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The applications of ChatGPT are vast and diverse. From drafting persuasive marketing copy to crafting engaging blog posts, from developing gripping storytelling to relaying technical documentation, this AI assistant has become an invaluable resource for professionals seeking to optimize their written communication. With its vast knowledge base, ability to adapt to diverse writing styles, ChatGPT serves as a trusted partner for both seasoned wordsmiths and aspiring writers alike.

However, we must recognize that while ChatGPT offers immense benefits, it does not replace the skills and expertise of human writers. The true power lies in the collaboration between human and machine, where the AI tool augments and enhances human creativity, rather than replacing it. However, we must recognize that while ChatGPT offers immense benefits, it does not replace the skills and expertise of human writers. The true power lies in the collaboration between human and machine, where the AI tool augments and enhances human creativity, rather than replacing it.

Kristen O'Reilly, EI

FOND MEMORIES OF PROFESSOR HAMMOND

I received two thoughtful answers to my query in the last issue: one from an alumnus: “The strong sense of self-efficacy developed through rising to the challenge of these projects has served me well in my career,” and another from an employer: “I always knew and respect, has created this endowment in honor of her parents.”

—Kristen O'Reilly,

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However, we must recognize that while ChatGPT offers immense benefits, it does not replace the skills and expertise of human writers. The true power lies in the collaboration between human and machine, where the AI tool augments and enhances human creativity, rather than replacing it.
A new partnership between WPI and Honeywell Aerospace is aimed squarely at helping the aviation industry reduce its carbon footprint by examining how hydrogen fuel cells can help power the next generation of aircraft. This work focuses on hydrogen storage and power generation technology for all forms of air travel, including unmanned aerial vehicles, passenger, and cargo travel. Honeywell is supplying hydrogen equipment and technology expertise, and has established a significant presence on WPI’s campus.

“The aviation industry has recognized an imperative to decarbonize, which is extremely challenging in the weight- and volume-constrained environment of an aircraft. Hydrogen, along with sustainable aviation fuels and aircraft electrification, represents a huge opportunity for the aerospace industry to meet the UN’s 2050 climate targets,” says Andrew Teixeira, assistant professor of chemical engineering and project lead on the WPI team.

Through this new collaborative, roughly 25 Honeywell team members are working together with WPI experts and students under a multiyear contract to develop hydrogen storage and fuel cell technologies. Honeywell is currently using these technologies for unmanned aerial vehicles, and the Honeywell-WPI team is investigating hydrogen solutions for unmanned aerial vehicles, cargo drones, air taxis, and even larger aircraft that could one day power commuter and regional flights without petroleum fuels. According to the International Energy Agency, aviation accounted for 2.8% of global CO\(_2\) emissions from fossil fuel combustion in 2019, but this percentage is projected to grow as other industries decarbonize and air travel continues to expand.

“For the past several years we’ve ramped up our exploration of hydrogen solutions—both combustion and fuel cells—as well as other ready-now technologies that help our customers create a more sustainable future,” says Phil Robinson, senior director of Zero Emissions Aviation at Honeywell Aerospace. “We’re excited to bring unique clean technologies to our aviation customers, and also help guide WPI research in as-yet unexplored areas.”

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WPI researcher Kristen Billiar has been awarded $429,456 from the National Institutes of Health to investigate how stretching and blood flow can inhibit or encourage cardiovascular cells to populate and grow in tissue-engineered heart valves. The three-year project focuses on experimental valves that are not yet used in humans, and the work will expand understanding about how mechanical forces propel cells in the body.

Billiar will lead microfluidic laboratory experiments that will stretch tiny amounts of biopolymer materials and expose them to fluid flows to examine how cells attach, proliferate, and migrate. A total of 18 undergraduate students will be involved in the project. The project builds on Billiar’s previous work, which has examined how cell death leads to calcium deposits in heart tissue that cause aortic valves to fail and how mechanical forces and stresses affect programmed cell death.

When valves cannot be surgically repaired, doctors may replace a damaged valve with a mechanical valve made of durable materials such as carbon, or a valve made from animal or human heart tissue. Both types of valves, however, have limitations: Patients with mechanical valves must take blood thinners regularly to avoid clotting problems, and valves made from living tissue break down over time. More than 200,000 heart valves are replaced worldwide every year.

Experimental technologies involve using materials such as polymers, similar to those used in absorbable surgical sutures, or biopolymers such as collagen, to build scaffold that could be implanted in a heart valve. Over time, the body’s heart cells would grow a new living valve on the ‘scafolding.’

“The cancer and wound healing in moving tissues, too,” Billiar says. “My lab group hopes that our work will encourage researchers to adopt dynamic, moving methods to study how cells move, grow, and differentiate into different types of cells in the body.”

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“WPI, Honeywell partner on hydrogen fuel cell solutions for aircraft”

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GROWING CELLS IN ENGINEERED HEART VALVES

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Lisa Eckelbecker
SOLVENT-FREE PROCESS MAKES BETTER, CHEAPER LITHIUM-ION BATTERY ELECTRODES

A team led by researcher Yan Wang has developed a solvent-free process to manufacture lithium-ion battery electrodes that are greener, cheaper, and charge faster than electrodes currently on the market, an advance that could improve the manufacturing of batteries for electric vehicles. In the journal Cell, the group reported on a dry-print-manufacturing process that avoids the toxic solvents and the long drying times needed when manufacturing electrodes with slimes and conventional production methods. Wang, who is the William B. Smith Dean’s Professor in the Department of Mechanical and Materials Engineering, says the new process could be scaled up and reduce electrode manufacturing costs by up to 25 percent, while also producing electrodes that can charge faster than conventionally produced electrodes.

“Current lithium-ion batteries charge too slowly, and manufacturers typically use flammable, toxic, and expensive solvents that increase the time and cost of production,” Wang says. “Our solvent-free manufacturing process addresses those disadvantages by producing electrodes that charge to 78 percent of capacity in 20 minutes, all without the need for the solvents, skiries, and long production times.”

Common lithium-ion battery electrodes are typically made by mixing active materials, conductive additives, polymers, and organic solvents to create a slurry that is poured onto a metal substrate, dried in an oven, and cut into pieces for use in batteries. The solvents are recovered through distillation.

The researchers’ process, in contrast, involves mixing together dry powders that were electrically charged so they would adhere when sprayed onto a metal substrate. The dry-coated electrodes are then heated and compressed with rollers. Skipping the conventional drying and solvent-recovery processes cuts battery manufacturing energy use by an estimated 47 percent, the researchers reported. Wang has long been focused on improving lithium-ion batteries, which are responsible for the waste they create. He co-founded Ascend Elements, a company that is developing battery recycling technologies. His electrode manufacturing work has been funded by the Department of Energy with the United States Advanced Battery Consortium LLC and the Massachusetts Clean Energy Center. Collaborators on the project included Yangting Liu ’22 (PhD), graduate student Jinhua Fu, Assistant Research Professor Klauz Ma, Panawan Vanaphuti ’22 (PhD), and Rui Wang ’23 (PhD), all of WPI; and researchers at Texas A&M University, Rice University, Microbatteries Inc., Argonne National Laboratory, and Brookhaven National Laboratory.

—Lisa Eckelbecker

What drives consumers to organize and fight for the revival of discontinued candies, pizzas, sodas, and other brand-name products? Purvi Shah, associate professor of marketing in The Business School, answers the question in new research that describes one piece of the phenomenon as “nostalgic brand love.”

Part love for a brand and part nostalgia for a past when the brand was popular, nostalgic brand love is a new term coined by Shah and her collaborators to describe the longing to buy and consume a beloved brand that is not available anymore. In research published in the Journal of Brand Management, Shah says nostalgic brand love can be powerful fuel for online consumer campaigns aimed at resurrecting dead brands.

“Companies delete brands for a variety of reasons, and consumers have historically protested those decisions, especially if they loved the brand,” Shah says. “Today, the internet has transformed consumer activism. Consumers now have easy access to online petitions, company websites, and communication channels on social media. Digital tools have made it possible for brand fans to successfully compel companies to revive brands.”

Shah and her research collaborators focused on a specific campaign that succeeded in bringing back Surge, a Coca-Cola beverage, back to the market. Surge was launched in 1987, discontinued in 2004, and revived in 2023 after fans lobbied for Surge with a website, petitions, company websites, and communication channels on social media. Digital tools have made it possible for brand fans to successfully compel companies to revive brands.

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RESEARCHERS EXPLAIN ‘NOSTALGIC BRAND LOVE’

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Shah says the findings could help brand managers better understand what drives customers to protest brand deletion. This will help brand managers make an informed decision about bringing back a deleted brand so that it not only delights the nostalgic consumer and fan base but also enhances revenues and profits of the revived brand.

—Lisa Eckelbecker

Two universities focused on nurturing future global leaders are teaming up to expand access to global projects for all students. WPI was awarded a 2023 Institute of International Education (IIE) Andrew Heiskell Award in the category of student mobility and exchange for its ongoing efforts to expand access to the university’s Global Projects Program.

The award promotes and honors outstanding initiatives in international higher education by recognizing innovative and successful programs in several categories. It is named after Andrew Heiskell, a former chairman of Time Inc., a member of the executive committee of IIE’s Board of Trustees, a renowned international and cultural philanthropist, and a longtime supporter of international education.

WPI received the award for its Global Projects Program and Global Projects for All initiative. A signature component of WPI’s project-based learning model, the Global Projects Program facilitates student travel to more than 50 project centers across the USA and in 30 countries around the world.

Global Projects for All aims to develop new centers, increase the number of terms that programs are offered at existing centers, increase the number of programs available to all students. The goal is to remove financial barriers and create opportunities for students of all backgrounds to access the award-winning, -campus opportunity for immersive experiential learning.

“WPI has a long tradition of preparing students for global leadership roles and the Global Projects Program has been a cornerstone of WPI’s commitment to experiential learning,” says President Laurie Leshin. “This award is a testament to the hard work of the many faculty, staff and students who work together to make Global Projects possible.”

“With the Global Projects Program, we bring the classroom to the world and the world to the classroom,” says Mayor Kyle C. Love, President of WPI’s Global Projects Advisory Board. “The program engages students in real-world challenges and provides them with hands-on experience that prepares them for success in a global economy.”

In courses led by Business School faculty, who are scholars and industry leaders, students will use state-of-the-art business analytics tools and techniques to think and act entrepreneurially, organize and draw insights from complex data, and use analytics to inform business strategies while working on real-world projects.

—Steve Foskett

Numerous organizations, including the World Economic Forum, report skilled data analysts are some of the most sought after professionals in the world. A focus on business analytics—bringing together the disciplines of management, data science, business intelligence, machine learning, statistical analysis, and computing—further equips individuals and groups with insights that improve efficiency and encourage optimized processes through data-driven decisions.

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“Business analytics is a necessary competency for any organization that wants to make actionable, data-driven business decisions,” says Debora Jackson, the Harry G. Stoddard Professor of Management and dean of The Business School. “As a leading STEM-based business school, our master’s in business analytics degree prepares the perfect blend of business, technology, and project-based learning taught by distinguished faculty who will prepare learners for the analytics-based positions needed by companies wanting to keep a competitive edge.”

Solvent-free process makes better, cheaper lithium-ion battery electrodes

What drives consumers to organize and fight for the revival of discontinued candies, pizzas, sodas, and other brand-name products? Purvi Shah, associate professor of marketing in The Business School, answers the question in new research that describes one piece of the phenomenon as “nostalgic brand love.”

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—Lisa Eckelbecker
Starship Technologies rolled out its on-campus robot food delivery service this past spring. The cooler-sized robots also ventured into a select number of surrounding city sidewalks to meet of-campus student demand.

Starship’s fleet of 24 autonomous, robots delivers from several specialty-focused, on-campus eateries, including Innovation Kitchen, joy Empanadas, and Halal Shack, that serve WPI’s more than 7,000 students, staff, and faculty.

The robots use a combination of sophisticated machine learning, artificial intelligence, and sensors to travel on sidewalks and navigate around obstacles. Their computer vision-based navigation helps the robots map their environment to the nearest inch. A team of humans can also monitor obstacles. Their computer vision-based navigation helps the robots map

To start the delivery process, users open the Starship Deliveries app, choose from a range of their favorite food or drink items, and drop a pin where they want their delivery to be sent. They then can watch via an interactive map as the robot makes its journey to them. Once the robot arrives, the user receives an alert, and can then meet and unlock the delivery compartment through the app.

—Steve Foskett

**NEW BS AND MS DEGREES REFLECT HIGH DEMAND FOR FINTECH**

WPI is regularly at the forefront of innovation, so it’s no surprise that the university recently launched new bachelor’s and master’s degrees in financial technology, more commonly known as “Fintech.” It’s a term used to describe new technology that improves the delivery and use of financial services for companies, business owners, and consumers. At first glance, it may seem as though Fintech’s home should land primarily on Wall Street but, really, it’s applicable anywhere and everywhere. “[Financial Technology] is in all areas, all companies; it’s naturally interdisciplinary,” says Professor of Practice in The Business School Robert Sarnie. “It’s not just about a balance sheet and income statement.”

With coursework in mathematics, computer science, and business, the Fintech degree will give students the resources, skills, and support they need to develop competencies in everything from predictive analytics and programming to corporate innovation and financial modeling. The high-demand field of on-ramps ranging from blockchain or application developer and financial analyst to business development manager and cybersecurity analyst. Both undergraduate and graduate students may apply for the program starting in the fall of 2023.

—Allison Racicot

**WPI’S FIRST MFA**

Laurie Mazza ’23 says merging technical and artistic approaches is the way of the future. As WPI’s inaugural graduate of the Master of Fine Arts (MFA) degree program, Interactive Media and Game Development (IMGD), she’s more than happy to be on the leading edge of this untapped potential in technology—particularly when it comes to creating immersive and interactive experiences.

The MFA, a terminal art degree, is helping Mazza push technology to its limits and experiment with using it in new ways. She continues building on a foundation of various fields blending art and technology.” But the teaching mentorship aspect of the MFA program encourages students to explore creativity and leadership in entrepreneurial pursuits, says.

That freedom to explore, both with individual pursuits and through the collaborative project-based work with teams of students, was essential to Mazza as a full-time graduate student. While earning her MFA, she gained additional innovative and educational skills with work in WPI’s Intentional Design Studio and also as a teaching assistant and instructor for the Pre-Collegiate Outreach Programs.

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“Achieving success in artistic practice is particularly meaningful to me,” she says. “It has demonstrated that technical skills and creative skills are not mutually exclusive and can be leveraged to create unique and innovative solutions. I hope that my achievement in this degree program will inspire others to explore their creative potential and contribute to innovative solutions.”

Mazza’s plans to continue to push creative bounds using technology as a tool. The approach, she says, sets her apart from students that only existed in imagination to life—and create a bridge between the two. Inspired by her own mentors, Mazza plans to pass her knowledge on, whether through formal mentorship or through professional mentoring. She believes strongly in using her knowledge and skills to inspire and educate others.

—Julia Quinn-Szcesuil
The BS/MS option expands WPI's Learning Sciences & Technologies program, which brings together computer and data scientists, psychologists, and mathematicians. The program launched in 2010 to earn MS and PhD degrees, and it concentrates on student learning in the fields of science, technology, engineering, mathematics, and English. Faculty members blend social and scientific approaches in research that has been supported by more than $85 million in funding from the National Science Foundation, the U.S. Department of Education, and private foundations. The research has led to technologies shown to improve teaching and learning in schools across the country, such as ASSISTments, a digital math platform developed by William Smith Dean's Professor of Computer Science Neil Hefeman, and Associate Professor Erin Ottmar’s products related to Graspable Math, an algebra learning platform.

The BS/MS option gives students an accelerated pathway to two degrees by counting certain courses in computer science, data science, psychology, mathematics, and business toward both an undergraduate and graduate degree. An undergraduate’s Major Qualifying Project can count toward both degrees. This newest BS/MS is hosted within the School of Arts and Sciences, one of WPI’s four schools and a major contributor to the university’s interdisciplinary programs that bring together different fields to create opportunities for students to gain cross-disciplinary skills.

Michelle Ephraim Wins Juniper Prize

English professor and celebrated Shakespeare scholar Michelle Ephraim has been awarded the 2023 Juniper Literary Prize for Creative Nonfiction for *GREEN WORLD: A Tragicomic Memoir of Love and Shakespeare*. The Juniper Prizes are a highly competitive and well-regarded showcase of distinctive and fresh voices who share their work with a wide array of readers. *GREEN WORLD* is a story of how the boundaries between Ephraim’s life and those of Shakespeare’s characters seemed to vanish. The memoir unfurls as a sort of literary detective drama; its five-act structure creates a story within a story, in which her life uncannily starts to mirror that of the fictional Jewish daughter in Shakespeare’s *The Merchant of Venice*.

Dana Harmon Named Division III Athletic Director of the Year

Director of physical education, recreation, and athletics Dana Harmon recently received a 2022-23 Division III Cushman & Wakefield Athletic Director of the Year Award. The award honors athletic directors at all levels of collegiate competition for their contributions to student-athletes, campuses, and their surrounding communities. Winners were recognized in June at the 58th Annual National Association of Collegiate Directors of Athletics & AF籁es Convention at the World Center Marriott Resort in Orlando, Fla.

Jean King Selected for NIH Council of Councils

Peterson Family Dean of the School of Arts and Sciences Jean King has been selected to serve on the National Institutes of Health (NIH) Council of Councils. A widely respected neuroscientist and researcher, King joins 26 other council members who advise the NIH director on policies and activities of the Division of Program Coordination, Planning, and Strategic Initiatives. This includes making recommendations on research that represents important areas of emerging scientific opportunities, rising public health challenges, or knowledge gaps that deserve special emphasis or would otherwise benefit from strategic planning and coordination. Each council member also represents an institute or center that falls under the NIH. King has been appointed to the National Center for Complementary and Integrative Health.

Tian Guo Receives CAREER Award for AR Research

Researcher Tian Guo has been awarded a prestigious $657,776 CAREER Award from the National Science Foundation to develop novel software techniques that will improve the performance and privacy of mobile augmented reality (AR) systems, an increasingly popular technology that superimposes computer-generated images on a user’s view of the real world. Guo, an assistant professor in the Department of Computer Science, will focus her five-year project on edge computing, which involves processing data close to its physical source. She will develop techniques that will efficiently manage edge servers that are close to AR users whose mobile devices are interacting with the servers. The proposed techniques will be prototyped with commercially available edge servers, and the resulting software and hardware bundles will be deployed to support indoor and outdoor use cases.

# WPI JOURNAL

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“I am so appreciative and honored. This is a very exciting day for me and for my family, and I know it would have been for my father, too. He was the greatest man I ever knew, and I am so honored to see him recognized in this way. I just wish he were here to see this.”

—William B. Gould IV

‘ROPELESS’ LOBSTER TRAPS PROTECT RIGHT WHALES

THE PROBLEM:
Lobster fishing is critical to New England, but the ropes that connect traps to buoys pose a threat to the endangered North Atlantic Right Whale. With less than 350 of these whales left, conservationists are calling upon solutions to keep the species from going extinct. Lobstermen using traditional traps have been limited to where or when they can fish, but current ropeless traps can cost thousands of dollars.

THE SOLUTION:
The team developed the Lobster Resurfacing Oceanic Locator, or Lobster R.O.L., which keeps a buoy and coiled rope submerged with a trap until a designated time set by a user on a smartphone app. At the specific time, the buoy and rope release, allowing lobstermen to find and collect their traps. The students interviewed lobstermen and industry workers to develop an easy-to-use prototype that costs about $200, and they successfully tested it in a swimming pool and in Narragansett Bay.

THE FUTURE:
The students are working with WPI to patent the invention and plan to continue working on the project even after graduation. Watch a video of the project by scanning the QR Code at right.

THE STUDENTS: Caylee Butler ’23, Slater Campbell ’23, Trevor Parks ’23, Charles Snow ’23

THE ADVISOR: Professor William Michelson, Robotics Engineering

Community members using the campus-level entrance of Unity Hall can view a new plaque honoring the life and accomplishments of pioneering alumnus William B. Gould III. The entrance way was made possible by a gift from former President Laurie Leshin and her husband, Jon Morse, in recognition of Gould’s revolutionary work and illustrious career in radio and radar.

An electrical engineering major who enrolled in the university in 1921, Gould was among the first African Americans to attend WPI. He was active in the early days of the WPI Wireless Association, which at the time was one of only three college wireless associations in the country. Gould was called to service in World War II as an electrical engineer, where he provided support for development of long-range guidance systems for Cape Canaveral. He went on to a distinguished career and made major contributions to the electrical engineering field.

The Unity Hall entrance plaque unveiling was held in May on the 100th anniversary of Gould’s death and included a reception with Gould’s son, William B. Gould IV, and his wife, Hilda. President Grace Wang, Provost Wole Soboyejo, and university deans were in attendance. The event, led by University Librarian Anna Gold, also included a keynote, and a point-to-point wireless connectivity demonstration presented by Professor Alex Wyglinski and students from the Wireless Innovation Laboratory.

Speaking at the reception with heartfelt emotion, Gould shared, “My father taught me something he learned at WPI that I will never forget. He explained that engineers were always seen as narrow people. But that way of thinking was wrong. Good engineering schools teach people about the arts as well as the sciences. And when I look at WPI and the way WPI is going forward, that is exactly what I see.”

—Sira Naras Frongillo

CELEBRATING THE LIFE AND LEGACY OF WILLIAM B. GOULD III
As both an undergraduate and a graduate student, Jacob Morse ‘21, MS ‘23, was heavily involved in the music scene at WPI. “I did choir all four years, was in an a cappella group, and did a lot of theatre produc-
tions,” he says, adding that he also held leadership positions in choir, musical theatre, and other music groups on campus. “I just really like conducting and singing. In a way, it’s fitting that he chose to pursue a master’s degree focused on the environment and remediating the effects of climate change—after all, the birds need somewhere to sing, too.

A Shift in Focus
A native of San Antonio, Texas, Morse first stumbled upon WPI after a friend applied to the robotics engineering program. WPI’s environmental engineering program appealed to him, so Morse followed his friend’s lead. “I’ve been interested in the science aspect of STEM rather than engineering,” he says. “The more I learned in my classes, the more I learned that I was more interested in the science aspect of STEM rather than engineering.”

That revelation eventually led him to swap out his environmental engineering degree for one in biology with a concentration in environmen-
tal biology. By the time Morse entered his senior year, The Global School had announced a new degree program, the MS in Community Climate Adaptation. The collaborative, research-based program focuses on teaching students to address the challenges that come with climate change as well as the ability of communities around the world to adapt to them, matching up well with Morse’s goals of working with local govern-
ments, cities, and neighborhoods to address climate change. “It’s been really cool,” Morse says, noting that while he was the program’s only full-time grad student, a handful of students were also earning the degree through WPI’s BS/MS program. “It’s been flexible, so I’ve been able to shape my studies into something I really want and enjoy.”

Part of Morse’s studies included the Graduate Qualifying Project, or GQP, an immersive, extended research project experience similar in scope to the IQPs and MQPs of undergraduate students. His work focused on the city of Springfield, Mass., and how to better assist residents more vulnerable to heat emergencies, the urban heat island effect, flooding, and other negative effects of climate change. “They’re aware that the city needs to start to adapt,” Morse explains, “but they’re not sure how to fund potential projects, or where to begin.”

That’s where Morse came in. He discussed with residents and local government officials how climate change fit within the city by the Pioneer Valley Planning Committee several years ago. Morse was tasked with adapting these recommendations into something conceivable. “There are parts they were really receptive to, and then parts that had been deemed kind of impossible, so they stopped trying to do it,” Morse explains. “Part of my recommendations touched upon how they could take those impossible things and make them possible.”

Morse’s GQP gave him the chance to not only contribute to real-time ef-
orts and learn the ins and outs of how cities are structured and how they function, but to learn about green infrastructure and its different uses—everything from rainwater harvesting and rain gardens to the util-
ization and accessibility of cooling centers for those without homes or air-conditioning. “They’re all programs and strategies that deal with human resilience,” he says, “and I’ll all prove useful, especially if I end up working with a government official who wants to utilize them.”

A Passion-Filled Future
Now that Morse’s time at WPI has wrapped up, he’s begun his job search with plans to continue the type of work he completed for Springfield, either as part of a city’s planning operation or as a member of the local parks and recreation department. As someone who’s completed both his bachelor’s and master’s degrees at WPI, Morse is in a unique position to reflect on his time in Worcester, and also offer advice that’s applicable to both undergraduate and graduate students.

“School is important, but it’s also important to put yourself out there and find what you’re interested in,” he notes. “Take advantage of all the clubs to better understand yourself.”

Following that message himself has allowed Morse to not only earn his groundbreaking MS—he crossed the stage during Commencement in May before officially completing his degree in early June—but continue pursuing his passion for music, ultimately ending his time at WPI with one last musical hurrah as part of the senior a cappella group that performed at this year’s baccalaureate ceremony.

While Morse is still deciding what’s next, that aforementioned sendoff makes it clear that he’ll keep the singing going. And thanks to his work, others—including the birds—will be able to as well.

“A Shift in Focus
A native of San Antonio, Texas, Morse first stumbled upon WPI after a friend applied to the robotics engineering program. WPI’s environmental engineering program appealed to him, so Morse followed his friend’s lead. “I’ve been interested in the science aspect of STEM rather than engineering,” he says. “The more I learned in my classes, the more I learned that I was more interested in the science aspect of STEM rather than engineering.”

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**Carlo Pinciroli**

**ASSOCIATE PROFESSOR OF ROBOTICS ENGINEERING AND FIRE PROTECTION ENGINEERING**

**TOY**

This toy bug is inspirational in that it can navigate a cluttered environment despite having no brain.

**KIBOBOTS**

These $15 robots enable large-scale experiments on robot coordination in a space as large as a whiteboard. Individually, these robots have severe limitations in terms of computation, communication, and motion; they can’t do much. However, when dozens of them collaborate, collective intelligence emerges.

**CAMERA**

This infrared camera is part of the Vicon motion capture system that makes it possible to perform complex experiments with robot swarms in laboratory conditions.

**ROBOT ILLUSTRATION**

For my first Father’s Day, my wife, Rachael, had this drawing made by an artist.

**KILOBOTS**

These $15 robots enable large-scale experiments on robot coordination in a space as large as a whiteboard. Individually, these robots have severe limitations in terms of computation, communication, and motion; they can’t do much. However, when dozens of them collaborate, collective intelligence emerges.

**METAL ANT**

I received this metal ant on my last day in Belgium from my PhD supervisor, Professor Marco Dorigo (Université Libre de Bruxelles). It was made by his brother-in-law, who is a well-known sculptor in Italy.

**MINI DRONE**

Flying this remote-controlled Mini Drone in my office is one of my favorite guilty pleasures.

**METAL DISH**

While working on my master’s thesis on omnidirectional robotic vision, I needed a conical mirror to run validation experiments. I drew the cone shape, sent it to a machine shop, and waited for the shiny mirror to be delivered. Instead, a month later, I received a hole in the shape of a cone. Despite this, I got my degree and learned a lesson on the value of clear design specifications.

**3D PRINTED CAT**

When I acquired a 3D printer for my laboratory, I asked students to test it on something that would immediately be useful to research. The students made this cat to remind me of all the times one of my cats entered a Zoom call.

**PHOTO BY TODD VERLANDER**

*Get to know faculty through items they have in their offices.*
GLOBAL IMPACT

TACKLING FINTECH PROJECTS ON WALL STREET—AND EVERYWHERE ELSE

While the majority of WPI’s 50+ project centers around the world of er students a place to complete their Interactive Qualifying Project (IQP) work, there are several others that focus exclusively on the Major Qualifying Project (MQP) that students fulfill during their senior year. One of them is the Wall Street/FinTech Project Center.

A portmanteau of “financial technology,” FinTech is a term used to describe new technology that improves the delivery and use of financial services for companies, businesses, and consumers. At first glance, it may seem as though FinTech’s home should (and primarily) on Wall Street, but, really, it’s applicable anywhere and everywhere.

“I like to say that FinTech is FinLife,” says project center director Robert Sarnie, a professor of practice in The Business School who joined WPI after 23 years at Fidelity Investments. “It’s in all areas and all companies to make finance frictionless. It’s naturally interdisciplinary. It’s not just about a balance sheet and income statement; that’s just the tip of an iceberg that’s growing fast.”

A growing iceberg is an apt comparison—when Sarnie first took over the reins of the project center in 2019, it hosted nine students doing project work for three sponsors. Now he and Associate Teaching Professor in Computer Science Wilson Wong and Professor of Teaching in Mathematical Sciences Marcel Blais (both of whom also serve as advisors for computer science- and business-related MQPs) run a team of 11 sponsors and host nearly 40 students in completing their MQP work. The project center also runs like a consulting company to deliver what the sponsor has in mind, everything from building an app and analyzing customer behavior to tracking system for Fidelity’s assets and flows database, he and his teammates created for me at top financial institutions,” she says.

Austin Zhu ’23 agrees. While working to develop an automated error tracking system for Fidelity’s assets and flows database, he and his teammates learned the ins and outs of navigating and communicating in financial services corporations, a prime example of the contributions and networking opportunities he’d hoped to achieve through his IQP experience. “There were times when our direct sponsor didn’t have an answer for our questions, so we would reach out to other associates for advice … my biggest takeaway was to be proactive about finding the right people,” he explains. “Reaching out for help saved us a lot of time that we spent on working to fix the problem.”

—Allison Racicot

A SPLASHY ADDITION TO CAMPUS

On Alumni Day in June 1926, Henry J. Fuller, Class of 1895, nervously stepped up onto the spring-mounted plank in the basement of Alumni Gymnasium at the invitation of President Ralph Earle. He steadied himself as he prepared to address the gathered crowd, balancing above the sparkling waters of Fuller Memorial Pool, the Institute’s newest facility. Fuller, who provided a gift of $10,000 for the pool’s construction, thought of his father Homer T. Fuller, WPI’s second president, for whom the facility was being dedicated that day. President Fuller oversaw a rapid expansion of campus, adding Salisbury and Alden Research Laboratories and implementing a four-year curriculum of study. This focus on academics, to the regret of father and son, meant that construction of recreation and leisure facilities were set aside for new laboratories and equipment.

When Alumni Gymnasium was built in 1915, space had been reserved for a pool, and its delayed construction led to jokes among the students about returning as grandfathers for its dedication. But owing to the generosity of those same students and alumni, the campus community could finally enjoy swimming and diving indoors on campus.

The pool remained a popular feature on campus (until Alumni Gymnasium was closed in 2012), hosting athletic competitions and leisure days alike. Today, the WPI community can enjoy modern swimming and diving facilities in the Sports and Recreation Center, which also hosts training facilities for the crew teams. To learn more about the history of campus facilities, visit WPI Archives & Special Collections.

—University Archivist Arthur Carlson, assistant director of the George C. Gordon Library
How does WPI encourage student innovation and entrepreneurship?

Innovation is built into the curriculum with the Interactive Qualifying Projects and the Major Qualifying Projects. Entrepreneurship is encouraged through several programs that are broken into five stages: inspiration, exploration, foundation, application, and acceleration. The Innovation & Entrepreneurship Studio is for students in the inspiration and exploration stage when testing an idea. For the later stages, The Business School’s Business Development Lab (BDL) at 50 Prescott St. is where a student can build a company around an idea. Students then develop their minimally viable product and over time scale their companies to a point where they’re ready for an accelerator or incubator. Students preferring to ‘test the waters’ without starting a company can come to the BDL and be matched with another student’s company.

How do you get the word out about the many resources available to students who think they might have an innovative business idea?

The Business School newsletter regularly announces various programs; there is more information at https://www.wpi.edu/academics/business/business-development-lab. Resources provided include office space, mentorship, along with introduction to banks, lawyers, accountants, and other professions and networking opportunities. The Business Development Lab has a student ambassador program that will pay students to talk with their peers about the resources available for student startups. Interested students may reach out directly to Rosanna Garcia.

Are you finding that students value social impact as much as potential profit?

The BDL serves startups of all types—it’s amazing how many have a social impact as part of their mission. Currently, all the student companies at the BDL have a social goal. Civil engineering major Nick Gronda runs CROI, which helps under-financed populations in paying for college. Cesar Guillen, a management engineering major, leads Universal Education, a company looking to provide education to low-income populations in developing countries that don’t normally have the opportunity to attend college. Therapeutic Innovations, run by Assistant Professor Solomon Mensah, is dedicated to developing medical interventions for emerging economies focusing on neonatal health. He hopes that someday all children across the globe will have access to lifesaving and affordable medical technology.

What is the most common misconception about business development that might keep students from pursuing a potential idea?

I find the biggest misconception that students have is that WPI will automatically take partial ownership of their company if they operate from the Business Development Lab. The university takes no equity. If there is intellectual property that needs to be protected, WPI often offers to pay for the provisional patent and then a licensing agreement may be made. If students want to pay for their own IP, the university does not take any future earnings. The services we provide at the BDL are available to any student at no cost. In fact, we have a small start-up stipend of $500 that we give to each company joining the lab.

What exciting ideas were honored at the Celebration of Entrepreneurship held this past spring?

We honored more than 20 companies that had been involved with the BDL in the last academic year. Two companies “graduated” from the lab, which means they had outgrown our space, which is very exciting. Anthony Galgano ’22 launched TRUE Robotics to develop a classroom robotics kit, curriculum, and training service to provide an affordable, hands-on, all-in-one STEM experience for students in grades six through eight. The purpose of the classroom package is to provide students and teachers access to the latest technology, to increase student interest in STEM, and to have students design, build, and program robots in a hands-on environment. Princilla Espinosa runs SproutChange, which provides consumer education around alternative medicine, organic agriculture, sustainability, and social/food justice. SproutChange seeks to empower everyday people to become autonomous with their overall health. Watching these companies grow using the resources of the BDL is such a pleasure!

How can alumni get involved to encourage student entrepreneurs?

We are actively recruiting mentors for our faculty start-ups. Translational research is when lab innovations are moved from the lab to the marketplace. Faculty are experts in their fields but they seek guidance on how to navigate market environments. We have several alumni who fulfill the roles of mentors and advisors. Our AMP! (Advisors, Mentors, and Partners!) program holds monthly events that match technology-based start-ups with mentors. Interested alumni may also reach out to me: rgarciaphd@wpi.edu.

Rosanna Garcia, Paul R. Beswick Professor of Innovation and Entrepreneurship, answers questions about the entrepreneurial culture of WPI.
A total of 1,088 undergraduates crossed the stage on Saturday, May 13, including at least one who has her eyes on the C-suite. Two days earlier at the graduate commencement ceremony, 784 master’s degrees and a record 88 doctoral degrees were awarded. President Grace J. Wang applauded the graduates for their dedication, persistence, passion for their field of study, and achievements. "You have earned your place among generations of exceptional WPI alumni. I hope you will take the opportunity, as they did, to push boundaries, explore unknowns, and deliver a tangible and profound impact to the world."
Revealing the Ocean’s Mysteries

UNDERWATER CINEMATOGRAPHER JONATHAN BIRD ’90 TELLS THE STORY OF LIFE BELOW THE WAVES.
The call of the sea was impossible to ignore. "I wanted to see if I could make a career out of what I was interested in before I got too committed," says Jonathan Bird ’90. Even with his newfound scuba diving affinity, Bird didn’t jump into a career right away. He put his ECE degree to work as an RF engineer, which was an awkward next step. A friend went to WPI so that put the university somewhere in his college search. "I had a WPI requirement—physical education. Sometimes I had the credits lived up to his admittedly low expectations. A badminton class ran for four weeks, and Bird was the only person who stayed a little too long and got a little ragged; an unflattering softball player. Those forays into classrooms guided his interest in documentary filmmaking—a style Bird uses to this day. "You're in another whole world when you're diving," Bird says. "You can approach marine life closer than anything on land. In the ocean, you interact with the animals or between animals and humans. Photography offers a way to observe closely and show the real, often remarkable interactions between the animals or between animals and humans."

A LIFE-CHANGING COURSE

"Actions speak louder than words," Bird says. His first camera was a Super 8 and a simple plastic Holga. "I believed in making handmade, homemade films," he says. But the call of the sea was impossible to ignore. "I wanted to see if I could make a career out of what I was interested in before I got too committed," says Jonathan Bird ’90. Even with his newfound scuba diving affinity, Bird didn’t jump into a career right away. He put his ECE degree to work as an RF engineer, which was an awkward next step. A friend went to WPI so that put the university somewhere in his college search. "I had a WPI requirement—physical education. Sometimes I had the credits lived up to his admittedly low expectations. A badminton class ran for four weeks, and Bird was the only person who stayed a little too long and got a little ragged; an unflattering softball player. Those forays into classrooms guided his interest in documentary filmmaking—a style Bird uses to this day. "You're in another whole world when you're diving," Bird says. "You can approach marine life closer than anything on land. In the ocean, you interact with the animals or between animals and humans. Photography offers a way to observe closely and show the real, often remarkable interactions between the animals or between animals and humans."

"Without the camera, I kind of lose the point," Bird says. "I can approach marine life closer than anything on land. In the ocean, you interact with the animals or between animals and humans. Photography offers a way to observe closely and show the real, often remarkable interactions between the animals or between animals and humans."

"When you go scuba diving, you have to remember one thing is that anyone can be in this club," Bird says. "If you want people to care about something, you have to get them to love it.

"Without the camera, I kind of lose the point."

There are so many eōle, comanies, nations that treat the ocean both as an endless resource and as a dumping ground.
Julie Bliss Mullen '12 uses electrochemistry to sever the nearly unbreakable bond in PFAS forever chemicals.

BY AMY CRAWFORD
PHOTOGRAPHY BY JOHN GILLOOLY
**A SAFE DRINKING WATER OBSESSION**

Mullen first started thinking about PFAS the summer after her sophomore year at WPI, when the dual environmental engineering and environmental sustainability studies major began an internship with the Boston office of the EPA, focusing on drinking water safety. "That leachate comes out, it's discharged right into the sewer or the environment," she says. "It's a rather evocative term-of-art for the rainwater that percolates through a landfill, absorbing pollutants before draining into the environment."

But nothing really lasts forever. And that's what makes PFAS useful in such a bond that is nearly unbreakable. First patented in the 1930s, they have had a wide variety of uses, including in adhesives, concrete, detergents, cosmetics, automotive finishes, electronics, ammunition, medical devices, firefighting foam, and even violin strings. The original formulation of Teflon, which still coats nonstick cookware in kitchens around the world, was based on PFAS, as was the original version of the blockbuster stain repellant Scotchgard.

By the 1990s, accumulating evidence showed that exposure to PFAS poses health risks, including cancer, immune system disruption, and developmental issues in children. In 2001, the U.S. Environmental Protection Agency (EPA) published a health advisory for two common types of PFAS, perfluorooctanoic acid and perfluorooctane sulfonate. Although over the next two decades many manufacturers phased out the use of PFAS, the chemicals have persisted in the environment, where they continue to absorb it with activated carbon or ion exchange resins, resulting in solid, standard treatment technologies don't do anything to destroy them. Even "forever chemicals." A lifetime in the lab seemed unlikely for Mullen against PFAS, and as she continued to work on the tech, she suspected the technology would also prove a powerful weapon to bacteria and viruses, but this was producing really strong oxidants, the kind that can break down things like volatile organic compounds, pharmaceuticals, and pesticides—and some of the other contaminants of emerging concern—all the stuff that I was searching different types of electrodes as she investigated the technology. "We thought, and now we have confirmed, that we had found something that no other researcher or anybody else had found before," Mullen says. "The technology generates oxidants, essentially really strong oxidants, the kind that can break down things like volatile organic compounds, pharmaceuticals, and pesticides—and some of the other contaminants of emerging concern—all the stuff that I was searching different types of electrodes as she investigated the technology."

She suspected the technology would also prove a powerful weapon in drinking water, where PFAS have been found in groundwater and surface water across the country. "I knew this was a real problem," she says. "I knew there was a need for a solution."

At UMass, Mullen was focusing on electrochemical oxidation, researching different types of electrodes as she investigated the technology's potential to remove contaminants from water. She developed a water treatment system that sent a current through water, and she hoped it might work as a commercial product for use in homes. With the encouragement of her advisors and the entrepreneurship office at UMass, she filed a patent. "I really wanted to see if this was going to work," she says. "I wanted to see if it was going to work in the real world."

She then worked on when I was at the EPA. "I realized that this technology could be a game-changer," she says. "I saw that it could be used in a variety of applications, not just in drinking water."

A start-up, on the other hand, might. "I thought about doing something on my own, starting something completely new," she says. "But then I thought about doing something that could have a really big impact."

"I had this massive problem," says Mullen, who would gradually become obsessed with safe water as she continued her education. "I was looking for a solution, and I found it."

With WPI's chapter of Engineers Without Borders, Mullen traveled to Guatemala, where her team developed rooftop water-harvesting systems, installing 35 systems in one community alone. "It was a really powerful experience," she says. "It was eye-opening to see the impact that these systems could have on people's lives."

"I'm really excited about the potential of this technology," she says. "I think it could have a real impact on people's lives around the world."

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Mullen used to be driven to the lab at 6 a.m. to be the first to arrive, but as founder of Aclarity, she no longer has to make the early commute. Instead, she starts her day between 10 and 11 a.m., often with a long conference call with her investors or potential customers.

“Being away from them is always tough, but I do have to remember that for all of us,” Mullen says.

Mullen is married to a fellow WPI alum, Daniel Mullen, with whom she lives in a two-story home in a suburb of Boston. Mullen's children are both school age. Her youngest daughter is almost 6, and her son is 8.

“Sometimes it takes a lot of work to make that time really count, but it's definitely hard to not be with them as much as you'd like,” she says, noting that her kids are often away on field trips or extracurricular activities, which means she has to spend a lot of time working from home.

The company now has clients across Massachusetts and as far away as Virginia and New Mexico. Mullen still visits every site, suiting up in a hard hat, safety vest, boots, and safety glasses to walk her clients through Aclarity's mobile trailer.

“Being away from them is always tough, but I do have to remember that for all of us,” Mullen says.

Mullen is the CEO of Aclarity. Employees are required to have not only strong technical skills, but also an engaging personality and the ability to communicate their ideas clearly to clients and investors.

In the years since she founded Aclarity, Mullen, who holds the title of CEO, has built a team of about a dozen full-time employees, including several engineers and scientists from various disciplines. Aclarity has also hired several recent WPI alumni. Employees are required to have not only strong technical skills, but also an engaging personality and the ability to communicate their ideas clearly to clients and investors.

Crucially, Aclarity has demonstrated to the market that it can indeed sever the nearly unbreakable carbon-fluorine bond that gives “forever PFAS” its name.

“The investors that are coming in this round are from all around the globe,” she notes.

Aclarity is positioned to take advantage of the expanding PFAS destruction market, which was valued by BlueTech Research at close to $4 billion.

Aclarity's process. At least half her time recently has been devoted to pitching that, safety vest, boots, and safety glasses to walk her clients through Aclarity’s mobile trailer, with a pump, power supply, myriad pipes and valves, and a single full-scale reactor. (The reactor is about the size of a water cooler; permanent installations include a set of eight.) In deploying an Aclarity mobile trailer, with a pump, power supply, myriad pipes and valves, and a single full-scale reactor. (The reactor is about the size of a water cooler; permanent installations include a set of eight.) In}

“THE CHALLENGES OF A START-UP

What we've done is essentially destroy the PFAS in the water, to make it safe to drink,” she says.

Mullen explains. “We pump it through, the PFAS is destroyed, and we pump it right out into another tank. The data from the pilot helps us see what the permanent, full-scale system is going to look like for that reactant,” she explains. “We pump it through, the PFAS is destroyed, and we pump it right out into another tank. The data from the pilot helps us see what the permanent, full-scale system is going to look like for that reactant,” she explains. “We pump it through, the PFAS is destroyed, and we pump it right out into another tank. The data from the pilot helps us see what the permanent, full-scale system is going to look like for that reactant,” she explains. “We pump it through, the PFAS is destroyed, and we pump it right out into another tank. The data from the pilot helps us see what the permanent, full-scale system is going to look like for that reactant,” she explains. “We pump it through, the PFAS is destroyed, and we pump it right out into another tank. 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When you hear both exciting promises and dire warnings about ChatGPT and other large-language models, the dichotomy can be confusing. Is ChatGPT groundbreaking technology as revolutionary as the steam engine or electricity that allows machines to efficiently handle tedious, mindless work, opening new horizons for untethered human creativity? Or does it create a sly trap, tricking and manipulating the uninformed, marching humanity toward self-aware technology that will inevitably take over the world, à la HAL 9000 from the 1968 film 2001: A Space Odyssey?

In short, is it a tool to be embraced—disruptive in a good way—or something to be feared as a Pandora’s Box that, once fully opened, poses “a profound risk to society and humanity,” as an open letter signed by more than 1,000 tech industry experts and academics warned in early 2023?

Five WPI experts weigh in on the current and future impact of ChatGPT—in society in general and in the classroom in particular—as the world adjusts to this new landscape.

CHATGPT EXPLAINED BY CHATGPT
ChatGPT is a large-language model that was trained by OpenAI. It is based on the GPT (Generative Pre-trained Transformer) architecture, specifically the GPT-3.5 model, which is an improved version of the GPT-3 model.

The purpose of ChatGPT is to generate human-like text responses to user input. It does this by using a process called unsupervised learning, where it analyzes vast amounts of text data to learn patterns and relationships between words and phrases. This allows it to generate coherent and contextually appropriate responses to a wide range of queries.

ChatGPT can be used for a variety of purposes, including chatbots, question-answering systems, language translation, and more. It has a vast knowledge base and can understand and respond to queries on a wide range of topics.

Overall, ChatGPT represents a significant advancement in natural language processing and has the potential to revolutionize the way we interact with computers and artificial intelligence.
ASSOCIATE PROFESSOR OF COMPUTER SCIENCE, whose research focuses on natural language processing and content generation, with more sprouting up seemingly overnight. “It’s an AI model that predicts the next word, given the context and known information or other personal data may be collected—through legal or illegal means—despite the dangers, ethical dilemmas abound and guardrails are slow to emerge.”

If you asked a ChatGPT to solve an algorithmic problem similar to what it was trained on, it can often give you a correct answer or something that’s convincing, even when the potentially flawed narrative is presented as fact, sometimes with results so promising.”

“The dark side involves the limitations of the training databases ChatGPT uses, with one we’re talking about now. But within a year, we’ll have thousands available—all better, says Jacob Whitehill, associate professor of computer science. “It’s dangerous because if you don’t have the metacognitive awareness about how to be skeptical and how to drill down to make it if it’s wrong. In contrast, if you ask it something completely outside of what it’s been trained on, it can often give you a correct answer or something that’s convincing, even when the potentially flawed narrative is presented as fact, sometimes with results so promising.”

“The impact is great in the creative world, where AI can take the talents of artists, songwriters, even choreographers, to manufacture similar works that easily circumvent copyright protection. The impact is great in the medical world, where ChatGPT can personalize delivery of knowledge that they really need,” he says. He can record a lecture on a topic, personalizing it for the audience. “Sometimes, the benefits outweigh the risks in countries struggling with access to higher-level education and quality healthcare, according to Xiaozhong Liu. “In terms of healthcare, in countries where there are displaced when they go out in the world of business.”

“I DO KNOW THAT IF WE BAN THE USE OF CHATGPT FROM A COLLEGE CAMPUS, STUDENTS WILL FEEL THE EXPERIENCE THEY GET HERE WILL BE MORE DISPLACED WHEN THEY GO OUT IN THE WORLD OF BUSINESS.”

“IF YOU ASK IT SOMETHING COMPLETELY OUTSIDE OF WHAT IT’S BEEN TRAINED ON, IT WILL GIVE YOU CONVINCING-SOUNDING, UTTER NONSENSE.”

“If you go to Amazon and read reviews, there might be 1,000 of them and a conservative ChatGPT. You will find the bubble that supports your viewpoint. People might be one doctor per 20,000 people, “privacy and ethics of AI are luxury words,” he says. “If my kid is dying, and someone told me that they won’t help with the last two. It opens the door to a personalization of care, but if the viewer doesn’t speak the same language, the effectiveness suffers. ChatGPT can break down concepts based on the background and knowledge of the audience.”

“IN THE MEANTIME, OTHER COUNTRIES SUCH AS CHINA ARE MAKING STRATEGIC TRENDS ON HER OWN.”
EDUCATORS ENCOUNTER CHALLENGES—AND OPPORTUNITIES.

The speed of recent developments seems alarming—but is it? "The development seems to be happening fast in the public sphere, but these tools have been a long time coming," says Gillian Smith, whose dissertation focused on AI-generated writing and thinking.

"I do know that if we ban the use of ChatGPT from a college campus, students will feel the experience they get here will be more displaced when they go out to work," says Kenny Ching, associate professor of human-computer interactions at WPI. "My worry is that the boundaries are so far away that it might take us too long to find them," she says. "In the meantime, it's believable enough that we'll let ourselves keep getting tricked."

Although some have called to somehow ban, or at least pause, the further development of large-language AI models until the implications are better understood, "I don't think that's a good idea," says Gillian Smith. "We need to think about the process." She notes that AI is not perfect, and that human writing is special because it is not perfect. This imperfection allows us to connect to each other through our limitations and vulnerabilities.

"Homework shouldn't be about getting the right answer," says Smith. "It's about understanding the process." She suggests that educators should be giving students room to make mistakes on assignments in a way they are not implicitly punished for, and that homework is an opportunity to help students use the tool critically, especially since they will probably be using it in many professions after they graduate.

"We connect to each other through these limitations and vulnerabilities. We're still at a stage where our limitations are part of the human experience," says Smith. "They represent WPI in the nationwide Public Interest Technology University Network. "What we should be teaching is how to work with a community, learn for the good of society, and create technologies that help us and others flourish. Like many others, she says she is convinced that ChatGPT shows obvious limitations, especially with underlying tech that has been around for a long time. "The technology is being integrated into Microsoft Office packages, and the output is getting better and more intelligent AI. "It's gotten more attention now because any tool that can achieve higher-level knowledge building is receiving spotlight," she says. She notes that ChatGPT's ability to generate intelligent output is relevant, and that it should be used by students, which allows them to dive into higher-level concepts. For instance, she says, "I'm making the assumption that students will level up quicker in terms of the coding knowledge needed to do this analysis. You can get AI to do that."

But people are reevaluating assessment techniques and establishing ground rules for disclosing AI's use, but also embracing opportunities to differentiate writing and thinking.

"“If we really want to differentiate writing from AI text, we need to think about the process.”

Long before ChatGPT became popular, progressive faculty were embracing "ungrading"—the idea that marking is a process, not just an outcome. Those who work with a community, learn for the good of society, and create technologies that help us and others flourish. Like many others, she says she is convinced that ChatGPT shows obvious limitations, especially with underlying tech that has been around for a long time. "The technology is being integrated into Microsoft Office packages, and the output is getting better and more intelligent AI. "It's gotten more attention now because any tool that can achieve higher-level knowledge building is receiving spotlight," she says. She notes that ChatGPT's ability to generate intelligent output is relevant, and that it should be used by students, which allows them to dive into higher-level concepts. For instance, she says, "I'm making the assumption that students will level up quicker in terms of the coding knowledge needed to do this analysis. You can get AI to do that."

"I'm making the assumption that students will level up quicker in terms of the coding knowledge needed to do this analysis. You can get AI to do that."
“WPI has had a great deal to do with my success. Not only did the academics prepare me well as an engineer, but playing football taught me life skills, both on and off the field. My wife, Sharon, and I felt it was important to pay it forward, which is why we support the athletics program and scholarships at WPI.”

—TRENT GERMANO ’71

Trent Germano understands the importance of a team. As co-founder and principal of the investment and development firm Mariner Group, Trent also finds time to stay connected to WPI. Not only has he volunteered his time to meet with WPI students, he and his wife, Sharon, have created two endowed funds to support areas that were most impactful to him. The Sharon S. and A. Trent Germano ’71 Endowed Fund for Athletics was established to honor the life and leadership skills Trent learned while wearing #63 as a member of WPI’s varsity football team, and the A. Trent Germano ’71 Endowed Scholarship will help make a WPI education more affordable for students. Both Trent and Sharon were welcomed into the Alden Society in 2020 for their support of WPI’s mission through their endowed funds.

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FOR MORE INFORMATION CONTACT

Lynne Feraco
Assistant Vice President of Gift Planning
774-259-7126 | feraco@wpi.edu
Dear Alumni,

As I begin my leadership of the WPI Alumni Association, I’d like to thank my predecessor, Paula Delaney ’75, for her term at the proverbial helm. Paula’s level of dedication and commitment to the university is a true inspiration. I’d also like to thank you for affording me this opportunity to represent you for the next two years; I’m looking forward to serving you in this role.

It’s always great to be back on campus, but the beginning of my tenure feels like an especially exciting time on the Hill. In early April, the university welcomed its 17th president, as Grace Wang officially joined the WPI community. She said of the university, “I am excited about the work and the opportunities ahead and wholeheartedly believe that WPI has everything it takes to further excel.” Alumni had the opportunity to hear from President Wang during Alumni Weekend in May, and it was inspiring. There will be more opportunities to hear from her in the coming year.

Also during Alumni Weekend, WPI recognized alumni for outstanding professional achievements and service to the university with the 2023 Alumni Association Awards. See page 45 for more information.

The WPI community also celebrated the 100th anniversary of Higgins House. Still one of the university’s most iconic buildings, Higgins House currently houses the WPI Alumni Center. Be sure to visit it the next time you’re on campus.

Everything great at WPI happens with the support of WPI’s generous alumni donors. With that in mind, I hope you’ll support Giving Day (in September) and Beyond These Towers: A Campaign for WPI.

In October, WPI hosts two prestigious conferences. The Nature Conference, beginning Oct. 17, will be held on the East Coast for the first time. It will discuss the development of nucleic acid medicines—both the recent clinical successes and the current and upcoming challenges. By bringing together academics in basic and translational research and their peers from thriving biotechnology companies and promising start-ups, the conference aims to foster dialog and to spearhead collaborations in the field.

The second, beginning Oct. 19 and hosted by The Business School, is the inaugural conference on FinTech for Inclusivity, Growth, and the Future at WPI, and it marks the first time the Future Finance and Economics Association will offer a conference event in the United States. Digital financial scholars will present new ideas and discuss the future direction of FinTech research.

Securing these highly coveted and esteemed conferences for the university validates, yet again, WPI’s position as a premier polytechnic university and brings pride to our worldwide alumni community.

Thank you again for letting me serve you during my tenure as Alumni Association president. I look forward to seeing you on campus.

Dear Alumnae,

It was wonderful to welcome so many back to The Hill for Alumni Weekend 2023, as alums returned to revisit favorite campus spots, reunite with friends and classmates, and relive the traditions and memories that made our WPI experience so special. Of the many fun and exciting weekend events, Saturday’s Honoring Our Champions award ceremony was especially meaningful and impactful to all, as the Alumni Association bestowed its notable awards to very deserving alumni.

ALUMNI AWARDS

CONGRATULATIONS TO OUR 2023 ALUMNI AWARD RECIPIENTS

Recognized for their remarkable professional achievements and service to the university, these alumni bring pride to the entire WPI community. They were celebrated by their classmates, families, and friends during Alumni Weekend, May 19–21.

ROBERT H. GODDARD ALUMNI AWARD
FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT
RICHARD J. COURNOYER ’98, MS ’99 • KERRI O’CONNOR DIPIETRO ’98 • JAY HEDLEY ’88 • KAREN CASELLA ’83 • ERIC SOEDERBERG ’83 • JAY J. SCHNITZER ’73, MD, PHD

ICHABOD WASHBURN YOUNG ALUMNI AWARD
FOR PROFESSIONAL ACHIEVEMENT
DONAL BOYD ’13, MS ’14 • SAMUEL GUTMANN ’03 • M. RYAN MCDEVITT ’03, PHD • MATTHEW SHEA ’03

HERBERT F. TAYLOR ALUMNI AWARD
FOR DISTINGUISHED SERVICE TO WPI
LINDALEIGH R. ABERDALE ’88 • WILLIAM A. FITZGERALD ’83 • PETER MCDERMOTT ’73

JOHN BOYNTON YOUNG ALUMNI AWARD
FOR SERVICE TO WPI
VEDA BOOTH ’18 • JEAN PAUL MIRALDA ’13
Growing up with hearing loss—classified as "profound" in his left ear and "severe" in his right—Ryan Brown understandably struggled. There was the challenge of learning to effectively communicate, but also of spending long stretches away from home at a school for the deaf, bearing the brute of bullies, and being told over and over again that he would never be able to do the things he wanted to do (like play sports).

But he learned to adapt and embrace challenges—and he wants local kids to do so, too. An athlete, coach, and full-time transportation industry analyst, Brown founded the nonprofit Go Hard or Stay Home (GHOSH), a low-cost kids' basketball program now in its fourth year and with hundreds of participants.

"This program helps kids learn, practice, develop, and improve their basketball skills," Brown says. "And, more important, offers mentorship, motivation, and encouragement toward school and life."

Working hard, constantly adjusting

Brown didn't speak his first word until he was 5. Although he grew up in Worcester, he attended the Clarke School for Hearing and Speech in Northampton, staying at the school throughout the week and spending weekends and holidays at home with his family.

He pushed through his disability, eventually being accepted at Holy Name High School, where he played the trifecta of basketball, baseball, and football. Notably, he was a 1,000-point basketball scorer who helped lead Holy Name to consecutive Division I state finals.

"I've always had to work harder at things and make adjustments that would work for me with my hearing," he says. "But I've been doing that my whole life, so adding new things I wanted to do was just another day for me."

How he communicates with others depends on the environment, he explains. For instance, when he was young, he and his coaches and fellow players worked out signals on the courts and in the field based on whether he could use his hearing aid (in the case of football, because of the helmet, he couldn't). More recently, during the pandemic, with mandatory mask orders preventing him from reading lips, he developed gestures and other means of communication.

"My family always supported me and had me involved with activities and told me all you have to do is try," he says. "If you want something, you work hard for it."

Brown studied industrial engineering and played basketball and baseball at WPI. It was a stressful time, he concedes, but his college years helped him learn to juggle responsibilities, balance his time, and control stressful situations. He found co-op opportunities that led him to his current position with the U.S. Department of Transportation. It was also at WPI that he discovered his passion for helping and inspiring others: While on the WPI basketball team, he became involved in the Big Brothers Big Sisters program.

"It showed me how giving even just a small amount of my time helped the kids," he says. "It was something that stuck with me. I wanted to do more."

Never judging, always giving back

Soon, he did: While coaching Amateur Athletic Union (AAU) basketball after graduation, he noticed that many kids who wanted to play simply couldn't afford to pay the high fees. This prompted him to start GHOSH (pronounced "gosh") with just a handful of kids at St. Bernard's Church gym in Worcester. The program has grown exponentially, with 2,000 participants to date.

"Each week more kids showed up," says Brown, who notes that a $5 per session donation is requested of those who can afford to pay. "They just wanted to learn how to play, improve their skills and have a safe place to go."

The program teaches boys and girls of all ages and skill levels basketball basics—and, Brown hopes, confidence, determination, and the understanding that it's OK to struggle. As he puts it, he likes to get to know players personally to understand where they're coming from and where they want to go.

"It's teaching these kids the importance of school, why we should never judge, and why we should always help and give back to those who are struggling or are in need of help," he says. To that point, GHOSH has also donated to dozens of area families during the holidays, organized events such as backpack and school supply drives, and helped the Worcester Police Department hand out candy to kids on Halloween. "It's teaching kids to be kind, respectful, believe in themselves and support others—most important, the community," Brown says. He drives home the mantra "Don't let a disability or disadvantage stop you from what you want to do with your life."

Naturally, his goal is to expand GHOSH beyond Worcester, as funds, space, and time allow.

"I do what I can now, rotating to find affordable gyms throughout the year to hold sessions," Brown says. "Yes, it is a lot of work—but it's worth it."

—Taryn Plumb
When Chandlor Lyles ’16 came to WPI for the engineering focus it offered, she never predicted a future that included the pursuit of a doctoral degree in business administration and success as a fashion entrepreneur. And while the two professional pursuits might seem distinct, it was Lyles’s engineering and business education that provided the foundation and opportunities that launched both.

After graduating in 2016 with a management engineering degree and a concentration in mechanical engineering, Lyles went on to complete her Global Executive MBA (GEMBA) studies at Neoma Business School in Paris in June 2022. Currently working as a senior product IT manager at Dell Technologies, she’s also an entrepreneur who founded CL Styles, a personal wardrobe styling company, while a student at WPI. Soon she will head to Baruch College in New York City to begin an Executive Doctorate in Business Administration (EDBA) program in international relations with a concentration in diversity, equity, and inclusion. “Right now, I’m living and enjoying my life in Paris,” she says, “and will be bicontinental between Paris and New York City to pursue my degree and to work on my fashion business in those major fashion cities.”

Lyles has many interests and talents, but WPI was the catalyst for dreaming big. The opportunities to try new courses and the support of faculty made a significant difference. When she arrived at WPI, she focused exclusively on mechanical engineering because that was her original path. While she had the passion for discovery, she encountered her share of struggles, including taking an NR in physics twice. Then a friend recommended that she look at WPI’s Business School degree programs because they seemed more aligned with her interests. That suggestion opened up a new world.

The Business School curriculum and faculty support helped Lyles thrive. “My brain hasn’t ever worked in a typical engineering way,” she says. “It doesn’t strictly work with numbers. The classes combined business, tech, and people, and that has made me a more versatile person. At Dell, I can be a liaison between tech and engineering because I know about both. Being able to do that gives me an edge, and WPI helped me with that.”

Advisor, Confidante, Friend

That kind of academic and personal connection was personified when Lyles met Professor Adrienne Hall-Phillips, who was her academic and Major Qualifying Project advisor and is now a close confidante and friend. “She is why I went for my master’s and my doctorate,” she says. Lyles talks about Hall-Phillips as a life advisor who helps guide her through her educational and professional pursuits.

“Chandlor was the typical WPI student who was interested in a thousand things,” Hall-Phillips says, laughing. She helped guide Lyles through her academics and then the two stayed in touch. Eventually all those interests posed real career potential, and she was able to present options that Lyles hadn’t even considered. “I asked if she had thought about grad school and furthering her education in a topic that’s interesting to her,” she says. “I said, ‘You know, you don’t have to stay in the U.S.’” And when Lyles talked about wanting to teach, Hall-Phillips urged her to consider a PhD. “It’s about telling people about things they had not thought possible,” she says of mentoring students to achieve their potential.

Lyles says two WPI project experiences—her Humanities and Arts project in Morocco and her Interactive Qualifying Project in Namibia—helped her develop the ability to work successfully on professional teams. Learning how to use her discomfort as a foreigner in different parts of the world, or as the only person of color on a team, gave Lyles a valuable perspective that helps her successfully navigate team dynamics to this day. “It opens the dialogue,” she says, “and we have one common goal.”

Stepping wholeheartedly into new experiences is Lyles’s go-to mode, and she relies on the guidance of mentors like Hall-Phillips so that she doesn’t take a leap without some understanding. She’s succeeded and failed and turned the lessons from each into something better. “Chandlor is going to do really great things and I can’t wait to see it,” says her mentor.

“I never thought in a million years when I was applying for my master’s program that I would ever be where I am,” Lyles says. Her experiences at WPI, particularly the grueling ones, amplified her resilience to bounce back when life got really challenging. “It’s also guided what I tell students today,” she says. “Be open minded and be okay with being uncomfortable. Nothing grows when you’re in a comfort zone.”

—Julia Quinn-Szcesuil

Chandlor Lyles Grows Outside Her Comfort Zone

[WPI alumni profile]

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When Matthew Runkle '11 chose WPI for his institution of higher education, he was looking for both the foundation of an accomplished career and a comfortable place to figure out who he was to be in the world.

The computer science major and electrical and computer engineering minor says, “While I knew WPI would afford me opportunities for a suitable career, I also believed the small and welcoming campus would provide me an ability to build a close group of friends and help me determine which values were most important to me.”

At WPI, Runkle found his friends and succeeded at growing into the person he’d hoped to become. Offering that a big part of his growth came from joining Phi Kappa Theta fraternity, Runkle says, “As a fraternity brother, it was quickly apparent how impactful the Greek community was within the greater WPI community. Most of the leaders of the large campus clubs were Greek and much of the social life around campus was associated with Greek Life. I feel like the community service element of Greek Life pushed me out of my shell and enabled me to participate in a lot more than I would have on my own. Those lessons of not being afraid to try something different, or jumping in and learning as you go, continue to stay with me today.”

Finding his way out of his proverbial shell, Runkle also joined WPI’s Student Government Association, The Peddler yearbook team, Upsilon Pi Epsilon, and Crimson Key. He also chose to conduct his Interactive Qualifying Project in Hong Kong.

While a student, he secured an internship with Raytheon BBN Technologies and was hired there as a staff scientist upon his graduation. Today, he is a software infrastructure and security practitioner serving as director of cloud engineering for SmartBear Software. SmartBear builds application programming interface design, software testing, and developer observability tools to ease software development challenges.

When Runkle met his spouse, Blair Clarkson, who worked for a few years in WPI’s Global Projects Program, their shared connection to WPI became especially meaningful to the couple. Clarkson, now a French and Spanish teacher with the Advanced Math & Science Academy, says, “Having come from international education, I loved WPI’s push for global projects and the hands-on approach to project-based learning.” Runkle echoes Clarkson’s sentiment, saying, “We’re both passionate about education, particularly learning environments that build practical life skills and promote cultural empathy. WPI’s model of Lehr und Kunst—especially with the focus on societal impact—makes WPI a special place for both of us.”

The couple’s shared connection to WPI and passion for education inspired them to establish the Blair Clarkson and Matt Runkle ‘11 Fund to support students in need of the resources offered by WPI’s Office of Diversity, Inclusion, and Multicultural Education. “Blair and I strongly believe an important aspect of learning is looking beyond one’s own upbringing to appreciate the beauty in other cultures, backgrounds, and different ways of seeing the world,” says Runkle. “Especially in today’s political climate in the United States, where we see greater calls for censorship, less ability to see another person’s perspective, and the curtailing of LGBTQ+ rights, we see the need to encourage more diversity of thought as ever more dire, and we are proud to play our role in the solution to this societal issue.”

When asked about the impact of the Blair Clarkson and Matt Runkle ‘11 Fund, Arnold Lane Jr., director of multicultural education and community engagement, says, “Alumni gifts supporting student diversity initiatives allow the school to be both innovative and creative in designing sustainable infrastructure and learning experiences for our diverse student populations. Our gratitude for these types of gifts really goes beyond words, because, more often than not, gifts have a clear and direct impact on the student experience—whether this relates to sending them to a life-changing conference, providing funding support for personal expenses, or distributing micro-scholarships to help students and their families during the holidays; every little bit goes a long way.”

—Sira Naras Frongillo

Philanthropy Supports WPI’s Diverse and Dynamic Community

ALUMNUS AND HUSBAND ESTABLISH THE BLAIR CLARKSON & MATT RUNKLE ‘11 FUND

“Blair and I strongly believe in the need to support students of all backgrounds to produce more well-rounded, socially aware engineers, so we established the Blair Clarkson and Matt Runkle ‘11 Fund in support of the Office of Diversity, Inclusion, and Multicultural Education (ODIME) initiatives.”—Matthew Runkle ’11, right
Inspiring Innovation in Photonics

NEW FUND HONORS THE LEGACY OF VALENTIN GAPONTSEV.

Valentin Gapontsev, who received an honorary doctor of engineering degree from WPI in 2001, was an internationally recognized physicist widely known as the “Father of the Fiber Laser Industry.”

When he founded IPG Photonics in 1990, he combined his technical knowledge with his strategic vision for the potential uses of high-power fiber-optic lasers. Headquartered in Oxford, Mass., IPG is an internationally dominant manufacturer of laser equipment.

In 2001, with the burgeoning job market in photonics and the need for greater photonics research, Gapontsev began a long partnership and record of generous support with WPI. It started in Olin Hall with the establishment of the IPG Photonics Laboratory, a valuable academic resource for teaching photonics with emphasis on fibers, lasers, and detectors.

Over the years, the partnership between WPI and IPG has deepened. Dozens of WPI alumni are employed by IPG across the United States, and WPI and IPG collaborate on education, training, and workforce development. IPG, a participant in WPI career fairs, has also sponsored meaningful project experiences for students that benefit the company.

Gapontsev passed away in October 2021, but his legacy lives on at WPI. The Gapontsev family has continued to support the university in critically important ways. In the face of Russia’s war against Ukraine, for example, the Gapontsev family has provided support for students affected by the war. Reflecting Valentin’s penchant for innovation and scientific discovery, the family recently established the Gapontsev Family Collaborative Venture Fund, with the goal of incentivizing, catalyzing, and inspiring interdisciplinary collaboration across the WPI enterprise with a special focus on photonics. The seed grants, awarded through a competitive process, will enable more successful research endeavors.

“This fund will reward curiosity and enable WPI’s bold thinkers to pursue ideas with the potential for high reward as they use the data generated from this research to apply for larger grants,” says Bogdan Vernescu, professor of mathematical sciences and vice provost for research. “We are grateful to the Gapontsev family for their support of our faculty and students. We are proud to honor the legacy of Valentin Gapontsev and his enduring commitment to the scientific community through this fund and the IPG Photonics Lab.”

“Our faculty aspire to be creators, scholars, and innovators who leverage our interdisciplinary research teams and novel approaches to make scientific discoveries in many areas of need including photonics,” adds Jean King, Peterson Family Dean of Arts & Sciences. “The Gapontsev Family Collaborative Venture Fund will allow them to do that with the speed and precision that is desperately needed to stay on the cutting edge of science and engineering. We would like to thank the Gapontsev Family for making an investment in our faculty and students.”

Six faculty were awarded Gapontsev seed grants last academic year to support three very different research projects that use photonics to push the boundaries of innovation, while also providing first-rate research opportunities for students.

“The importance of the Gapontsev Family Collaborative Venture Fund is centered on the support of fundamental research that enables new discoveries and the realization of cutting-edge technologies, along with the co-development of the next generation of scientists and engineers in a collaborative and interdisciplinary environment,” says Doug Petkie, professor of physics and Physics Department head. “These types of programs are essential for the region to remain strong economically through the generous support of innovative ideas led by the faculty and students at WPI.”

continued on next page
Unlocking the Potential of 2D Nanomaterials

Detecting Foodborne Bacteria

The Gapontsev grant, she says, has been critical to the advancement of the Ukraine team’s research. "We are honored by the award and extremely thankful for the opportunity to carry out this work," Titova says. "On a more personal note, we are deeply touched by the Gapontsev family's creating and supporting WPI's Ukrainian undergraduate students."

WPI JOURNAL

Detecting Foodborne Bacteria

"We have been profoundly impacted by the war, worried about food safety in Ukraine," Titova says. "We deeply appreciate your kind support of our research, and your backing of the Ukrainian team."

Two members of their team are Ukrainian: Kateryna Friedman, research assistant professor of physics, and Ronald Grimm, associate professor of chemistry and biochemistry, and her research partners. One student, thanks in part to this experience, has been accepted to a PhD program at the University of Colorado, Boulder. "The Gapontsev grant means so much to us," Friedman says. "It supports our collaboration, not only financially but also in protecting our students from the war."

Yuxiang (Shawn) Liu, associate professor of mechanical engineering, and his co-PI Christopher Lambert, teaching professor of chemistry and biochemistry, are seeking a better way to help everyone. "From food poisoning to grocery recalls, foodborne bacteria impacts us avoid foodborne bacteria. The Gapontsev grant supports their research into a portable, rapid method for detecting foodborne bacteria in the field."

"Currently the gold standard detection method takes time in a testing center and generally 24 to 48 hours to obtain results," Liu says. "We envision a foodborne bacteria detection device that can provide results at any location point, as well as a detection patch included in food packaging to warn whenever contaminants are present."

"Liu and Lambert envision a foodborne bacteria detection device that can provide results at any location point, as well as a detection patch included in food packaging to warn whenever contaminants are present."

"Detecting foodborne bacteria anywhere along the supply chain from farm to table, and even death. Complicating the issue, he says, contamination can explain, and can result in foodborne outbreaks, recalls, sickness, and even death."

"We deeply appreciate your kind support of our research, and your backing of the Ukrainian team."
Describing himself but an exciting life producing art graphic designer. I never thought two were very compatible. I am a studied both. I found that the strength of Boston Metal’s Molten Oxide Electrolysis technology to lower carbon emissions in the steel industry.

North American Company of the Year Award by the Cleantech Group. Its work was chosen from 16,000 nominations from 93 countries. The life

Keith Gigliotti '96, Brett Hyatt '67, and Alice, with Robert Taylor '67 and his wife, Alice, with

A Place in Time: Youth, which is

Last summer a group of US alums got together for its quasi-annual initiative. I also continue to host Recovery Friendly Workplace initiatives. I help New Hampshire and Maine communities build their capacity for substance recovery. I work at Pinetree Institute (Eliot, Maine) where I help New Hampshire and Maine communities build their capacity for substance recovery. I work at Pinetree Institute (Eliot, Maine) where I help New Hampshire and Maine communities build their capacity for substance recovery. I work at Pinetree Institute (Eliot, Maine) where I help New Hampshire and Maine communities build their capacity for substance recovery. I work at Pinetree Institute (Eliot, Maine) where I help New Hampshire and Maine communities build their capacity for substance recovery. I work at Pinetree Institute (Eliot, Maine) where I help New Hampshire and Maine communities build their capacity for substance recovery.

The Engelberger Robotics Award for Application of Robotics, was selected for one of the two 2023 Joseph F. Engelberger Robotics Awards, one of the world’s most prestigious robotics awards. She says, “The Engelberger Robotics Awards are given to individuals who have made a significant contribution to the worldwide robotics industry. I have been involved in the robotics industry for over ten years, and I am honored to be recognized with this prestigious award.”

The company is committed to sustainability and innovation, and the award recognizes its commitment to creating a positive impact on the world through its technology and products. The company plans to continue its focus on sustainable practices and innovation in the future.

The company was founded in 2000 by a group of engineers and entrepreneurs with a vision to create a sustainable and innovative solution for the robotics industry. Since its inception, the company has grown rapidly and has become a leader in the robotics industry. The company’s mission is to revolutionize the robotics industry through sustainable practices and innovative solutions.

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1981
Stephen Zalewski

1986

1989

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Paul Constantz
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2008

2014

2019

2020

2023
### GIVING DAY IS COMING

Join the WPI community beginning Wednesday, September 13, for Giving Day! WPI’s single biggest philanthropy event of the year gives you exciting opportunities to make an impact in a BIG way—such as . . .

- Coming together with 1,000+ alumni, parents, faculty, staff, students, and friends
- Leveraging challenges and matches to make your gift go further
- Such as . . .

**Leveraging Challenges and Matches to Make Your Gift Go Further**

- **$1M Goal**: Give $1 million to support student scholarships and programs.
- **Matching Challenges**: Contributions will be matched up to $10 million with additional matching from 25 donors.
- **$25M Goal**: Give $25 million to support faculty excellence and student success.
- **Matching Challenges**: Contributions will be matched up to $12 million with additional matching from 25 donors.

**Giving Day is about celebrating and supporting all the things—and all the people—that make our home on the Hill great. Follow the exciting Giving Day action here: [givingday.wpi.edu](https://givingday.wpi.edu)**

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### Beyond These Towers

**September 13–14, 2023**

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### [WPI class notes]
Joseph Sage, Longtime Civil Engineering Professor and Artist

Dr. Joseph Sage, a long-time professor of Civil Engineering at WPI, has passed away at age 91. Dr. Sage spent nearly 40 years at WPI, where he taught geotechnical engineering and was a prolific researcher. He is survived by his wife of 64 years, Pauline, and an infant daughter.

Robert Zalosh, Fire Protection Engineering Professor and Authority on Explosion Risks

Robert Zalosh, a professor at WPI and an authority on explosion risks, has passed away. Zalosh contributed significantly to the fields of fire protection engineering and explosion dynamics. He is survived by his wife of 57 years, sons Michael and Matthew, four grandchildren, a sister, and five nieces and nephews.
Pioneering Professor Helen Vassallo

Helen Guiselle Vassallo, former professor of management and the second woman to be named full professor at WPI, passed away on June 9 at the age of 91. She served as head of the Management Department from 1989 to 1995, was the longtime chief justice of the Campus Hearing Board, and was a visiting fellow and special student at MIT’s Sloan Institute.

Vassallo joined WPI’s management and biology and biotechnology departments in 1982 after a distinguished career as an educator, researcher, and business leader in the fields of physiology, pharmacology, and anesthesia. She received a BS from Tufts University and an MS in pharmacology from Tufts University Medical School and then became director of scientific and professional information. While at Astra, she completed a PhD in physiology at Clark and an MBA at WPI, before teaching at Tufts, Brandeis University, Clark University, and WPI before retirement in 2019.

She was a member of the Skull Class of 1987. In 2009, she was honored with the Goat’s Head Award and received the Woman of Consequence Award from the City of Worcester in 2008. In 2013, she was honored with the Phi Kappa Theta, Stoughton, Mass. Sigma Alpha Epsilon, Macungie, Pa. Tau Kappa Epsilon, Woodbury, Conn. Sigma Alpha Epsilon, Brevard, N.C. Theta Chi, Mattapoisett, Mass. Phi Eta Sigma, Storrs, Conn. Phi Kappa Theta, Brookfield, Conn. Alpha Chi Rho, Avon, Conn. Sigma Alpha Epsilon, Macungie, Pa. Phi Kappa Theta, East Haven, Conn. Phi Kappa Theta, Wilbraham, Mass. Alpha Chi Rho, North Scituate, Mass. Sigma Alpha Epsilon, Oscoda, Mich. Sigma Alpha Epsilon, Shrewsbury, Mass. Sigmas Alpha Epsilon, Port Charlotte, Fla. Sigma Alpha Epsilon, Sturbridge, Mass. Sigma Alpha Epsilon, Warwick, R.I. Sigma Alpha Epsilon, Middleburgh, N.Y. Sigma Alpha Epsilon, Orrs Island, Maine. Sigma Alpha Epsilon, Penllyn, Pa. Sigma Alpha Epsilon, West Wareham, Mass. Sigma Alpha Epsilon, West Boylston, Mass. Discuss obituaries can usually be found online by searching legacy.com —Bogdan Vernescu, Professor of Mathematical Sciences, Vice Provost for Research and Development. We are grateful to the Gapontsev family for their support of our faculty and students. We are proud to honor the legacy of Valentin Gapontsev and his enduring commitment to the scientific community through this fund and the IPG Photonics Lab.
GOMPEI GUARDS THE MODERN SWIMMING AND DIVING FACILITIES AT THE SPORTS AND RECREATION CENTER. READ ABOUT THE ORIGINAL POOL, DEDICATED IN 1926 AND NAMED FOR WPI’S SECOND PRESIDENT, HOMER FULLER, ON PAGE 19.