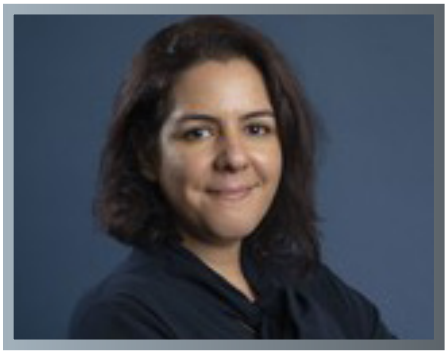
A colleague in Computer Science and Learning Sciences, **Jacob Whitehill**, has been funded as a key contributor to the National AI Institute for Student-AI Teaming (iSAT), a multi-institutional NSF research center led by the University of Colorado Boulder that is exploring how AI can support collaborative learning in K-12 classrooms. Whitehill's team develops multimodal machine learning tools that analyze classroom interactions, including gestures, facial expressions, and other behavioral cues, to provide teachers with real-time insights into student engagement and teamwork. Through collaborations with partners including Brandeis University, Boston University, and UC Berkeley, WPI is helping advance AI-powered educational technologies designed to foster more effective, equitable, and collaborative learning environments.



*Fanglin Che, Chemical Engineering*

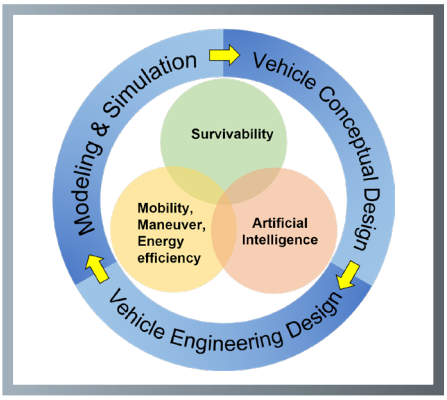
**Fanglin Che**, Chemical Engineering, received an NSF CAREER award to develop an AI-enabled simulation framework that explores how self-assembled organic ligands, thin layers of molecules attached to metal surfaces, can improve carbon capture and electrochemical $CO_2$ conversion. By combining artificial intelligence, computer simulations, and reaction modeling, the project will identify the molecular features that drive catalytic performance, establish predictive design principles, and accelerate the development of more selective and energy-efficient catalysts for producing fuels and other valuable chemicals.

WPI's other NSF CAREER award in FY26 has been for **Fatemeh Ganji**, Electrical and Computer Engineering, and her work that intends to make AI-powered devices more secure and protect users' privacy. Her research focuses on identifying and preventing weaknesses in the specialized computer chips that power AI systems in everyday technologies, such as wearable health monitors, security cameras, and medical devices. By developing new methods to defend against cyber-attacks that could expose sensitive information or compromise device performance, Ganji aims to help ensure that AI systems can operate safely and securely while protecting user data.



*Fatemeh Ganji, Electrical and Computer Engineering*

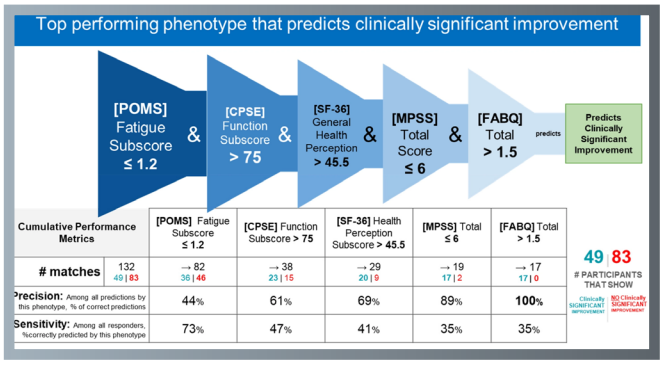
**Vladimir Vantsevich** and **Lee Moradi**, Mechanical and Materials Engineering and Autonomous Vehicle Mobility Institute, have received DOD funding for research in autonomous systems, power and mobility, and digital engineering, including the development of new modeling and simulation capabilities for the design, testing, and operation of complex human-machine systems. The work focuses on improving how autonomous and human-operated platforms interact across dynamic physical and virtual environments, enabling more effective decision-making, mobility, and system performance. A key outcome is the development of a Digital Engineering Ecosystem that integrates real-world and virtual simulation environments through interoperable extended reality technologies.




*Vladimir Vantsevich and Lee Moradi, Mechanical and Materials Engineering*

## Life Sciences and Biotechnology

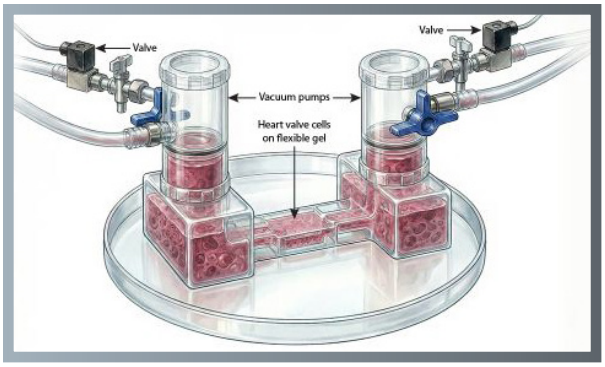
**Jean A. King**, Biology and Biotechnology, and **Emmanuel Agu**, Computer Science, are leading a NIH HEAL Initiative-funded project that combines neuroscience, data science, and artificial intelligence to improve chronic pain treatment. The research uses machine learning to identify biological, psychological, and social factors that predict which patients with chronic low back pain will benefit from mindfulness-based interventions, helping clinicians personalize care and reduce reliance on opioid medications. The multidisciplinary project brings together researchers from across WPI and beyond to advance more effective, data-driven approaches to chronic pain management.




*Jean A. King, Biology and Biotechnology, Emmanuel Agu, Computer Science*

**Kristen Billiar**, Biomedical Engineering, has been awarded funding for a four-year research project that is part of a $15M American Heart Association-funded multicenter initiative focused on the early detection and prevention of heart valve disease. As a member of the Center for Aortic Valve Disease Prediction and Integrated Research at the University of Pittsburgh,

Billiar will investigate how elevated levels of lipoprotein(a) interact with the biomechanical forces acting on the aortic valve to drive the development of calcific aortic valve disease, the most common form of heart valve disease. His work will help uncover the mechanisms that transform known risk factors into disease and contribute to broader efforts across three collaborative research projects focused on improving the detection, understanding, and treatment of aortic stenosis.




*Kristen Billiar, Biomedical Engineering*

## Advanced Sustainable Materials and Manufacturing

**Mehdi Mortazavi**, Mechanical and Materials Engineering, received an NSF grant to develop a workforce training program for the growing hydrogen energy sector. In partnership with Western New England University, regional community colleges, and industry collaborators, the program will combine classroom instruction, hands-on training, internships, and mentoring to prepare nontraditional learners for careers in hydrogen and other emerging technology industries.



*Mehdi Mortazavi (right), Mechanical and Materials Engineering and his graduate student test a hydrogen energy research setup*

**Yan Wang,** Mechanical and Materials Engineering, received a U.S. DOE award to develop a more efficient and sustainable method for recycling lithium-ion batteries. The project will create a one-step process for converting spent battery materials into high-performance components for next-generation batteries, helping reduce waste, lower recycling costs, and strengthen the domestic supply of critical battery materials. The project builds on years of pioneering battery recycling and materials research led by Wang, whose work has focused on developing more sustainable and economically viable solutions for recovering and reusing lithium-ion battery materials.



*A student assembles a coin cell to test upcycled cathode materials*

# Strategic Partnerships

A key element of WPI's innovation strategy is the development of long-term partnerships with government agencies, industry leaders, and regional organizations. These collaborations expand research opportunities, strengthen workforce development, accelerate technology commercialization, and create pathways for students to engage with real-world challenges. During FY2026, WPI continued to deepen existing relationships and establish new mechanisms for collaboration that support research, education, and economic development across multiple sectors.

## Natick Soldier Center

WPI strengthened its partnership with the Natick Soldier Center through updated Cooperative Research and Development (CRADA), Cooperative, and Educational Partnership agreements that provide a framework for expanded collaboration. Current activities include a DEVCOM-funded project led by **Ron Grimm** focused on protecting warfighters from chemical warfare agents, the participation in the multi-partner Food Resilience for Enhanced Safety and Health (FRESH) initiative, and plans supporting eight Major Qualifying Projects (MQPs) and one Independent Study. These efforts create opportunities for collaborative research while providing students with direct engagement in national defense and resilience challenges.

## Saint-Gobain

WPI continues to expand its collaboration with Saint-Gobain, a global leader in sustainable building materials. New Memorandum of Understandings, Non-Disclosure Agreements, and research agreements have established a stronger foundation for joint activities, including the WPI-Saint-Gobain Collaborative Analytical Research Center located at Gateway Park. The center supports corporate Research & Development while creating opportunities for faculty, graduate students, and undergraduate researchers through PhD projects, MQPs, Industry-University Cooperative Research Centers (IUCRCs), and shared use of specialized facilities.

## ProAmpac

WPI has also expanded its partnership with ProAmpac, collaborating on sustainable packaging research. The first pilot project, led by **Mike Timko**, focuses on improving coating technologies for paper-based packaging through joint work involving faculty, postdoctoral researchers, students, and industry partners.

## Massachusetts Biomedical Initiatives (MBI)

WPI's strategic partnership with MBI serves as a cornerstone of the region's life sciences ecosystem. Together, WPI and MBI support the full innovation pipeline through Gateway Park's business incubation facilities, the Central Massachusetts BioHub, and the MLSC-funded Pathmaker workforce development program. These initiatives connect research, entrepreneurship, pilot-scale manufacturing, and workforce training, helping companies move technologies from discovery to commercialization while developing a skilled talent pipeline for the growing biomanufacturing sector. Through this partnership, WPI and MBI continue to strengthen Central Massachusetts' position as a leading hub for biotechnology innovation, economic growth, and workforce development.

## Draper Lab

With the addition of three new Draper Scholars, WPI is continuing its strategic partnership with Draper Lab into the areas of autonomy, navigation, and sensor technologies. Through the Draper Scholars Program, WPI faculty and students work alongside Draper researchers on cutting-edge projects, gaining access to specialized expertise, facilities, and funding while advancing innovations that bridge academic research and real-world applications (Table 1).

**Table 1. Draper Scholars, FY2026**

| Advisor | Dept | Student | Degree | Research Topic |
|---|---|---|---|---|
| Pratap Rao | MME | Gary DeVilbiss | Ph.D. | Assessing Warfighter Readiness and Augmenting Performance through Robust Measurement and Fusion of Human Signals and Adaptive Support in Dynamic Training Environments |
| Kevin Leahy | RBE | Colette Scott | Ph.D. | Robust and Verifiable Task Scheduling for AUVs |
| Christo Thomas | ECE | Vaansh Mansharamani | Ph.D. | Semantic Communication for Resource-Constrained Navigation |

## Tennessee State University

WPI expanded its research partnership with Tennessee State University (TSU), a historically Black land-grant research university, from a single autonomous vehicle project to a strategic seed grant program designed to foster collaboration and position teams to pursue larger funding opportunities. Supported by a gift from WPI Trustee Emeritus John T. (Jack) Mollen, the program provides competitive awards to the following joint faculty teams working in quantum science, sustainable infrastructure, agriculture, food safety, and advanced materials (Table 2).

**Table 2. WPI–Tennessee State University Seed Grant Teams**

| WPI PI | Dept | TSU PI | Department | Project Title |
|---|---|---|---|---|
| Shawn Liu | MME | Ying Wu | Food and Animal Sciences | Bioactive and Smart Food Packaging: Integrating Bacteriophages onto Biodegradable Food Packaging for Enhanced Food Safety |
| Xinming Huang | ECE | Chenchen Kang | Agricultural Science and Engineering | A Collaborative Drone–Ground Robotic System for Inventory Mapping in Field-Grown Nursery Production |
| Sathwick Bharadwaj | Physics | Ranganathan Parthasarathy | Civil and Architectural Engineering | Quantum Biosensing: A New Paradigm for MolecularScale Diagnostics via Spin Qubits in Two-dimensional Materials |
| Nan Ma | CEAE | Lijian Ma | Civil and Architectural Engineering | Urban Building Digital Twin for Whole Life Carbon Modeling |

# Core Research Facilities and Ecosystem

WPI continues to invest in the facilities, equipment, and partnerships needed to support a growing and increasingly interdisciplinary research enterprise. Recent investments in advanced microscopy, spectroscopy, and analytical instrumentation are strengthening research and education across the university, enabling faculty to pursue cutting-edge discoveries, providing students with hands-on training, and generating critical data for competitive grant proposals. These capabilities are also benefiting industry partners. For example, advanced imaging technologies are supporting research on cellular processes and drug development, while WPI's analytical facilities have helped companies such as MetroBiotech advance patent applications and XL Batteries further develop award-winning energy storage technologies. Together, these resources are accelerating innovation across biotechnology, healthcare, energy, and advanced manufacturing and materials.

Building on these investments in research infrastructure, WPI has also expanded its portfolio of large-scale research and innovation hubs. With substantial capital support from the Commonwealth through the MLSC, the MassCEC, and the MassTech, the university has strengthened existing facilities and launched new centers that advance research, workforce development, entrepreneurship, and industry collaboration. These investments are expanding WPI's leadership in biotechnology, climatetech, and medical robotics while contributing to economic growth across Massachusetts.

One outcome of this support is **Robert Dempski's** Cell Tech Institute (CTI), launched in June 2026 through funding from MLSC. The facility integrates advanced laboratory automation, robotics, sequencing, and transcriptomics technologies



# At-a-Glance

**534**
**Proposals Submitted**

**$69M**
**In Awards Received**

**42**
**Invention Disclosures**

**375**
**Graduate students supported on Awards**

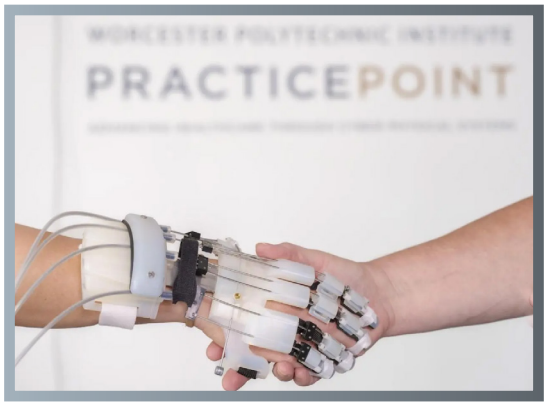
while leveraging AI-driven data science and augmented reality tools to support workforce development and laboratory training. CTI also serves as a hub for translational research, enabling participants to contribute directly to drug discovery and therapeutic development.

Two additional MLSC investments, led by **Leo Chen** and **Floyd Brownwell**, respectively, have expanded the capabilities of WPI's existing Biomanufacturing Education and Training Center (BETC). New bioreactors and related instrumentation are enhancing training, research, and innovation in biomanufacturing while strengthening the facility's role as a regional resource for workforce development and industry engagement.

Building on these investments, WPI and MBI, in partnership with the City of Worcester and more than 30 regional organizations, secured state funding through MassTech's TechHub competition to establish a BioHub in Central Massachusetts. The initiative, led by **Eric Young** and **Leo Chen**, will leverage WPI's research infrastructure, including the BETC, to advance biomanufacturing innovation, workforce development, pilot-scale testing, and industry collaboration while strengthening a statewide network of academic, industry, and government partners. The BioHub is designed to expand pilot-scale testing, bioengineering capabilities, AI-enabled training, and industry partnerships while connecting companies, researchers, and talent across Massachusetts to accelerate innovation and economic growth.




WPI's medical robotics facility, PracticePoint, also received state funding (through MassTech's RoboBench program) to expand into a Medical Innovation and Training Center dedicated to advancing medical robotics. Led by **Leo Chen**, Director of PracticePoint and BETC, and developed in partnership with




**Top 7%**
**Best colleges in the U.S.**
*Princeton Review (2025)*

**120+**
**Education & Training event attendees**

**12**
**Issued US Patents**

**4**
**Research & Innovation Hubs**

the UMass Chan Medical School and Medtronic, the center will provide specialized space and equipment for technology development, testing, and prototyping while fostering collaboration among engineers, entrepreneurs, and clinicians. The facility will also support hands-on training for healthcare professionals using robotic technologies.

Complementing these biotechnology and life sciences initiatives, a WPI team led by Office of Technology Innovation and Entrepreneurship's Director **Terry Adams** and School of Engineering professors **Andrew Teixeira** and **Nima Rahbar** received funding from the MassCEC to establish the Central Mass Climatetech Hub Innovation Center. The award supports the development of a technology accelerator designed to help emerging clean energy, advanced materials, and sustainable technology ventures move innovations from the laboratory to commercial deployment. Through facility development, programming, and partnerships, the incubator will strengthen the region's climatetech ecosystem and expand opportunities for entrepreneurship and commercialization.




The incubator will provide startups with access to pilot-scale research and manufacturing capabilities, colocating companies with WPI researchers and core facilities focused on materials durability, additive manufacturing, and circular manufacturing systems. By offering innovation suites, shared laboratories, testing infrastructure, and industry expertise, the Climatetech Hub will accelerate technology development and demonstration while fostering collaboration among researchers, entrepreneurs, and industry partners across Central Massachusetts.

# People & Processes Advancing Reseach

## Core Facilities

In FY2026, WPI's Core Research Facilities enhanced their impact through strategic investments in equipment, services, and customer engagement while improving accessibility and visibility. A milestone was the launch of 3D Core Tours on the facilities' website, allowing prospective and current users to virtually explore laboratories, equipment, and service offerings. The facilities also expanded their external outreach through participation in the MLSC's Convening of the Cores conference, where they showcased WPI's research infrastructure, connected with potential collaborators, and strengthened relationships across the regional research community.

The Core Facilities team also improved operational efficiency and financial management through the development of a standardized Core Usage Agreement, new reporting and payment tools, and the implementation of a new equipment management system.

## Office of Technology Innovation and Entrepreneurship (OTIE)

In FY2026, WPI's OTIE strengthened the connections among research, intellectual property protection, and startup development. The office continued to support invention evaluation, patent prosecution, licensing,

and research-related agreements while expanding opportunities for entrepreneurs to connect with mentors and external partners. WPI received 12 issued U.S. patents during FY2026, covering technologies including ultrasonic imaging, a partial hand prosthesis, and hydrothermal liquefaction of wastes. These efforts supported a broader pathway from WPI research to commercial application.

OTIE continued to support the development of WPI startups, with three new companies formed in FY2026: Thalon Materials, Element Loop, and Respire Energy. Their formation expanded the university's startup community and created new vehicles for translating research into commercial products and services. OTIE's ongoing engagement with startup teams connected technology development with business planning, mentorship, and opportunities to present their work to external audiences.

WPI's dedicated day at Tough Tech Week in the Boston area provided a platform for its startups to present their technologies and business opportunities. OTIE's **Renuka Babu Brown** played a central role in preparing the participating companies, reviewing pitches, helping teams strengthen presentation graphics and financial projections, and coordinating a practice run and outreach to alumni for coaching. Her hands-on work helped the companies communicate their technologies and commercialization plans more clearly and strengthened their preparation for engagement with the broader tough tech community. WPI also advanced the framework for early-stage startup investment supported by donor Paul Covec '64. Approval of the investment policy by the Board Investment Committee in May 2026 established a foundation for investment evaluation and oversight. OTIE's work helped prepare the university to connect startup support with access to early-stage capital.

Working with the I³ Lab, OTIE launched Advising, Connecting, Innovating, and Supporting (ACIS) in November 2025 and continued the program with events in February and May 2026. Startup presentations, networking, and mentor engagement brought together faculty and student entrepreneurs with alumni and other members of the innovation community. The May program highlighted personalized medicine research by **Emmanuel Agu** and **Ulkuhan Guler**. The collaboration also established plans for a Summer Accelerator bringing student-led and faculty-based startups into a shared program for the first time, extending the relationship between OTIE's commercialization work and the I³ Lab's entrepreneurship programming.

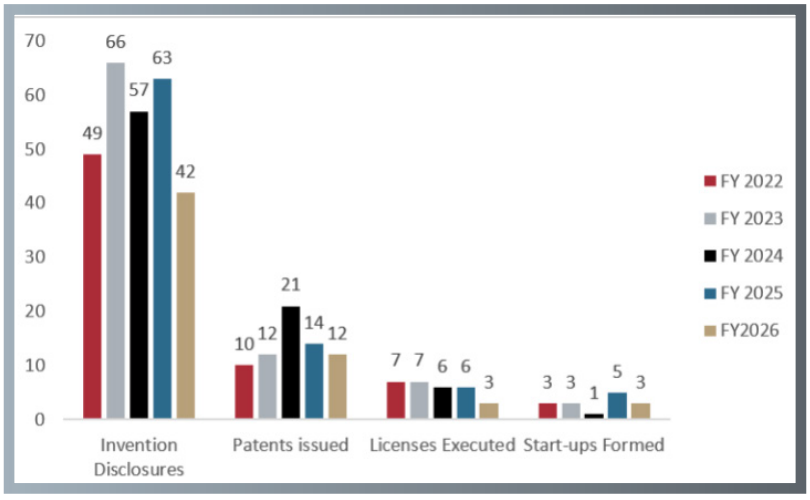



**Fig. 6. Technology Transfer Activity Trends**.

WPI recorded 42 invention disclosures in FY26, compared with 63 in FY25 (Fig. 6). While lower than the prior year, this total remains within WPI's historical range of 42–67 annual disclosures, underscoring the value of assessing innovation through multiple measures. U.S. patent application activity remained nearly steady, with 31 applications compared with 32 in FY2025. WPI also received 12 issued U.S. patents and continued advancing new startups, demonstrating ongoing progress in translating research into commercial opportunities. The disclosure decrease

merits monitoring, but a single year does not establish a sustained downward trend.

## Research Solutions Institute (RSI)

In FY2026, RSI helped WPI submit 112 proposals and secure $27.9M in awards, including the MassCEC ClimateTech Hub, the MassTech's TechHub BioHub, and MassTech's RoboBench program. Beyond the numbers, RSI makes WPI more competitive for external funding, prepares faculty to succeed, and helps the institution pursue opportunities it could not reach otherwise. Since RSI's NSF CAREER Bootcamp launched six years ago, 18 NSF CAREER proposals have been awarded.

In FY 2026, RSI continued to expand its professional development portfolio, delivering 11 training and engagement events, two more than the previous year, and reaching a total of 119 attendees across the WPI research community.

Grantsmanship workshops remained the top topic, accounting for 59.6% of attendees, followed by panel discussions (26.1%) and program officer talks (14.3%). A major highlight of the year was the launch of SHARP (Strategies for High-impact Academic Research Proposals), a new strategic training series designed specifically for academic research faculty. Across six sessions, SHARP provided targeted guidance on topics ranging from time management and proposal planning to persuasive writing and effective research graphics, attracting more than 65 registrants. The series was developed to address faculty needs for focused, practical skill-building that strengthens proposal competitiveness and research impact.

RSI also continued its partnership with UMass Chan Medical School for the second consecutive year. This year, the program expanded to include researchers from the College of the Holy Cross, creating new opportunities for collaboration, peer mentoring, and proposal development. Participation by WPI researchers doubled compared with the previous year, reflecting growing interest in structured writing support and cross-institutional engagement.

## Office of Research & Integrity Compliance (ORIC)

ORIC completed the rollout of Research Security Training to the WPI community. All federally funded investigators now receive this training, which includes important risk topics such as export control, disclosure requirements, international travel, international collaborations, and more. ORIC's director, **Gabe Johnson**, is now a certified export control professional, a credential that strengthens WPI's capacity to handle sensitive, export-controlled research and related transactions. ORIC further updated and modernized the Policy on Research Conduct, bringing it in line with new federal requirements for handling allegations of research misconduct. Also, WPI officially became part of the Streamlined, Multisite, Accelerated Resources for Trials (SMART) IRB consortium, joining hundreds of other institutions using this online platform for more efficient and effective oversight of multi-institution IRB studies.

## Office of Sponsored Programs (OSP) – Outreach Activities

In FY2026, the Office of Sponsored Programs conducted faculty outreach across four modalities – workshops, presentations, meetings, and drop-in sessions.

OSP Pre-Award provided extensive training and support for new faculty and principal investigators through four workshops focused on WPI's internal proposal process, sponsor registration systems, proposal budgeting, and compliance requirements. In addition, pre- and post-award staff introduced OSP services and resources during New Faculty Orientation and delivered a proposal budgeting session as part of the RSI SHARP faculty development series.

The team also engaged directly with academic departments through kickoff meetings to review internal proposal timelines and highlight available resources on the OSP SharePoint site. Ongoing support was available through drop-in consultations and one-on-one SciENcv training to help faculty meet federal proposal requirements and prepare competitive submissions.



# Congratulations

## PIs and Co-PIs who received initial awards in FY2026

| Department | PI Name | Sponsor | Project Title | Total Award |
|---|---|---|---|---|
| Aerospace Engineering | Nikolaos A Gatsonis | Massachusetts Space Grant Consortium | Summer Opportunities for Aerospace Research (SOAR) 2026 | $112,000.00 |
| | Raghvendra V Cowlagi | Draper Laboratory | Coupled Sensor Configuration and Planning (CSCP) in Contested Environments (Maria Wojciechowski Y3 AY26-27) | $60,035.95 |
| Biology & Biotechnology | Floyd Brownewell | Massachusetts Life Sciences Center | Advancing BioProcess Innovation & Education in the department of Biology & Biotechnology at WPI | $616,818.00 |
| | Jean A King | National Institutes of Health/ NIH/DHHS | IMPACT: Integrative Mindfulness-Based Predictive Approach for Chronic low back pain Treatment (UH3) | $6,889,914.00 |
| | Jeff Bourgeois | Department of the Army | msHOST: A Novel Human In Vitro Genomewide Association Platform to Study B burgdorferi Pathogenesis and Genetic Susceptibility to Lyme Disease | $542,500.00 |
| | | Bay Area Lyme Foundation | Evaluation of Artemisia annua as a therapeutic to reduce Lyme disease duration and severity | $67,985.00 |
| | Longkuan Xiang | McNeil Scientific Consulting, LLC | MRSA with McNeil Scientific Consulting | $6,120.00 |
| | | GutsyBio, Inc. | MRSA with Gutsy Bio | $3,000.00 |
| | Natalie Farny | National Institute of Environmental Health Sciences/ NIH/DHHS | Nucleic acid aptamers as interventions for developmental neurotoxicity | $146,624.00 |
| | | National Institutes of Health/ NIH/DHHS | Engineered probiotic bacteria for toxin elimination | $400,753.00 |
| | Reeta P Rao | Defense Health Agency/DOD | PHASE II Multiplexed Diagnostic Platform for Invasive Fungal Infection | $149,978.00 |
| | Scarlet Shell | National Institutes of Health/ NIH/DHHS | Defining the roles of small KH-domain RNA binding proteins in mycobacteria | $562,123.00 |
| | Catherine F Whittington | National Institutes of Health/ NIH/DHHS | Bioengineered Models of Intramural Uterine Fibroids: A Dual-Platform Approach to Study Molecular Transport Barriers and Biochemical Interactions | $555,371.00 |
| | Dirk Albrecht | National Institutes of Health/ NIH/DHHS | Investigating blast-related overpressure injury and recovery at the neuronal, structural, and behavioral levels | $554,927.00 |
| | Emma P Slavin | American College of Sports Medicine (ACSM) Foundation | Impact of Footwear and Foot Strike Pattern on Achilles Tendon Loading and Strain During Running | $10,000.00 |
| | | American Society of Biomechanics | The Effects of Advanced Footwear Technology on Foot Biomechanics and Navicular Bone Stress Injury Risk | $2,000.00 |
| Biomedical Engineering | Karen Troy | National Institutes of Health/ NIH/DHHS | Foot biomechanics and metatarsal structure in runners with minimal and cushioned shoes | $546,159.00 |

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|---|---|---|---|---|
| Biomedical Engineering | Kristen Billiar | American Heart Association | CArdiovascular Research, Development, and Interdisciplinary Opportunities for Undergraduates at Worcester Polytechnic Institute (CARDIO-U@WPI) | $165,000.00 |
| | | | Integrating Biomechanical and Genetic Determinants of Heart Valve Calcification | $1,278,213.00 |
| | Shijie Zhou | National Institutes of Health/ NIH/DHHS | Development of an automatic real-time personalized non-invasive localization of the site of origin of the earliest ventricular activation | $372,596.00 |
| | | | PACE-VT: A Non-Invasive, Machine-Learning-Driven Digital Twin Approach for Precise Targeting of Ventricular Tachycardia in Cardiac Stereotactic Body Radiotherapy | $232,500.00 |
| | | | Elucidating 3D Constructs of Reentrant Circuits via a Novel Noninvasive Hybrid-AI System | $181,350.00 |
| | Yonghui Ding | American Heart Association | 3D-printed vessels with microtopography-guided cell orientation for enhanced vascular functionality | $99,841.00 |
| | Zhenglun Alan Z Wei | Draper Laboratory | Bench Testing and Modeling for Pediatric Heart Valve (PHV) (Sucheta Tamragouril SUM26) | $10,612.50 |
| | | National Institutes of Health/ NIH/DHHS | A Novel Flow Modeling Paradigm for Hemodynamics in Fetal Aorta and Its Application to the Diagnosis of Fetal Coarctation of the Aorta | $759,243.00 |
| Business School | Bengisu Tulu | Donaghue (Patrick and Catherine Weldon) Medical Research Foundation | Impact of a shared decision-making intervention for families of severe acute brain injury patients | $63,634.00 |
| Chemical Engineering | Alex Maag | Massachusetts CEC | Transforming organic waste into energy and a valuable commodity mineral | $33,246.00 |
| | Andrew R Teixeira | Department of the Army | HydroAeroFuel Conversion Initiative (HACI ): A novel hydrothermal liquefaction process for conversion of AFFF to renewable fuels | $44,999.00 |
| | | Saint-Gobain Ceramics and Plastics, Inc. | Saint-Gobain Master Research Agreement | $302,435.00 |
| | | Massachusetts CEC | Mobile Training Lab and Technology Showcase for High-Performance Buildings | $150,000.00 |
| | Eric M Young | Draper Laboratory | Alternative Hosts for Saltwater Sensing and Fermentation (Nicky Petersen) | $56,441.25 |
| | | Massachusetts Technology Collaborative | Building with Biology: The Economic Acceleration of Central Massachusetts with a Bioindustrial Manufacturing Technology Hub | $5,200,000.00 |
| | | Draper Laboratory | Alternative Hosts for Saltwater Sensing and Fermentation (Nicky Peterson Y2 AY26-27) | $58,128.00 |
| | Fanglin Che | National Science Foundation | Collaborative Research: Physics-Informed Machine Learning for Electrochemical C-N Coupling by Metal-Organic Materials | $212,882.00 |
| | | UL Research Institutes | High-throughput discovery of spinel oxides for natural seawater electrolysis | $195,624.00 |

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|---|---|---|---|---|
| Chemical Engineering | Fanglin Che | Office of Naval Research | Physics-Informed Artificial Intelligence Boosted Design of High Entropy Alloys for Plasma-Catalytic Ammonia Cracking | $400,625.00 |
| | | Department of Energy | Interpretable Deep Learning for Advancing Field-Enhanced Catalysis | $716,571.00 |
| | | | Multi-Scale Model-Informed Deep Learning for Plasma-Nanoparticle Interaction | $423,791.00 |
| | | National Science Foundation | CAREER: Data-Enhanced Multi-Scale Simulations for Advancing SAMs in Interfacial Electrocatalysis | $637,801.00 |
| | Michael T Timko | Massachusetts Technology Collaborative | Machine Learning Digital Twins to Transform Waste to Renewable Energy | $381,931.00 |
| | | American Chemical Society | Green Diesel Production from Stranded Natural Gas and Biomass | $135,000.00 |
| | | University of Massachusetts Lowell | Replacing the toxic solvent N-methyl-2-pyrrolidone (NMP) for battery applications | $34,999.00 |
| | | ProAmpac Holdings Inc | ProAmpac Pilot: Ecosmart Coatings and Phase Change Materials | $80,000.00 |
| | Xiaowei Teng | National Science Foundation | Collaborative Research: Selective Electrochemical Removal of Scale-Forming Mg2+ Ions in Sustainable and Energy-Efficient Water Pretreatment | $395,886.00 |
| Chemistry & Biochemistry | Jeannine M Coburn | Department of the Army | DEVCOMM FY26 SubProject 02: Functional Biocompatible MXene Composites for EMI Shielding and Signature Management | $374,997.00 |
| | Randy C Paffenroth | Department of the Army | DEVCOMM FY26 SubProject 03: Development of AI/ML/DS methods for synthetic sensor data generation and next generation sensor data analytics | $387,818.00 |
| | Robert E Dempski | Massachusetts Life Sciences Center | Bridging Education and Industry: Workforce Development in Drug Discovery Technologies | $730,995.00 |
| Chemistry & Biochemistry | Robert E Dempski | National Institute of Standards & Technology/Technology Administration/DOC | NIIMBL experience 2026 at Worcester Polytechnic Institute | $94,773.00 |
| | Ronald Grimm | Department of the Army | DEVCOMM FY26 Subproject 04: Low dimensional quaternary ammonium derived nanomaterials (QDNs) for multiuse catalytic protection | $290,000.00 |
| | | | DEVCOMM FY26 SubProject 01: 2D@CB. Novel 2D chemical agent barriers from MXenes to Quaternary Ammonium-Derived Nanomaterials (QDNs): Towards beNer performing protective elastomers from ubiquitous, green and cost-efficient sources | $662,506.00 |
| | Rong Wang | National Institutes of Health/ NIH/DHHS | SCH: Multidimensional Microfluidic Salivary Sensor with Adversarial Knowledge Distillation for Point-of-Care Assessment of Periodontitis and Comorbidities | $287,077.00 |

| Department | PI Name | Sponsor | Project Title | Total Award |
|---|---|---|---|---|
| Civil, Environmental & Architectural Engineering | Mingjiang Tao | Massachusetts Department of Transportation | Alternative Constituent Materials for Use in Low-Carbon Cement Concrete – Part II | $333,722.00 |
| | Nan Ma | Daikin U.S. Corporation | Modular microbubble platform for molecularly targeted ultrasound imaging - A novel design paradigm | $37,700.00 |
| | | | Integrating LLM-Derived Retrofit Knowledge with EnergyPlus Simulation through a Model Context Protocol | $106,451.00 |
| | | Worcester Polytechnic Institute | Urban Building Digital Twin for Whole Life Carbon Modeling | $10,000.00 |
| | Shichao Liu | American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. | Evaluation of Relative Impact of Air Change Rate (ACR) and Airflow Patterns on the Ventilation Performance of Indoor Spaces | $399,755.00 |
| Computer Science | Craig A Shue | Washington Headquarters Services/DOD | 2025 DoD CSA Scholarship Program 2025-2026 | $955,570.00 |
| | Jacob R Whitehill | National Science Foundation | U.S. NSF National AI Institute for Student-AI Teaming | $1,134,297.00 |
| | Jennifer Mortensen | Northeastern University | Northeastern University CIC Grant | $30,529.00 |
| | Jun Dai | National Science Foundation | RET Site: Empowering High School Teachers through Research Experiences on Quantum and Cybersecurity to Prepare the Future Workforce | $600,000.00 |
| | Neil Heffernan | Institute of Education Sciences/ Department of Education | Supporting Math Understanding in Title I Schools: Creating a Text Answer - AI Tutor (TA-AI-T) | $140,664.00 |
| | | National Science Foundation | Phase I CAMEL-CN: Curating a Large-Scale Publicly Available Multimodal Dataset of Student Actions in Illustrative Math to Study Mathematical Misconceptions | $1,499,998.00 |
| | Qi Zhang | National Science Foundation | CAREER: Identifying and Exploiting Multi-Agent Symmetries | $387,654.00 |
| | | | RI: Small: Cooperative Planning and Learning via Scalable and Learnable Multi-Agent Commitments | $170,544.00 |
| | | | Collaborative Research: RI: Small: Adapting Foundation Models for Multimodal Sequential Decision Making: New Focuses, Formalisms, and Methods | $277,789.00 |
| | Raha Moraffah | Good Ventures LLC | Backdoor Attacks via Weight Manipulation | $109,120.00 |
| | Roee Shraga | United States - Israel Binational Science Foundation (BSF) | FairPrep: Fair Data Preparation, from Discovery to Integration. | $90,000.00 |
| Data Science | Torumoy Ghoshal | Department of Energy | Advanced Fuel Campaign Data Center and AI Implementation at Idaho National Laboratory High Performance Computing | $14,999.00 |
| Electrical & Computer Engineering | Alexander Wyglinski | Draper Laboratory | Open Wireless Network Emulation Platform Integrating Space, Aerial, and Ground Operating Environments (Srivatsan Mukunthraj) | $56,442.00 |
| | | | Open Wireless Network Emulation Platform Integrating Space, Aerial, and Ground Operating Environments (Srivatsan Mukunthraj Y3 AY26-27) | $58,128.00 |

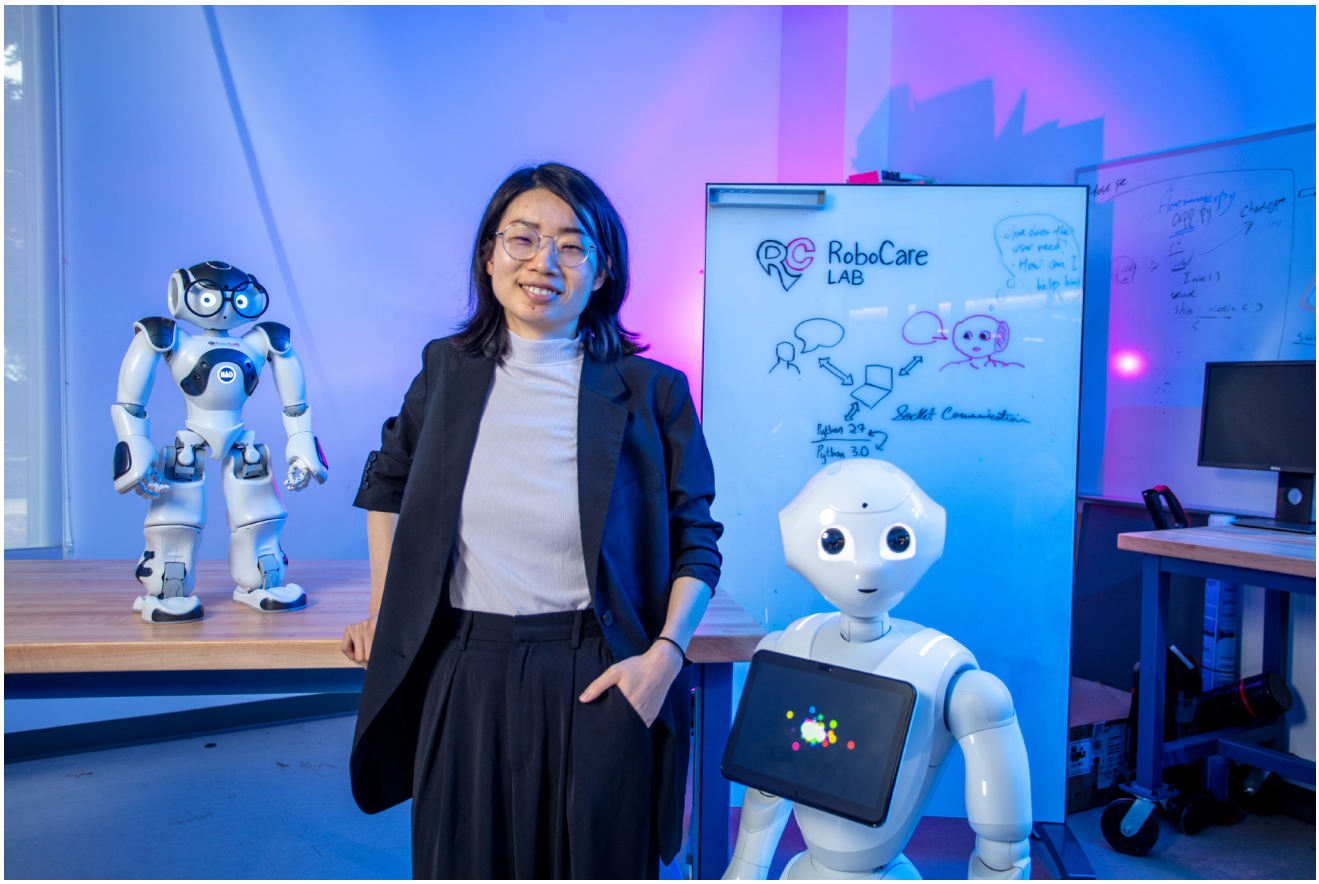
| Department | PI Name | Sponsor | Project Title | Total Award |
|---|---|---|---|---|
| Electrical & Computer Engineering | Christo Kurisummoottil Thomas | AI-RAN Alliance | Emergent Semantic Communication for Resource Efficient AI-RAN using Foundation Models | $15,000.00 |
| | Fatemeh Ganji | Draper Laboratory | Delivering physical security to microelectronics via AI (Lil Peeler) | $56,442.00 |
| | | National Science Foundation | CAREER: Toward Physical Security for Privacy-preserving Neural Networks at the Edge | $624,083.00 |
| | Patrick Schaumont | National Science Foundation | NSF-DFG: SATC: Core: Small: Demonstrating Practical provable Side-channel security | $510,336.00 |
| | | Department of the Army | CSME/Trainee/Hierarchical Side-channel Leakage Assessment for Post-Quantum Cryptographic Accelerators | $115,000.00 |
| | Shahin Tajik | Massachusetts Technology Collaborative | SCALE Capital Matching Grant Agreement Between Massachusetts Technology Collaborative and Worcester Polytechnic Institute | $236,227.00 |
| | | Department of Energy | Brookhaven - WPI MQP: Development of a Portable SiPM-Based Trigger System for Experimental Particle Detector Testing | $1,500.00 |
| | Shamsnaz V Bhada | Draper Laboratory | Technical Debt Tracking for Systems Engineering Decision Making using Artificial Intelligence (Krish Patel Y3 AY26-27) | $0.00 |
| | Suat Ay | Massachusetts Space Grant Consortium | NASA Lunabotics Challenge | $4,900.00 |
| | Ulkuhan Guler | National Institutes of Health/ NIH/DHHS | The Center for Advancing Point of Care in Heart, Lung, Blood and Sleep Diseases (2026) | $39,078.00 |
| | | Advanced Research Projects Agency for Health | Self-Powered, Transmitting Lacrimal Artificial Sensor (SPoT-LAS) | $700,000.00 |
| | Xinming Huang | Worcester Polytechnic Institute | A Collaborative Drone–Ground Robotic System for Inventory Mapping in Field-Grown Nursery Production | $10,000.00 |
| | Albert Simeoni | National Science Foundation | Collaborative Research: FIRE-MODEL: Advancing Wildland Fire Modeling by Capturing Unresolved Canopy Dynamics | $430,171.00 |
| | Ali S Rangwala | Department of the Interior | Critical Energy Measurement of Oil for In-Situ Burning | $412,895.00 |
| Fire Protection Engineering | James Urban | Pacific Gas and Electric Company | Understanding Smoldering Combustion as a Mechanism for Wooden Power-Pole Failure | $187,432.00 |
| | | San Jose State University | Investigating Spot Fire Ignition of Natural Real Fuels from Hot Metal Particles | $38,276.00 |
| | | | WUI fire exposure to structures from near-home combustibles: Firebrands, Flame Contact, & Radiation | $99,987.00 |
| | | | Development of a Probabilistic Wildfire Risk Analysis Tool for Electrical Transmission Equipment: Phase I | $91,731.00 |
| | Muthu Kumaran Selvaraj | San Jose State University | Firebench: Fire models inter-comparison and systematic benchmarking framework | $48,860.00 |

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|---|---|---|---|---|
| Fire Protection Engineering | Reza Ziazi | San Jose State University | Probabilistic Framework for Fire Risk Assessment using Fire Spread Models in FireBench | $53,347.00 |
| Integrative & Global Studies | Corey Dehner | The Lemelson Foundation | ASEE Engineering for One Planet Mini-Grant Program (EOP-MGP) Application: Cohort IV | $8,000.00 |
| | William San Martín | Sequoia Climate Foundation | Farmer Protests against Nitrogen Policies: Understanding Resistance, Grievances, and Obstructions to Sustainable Nitrogen Governance | $24,500.00 |
| Intellectual Property & Innovation | Terry Adams | Massachusetts CEC | Central MA Climate tech Hub Innovation Center | $5,000,000.00 |
| Mathematical Sciences | Andrea N Arnold | Brown University | Stochastic and Randomized Algorithms in Scientific Computing: Foundations and Applications | $27,261.00 |
| | Christopher J Larsen | National Science Foundation | New variational methods for fracture evolution | $300,000.00 |
| | Vadim V Yakovlev | Department of Energy | Development of Models and Machine-Learning Algorithms for Advanced Carbon Fiber Production | $89,891.00 |
| | Zheyang Wu | National Science Foundation | Innovations in Integrative Association Testing for Large Genetic Data | $174,999.00 |
| Mechanical and Materials Engineering | Ahmet C Sabuncu | Missile Defense Agency | Novel Fiber Optic, Non-Invasive DACS COPV Pressure Measurement System | $129,127.00 |
| | Aswin Gnanaskandan | CARD Research Center | AI Assisted Workflow for Scaling up Spray Dryer Simulations to Industrial Scale Dryers | $60,000.00 |
| | Brajendra Mishra | Automotive Recyclers Association | Phase 2: Quantifying the greenhouse gas emissions (carbon) impact of reusing automotive parts for vehicle repairs | $10,033.00 |
| | | SPRIND GmbH | CMETRE: Critical METalsRecovery from E-Waste | $250,000.00 |
| | Cosme Furlong-Vazquez | Department of the Army | AVMI-ARC2-2024. Analytical Fundamentals of Digital Image Correlation for Characterization of Agile Tire Dynamics (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $189,136.00 |
| | Danielle L Cote | Department of the Army | THE REPAIR TECHNOLOGIES AND 3D PRINTING FOR SUSTAINMENT MANUFACTURING | $194,000.00 |
| | | | Forward Advanced Manufacturing for Expeditionary Deployment FAMED | $275,000.00 |
| | | National Aeronautics & Space Administration | Solid-State Cold Spray Additive Manufacturing (CSAM) of GRX-810 | $46,193.00 |
| | | Department of Defense | Material System Design Tool to Enable Functionally Graded Materials | $56,000.00 |
| | Jamal Yagoobi | CARD Research Center | Enhancement of Vacuum Drying Performance with Dielectrophoretic Technology | $75,000.00 |

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|---|---|---|---|---|
| Mechanical and Materials Engineering | Masood Ghasemi | Department of the Army | AVMI ARC 4 - Distributive Maneuver and Stability Control of a Vehicle in Severe Terrain Conditions (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $176,215.00 |
| | Mehdi Mortazavi | National Science Foundation | Beginnings: Northeast Experiential Training onHydrogen Advancements through Mentorship, Project Integration, Operation, and Networking | $1,000,000.00 |
| | Pratap M Rao | Air Force Research Laboratory | Advancement in High-Density, Multi-Layer Interconnect Technology for Ultra-Narrow Linewidth and Spacing, FHE and Hybrid Electronics Packaging | $179,713.00 |
| | Robert Hyers | National Aeronautics & Space Administration | Modeling and Simulation of Electrostatically Levitated Multiphase Liquid Drops | $50,000.00 |
| | | Massachusetts CEC | Decarbonizing Structural Metal: Clean Magnesium Production for U.S. Manufacturing | $34,771.00 |
| | Vladimir Vantsevich | Department of the Army | Modeling and Simulation Eco-System for Mobility Design in Multi-Domain Operations (GVSC Congressional Funding) | $7,290,000.00 |
| | | | ARC 5: Modeling and Simulation Fundamentals of Agile Vehicle Maneuvers in Hyper-Dynamic Environments (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $253,981.00 |
| | | | AVMI ARC 1: Simple Terramechanics-based Tire and Soil Separation for Tire Behavior Characterization (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $176,053.00 |
| | | North Atlantic Treaty Organization/NATO | Virtual Reality Co-Simulation Environment for Safe Multi-Domain Mobility | $300,000.00 |
| | Yan Wang | Orbia Fluor & Energy Materials USA, Inc. | WPI Recycled Graphite Scope of Work for Processing Recycled Graphite | $113,150.00 |
| | | POSCO Holdings Inc. | Scalable Graphite Recycling Process for Battery-grade Graphite Production and Selective Lithium Extraction | $135,500.44 |
| | | Department of Energy | Direct Upcycling of Mixed Ni-Lean Polycrystals to Single Crystal Ni-Rich Cathode Materials | $1,000,000.00 |
| | Yihao Zheng | Mitsubishi Heavy Industries, LTD. | Customization and Optimization of Hydrodynamic Flexible Spindle (HydroFlex) Polishing for Removal of Spattered Particles in Additively Manufactured Channels | $40,000.00 |
| | Yu Zhong | Defense Advanced Research Projects Agency | DARPA R-square Subcontract Scavenged Scrap into Improved Technical Hardware (S2MITH) | $586,868.00 |

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|---|---|---|---|---|
| Mechanical and Materials Engineering | Yuxiang (Shawn) Liu | CARD Research Center | Fiber-Optic Probe for Complementary Raman and NIR Spectroscopy for Real-Time Drying Process Monitoring | $50,000.00 |
| | | Worcester Polytechnic Institute | Bioactive and Smart Food Packaging: Integrating Bacteriophages onto Biodegradable Food Packaging for Enhanced Food Safety | $10,000.00 |
| Physics | Lyubov Titova | Department of Energy | Engineering light-matter interactions in layered semiconductors with zerovalent metal intercalation | $585,000.00 |
| | Raisa Trubko | Draper Laboratory | Security Analysis of Integrated Circuits using Laser Voltage Probe Microscopy and NV Diamond Magnetic Microscopy (Jacob Myers Y3 AY26-27) | $60,335.90 |
| | Sathwik Bharadwaj | Worcester Polytechnic Institute | Quantum Biosensing: A New Paradigm for MolecularScale Diagnostics via Spin Qubits in Two-dimensional Materials | $9,997.00 |
| Robotics Engineering | Berk Calli | Massachusetts Technology Collaborative | Automated Dataset Generation for Training High-Performance Classification and Segmentation Models in Industrial Recycling Applications | $279,731.00 |
| | Carlo Pinciroli | Department of the Army | AVMI ARC7: Autonomous Multi-UAV Reconnaissance in a Complex Urban Environment (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $177,667.00 |
| | Constantinos Chamzas | Department of the Army | AVMI ARC3: UGV-guided Real-time Path Planning for a Vehicle Platoon in Rough Terrains (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $170,335.00 |
| | Fiona Yuan | National Institutes of Health/ NIH/DHHS | Utilizing Technology and AI Approaches to Facilitate Independence and Resiliece in Older Adults--Smart Robot Guide for Daily Care in People with Memory Loss | $218,254.00 |
| | Kevin Leahy | Department of the Army | AVMI ARC6: Verified Planning for Uncrewed Ground Vehicles in Dynamic Environments (Automotive Research Center (ARC) A Center for Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan) | $186,613.00 |
| | Nitin Sanket | National Science Foundation | Sound Navigation: Enabling Tiny Robots to Find Their Way Through Smoke, Dust, and Darkness | $704,908.00 |
| Social Science & Policy Studies | Crystal Brown | National Science Foundation | SHIFT: STEM Identity for Student Engagement and Transfer Pathways | $15,000.00 |
| | Erin R Ottmar | National Science Foundation | Building the Infrastructure for Sustained Research-Practice Partnerships in Worcester | $99,999.00 |
| | Robert Krueger | U.S. Agency for International Development | Privatization of Water Scheme Management and Point of Use Water Treatment | $10,717.15 |

| Department | PI Name | Sponsor | Project Title | Total Award |
|---|---|---|---|---|
| STEM Education Center | Kathy C Chen | Commonwealth of Massachusetts | FC 10RN - STEM Regional Network - CON | $155,000.00 |
| Vice Provost For Research | Liaohai Chen | Massachusetts Life Sciences Center | Evolving BETC to a biomanufacturing excellence and training center | $625,000.00 |
| | | | Strengthening the Central Massachusetts Biomanufacturing Talent Pipeline | $722,500.00 |



*A special thank you to the individuals who — through their hardwork — have contributed to the successes reported in this annual report.*

**Office of Vice President and Vice Provost for Research and Innovaton**

Antje Harnisch, Camille Bouchard-Chhoeuk

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**Core Facilities**

Susanna Perkins, Andrew Butler, Leo Chen, James Eakin

*This report, published annually by the Office of the Vice President & Vice Provost for Research and Innovation, aims to provide a summary of key data related to WPI's extramural funding activities, including proposals submitted, awards received, and funds expended. As with prior years, this report includes only those proposals and awards administered by OSP. Gifts, internal funding, individual fellowships, and MQP/IQP project funding are not included here.*

**Report prepared by** Priscilla Vazquez, Research Development Manager. A special thank you to Thomas James for maintaining PowerBI data visualizations. **Cover**: Dr. Ron Grimm Lab. Rebecca Gilchrist (L) and Abby Cieniawa (R) transfer a sample into WPI's X-ray photoelectron spectrometer. Both researchers in the Department of Chemistry and Biochemistry, Gilchrist, Ph.D. '26, utilized this instrument to study the behavior of catalysts for durable, self-healing cementitious materials as well as metal hydrides for non-traditional fuel storage and delivery. Cieniawa, '26, pioneered surface-grafted ligands to isolate, separate, and harvest rare-earth heavy metals and future uranium reprocessing. Find full descriptions of their research through WPI's project-based learning at digital dot wpi dot edu:

