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WPI WELCOMES OUR 17TH PRESIDENT,
Grace Wang



PHOTO BY MATTHEW BURGOS

Q&A: GET TO KNOW PRESIDENT GRACE WANG

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LETTERS

Letters to the editor may be altered for length, clarity, and accuracy. We ask that letters offer the reader's opinion without rancor. Letters that mock or insult will not be published. Opinions expressed do not necessarily reflect the views of WPI. Send your letters to wpjournal@wpi.edu.

EMBRACING THE QUIRKINESS

What surprised you about WPI?

I asked this question of WPI's new president, Grace Wang, when we sat down for an interview that became the cover story in this issue. Although we talked several months before her first official day on the job, she was getting to know the community through extended visits to campus, meeting with key groups to listen and learn about what makes WPI tick. Check out her answer—and the full interview—starting on page 20.

As a relatively new member of the community myself, I pondered how I would have answered the question when I first arrived. This is certainly a place that embraces its quirkiness—hello, members of the Galactic Senate, a.k.a. the *Star Wars* Club. A student group that sells goat cheese? A soccer field on top of a garage? A pair of vintage film projectors showing 70MM films? Yes, the choices are many when considering the unusual elements that make this community special.

So, dear readers, I open this question up to your answer—what surprised you when you first joined the WPI community? Send your comments to wpjournal@wpi.edu and if enough people answer, I'll print a compilation in the next issue.

A reminder—please send your preferred way of receiving the *Journal* (digital or print) to infoupdate@wpi.edu. You'll also see that the QR codes are back at the end of the features in the print version for electronic sharing of the stories.

—Kristen O'Reilly, Editor

HOPE FOR FUTURE GENERATIONS

I wanted to tell you how uplifting it is to read about all the great activities and fantastic students at WPI. In a world where all we seem to hear about are people who don't want to open their minds, it is incredibly refreshing to read about all the young people dedicated to making a real difference utilizing their STEM background. It gives me hope for future generations.

—Phil Rubin '79, mechanical engineering

A VOTE FOR PRINT

In the Winter 2023 issue you wrote about the responses you received regarding print vs. digital magazine formats. One of the benefits to me of the *WPI Journal* continuing its print edition is the opportunity to set it down on the table and pick it up again, and again, when inspiration and the time allow. If I had a digital copy, it would only be read, if at all, at most once and probably not as well. Thanks for keeping it in print. It is outstanding.

—Allen G. Downs '75, chemical engineering



Having officially moved into my Boynton Hall office, I'm already feeling what WPI aims for all to feel—a sense of belonging and higher purpose. In a community where transforming lives is as much about student well-being as it is about our distinctive project-based education and purpose-driven research, I have found my place, my home, as WPI's 17th president.

I was fortunate to get a head start both in feeling welcomed by the community and in envisioning our future. During several extended visits before I officially started in April, faculty, staff, students, trustees, and parents and guardians alike portrayed a place and possibilities where I could readily see myself immersed. In arts performance spaces and the newly opened Center for Well-Being, in the Ruben Campus Center, Unity Hall, Innovation Studio, and Gordon Library, at the police station, and in labs where I witnessed WPI's high-impact research activities, and off campus in thoughtful and encouraging discussions with WPI alumni, and with industry and government partners, I have learned so much about our remarkable institution.

All my interactions and listening have deepened my understanding of our history, culture, and community and excited me for what's ahead. From the beginning, WPI was a boundary breaker. At the height of the American Industrial Revolution, WPI merged theory and practice, knowledge and skilled art, and learning and doing to create a lasting model of scientific and technological education. A century later, in reimagining that model, WPI pioneered project-based learning, including the integration of the humanities and arts into our curriculum. It's an approach that has stood the test of time, even

“All my interactions and listening have deepened my understanding of our history, culture, and community and excited me for what's ahead.”

though this community has never stood still.

Now, amid the fourth industrial revolution and as our society faces pressing, complex challenges, the WPI community is again pushing boundaries, continuing to innovate and discover, and preparing critical thinkers and change makers to be STEM leaders who are capable and motivated to better the world.

This year, at our 154th WPI Commencement ceremonies on May 11–13, about 2,000 more STEM leaders—bachelor's, master's, and doctoral degree recipients—will take the next steps forward in continuing to make a difference in the world as they build meaningful lives. As in prior years, our graduates were sought out for their knowledge, global outlook, and ability to collaborate, lead, and solve problems.

It is a privilege and honor to lead our amazing institution, filled with—and constantly nurturing—change makers, value creators, and STEM leaders.

Sincerely,
Grace

THE GLOBAL SCHOOL WINS NATIONAL FUNDING TO SUPPORT CARIBBEAN CLIMATE RESILIENCE

The Global School at WPI has been awarded a major new national grant from the NOAA-CPO (National Oceanic and Atmospheric Administration Climate Program Office) as part of its Climate Adaptation Partnerships (CAP). This new Caribbean Climate Adaptation Network (CCAN) will advance more equitable climate adaptation in Puerto Rico and the U.S. Virgin Islands through interdisciplinary regional research and community engagement. It will focus on multiple climate and society issues and develop a set of interconnected projects that build the capacity of regional partners to act on those issues.

The \$6 million award is a five-year cooperative agreement with NOAA. The lead institution is University of Puerto Rico (Dr. Pablo Mendez-Lazaro). Five WPI researchers are involved in the project: Mimi Sheller, dean of The Global School; Sarah Strauss, professor of anthropology in the Department of Integrative and Global Studies; Seth Tuler, associate professor in the Department of Integrative and Global Studies; John-Michael Davis, assistant professor of teaching; and Scott Jiusto, professor emeritus. WPI students, both graduate and undergraduate, are also participating in the research through the Global Projects Program's Puerto Rico Project Center in San Juan.

CAP's national objectives are closely aligned with those of WPI—specifically to create networks of people working together to support “collaborative research relationships that help communities build lasting and equitable climate resilience” within social contexts. The research will be accomplished by teams of research institutions, nonprofit organizations, and state and local governments engaging in a variety of applied and co-developed research with communities.

Other partnering institutions include University of the Virgin Islands; University of South Florida; Mayaguez; University of Texas, Austin; City College of New York; University at Albany; NYU; the U.S. Forest Service; and Caribbean Coastal Ocean Observing System. Ultimately, it is hoped that by strengthening this regional knowledge-action network, communities in the U.S. Caribbean will be able to better implement climate adaptation planning and policies that will help reduce vulnerability to future climate disasters, including hurricanes, extreme rainfall, extreme heat, drought, landslides, and coastal and river flooding.

—Jack Levy

TURKISH TRAGEDIES INSPIRE COLLABORATION

In February, two major earthquakes in Turkey and Syria killed tens of thousands of people, leaving an entire region in crisis. As aftershocks continued to roil both the land and the people, a small but dedicated group of WPI faculty and students who hail from Turkey scrambled to help their home country while also absorbing unfathomable loss.

Doctoral student Caner Tol learned of the earthquakes in his home country when his 12-year-old niece called him on the evening of Feb. 5. “Those first days after the earthquakes were the hardest days of my life. I was watching the news in tears while still going to the lab to get my work done,” says Tol, who is in the fourth year of his PhD studies in the Department of Electrical and Computer Engineering and whose home in Mersin is about 140 miles from the epicenter of the first earthquake.

“We can’t be in Turkey to help our loved ones in person. But we have a community here, too,” says Ulkuhan Guler, assistant professor in the Department of Electrical and Computer Engineering of the group of 15 students, 12 faculty members, and one recent alumnus from Turkey. “We have connections and understand each other, and together we can increase awareness at WPI. We’ll feel better knowing that we’re helping in some way.”

With Guler’s encouragement, Tol and other Turkish students worked quickly to organize a campuswide fundraiser. They connected with Turkish student organizations throughout North America and got help from WPI’s Office of International Student Life and from Kim Wykes, assistant director of Campus Center operations, to set up a table in the Rubin Campus Center, where volunteers educated the campus community about the earthquakes and raised money for the Turkish Philanthropy Fund.

Tol says this fundraising effort has been an amazing example of collaboration and solidarity. “The money is going to the people who are directly affected by the earthquakes, but the donations are also good for our psychology,” he says. “We feel like we are being useful to our people and we feel supported by the community where we are living right now. All of that is very important.”

—Mia Lumsden



Alois Maignane

STUDENT CLUB SPOTLIGHT: GALACTIC SENATE (STAR WARS CLUB)

Although the *Star Wars* franchise has become somewhat notorious for its passionate, outspoken fan base, WPI's Galactic Senate (known unofficially as the *Star Wars* Club) strives to be a place that's welcoming and celebratory for all fans, regardless of their favorite characters, says **Andrew Nguyen '24**, supreme chancellor (president) of the Galactic Senate. Weekly meetings resemble those of the original Galactic Senate, with each club member representing a planet, system, or federation in the *Star Wars* universe. Activities like trivia nights, movie screenings, and droid building also offer wide appeal. "It's not just a place for diehard fans. It's also for those interested in learning more," Nguyen says. "It's so cool to hear members share what they love and their favorite things with each other."



—Allison Racicot

MENTA NAMED CIO

Vijay Menta recently joined WPI as the vice president for information technology and chief information officer. Menta comes from Middlebury College in Middlebury, Vt., where he had held similar IT leadership positions since 2018. Prior to Middlebury, he spent 20 years at Yale University. As VP and CIO, Menta will provide the technological vision and leadership to support and advance the university's network operations, systems services, application administration, data architecture, enterprise resource planning, support services, academic technologies, research computing, and IT security.



PATENT AND LICENSING EXPERTS HELP PROTECT STUDENTS' INTELLECTUAL PROPERTY

OFFICE OF TECHNOLOGY COMMERCIALIZATION HELPS BRING PHASE MAZE GAME TO MARKET

Colorful, straightforward, and compact, the Phase Maze—a stackable, interchangeable series of hand-held games about the size of a box of Pop Tarts—may find its place on toy store shelves and in online shopping carts some future holiday season.

Dreamed up in a Chicago high school by **Maanav Iyengar '23** and eight close friends, Phase Maze is an addictive game that requires users to guide a ball bearing through intricate mazes of varying difficulty. Its origin story follows the familiar narrative of scrappy start-ups: a brilliant idea, a blur of all-night work (in this case, 3D printing in a basement), jockeying to get the product on retailers' radar, a satisfying burst of sales, and a gleeful struggle to keep up with orders.

The twist in Phase Maze's narrative comes courtesy of the partner Iyengar didn't go to high school with: WPI's Office of Technology Commercialization.

The office typically helps faculty and grad students bring inventions to market in return for some level of royalties and ownership in the company. But OTC support is also available to undergraduate student inventors, and a growing number are taking advantage, says OTC Director Todd Keiller.

"If we are licensing to an existing company, we get royalties and other fees based on success," Keiller says. "If we license to a start-up, we get royalties and equity. There is a steady flow of students through our office, which not only tests their idea for real-life, commercial potential, but provides a great educational experience."

Iyengar approached the OTC soon after arriving on campus as a first-year student.

"I could have started my company myself, but WPI offers me all the protection I need. So when I go to the 'big dogs' I know I'm not going to get completely rolled over," the robotics engineering major says.

"I was inventing throughout high school, and wanted to get patent and IP protection," he says. "I think WPI's IP policy is the best in the country, and probably the world. If any school is going to support avid inventors and entrepreneurs, it's WPI." Iyengar, who also participated in WPI's I-Corps entrepreneurial training program, says he applied to WPI partly because of the OTC's generous approach to intellectual property.

Iyengar has proposed six ideas to the OTC, two of which—the Phase Maze and an innovative solution to sewer issues in developing countries—WPI chose to support. Iyengar's inventions showed potential usually seen more often among proposals from graduate students, doctoral candidates, and faculty, according to Keiller, who added that the best proposals come from a collaborative place.

"Good teams share and cooperate," Keiller says. "The teamwork is really inspiring."

—Steve Foscett

New Partnership Accelerates WPI's Efforts to Reduce Its Carbon Footprint

WPI has formed a 40-year partnership with Chicago-based investment management firm Harrison Street that will provide \$45 million for the university's strategic initiatives and accelerate work to reduce WPI's carbon footprint by expanding energy-conservation measures, improving WPI's power plant, and developing sustainable energy technologies for the WPI campus.

Under the agreement, Harrison Street will become the exclusive energy supplier to WPI. The firm will lease, manage, operate, develop, and finance the university's campus utility system. A second company, Cogen Power Technologies of Latham, N.Y., will operate the campus power plant.

Harrison Street will pay \$45 million up front to WPI and, over the course of the partnership, collaborate with WPI faculty and students on new research projects and internship opportunities to create opportunities for hands-on learning on campus. Improvements to campus buildings (which may include new windows and LED lighting, optimization of heating and cooling systems, and the installation of solar panels on some campus buildings) began in early 2023 with the start of a multi-phased approach toward strategic energy conservation measures. Additional projects may include developing microgrids for the campus and pursuing alternative energy technologies, such as geothermal systems.

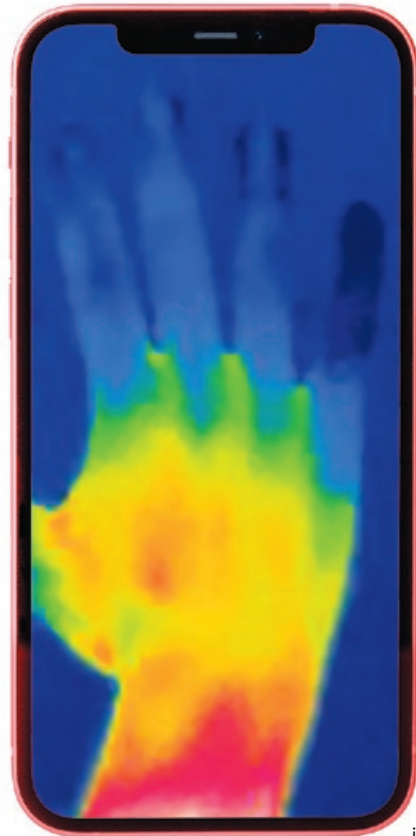
"As a university committed to the application of knowledge and research toward solving the world's most challenging problems, we want to be at the forefront of developing, implementing, and transitioning to clean technologies," says Provost Winston "Wole" Soboyejo, "We must also ensure that we are contributing to climate change solutions. This partnership allows us to do both."

"WPI is a community that is constantly figuring out how to do things better, and I am particularly proud of this partnership because it allows WPI to focus on its own sustainability goals, while also providing opportunities for teaching, learning, and research," says Michael Horan, executive vice president and chief financial officer. "WPI's campus will further lean into being an impressive living laboratory while producing innovations, expertise, and well-prepared graduates who will help the rest of the world."

WPI's partnership with Harrison Street reflects the university's ongoing commitment to achieve carbon neutrality in its operations. WPI adopted its first Sustainability Plan in 2014 and later updated the plan for 2020–2025. In early 2022, WPI partnered with other colleges and universities through Second Nature to address climate change.

"An important objective in WPI's sustainability plan is to reduce impacts on the environment by increasing the university's energy efficiency and reducing energy consumption and greenhouse gas emissions to achieve carbon neutrality," says Paul Mathisen, associate professor in the Department of Civil, Environmental and Architectural Engineering, and WPI director of sustainability. "This partnership with Harrison Street includes energy-efficiency controls and creative ideas to meet WPI's objectives. By engaging faculty, staff, and students, the agreement also advances academic, research, and community engagement goals in our sustainability plan."

—Colleen Bamford Wamback



RESEARCHERS DEVELOPING APP TO DETECT WOUND INFECTIONS

A team led by **Emmanuel Agu** has been awarded \$2.5 million by the National Institutes of Health to develop a smartphone app that will use photographs, heat images, and algorithms to detect infections in the open wounds of patients at home.

The Deep Infected Wound Detector will enable visiting nurses and other health workers

in the field to rapidly identify

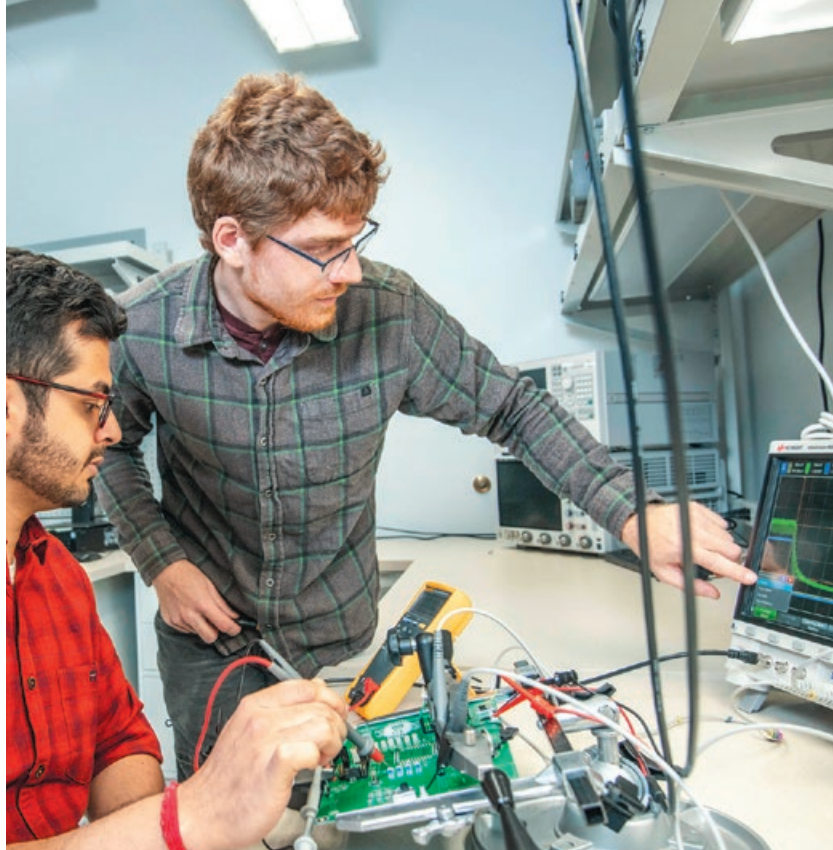
patients who need specialized care for diabetic ulcers, pressure sores, incisions, trauma-related injuries, and other wounds. The app, deployed on smartphones that are equipped with thermal cameras like those used by plumbers, could help health workers reduce unnecessary medical referrals, delays in care, and wrong-care decisions that lead to amputation, says Agu, Harold L. Jurist '61 and Heather E. Jurist Dean's Professor in the Department of Computer Science.

"It can be difficult to visually evaluate a wound when visiting a patient at home or in a remote location, because wounds are often obscured by dead skin and debris that can only be removed in a doctor's office," says Agu, who is a principal investigator and leader of the four-year project. "By combining photos with thermal images, which can detect temperature changes in tissue underneath the skin, we will develop a tool that will help health workers better evaluate wounds and determine whether to refer patients to specialists for medical care."

Agu and a team of researchers will train deep learning computer models to detect infections from about 1,500 photographs combined with thermal images of wounds. Some photographs and thermal images will be taken from existing data sets. New data will be collected by researchers at UMass Chan Medical School, including photographs and thermal images of wounds. The team will then program a smartphone app and validate the technology in a study of about 100 patients.

Dr. Giorgio Giatsidis, assistant professor of surgery at UMass Chan, also is a principal investigator on the project. Other researchers involved are co-investigators Bengisu Tulu and Diane Strong, professors in The Business School; and Clifford Lindsay, assistant professor of radiology at UMass Chan. In addition, the team will include three WPI graduate students and consultants Peder Pedersen, emeritus professor of electrical and computer engineering; Dr. Raymond Dunn '78, professor of surgery at UMass Chan; and wound nurse Lorraine Loretz, NP.

—Steve Foscett



INTRODUCING MEDICAL DEVICE DEVELOPMENT TO TEENS



Solomon Mensah, assistant professor in the Department of Biomedical Engineering, received \$38,500 from the Massachusetts Life Sciences Center (MLSC) to develop a seven-week summer program for high school students who are interested in developing medical devices for global health.

"We are incredibly proud to support Professor Mensah's work to further expand experiential

learning opportunities in the life sciences," says MLSC President and CEO Kenn Turner. "Our ecosystem is at a critical point that requires collaboration and bold leadership to change the complexion of our workforce. Our efforts are strengthened mightily with institutions such as WPI and our partners across the Central Massachusetts life sciences cluster."

The program will be aimed at underrepresented students in the Worcester Public Schools and focus on the ideation, design, and implementation of medical devices for developing countries. Mensah is principal investigator on the MLSC grant, and Dirk Albrecht, associate professor in the Department of Biomedical Engineering, is co-PI.

"Interest in medical product development careers usually begins in college," Mensah says. "The goal of this summer program will be to expose high school students to the field so that underrepresented young people pursue engineering degrees in college and then seek jobs or start companies in the medical device industry."

Mensah expects to seek additional funding to launch the summer program in 2023 at WPI.

A member of the faculty since 2021, Mensah is a co-founder of Therapeutic Innovations, an organization that develops medical devices that can expand health care in developing countries.

—Lisa Eckelbecker

AWARDS, HONORS, AND RECOGNITIONS

Danielle Cote

Receives Early Career Faculty Fellow Award

Danielle Cote, Harold L. Jurist '61 and Heather E. Jurist Dean's assistant professor in the Department of Mechanical and Materials Engineering, has been named co-recipient of the 2023 Early Career Faculty Fellow Award by The Minerals, Metals, and Materials Society (TMS), a professional society. The award honors assistant professors for their achievements, their contributions to their academic institutions, and their abilities to advance the technological profile of TMS, an organization that connects materials scientists and engineers around the world. A member of the faculty since 2016, Cote, Russell M. Searle Instructor in Mechanical Engineering, has been awarded more than \$25 million for her research and teaches both undergraduate and graduate courses. She will be honored during the TMS annual meeting in March in San Diego.



DANIELLE COTE

Germano Iannacchione

Named Division Director of NSF Division of Materials Research

The National Science Foundation's Division of Materials Research (DMR) named Germano Iannacchione, professor in the Department of Physics, as division director in the Directorate for Mathematical and Physical Sciences. Iannacchione will lead a division that invests in the discovery, prediction, and design of new materials, the development of materials scientists, and a better understanding of materials. DMR programs support research and education in fields such as condensed matter physics, solid-state and materials chemistry, and materials that are ceramic, metallic, polymeric, nanostructured, biological, electronic, photonic, and multifunctional.

DMR also is the managing division for national facilities, such as the National High Magnetic Field Lab, the Center for High Resolution Neutron Scattering, the Cornell High-Energy Synchrotron Source, and the Materials Innovation Platforms, and for programs including the Materials Research Science and Engineering Centers and the cross-cutting Designing Materials to Revolutionize and Engineer Our Future Program.



GERMANO IANNACCHIONE

Jeannine Coburn

Receives CAREER Award to Develop Transparent Wound Dressing

Jeannine Coburn, assistant professor in WPI's Department of Biomedical Engineering, has been awarded a \$606,146 grant from the National Science Foundation to develop a transparent wound dressing that was inspired by a natural biopolymer she observed while fermenting kombucha at home. The prestigious CAREER Award recognizes early-career researchers and will support Coburn's five-year project to expand fundamental knowledge about a stretchable and optically transparent cellulose produced by *Komagataeibacter hansenii*, a bacteria found in kombucha, vinegar, and other foods. Coburn will attach antimicrobial peptides to the cellulose to develop a material that can cover and treat a wound while remaining transparent so that health care workers can visually inspect a wound without exposing and disturbing vulnerable tissue.



JEANNINE COBURN

DEDICATED CAMPUS SPACES SUPPORT INCREASINGLY DIVERSE STUDENT BODY



STUDENTS, FACULTY, AND STAFF CELEBRATE THE OPENING OF THE LAVENDER LOUNGE.

Space is a valuable resource at WPI, and, despite the physical restraints of a small campus, there's great value in students having physical places where they feel accepted and safe enough to be their authentic selves. Places where they can gather with others who may look like them, think like them, and even pray like them.

That's a big reason the Office of Diversity, Inclusion, and Multicultural Education (ODIME) has worked so diligently with campus partners to create WPI's first formal affinity spaces—physical areas set aside for traditionally underrepresented groups—in addition to renovating some existing student spaces.

"Having multiple identity centers highlighting the diversity of WPI sends a message to the larger campus community and beyond that the Institute sees these communities and values their presence on campus," says Arnold Lane Jr., director of multicultural education and community engagement.

Two new affinity spaces, the Center for Black Excellence and the Lavender Lounge, opened in November 2022 and are located in the Rubin Campus Center. The OASIS (Offering Acceptance, Support, and Inclusion to Students) Multicultural Center and the Collegiate Religious Center (CRC) are making renovations for gathering spaces. The CRC will have a new accessible ramp and additional areas where students can gather in small groups or one-on-one with any of the university's chaplains. While the kitchen is not a fully kosher space, it is vegan, and Hillel hosts Shabbat dinners at the CRC on Fridays. The upstairs multifaith worship space houses Gomepi's Closet, where students in need may request and receive clothing.

In addition, the Muslim Students Association (MSA) is working with Dean of Students Gregory Snoddy to find an Islamic prayer space closer to the center of campus where WPI's growing Muslim population can gather and pray together.

In other words, while space at WPI is valuable, students feeling safe, comfortable, and fully themselves is priceless.

—Mia Lumsden



ASSISTANT DIRECTOR OF MULTICULTURAL EDUCATION AND STUDENT SUCCESS ALESIA LESANE, THE BUSINESS SCHOOL DEAN DEBORA JACKSON, AND DIRECTOR OF MULTICULTURAL EDUCATION & COMMUNITY ENGAGEMENT ARNOLD LANE JR.

HEALTH & WELLNESS COLLABORATIVE LAUNCHES



In January, a ribbon-cutting ceremony officially launched the Center for Well-Being, a groundbreaking model of wellness programming and support for the campus community. To help foster a more holistic approach to student health and well-being, the university has co-located the center with Student Health Services and Student Development and Counseling Center offices. The convergence of these three entities, plus WPI's Office of Accessibility Services, comprises WPI's pioneering Health & Wellness Collaborative.

"The connection between mind, body, and spirit is undeniable, and the creation of the Center for Well-Being and the establishment of the Health & Wellness Collaborative demonstrates a thoughtful and holistic approach to more fully supporting the wellness of every individual in the WPI community," said Interim President Winston "Wole" Soboyejo. "Academic success is best achieved when a student's needs are met such that they can thrive both in and out of the classroom. This ethos of care also extends to supporting our faculty and staff in their work. I am truly grateful for all who worked tirelessly to bring this center—and this collaborative—to fruition, and I believe WPI's experience can ultimately benefit others."

The opening of the Center for Well-Being is the culmination of years of planning to centralize a broad range of services to support students in an integrated approach that recognizes the important connections between physical health, mental health, overall well-being, and academic and professional success. Guided by input from an internal Mental Health and Well-Being Task Force composed of students, faculty, and staff and collaborations with external consultants, this new Center will allow WPI to apply evidence-based practices that promote well-being for students and the broader campus community, recognizing the importance of faculty and

staff in creating, maintaining, and modeling a healthier environment for all.

Importantly, all components of the Center and Collaborative are built on engagement and connection and provide not only programming and resources for individuals to support their own wellness, but for advisors, guides, and peers to help along the way, as well as for structural and systems level changes to better support the well-being of the community.

The center includes a welcome desk staffed by students serving as peer well-being ambassadors, staff offices, and a wellness hub with comfortable seating where students can connect with each other or relax to the gentle and soothing sounds of water flowing in the waterfall feature. The Center also features a programming room for hosting wellness activities (such as meditation or yoga) and a rest and recovery room equipped with a zero-gravity chair, compression boots, and red light therapy to virtually connect with nature and find balance and grounding with restorative content.

"Although these initiatives were years in the making, the importance of this work was underscored and accelerated in the last academic year—a time that brought unprecedented challenges and a major focus on mental health and well-being to the WPI campus," said Charlie Morse, dean of student wellness. "Young people everywhere are grappling with a mental health crisis that was exacerbated by the COVID-19 pandemic. Now all colleges and universities must gain a better understanding of how mental health and well-being intersect with the rigors of higher education so that we can identify opportunities to better support our communities."

—Colleen Bamford Wamback



TWO STUDENT-ATHLETES COMPETE IN NCAA WINTER CHAMPIONSHIPS

Tommy Dell'Aera '24 competed in the 2023 NCAA Division III Wrestling Championships in Roanoke, Va., on March 10. He faced a pair of seeded competitors before his standout season ended with a 10-4 mark.

(Perhaps even more impressive, this was after the junior had missed the second half of his sophomore season and the first half of this year's campaign due to injury.)

Dell'Aera was WPI's first wrestler to qualify for the NCAAs since 2020. Head Coach Matt Oney's squad quadrupled its win total, posted better finishes in both the NEWA Duals and NCAA Northeast Regionals, and delivered the highest team G.P.A. of all Division III schools.

Another student-athlete, swimmer Kyle Staubi '23, was chosen to participate in the 2023 NCAA Division III Swimming & Diving Championships in March at the Greensboro (N.C.) Aquatic Center.

The selection of Staubi gave WPI Men's and Women's Swimming & Diving a ninth consecutive season when a student-athlete earned a spot in the NCAA Championships under Head Coach Paul Bennett.

BLAISE SCHROEDER UNDERSTANDS EVERYONE HAS A STORY

Sonder is the idea that everyone around you, even the stranger you pass on the street, has a life just as complex as yours. It was also part of the answer **Blaise Schroeder '23** gave when interviewing for a position as a peer advisor at WPI's Career Development Center (CDC).

"I was asked to give a five-minute presentation on anything that interested me, and I talked about why I like meeting new people," they recall, adding that the concept of *sonder* fascinates them and contributed greatly to their answer. "It's really cool to think about how every single person has a completely different experience in life. It's helped me to do lots of different things and contribute to campus in different ways, allowing me to look at things from many different angles and perspectives. Basically, it's a good reminder that everyone has a story."

"Everyone" certainly includes Schroeder, and their story is one that they hope will leave an impact at WPI for years to come.

A Fire Lit

When Schroeder arrived at WPI in 2019 as a first-year robotics engineering student, they were prepared to jump headfirst into life at WPI. The pandemic had other plans. "I was starting to get involved in things around campus," they say. "My friends and I were going to play in the intramural volleyball league when we got back in the spring, but then the pandemic started."

They and the rest of the WPI community were sent home in March 2020, and by the time Schroeder returned to Boynton Hill, they had a new responsibility as an RA (resident advisor). "It was really weird," Schroeder admits of trying to lead fellow students in the midst of a pandemic while they were still trying to navigate it themselves. "We were focused on enforcing masks [and other precautions]. There was lots of cracking down."

Such a dramatic world change and increase in responsibilities had Schroeder struggling with not just their own mental health, but with seeing peers grappling with those same challenges. That desire to help and continue to get involved propelled them through to their junior year, when they traveled to Nantucket for their IQP—and when WPI's mental health crisis grew.

"I felt so disconnected, but also so motivated to do something," Schroeder says of being so close to, yet so far from, their friends and the rest of the struggling WPI community during their IQP. "It really lit a fire in me ... I knew I wanted to do something to help."

Upon returning to campus, Schroeder was focused on making up for lost time: after having attended a virtual town hall for students during IQP, they joined the Mental Health Implementation Team, sharing opinions and ideas from the student perspective as the university came together to address the crisis.

"I really enjoyed being that bridge between the administration and the students," they say. "It felt good to be able to contribute to these efforts, to share with my peers that they were working, and to see them put in place around campus."

A Vertical Perspective

Schroeder also used the tools and skills gleaned from their work at the CDC to secure an internship at Bowers Farming, an indoor vertical farming company that grows produce year-round—without the use of pesticides—that is then delivered and distributed regionally, thereby reducing food miles, and ensuring peak freshness.

It's not the first internship you'd think of as a robotics engineering major, but for Schroeder, that was exactly why they were interested in joining the relatively new farming venture.

"It was a unique opportunity, for sure," Schroeder says, going on to explain that their internship involved lots of coding, Solidworks design, behind-the-scenes work, and systems installations on the company's Maryland farm that allowed them to get their hands dirty. "My general interest since high school has been building exoskeletons for the mobility impaired, but I loved the sustainability aspect of this internship."

One added benefit was regularly taking home greens from the farm. "It's also just so cool to take home something you had a hand in making," they say. "To contribute to something that helps sustain human life—what's better than that?"

As their senior year begins to wind down, Schroeder doesn't have many solid plans except to land a job that they enjoy in a space that's safe, comfortable, and welcoming for LGBTQIAP+ folks—one that they don't have to build themselves.

"I just want to be a part of it," they explain. "I've done so much leading already; I want to be able to go into a space where it's already a priority and I don't have to make it one."

From mental health awareness and campus improvements for marginalized students to creating positive change in general, their innumerable leadership roles and work on campus have proven invaluable, and for Schroeder it's that impact they hope carries on.

"I think that a lot of people are focused on having their name on something," they say. "And that's cool, but I think that having that long-lasting impact by seeing changes you advocated for is even better. I want to come back and see that more buildings were made accessible, that there are even more gender-neutral bathrooms around campus. It's all about progress. It doesn't have to be my name that's remembered, just my work."

—Allison Racicot

INSIDER

PHOTO BY MATHIEU JURGOIS

Crystal H. Brown

ASSISTANT PROFESSOR IN THE DEPARTMENT OF SOCIAL SCIENCE AND POLICY STUDIES

BORGEN DVD SET

Borgen is a drama from Denmark about a woman who unexpectedly becomes prime minister. My dissertation compared immigration and integration in Scandinavian countries—this series, and travel there, showed me more about the countries and the people.

SISTERS

This photo is of me and two of my older sisters (I am one of eight and also a twin) at my brother's wedding in 2021. We are being goofy, and it was the first time my family got together since the beginning of the pandemic.

DOLL

I got this doll in South Korea during my first trip to Southeast Asia. I love Korean culture. I grew up in the most diverse neighborhood in Chicago—eating kimchi and Korean food at friends' houses and even watching Korean soap operas. It's part of who I am.

PHOTO BY TODD VERLANDER

ILLUSTRATION

This is Gurko Street in Veliko Tarnovo, Bulgaria. Bulgaria had a significant impact on me—this was a beautiful old cobblestone street with restaurants and shops that I would go to all the time.

BULGARIAN PADDLE

I spent three and a half years in the Peace Corps in Veliko Tarnovo, Bulgaria, and this is one item I brought back. Bulgaria changed my world view. I taught English to college students there and that experience inspired me to become a college professor.

PLANT

My partner gave me this little fake plant. These never die, sort of like love. The vase these are in came from a trip we took through France, Belgium, and the Netherlands, and it reminds me of that time.

PLAQUE

When I came to WPI in 2019, I had to decorate my office, and this spoke to me. I try to truly inspire my students.



FACULTY SNAPSHOT

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



PRESERVING THE BEAUTY OF VENICE

The Ponte di Rialto, Canal Grande, St. Mark’s Basilica—there’s an abundance of beauty in Venice. For Evans Owusu ’24, however, a prime example of that beauty didn’t come from bridges, canals, or architecture, but from a small thrift shop.

“A few friends and I found a shop run by an elderly man when shopping for my sister’s Christmas gift,” they explain, adding that despite the language barrier, the shop owner was sweet and interested in learning more about the group members and their studies. “After showing me a beautiful jacket for my sister, I found out his reason for running the store—he was raising funds to take care of dogs he had found! How could I not support such a sweet shop?”

It’s a beautiful sentiment from what’s considered one of the most beautiful cities in the world, a city that WPI students are working hard to help preserve. Established in 1988 by Professor of Interdisciplinary and Global Studies Fabio Carrera ’84, the Venice Project Center offers students the opportunity to complete projects focusing on everything from mobility and city history and art to technology and data management, all with the common goal of improving living conditions in Venice.

“I was only four years older than the students when I started the center,” says Carrera, who has served as the project center’s director since its inception. “We’re celebrating our 35th anniversary soon, and over the years we’ve become a major repository of Venetian knowledge for the world.”

As a native of Venice himself, Carrera jumped at the opportunity to implement improvements in his home city while simultaneously giving WPI students the chance to complete invaluable project work. As of this year, almost 250 projects have been completed.

“Seeing students grow and mature in the few months that they’re there while also having an impact on society, it’s like nothing else,” Carrera says.

With a laugh, he adds, “They get to experience the food, too. I’m sure that’s definitely a plus.”

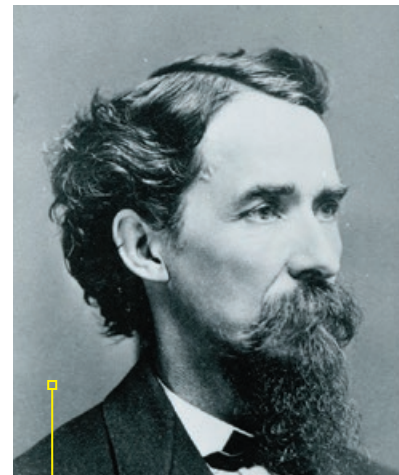
While they didn’t specifically cite the food as a reason for deciding on the Venice Project Center, Owusu was influenced by the city’s natural allure. “Getting to experience a city on water was a chance I couldn’t miss out on,” they say. “I also wanted to make an impact in regard to climate change. Life in Venice is highly dependent on the rising seas that are projected for the near future.”

Owusu and their team contributed to the Venice Project Center’s impressive breadth of work with a project focused on relaying information about the MOSE floodgates. Short for “Modulo Sperimentale Elettromeccanico,” these floodgates rise up from the seafloor to stop incoming tides, protecting the city from flooding. Working with their sponsor, Commissario Straordinario per il Mose, the team conducted interviews with local residents and business owners to discuss what they already knew about MOSE and what they’d like to be aware of in the future. Ultimately, the team used those interviews and their own skills to design a mobile app that includes MOSE gate status and updates, tide and weather forecasts, and travel information for residents to utilize during a flood.

Owusu’s time in Venice not only provided an invaluable project experience; they also credit it with helping them understand how to navigate life after graduation. “[I was] actively living in a new city, living independently, and managing a work-life balance,” they say. “I know that when I get my own place, I’ll be a lot more prepared, thanks to the fact that I already did it in Italy.”

—Allison Racicot

PHOTO FROM WPI ARCHIVES



THE ARCHIVIST

Artist, Historian, and Teacher:
Professor George Gladwin

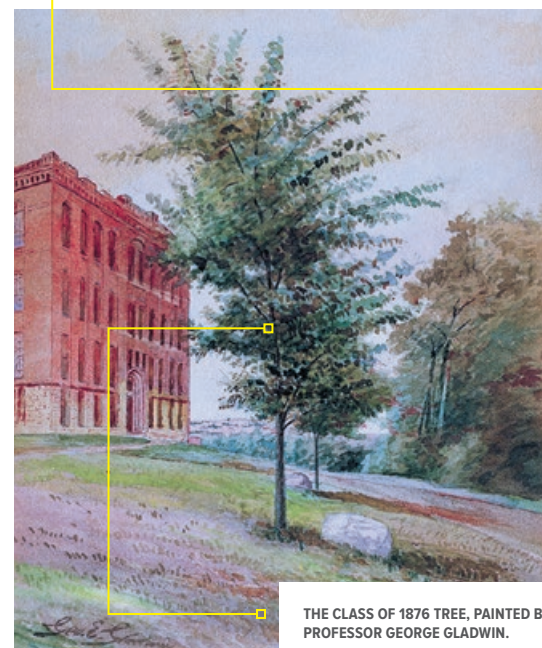
For more than 28 years, beginning with the Institute’s founding, creating a sudden, loud disturbance in drawing class was a favored prank of WPI students. Their victim, **Professor George Gladwin**, would react with theatrical terror against the latest “attempt on my life” in the classroom before returning to remind his disciples to converge their lines and observe the beauty in all things.

Gladwin was one of WPI’s inaugural faculty, hired due to his success as an artist and instructor in Worcester. Educated in his native Connecticut and abroad in London, Gladwin was a successful artist with a studio on Worcester’s Main Street. His courses were among the most popular during the Institute’s early days, necessitating additional course offerings taught with assistance from professors Milton Higgins and George Alden. He would also teach drawing courses for WPI in Hartford and Norwich, Conn., Providence, R.I., and Fitchburg, Mass.

Always enamored with the beauty of objects he passed each day, Gladwin painted many watercolors of campus buildings, class trees, and landscapes. As secretary of the faculty, he also produced a series of scrapbooks that today are among the most insightful resources that document life on campus during that first quarter century at WPI.

When he passed away in 1920, “Gladdy” was affectionally remembered as a beloved instructor and welcome presence at WPI reunions long after his retirement. His art is on rotating exhibition in the WPI Archives’ Fellman Dickens Reading Room. The library gallery named for him hosts annual exhibitions that highlight WPI’s history, culture, and academics.

—University Archivist Arthur Carlson, assistant director of the George C. Gordon Library



THE CLASS OF 1876 TREE, PAINTED BY PROFESSOR GEORGE GLADWIN.

THIS DRAWING OF THE WORCESTER COUNTY FREE INSTITUTE OF INDUSTRIAL SCIENCE WAS COMPLETED IN 1876 BY PROFESSOR GEORGE GLADWIN, PICTURED ABOVE, WHO TAUGHT FREEHAND DRAWING, A REQUIRED COURSE AT THAT TIME.





SENSE OF PLACE

A TIME OF RENEWAL

The first warm days of spring often tempt the winter weary to pause and enjoy the moment.

PHOTO BY MATTHEW BURGOS



PHOTOS BY JESSICA SCRANTON

Q&A: GET TO KNOW PRESIDENT GRACE WANG

WPI's 17th president, who started officially on April 3, reveals what attracted her to the position, what's surprised her so far, and how she relaxes and unwinds. Restaurant recommendations welcomed.

What is it about WPI that attracted you to this position?

WPI is a great institution. Our founding principle of theory and practice absolutely resonates with me, and has throughout my career. I'm excited about the impact that the ideas and technology coming out of WPI are having in making our lives better, but also in addressing significant societal challenges. The WPI approach is very distinctive, particularly as it relates to the WPI Plan. When we are looking at current STEM workforce needs, this approach is more timely than ever and that's why joining WPI at this critical juncture is very exciting to me.

Our students have the opportunity to travel to global project centers, work on real problems in a real-world setting during a dedicated time frame with a group of fellow students who come from many different disciplines, and be mentored by high-caliber faculty and staff on site. That's definitely distinctive. The outcome is a highly concentrated, high-touch experience with a clear global perspective, not just in STEM, but incorporating the arts and humanities. Our graduates are ready to tackle real-world problems as soon as they enter the workforce.

WPI has project centers all over the world. Which one would you like to visit first?

This is almost like asking, "Which child is your favorite?" I would like to visit all of them!

The project centers are a critical part of the WPI learning process and what sets us apart. The experience really helps our students see the world from different perspectives in an engaged, immersive learning environment, and, in many ways, that's what education is about—realizing personal growth inside and outside the classroom.

What surprising things have you learned about WPI so far?

After I was named president but before I started officially in April, I visited WPI several times for a series of listening tours with many different groups in the campus community, something I plan to continue throughout my first year here. It is fascinating to learn more about WPI. I was impressed by our students' High Power Rocketry Club. I look forward to learning more about the nonprofit run by students, Gompei's Goat Cheese. I was happily surprised at the extensive collection of Charles Dickens artifacts in the Gordon Library, which is unique for a STEM school. On one of my first visits, I was able to watch a student play and experience a chamber music performance—I'm amazed at how multi-talented our students are.



The world needs more STEM professionals, and diversity is a strength in both academia and the workplace. How do we get women and those from underrepresented backgrounds to be interested in STEM?

At every stage in my career, this work has been my passion. The fact that WPI values diversity, equity, inclusion, and belonging is another reason I was interested in this position. To enable creative thinking, innovation, and research and discovery, we need diverse perspectives, and that's already in the spirit of WPI. We were one of the first STEM institutions to enroll female undergraduate students, and that forward-thinking legacy is ingrained in our history. The entire community must advocate, embrace, provide support, and act as role models to help everyone coming to our campus—students, staff, faculty, visitors—feel welcomed, included, supported, and part of something bigger. If we do that, we'll be a magnet to attract diverse STEM talent to our community.

How do you relax and unwind after a hard day of presidential duties?

I love to read—all topics, but, of course, quite a bit in science and technology. I'm a big NASA fan and enjoy reading about space research and space exploration, and the information technology and semiconductor, microelectronics, and quantum technologies. I also love British literature, American presidential history, and books on leadership. I drink herbal tea, almost every day; peppermint is my favorite. And I exercise to reduce stress.

What would be your act in a talent show?

I have to say that I don't have much artistic talent myself, but there are plenty of highly talented people already on this campus. That's what makes ours such a dynamic, interesting community. In fact, many students have told me this artistic atmosphere is what attracted them to WPI and what sets us apart from other STEM-focused schools. A music professor told me how well used our pianos are by our students, which is quite different from the piano I have in my house right now.

Do you cherish any words of wisdom from a mentor, or an inspirational quote that gets you through hard times?

A great mentor and a really good friend told me years ago, "Don't limit yourself." I found that advice has been very helpful to me; I think that can also apply to a community, an institution, or a university. There's so much we can achieve. WPI is a world-class institution, but the future is even brighter than we can imagine. With a tremendous community working together, I've always been amazed at what can be achieved collectively and collaboratively. That's part of the excitement of coming on board at WPI—we won't be limited, by any stretch of the imagination.

When are you the happiest?

For me, it's always been at Convocation and Commencement. You feel the excitement of students coming in at Convocation and it's rewarding to hear them talk about what motivates them to join our community. And then at

Commencement, we see how they have grown and how they are taking what they've learned and venturing forth into the world. I love to hear their stories.

What are you looking forward to at WPI?

I'm particularly looking forward to working with the campus community. When I ask students what inspired them to join WPI, I heard mostly two things: our educational approach and the people. And it is inspiring to listen to our faculty and staff – they are so deeply committed to WPI and to our student-centric community. We are a close-knit, supportive, creative community and it's going to be the collective team working together that will move us forward.


WPI looks at education and research as purpose driven. We are motivated by the real-world, tangible impact of our innovative research and education. The world is facing so many challenges: climate, energy, food, water, national security, effective and affordable health care, and affordable education. These require not only technology solutions but social science innovation, policy innovation, and understanding of humanity. It's more important than ever that research, particularly STEM-focused research, be highly interdisciplinary and large-scale, focusing on the impact. WPI has a very dynamic, high-quality research and innovation ecosystem with an entrepreneurial spirit. These are all tremendous assets we can build upon and continuously connect and integrate with our educational approach.

Worcester is gaining a reputation as a culinary hub. What type of restaurant recommendations are you looking for in Worcester and the surrounding area?

I'm getting to know the city, and I've already discovered nice Italian and seafood restaurants. My family and I are interested in all kinds of food—we try anything. Food is a key component in any culture and we're interested in all kinds of cultures. Worcester has a fascinating history with its role in the American industrial revolution and the growth of our country. We look forward to getting to know the city better.




PHOTOS BY JESSICA SCRANTON



FIRE SAFETY AS A HUMAN RIGHT

Danielle Antonellis founded a nonprofit to reduce risk in vulnerable communities around the world.

BY AMY CRAWFORD
PHOTOGRAPHY BY DERRICK ZELLMANN



JUST AFTER MIDNIGHT ON JUNE 14, 2017, BEHAILU KEBEDE, A 44-YEAR-OLD ETHIOPIAN-BORN UBER DRIVER WHO LIVED ON THE FOURTH FLOOR OF A LONDON PUBLIC HOUSING COMPLEX KNOWN AS GRENFELL TOWER, WOKE TO THE SOUND OF A SMOKE ALARM AND DISCOVERED THAT HIS REFRIGERATOR WAS ON FIRE. FIREFIGHTERS RESPONDED TO HIS CALL WITHIN MINUTES, BUT THEY WERE UNABLE TO CONTROL THE CONFLAGRATION BEFORE IT SPREAD UP THE SIDES OF THE 220-FOOT HIGH-RISE, ENGULFING IT IN FLAMES AND TRAPPING RESIDENTS OF THE UPPER STORIES. SEVENTY-TWO PEOPLE, NEARLY ALL WORKING-CLASS IMMIGRANTS, WERE KILLED.

“It was terrible ... terrible,” says **Danielle Antonellis ’12, MS ’13**, then a fire safety engineer with international design firm Arup. In the aftermath of the disaster, Antonellis moved to London to support an Arup director who was serving as an expert witness in the investigation. The inquiry offered a sobering lesson in the all-too-real applications of her WPI coursework—as well as in how an engineer’s focus on problem-solving can serve as a sort of psychological firebreak against becoming overwhelmed by tragedy.

“We heard from the police officer in charge of the scene that there had been people coming into the building for a while for different forensics work,” Antonellis says. “And usually when they came up to a floor where everything was charred and very catastrophic-looking, everyone froze in the middle of the floor before they could get their wits about them to start doing their work. But when he brought up our group of fire engineers, he noticed we were able to focus on the technical side so much more quickly. I think the science protects you a little bit.”

For Antonellis, however, fire safety is about more than the technical side. It’s about people’s right to be and feel safe in their homes and communities, regardless of who they are and how much money they have. Three years ago, that passion led her to give up a promising corporate career and found her own nonprofit, Kindling, which is working to bring fire safety to vulnerable communities around the world—whether residents of a tent city on the streets of Los Angeles, children going to school in Mumbai or Rio de Janeiro, or striving immigrants like the people who perished in Grenfell Tower.

“Most middle class Americans have safe housing and access to reliable energy sources,” Antonellis says. “But there are so many people in the U.S. and around the world for whom fire is a very real, everyday risk. Right now fire safety is a privilege. It should be a human right.”

A SOCIOTECHNICAL ISSUE

By the time she visited the charred remains of Grenfell Tower, Antonellis had been interested in fire as a “sociotechnical” issue for several years. In 2015, she had begun working with a research team at Arup that was studying informal settlements around the world. These communities, which include shantytowns, favelas, and tent encampments, are not governed by health codes or land use regulations. Housing is makeshift, crowded, poorly constructed, and often highly flammable. Meanwhile, residents may not have access to utilities such as water, sewage, or electricity, or to public safety services, such as police and fire departments.

“The Arup International Development team came to the fire engineers and said, “There’s a huge problem with fire in these settings,” Antonellis recalls. “It kept coming up, but no one really knew what to do about it.”

As Antonellis began to study the problem, she came to understand that fire safety is much more than an engineering problem; in the real world, there are social, political, and economic drivers that determine a community’s risk. She knew she would have to work to see the problem from different perspectives. So, in 2017, she traveled with Arup colleagues to Cape Town, South Africa, where the team got a chance to see informal settlements firsthand and talk about fire with people who work and live there.



“It was a really formative experience,” she says. “We did almost 30 interviews with groups, including fire services, various nonprofit organizations, different parts of the government, and academic institutions. We visited five informal settlements, and in one of them we were able to join a community leadership meeting. We ended up getting to understand the issue through the lens of all these different actors that had some influence on the issue—positively or negatively—or might be in a good position to do something about it. We were bringing an engineering and technical lens to the problem, but they had been living with it, day in and day out.”

The experience in Cape Town stuck with her throughout her work on the Grenfell Tower investigation, where many of the same issues—poverty, inequity, inadequate regulations—were a factor. In early 2020, Antonellis was about to leave London and move home to the Boston area, where she thought she would continue working her career with Arup. But the idea of fire equity had begun to consume her.

“That was a natural reflective point, when I asked myself, ‘What do I want to really focus on?’” she remembers. “I realized that for a private organization, no matter how committed to an issue they might be, there are real limitations for how far things can be pushed when you have a bottom line. At Arup, I had the support to focus on this, but I realized that the speed and scale of the work I wanted to do was just going to outpace what was possible in that position. I needed to find another way.”

“I HOPE THAT IN 10 YEARS WE WILL HAVE FIGURED OUT WHAT WORKS AND WHAT DOESN’T, AND WE CAN BE A RESOURCE CENTER OF OPEN-SOURCE INFORMATION SO THAT OTHERS START DOING THIS WORK COMPLETELY INDEPENDENT OF US.”

The idea that she could start her own nonprofit came from Antonellis’s father, who knew how passionate she was about the issue. At first the idea seemed too wild to the young engineer, who was less than a decade out of college and knew little about nonprofit management.

“I always thought I might start a business or something, but I thought I’d be in my 50s!” she says. “But I realized that even if I went around to all the different fire safety organizations or humanitarian organizations and tried to convince them this is important, no one was going to take a leap of faith at this stage and dedicate huge amounts of resources to it. It was just not a well-understood issue. So that’s what finally led me to make the decision: I knew someone had to do it, and no one else would.”

Antonellis started Kindling in her parents’ basement just as the COVID-19 pandemic began. Less than three years later, the organization consists of a core team of six and a network of board members, partners, and advisors with expertise in such varied topics as refugee camp design, wildfires, disaster risk reduction, and public education.

“It’s a very interdisciplinary team,” Antonellis enthuses. “We have engineers working with anthropologists and sociologists and educators, and we constantly challenge each other to think differently.”

Much of Kindling’s day-to-day work involves raising awareness in industry and academia, where fire safety equity has long been overlooked. Antonellis and her colleagues also research fire risk and safety in communities around the world, including as part of an ongoing project to compare informal settlements in Cape Town and in Dhaka, Bangladesh. Although during the pandemic most of Kindling’s work had to be remote, the organization recently secured funding to send a research team to study these communities in person, and to work with local governments and other stakeholders.

“We’ve laid the groundwork for Kindling, which I’m really proud of,” she says. “Now we’re getting to a place where we’re designing programs to educate and support risk reduction in actual communities.”

AN EARLY EXPOSURE TO COMMUNITIES IN NEED

Antonellis has plenty of experience with the technical aspects of fire safety engineering, and a strong underpinning to the theory behind her conviction that fire safety is a human right. But her experience working with communities in need began during her time at WPI, when she served as president of the campus chapter of Habitat for Humanity.

“She was the heart and soul of that organization,” says Caitlin Kelley ’12, Antonellis’s close friend and field hockey teammate. “She had always been passionate about trying to help people who may not have the same level of safety that we have in Massachusetts, and she got a ton of people to share her passion—she got all of us really excited, and we were happy to do a ton of work!”

During Antonellis’s tenure, the chapter focused on recovery efforts in the New Orleans Lower Ninth Ward, which had been devastated by Hurricane Katrina in 2005. She led an effort to raise over \$11,000 and organized trips to help restore a community center and a nearby farm that served as a place for city kids to escape to for fresh air. Kelley remembers being impressed not only by her friend’s dedication, but by her management ability.

“It’s not easy to be a college kid yourself and wrangle 40 college kids down in New Orleans,” Kelley says.

Tahar El-Korchi, a professor in WPI’s Civil, Environmental, & Architectural Engineering Department, also remembers Antonellis as a role model for her peers who was “full of energy. She treated everybody with respect, and she really was a joy to be around because she was always positive,” he says. In an era when faculty and students are thinking more and more about engineers’ social responsibility, he believes that alumni like Antonellis can also serve as models for current students, demonstrating a nontraditional career path that could let them use their technical skills to make a difference.

“She has an impressive social consciousness, and she is actually acting on it,” he says. “A lot of people say that they’re socially conscious, and we may have the values, but then we all have other constraints that may prevent us from living them. It really is amazing and heartwarming to see how she acts on it.”

El-Korchi made an impression on Antonellis as well. A native of Morocco and the director of WPI’s Morocco Project Center in Rabat, he inspired her to visit the North African country after graduation. It was her first visit to the continent, and that trip, along with an IQP at the Denmark Project Center (where she studied landfill management) instilled in her a love of travel that would not only help inspire her work, but serve as a balm for the emotional turmoil that it can stir up.

“I just love to explore new places, try different foods, and understand different cultures,” Antonellis says. “I like to go somewhere and just take it easy and try to see what locals do, rather than jumping into all the tourist stuff right away.”

She and her team are also open with each other about the psychological impact that their work can have—the knowledge that progress is incremental, and that solving the problem of fire equity means understanding risk and tragedy in a way that the average middle-class American never has to consider.

“I don’t try to shut myself off to the emotional side,” she says. “I think it’s important to try to process what’s happening, and there is hope when you’re in a role where you’re trying to make something better. You’re trying to learn from the bad things.”

It also helps her keep her eyes on the long-term goal of a world where fire safety is a right that everyone can count on, no matter who they are or where they live.

“I want Kindling to be copied as much as possible,” Antonellis says. “What we’re really trying to do is show that things can be done, and to create methodologies and case studies that not only demonstrate that it’s possible to reduce risk, but capture the stories of how communities can implement change themselves. I hope that in 10 years we will have figured out what works and what doesn’t, and we can be a resource center of open-source information so that others start doing this work completely independently of us. That way, if an organization or institution or even a local community has an opportunity to do something about fire safety, they can learn from others—they don’t have to start from scratch.”

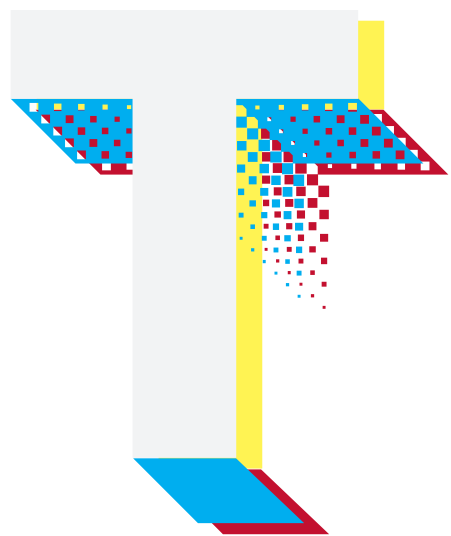




MASTER OF LIGHT

JOHN DELANEY '84 USES SPECTRAL IMAGING TO
REVEAL ART'S BEST-KEPT SECRETS.

BY SCOTT WHITNEY



through the Zoom screen's gauzy haze, dark silhouettes can be seen moving along the back wall of a well-lit room. John Delaney '84 pops into focus, leaning into his webcam for a quick apology. "Sorry, these guys are moving a painting out of here and I've got to give them a hand," he explains before disappearing again into the blurred background. It's a fitting introduction to a man who has dedicated his entire life to teasing data from what lurks in the shadows.

Trained in optical physics, Delaney has enjoyed a remarkably diverse career. From the study of biomolecules, like in hemoglobin, to the development of electro-optical cameras in the U-2 reconnaissance plane, the WPI alumnus has brought the study of spectral data to a broad range of applications. But it's the latest chapter in his career that has put him on the map, or perhaps more accurately, in the annals of art history—an unexpected landing for an optical physicist.

THE VIEW FROM ABOVE

Like many great romances, Delaney's lifelong love affair with light and lenses began in a most unexpected setting—a discount department store in Central Massachusetts. "When I was a kid, I loved astronomy, and this strange store on Route 9 in Shrewsbury called Spag's had a telescope I very much wanted. Unfortunately, by the time I'd saved up the money to buy it, it was gone," he recalls. "My parents did the right thing, though, and bought me the next model up." Inspired by NASA's Apollo missions and with a new telescope in hand, the young Delaney stoked his nascent love for astronomy and the tools it required.

By high school, Delaney had built his own telescope, and optics itself became an area of scholarly interest. He followed his heart to the WPI campus, where he knocked on the door of physics professor Adriaan Walther. "Here's a guy very well noted for theoretical geometrical optics, and he invited me in and explained just what they do there and why it was the right place for me," he says. "At any other school, I'm not sure a man like that would have answered the door, never mind given me so much

of his time." The experience made an impression, and Delaney chose the Worcester school to launch his academic career.

As Walther's student, Delaney's interest in optical physics became increasingly sophisticated. "I knew about spectroscopy, but I didn't know about applications beyond astronomy," he explains. "WPI introduced me to all these other ways you can use optical spectroscopy, including a lab in which they were studying structural changes in hemoglobin." While doing research for his Major Qualifying Project, Delaney encountered a paper from a Rockefeller University lab that explored the photosynthetic reaction centers that fuel plant life.

"The researchers at Rockefeller put two molecules together to simulate the light absorption and movement of electrons that start the process of taking light energy and converting it into chemical energy," he explains. "Their whole idea was to see if this biological process was built on classical electron transfer or quantum mechanical electron tunneling—and I thought that was the coolest thing in the world."

It was the work's interdisciplinary nature that piqued Delaney's interest, and ultimately took him to Rockefeller University as a biophysics graduate student. But beyond providing him a bridge to graduate work, the discovery of Rockefeller's biomolecular research provided a template for an entire career of cross-disciplinary collaboration.

As if to prove how deep his academic agnosticism went, Delaney's work took a sharp departure from biophysics once he entered the workforce. He spent nearly a decade designing lenses and optical imaging cameras for the aerospace industry, including an electro-optical camera for the U.S.



PHOTO COURTESY OF THE NATIONAL GALLERY OF ART

Air Force's U-2 reconnaissance plane. In that role, Delaney and his colleagues built high-acuity, multi-spectral cameras designed to capture on-the-ground intelligence from a U-2 flying overhead. His facility with optical systems modeling proved especially useful in this application.

"In school, it's great if you can get an 85 percent on your engineering exam," he says, "but the systems we were working with needed to leave the laboratory at the 95-percent level every time. That meant a lot of end-to-end modeling to get those numbers."

Because of the wide range of skills required for this level of systems modeling, he found himself rubbing shoulders with mathematicians and astronomers just as much as optical and electrical engineers. Delaney's itch for interdisciplinary collaboration was getting scratched.

However, his day job wasn't the only place Delaney was applying his skills to interdisciplinary research. Since graduate school, he had kept ties with a friend who worked in the art world and would occasionally call on Delaney's optical expertise to solve a research conundrum.

"At one point, he mentioned that the National Gallery of Art in Washington, D.C., was trying to use an old infrared tube to look at underdrawings in paintings and was having a hell of a time," he recalls. "I said, 'Well, for starters, you've got the wrong camera.'" Delaney helped the team acquire equipment capable of the infrared and multispectral imaging the museum needed. It became one of many side projects in the years that followed, several of which led to published research papers.

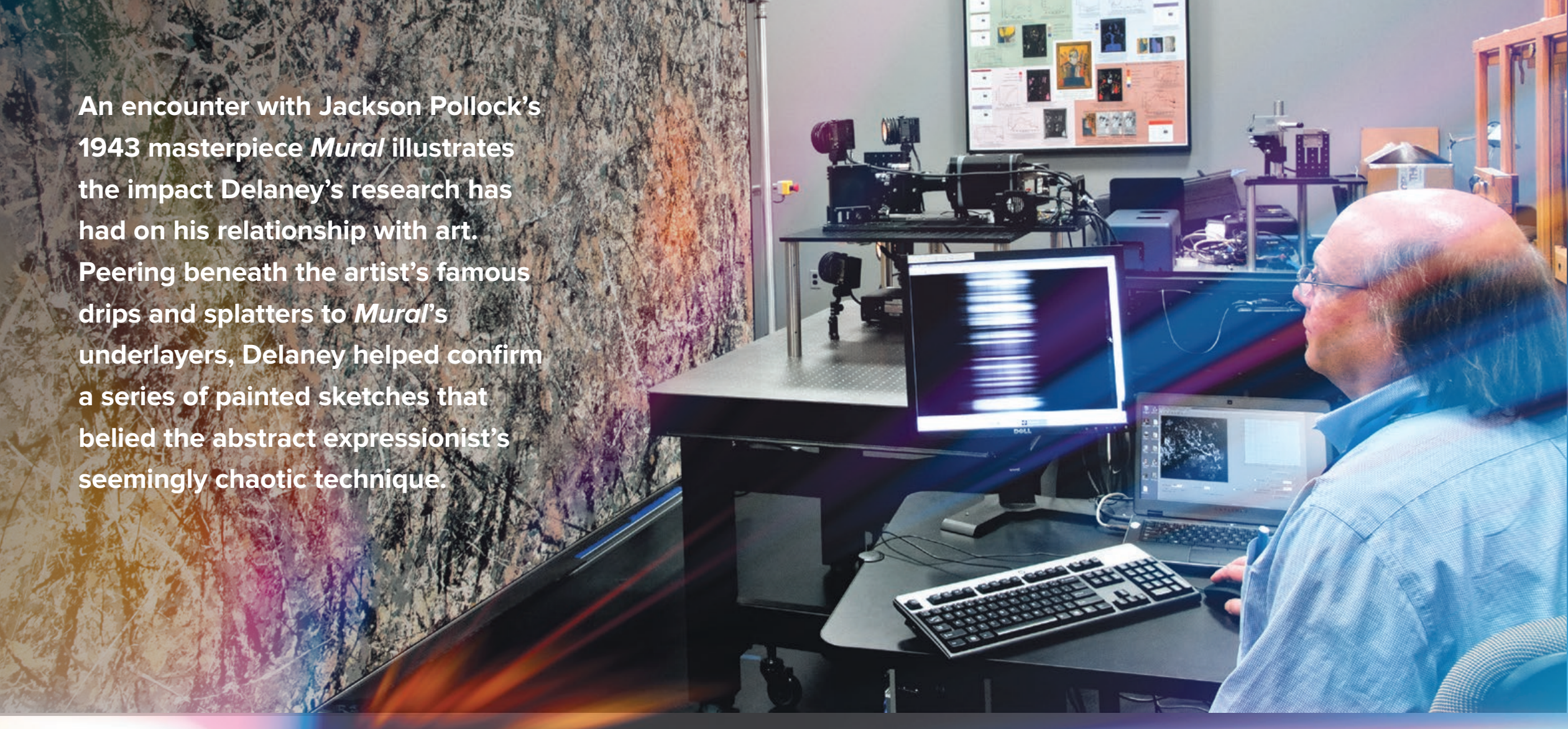
Along the way, Delaney had a critical realization: If organizations like NASA could determine what minerals were present on a planet's surface using hyperspectral imaging, couldn't the same technology be used to determine what minerals were present in paint on a canvas? And if it could yield that kind of data, what else could optical

engineering reveal about the world's most treasured works of art? Before long, what had once been an entertaining side project became the next chapter in Delaney's already diverse career.

PEELING PAINT

To begin to appreciate remarkable art, much can be gleaned by merely looking. Much, but not all. An artist's choice of composition, color, and brush technique may speak volumes about the final vision—but what about the false starts along the way? Without the benefit of a time machine, how can we peer into an artist's process, tracing the path of the countless revisions that led to the masterpiece we now know? For that, art turns to science. And the National Gallery of Art turned to John Delaney. After several years of part-time consulting work, the museum offered him the chance to lead its chemical-imaging lab full time in 2007. He jumped at the opportunity to bring applied optics to a field he had only dabbled in thus far.

An encounter with Jackson Pollock's 1943 masterpiece *Mural* illustrates the impact Delaney's research has had on his relationship with art. Peering beneath the artist's famous drips and splatters to *Mural's* underlayers, Delaney helped confirm a series of painted sketches that belied the abstract expressionist's seemingly chaotic technique.



As Delaney and his colleagues fed round after round of image data to the museum's curators and conservators, the analysis that came back was shocking. "They explained to us that the handling of the underlayers of paint in *Girl with a Flute* wasn't very refined," he says. "With other works by Vermeer, even the underlayers are more expertly handled than what we were seeing."

Prompted by their findings on Vermeer's paintings in the collection, the museum officially changed the painting's attribution from Vermeer to "studio of Vermeer" in October 2022. But the new distinction sparked its own controversy. Vermeer was not known to have apprentices, so what made the National Gallery's researchers confident that Vermeer had any relationship whatsoever to *Girl with a Flute*?

Though the painting's technique didn't rise to that of Vermeer's other works, the pigments it contained did, adding fuel to a new theory about the master of light. If the materials used in *Girl with a Flute* matched those of Vermeer's oeuvre, but the technique did not, it could be that the work had come from his studio but executed by an apprentice. This in itself would be a revelation, suggesting that Vermeer may have mentored other painters. The National Gallery's findings sparked an ongoing debate among the art community, but one finding remained conclusive: John Delaney had helped bring spectral imaging from the belly of the U-2 recon plane to the back rooms of museums worldwide—and art lovers everywhere had reason to be grateful.

And while Delaney has helped change the world of art research, the experience has also profoundly changed him. Listen long enough and you will hear not so much the language of an optical physicist, but that of an art lover.

An encounter with Jackson Pollock's 1943 masterpiece *Mural* illustrates the impact Delaney's research has had on his relationship with art. Peering beneath the artist's famous drips and splatters to *Mural's* underlayers, Delaney helped confirm a series of painted sketches that belied the abstract expressionist's seemingly chaotic technique. These sketches below the surface layer showed a series of stick-like human figures across the 19-foot canvas. "It looked like it was moving down a hallway and taking off a jacket. And Pollock built on these figures in the top layer—this was not just slapping down paint," he explains. "Art takes time to understand, and you really have to look carefully to see what's going on there."

As he leans back in his chair, Delaney's face moves from the shade of the room to full light—a most fitting state for an optical physicist at the peak of his career. ❶

Since the early 20th century, art historians have used chemical analysis to ascertain the materials and pigments used in the world's most precious works of art. And though chemical analysis remains the gold standard, the process does have limitations. Microscopic paint chips, about the width of a human hair, must be judiciously extracted from a canvas's surface, and the subsequent results are largely limited to the area sampled.

"No one wants you to take a sample from a pristine area of a Vermeer, so you do it lightly and you don't take too many samples, even if they are microscopic. Also, you have to extrapolate what you've learned from the sample to the rest of the painting," he explained. "Now, there's quite a lot of interest in non-destructive analysis techniques that use spectroscopic-based measurements." This, of course, is where Delaney's area of expertise comes in.

Through the more recent use of reflectance imaging spectroscopy—an approach Delaney had mastered during his time in the aerospace industry—art historians and the scientists who support them are able to virtually peel back the layers of a canvas and reveal the many iterations that led to a final work. They can also use spectroscopic image data to determine what materials an artist used, in much the same way a plane outfitted with a hyperspectral camera can determine the geological make-up of the earth below.

"Early on, we optimized camera systems to work further in the infrared, showing the drawings underneath the paint layers," says Delaney. "Our newer hyperspectral imaging cameras can also identify materials, so we can say, 'This blue is from azurite, but this other pigment is lapis lazuli,' an expensive pigment found in Afghanistan. That level of spectral analysis helps art historians determine where a painter has used less expensive materials for a blue sky compared to rarified pigments for the robe of the Virgin Mary, for example.

Early in his work with the National Gallery, Delaney was asked to analyze a Pablo Picasso painting from the artist's synthetic cubist period. One of the museum's conservators explained to Delaney that the painting contained just a handful of colors, which would make the spectral analysis "relatively easy." However, once he had Picasso's work in the lab, Delaney discovered that what had been assumed to be a single shade of blue actually contained three distinct pigments. "I don't know that anyone else was terribly excited by that discovery, but it helped me realize, 'My god, this method is going to work.'"

However, the raw spectral data that came from Delaney's research proved difficult for some of his art colleagues to interpret, so he and his fellow researchers developed a process to make their findings more visually accessible. With a little help from remote sensing software tools, the team converts the data into a single visual that makes a painting's

many layers interpretable to the casual viewer.

"If that same data was just in a table format or graph, forget about it," he admits. Like an MRI, the final image shows layers of underpaintings, including preparatory sketches or abandoned works that the artist painted over. In a recent exploration, Delaney and his team discovered numerous compositions hidden beneath a series of Picasso's Blue Period works. "It may be that the painting wasn't selling in Paris, so he redid it, creating something that he wanted rather than what someone else suggested he paint."

As much as Delaney's research can help bring clarity to a work of art, it can also tease out questions. For years, doubts had swirled around the origins of *Girl with a Flute*, one of four works in the National Gallery attributed to Dutch master Johannes Vermeer. The painting's final brushstrokes didn't match the artist's typical finesse, suggesting the work may not be a Vermeer at all. The museum's curators and conservators were itching to dig deeper; however, the work's popularity made it difficult for Delaney and his colleagues to take the time required for a full investigation. The pandemic gave them the opportunity they needed. As the world shut down, the museum's research team could bring the National Gallery's Vermeer paintings into the lab for prolonged periods without annoying museum-goers who had traveled to see works not currently on display.

PHOTOS COURTESY OF THE NATIONAL GALLERY OF ART





COMPUTATIONAL CONNECTIONS

DMITRY KORKIN HAS MADE THE COMPUTER A POWERFUL ALLY FOR UNLOCKING THE MYSTERIES OF BIOLOGY AND MEDICINE.

BY MICHAEL DORSEY
ILLUSTRATIONS BY MR. XERTY

When one imagines essential apparatus for biological and biomedical research, laboratory equipment like mass spectrometers, electron microscopes, and DNA sequencers come to mind. But in the hands of computational scientists like Dmitry Korkin, the computer has become one of the most powerful and versatile tools for studying problems in fields as diverse as molecular biology, virology, and neuroscience. In fact, Korkin has shown that computers can take researchers places where traditional life sciences and medical studies cannot go, and at the same time help direct and accelerate the work of those in the lab and the clinic.

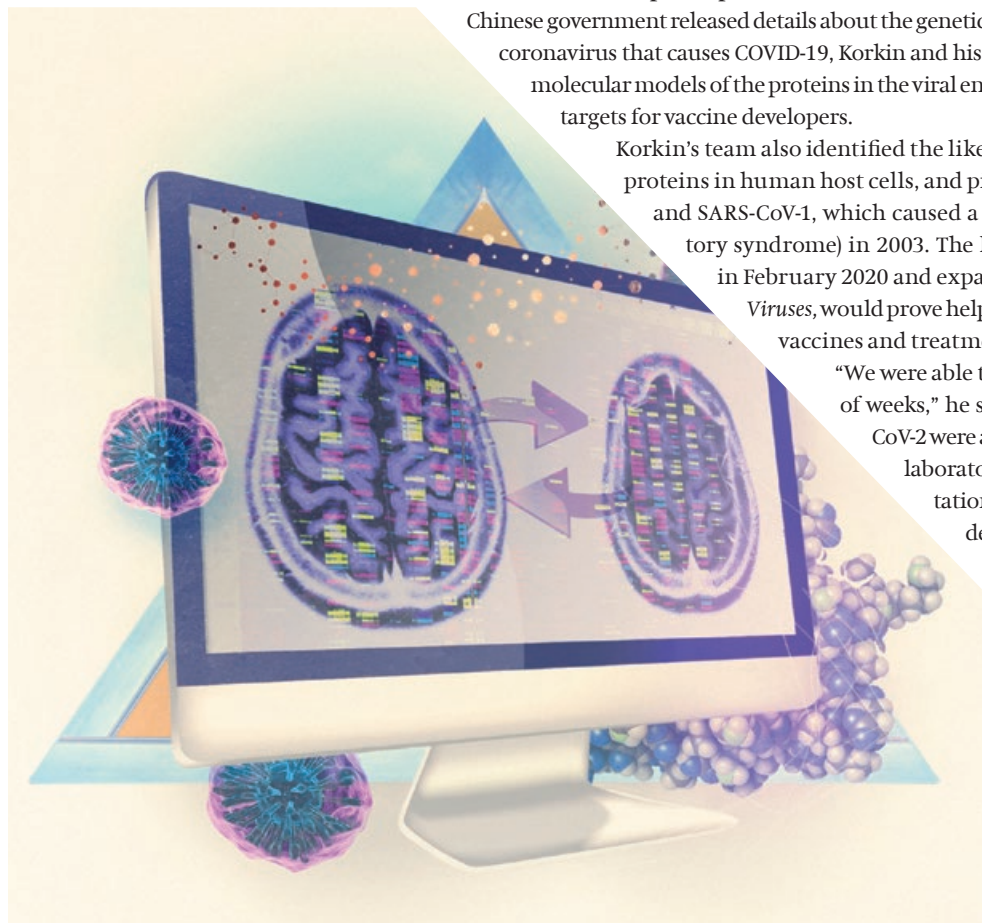
Korkin, Harold L. Jurist '61 and Heather E. Jurist Dean's Professor of Computer Science, was director of the university's interdisciplinary program in bioinformatics and computational biology before beginning a sabbatical leave this academic year. Bioinformatics, he says, develops and applies data science tools to huge sets of biological and clinical data, searching for patterns and relationships hidden within the huge mass of numbers. Computational biology uses advanced computing methods to uncover details about biological mechanisms and biomolecular structures. Both fields offer advantages over non-computational methods.

"The cost of computational methods is orders of magnitude smaller than experimental methods," Korkin says. "And with computational methods, we can make discovery faster."

As one recent example, he points to work his lab undertook early in the COVID-19 pandemic. After the Chinese government released details about the genetic makeup of the newly discovered SARS-CoV-2, the coronavirus that causes COVID-19, Korkin and his students used computational tools to assemble molecular models of the proteins in the viral envelope, including the spike proteins that became targets for vaccine developers.

Korkin's team also identified the likely interactions between the viral proteins and proteins in human host cells, and pinpointed key differences between SARS-CoV-2 and SARS-CoV-1, which caused a global outbreak of SARS (severe acute respiratory syndrome) in 2003. The knowledge, which they quickly shared online in February 2020 and expanded on in a March 2020 article in the journal *Viruses*, would prove helpful to researchers rushing to develop COVID-19 vaccines and treatments.

"We were able to develop and publish these models in a matter of weeks," he says; in fact, his computational models of SARS-CoV-2 were available nearly three months before comparable laboratory results. The knowledge he and other computational scientists gained during the COVID-19 pandemic about the structure and function of viral proteins—and about the strengths and weaknesses of current modeling methods—will help them prepare for the inevitable next global pandemic.



FOLLOWING THE ISOFORMS

A native of the former Soviet republic of Kazakhstan, Korkin received bachelor's and master's degrees in applied mathematics from Moscow State University, then earned a PhD in computer science at the University of New Brunswick in Canada. During a postdoctoral research appointment at the University of California, San Francisco, he took a detour into the field of structural mathematics.

Working with Andrej Sali, a pioneer in computational biology, he learned about homology, or comparative modeling, in which researchers use a protein with a well-understood structure as a template for sussing out the structure of a similar protein. This was among the techniques Korkin used to work out the structure of the SARS-CoV-2 envelope proteins.

Korkin joined the WPI faculty in 2014 after teaching for seven years at the University of Missouri-Columbia. Over the years, the ideas and principles of structural bioinformatics have underpinned research that has taken him deeper and deeper into the complex structures, mechanisms, and interconnections of biological systems. It is a quest that has spanned the full range of scales—from molecules, to cells, to organs, to patients—and has produced data connecting all of those levels into an intricate but increasingly well-understood web.

Korkin's bioinformatics work also includes computational approaches to the various "omics" that encompass our expanding understanding of the molecular dance that plays out in living cells: genomics (the structure and function of genes); transcriptomics (the transcription of genetic information from DNA to RNA); interactomics (the interaction of molecules in the cell, particularly protein-protein interactions); and proteomics (the role and function of proteins in the cell).

Some of Korkin's recent work, including a new study funded by a \$1.3 million award from the National Institutes of Health, focuses on a phenomenon called alternative splicing. Scientists have long understood how sequences of bases, or genes, in the double-stranded DNA molecule are copied, or transcribed, into single-stranded RNA molecules; and how those sequences are then translated into the strings of amino acids that make up proteins.

Early on, it was assumed that each gene coded for a single protein. But more recently it has become clear that it is possible for a single gene to produce hundreds of different proteins. In between the transcription and translation steps, the order of information in the genetic code can be shuffled, with each reordering producing a different protein, or isoform. In this way, the 20,500 genes in the human genome can code for some 300,000 proteins.

"The study of alternative splicing is one of the newest and most exciting areas of computational biology and bioinformatics," Korkin says. "It's exciting, because it is such a flexible mechanism."

Unlike mutations, he notes, which are mistakes introduced into the genetic code by radiation, chemicals, viruses, or other means, alternative splicing appears to be triggered by ambient conditions within the body and by the environment. "Mutations are changes we can inherit," he says. "But alternative splicing can be a response to changes in your stress level or your diet. A number of complex diseases already have been linked to this mechanism."



"THE STUDY OF ALTERNATIVE SPLICING IS ONE OF THE NEWEST AND MOST EXCITING AREAS OF COMPUTATIONAL BIOLOGY AND BIOINFORMATICS."

By using computational tools to track the products of alternative splicing over time, Korkin says, and better understanding how the varying isoforms interact with other proteins in the cell and how those interactions, in turn, may change the course of a disease, it may be possible to develop diagnostic tools that detect those changes much earlier than is now possible. That may result in treatments to counteract the effects of specific changes brought about by alternative splicing. “The implications are tremendous,” he says.

As an example, Korkin cites a study recently published by his group in the journal *Cell Reports*. The team used biomedical data mining to comb through the results of experiments in which genetically identical mice were fed different diets, with one group eating a high-fat, high-sugar diet that is known to trigger diabetes in the mice. Looking just at gene expression, Korkin’s team observed only changes in liver cells that are known to be linked to diabetes. But when they sorted through the isoforms produced by alternative splicing, they discovered that changes were also taking place in brain cells.

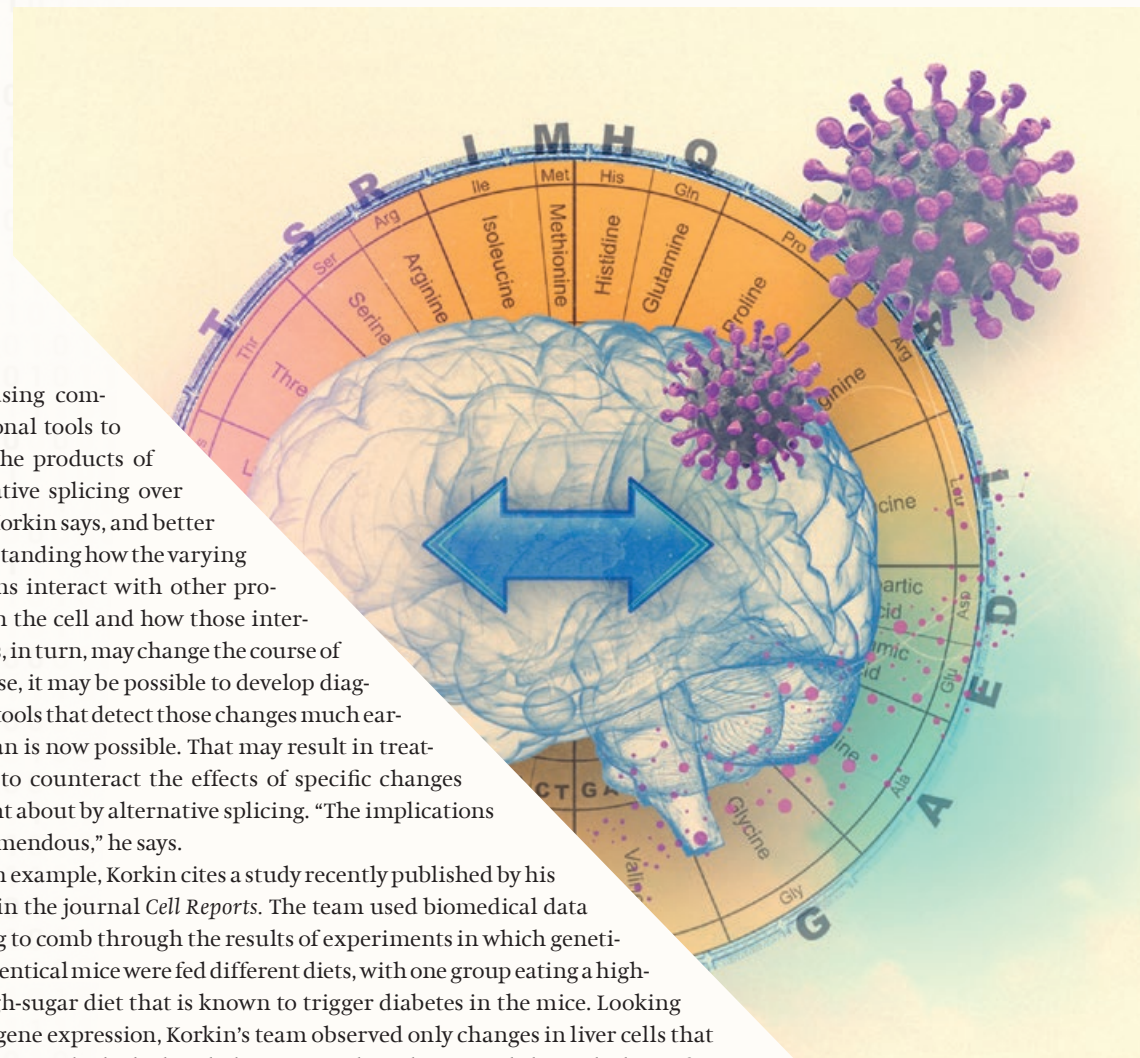
“Diet, just by itself, can have a profound impact on the molecular constitution of brain cells,” he says, “and, therefore, on their function. This is a big deal, because computational tools allowed us to reach levels of understanding that experimental science alone cannot reach.”

Korkin says that because the products of alternative splicing may be among the earliest indicators of the onset of a disease, this tool has the potential to make the earliest possible detection of diseases like cancer. (“Cancer is the ‘poster child’ for what is happening at the alternative splicing level,” he says.) It also may be a particularly powerful method for diagnosing highly complex conditions like autism spectrum disorder, “where things that are manifested at the alternative splicing level may not be detectable at the gene level.”

THE POWER OF COLLABORATION

In the new NIH-funded study on alternative splicing, Korkin’s lab is collaborating with the lab of Gloria Sheynkman, assistant professor of molecular physiology and biological physics at the University of Virginia School of Medicine, to better understand the functions of individual protein isoforms and to see how stable they are over time and how they interact with other proteins. Sheynkman, with laboratory tools that include the CRISPR gene editing technique, will test Korkin’s predictions and generate new data to plug into his models.

“The idea is for computational methodologies to work in a symbiotic relationship with the experimental sciences to produce a feedback loop,” Korkin says. “Computational methods use experimental data to generate predictions that the experimentalists then confirm or reject. Their results are fed back into the computational methods, allowing us to make the next round of predictions more accurate.”



“DIET, JUST BY ITSELF, CAN HAVE A PROFOUND IMPACT ON THE MOLECULAR CONSTITUTION OF BRAIN CELLS AND, THEREFORE, ON THEIR FUNCTION. THIS IS A BIG DEAL, BECAUSE COMPUTATIONAL TOOLS ALLOWED US TO REACH LEVELS OF UNDERSTANDING THAT EXPERIMENTAL SCIENCE ALONE CANNOT REACH.”

Korkin says collaborations like his partnership with Sheynkman are vital to his work. “Modern science is interdisciplinary, and it is impossible for a single lab to grasp the nuances and the expertise of multiple fields,” he says. “So, the majority of our interdisciplinary projects involve collaborations.”

Korkin has collaborated with many experimental scientists, including Elizabeth Blackburn, former professor of biology at the University of California, San Francisco, and recipient of the 2009 Nobel Prize in Medicine, as well as other computational biologists, among them his postdoctoral advisor Andrej Sali, now a member of the National Academy of Sciences.

Korkin has also begun partnering with practicing clinicians. A recent paper in the *European Journal of Psychotraumatology* described the result of a collaboration between Korkin’s lab and McLean Hospital, the main psychiatric facility at Harvard Medical School. The project aims at zeroing in on behavioral warning signs that may more accurately identify women who are at risk of attempting suicide. The study was funded by the Julia Kasparian Fund for Neuroscience Research. Established by Harry Kasparian ’73 in memory of his daughter, Julia, who died by suicide in 2016, the fund supports collaborative work between researchers at WPI and McLean that may lead to better prevention, diagnosis, and treatment of mental illness.

In the study, Korkin and his team started with data from lengthy patient questionnaires that clinicians use as tools for diagnosing mental disorders and identifying patients at risk of suicide. Looking at the answers provided by 90 women with histories of childhood abuse, post-traumatic stress disorder, and dissociation (a condition marked by various levels of detachment from reality), and by 30 women in a control group, the Korkin team used AI methods to sort the data in ways that uncovered hidden connections among seemingly unrelated variables. Most important, they identified a handful of questions that reliably predicted suicidal ideation. All of them point to dissociation related to past traumas, a condition that Korkin says has been understudied and underdiagnosed.

“We are talking about two or three questions, from among hundreds,” he says, “that are equally powerful in predicting suicidal ideation in patients.”

In future work with McLean, Korkin says his team may factor in results of structural MRI and functional MRI scans of patients to connect the survey data to actual changes in the brain. “And in the long run,” he says, “we hope to broaden our understanding by connecting these results to what is happening at the molecular level.”

Korkin says he sees making connections between disparate kinds of data, and between the expertise of a diverse group of collaborators, as the future of his field. “In an ideal world, as we attack the grand challenges of science and medicine, we will see all of these collaborations integrated into one big collaboration, one where all the parties talk to each other and where we, as bioinformaticians, gather and analyze the data that connects all of the various parts.”

FILLING IN THE HOLES

Much of the work Korkin tackles with his bioinformatics tools involves massive amounts of data. But what happens when data sets contain massive holes? That is a problem he helped tackle in a new study published in the journal *Nature Communications*. In the study, collaborators across a number of fields, including computer science, electrical engineering, and mathematics, looked at the challenge of determining the shortest path between points in a large network when much of the network is poorly mapped; Korkin’s role was to explore how this new knowledge can be applied to molecular networks.

The team found that the shortest paths in complex networks are not random; rather, they follow fundamental rules of organization. With an understanding of these rules, shortest paths in largely incomplete networks can be accurately predicted, and the missing network data can be recovered. This result may inform the study of networks as diverse as the Internet, social media, and the web of protein-protein interactions that Korkin studies.

“For me,” Korkin says, “the big question is, does biology follow the same principles that we uncovered in this study?” If so, this new tool may help reveal the workings of complex networks in living systems even when our understanding of those systems is full of holes.



ALUMNI NEWS

From the Desk of

PAULA M. DELANEY '75 PRESIDENT, WPI ALUMNI ASSOCIATION



Dear Alumni,

It is a very exciting time on the Hill as the university welcomes its 17th president.

Grace Wang is a materials scientist and joined the WPI community as an accomplished leader in higher education, government, and industry. She is described with certainty by WPI Board of Trustees Chair Bill Fitzgerald '83 as “the right leader at the right time for WPI.”

Be sure to learn more about President Wang in the cover story of this issue of the *Journal* and watch for opportunities to meet her—including at Alumni Weekend 2023.

Speaking of Alumni Weekend—important plans are well under way. Please join us on campus Friday, May 19, through Sunday, May 21, for exciting and engaging programming. One of the events that I am most looking forward to is Honoring Our Champions, where the Alumni Association will present this year’s Alumni Awards for professional achievement and service to WPI. It is always a meaningful and impactful event, and a great opportunity to chat with our honorees one-on-one.

ALSO INCLUDED FOR THE WEEKEND:

- Reunion celebrations for undergraduate classes ending in 3 and 8
- A State of the Institute address with President Wang
- An alumni and families outing at Polar Park, when the WooSox take on the Lehigh Valley Iron Pigs
- A special event in honor of the 100th anniversary of Higgins House
- Activities and programs for alumni and families of all generations

Throughout the weekend there will be opportunities to celebrate WPI’s long-standing traditions and time to reconnect with friends and classmates. Complete information is available online at wpi.edu/+alumniweekend, and registration is now open. If you haven’t already registered, please do so soon.

All great alumni support their alma mater by getting involved, attending events, and giving back. I encourage you to visit wpi.edu/+alumni and wpi.edu/+give to learn how you can support our great alma mater. You can also learn more about *Beyond These Towers: The Campaign for WPI* by visiting wpi.edu/+beyond.

Meanwhile, please register for Alumni Weekend. I look forward to seeing you there!

“In 1959, my fellow TKE founders and I felt there was a need on campus for an all-inclusive fraternity. It was a very labor-intensive process that included renovating the house on Massachusetts Ave., but we were able to establish ourselves at WPI. I’ve had the pleasure of following the chapter’s journey through the years. It became clear to me that I wanted to support both WPI and TKE’s efforts in guiding and educating students. It was an easy decision to establish a scholarship at WPI.”

—JOSEPH B. VIVONA '59

Joseph B. Vivona '59 played a very important part in Greek history at WPI. On Jan. 10, 1959, Joe and others established the 156th chapter of Tau Kappa Epsilon, Zeta Mu at WPI. This cemented Joe’s connection and dedication to the chapter’s longevity and commitment to an all-inclusive fraternity. To support both his beloved fraternity and his alma mater, Joe established the Joseph B. Vivona '59 TKE-Zeta Mu Endowed Scholarship. The scholarship supports WPI students who are engaged with TKE. Joe became an Alden Society member in 2020 when he established the scholarship at WPI.

HAVE YOU INCLUDED WPI

in a will or trust? In a life income gift? As a beneficiary of life insurance, IRA, or other retirement account?

Membership is about giving you recognition **NOW** for your plans to support WPI in the **FUTURE**.

To join, visit plannedgiving.wpi.edu.

FOR MORE INFORMATION CONTACT
Lynne Feraco
Assistant Vice President of Gift Planning
774-239-7326 | lferaco@wpi.edu



ALDEN SOCIETY





HAPPY CENTENARY, HIGGINS HOUSE

100 years later, 'The Castle' is home to the Alumni Center.



“My fondest memory of living in Higgins House is the feeling of being lucky to live in such a unique and beautiful house with a great group of people. We developed a closeness and feeling of community.”

—Albert Barrett '74

This year marks the 100th anniversary of WPI's majestic Aldus Chapin Higgins House. Once known as “The Castle” and greeting all who enter campus from the Park Avenue Garage, Higgins House is beautifully woven into WPI's history. The Tudor-style mansion was commissioned by Aldus Chapin Higgins, the son of the Washburn Shops' first superintendent, Milton P. Higgins. Construction of the house began in the early 1920s as a partial replica of the c. 1525 Compton Wynyates Castle in Warwickshire, England.

Upon its completion in 1923, the house became one of the city's finest examples of Revival period architecture. It was listed on the National Register of Historic Places in 1980, and visitors continue to enjoy the building's beautiful, yet unusual architecture. Aldus Higgins and his wife, Mary, lived in their beloved home until Aldus's death in 1948. Upon the death of Mary Higgins in 1971, Higgins House was bequeathed to WPI.

Initially the house became home to lucky students who lived

there in the 1970s and part of the 1980s. “It definitely felt special to be able to live in Higgins House. We were lucky to be so close to the classrooms and have just a short walk home to unwind in ‘our’ Tudor mansion after a busy day of classes. The whole atmosphere in Higgins House, with its wooden beams and unique design, made us feel relaxed and a part of another era,” says Albert Barrett '74, former Higgins House student resident.

Since its tenure as student housing, the stunning 29-room house has become an impressive backdrop for all manner of campus events, receptions, and gatherings—while also currently housing offices in WPI's University Advancement Division, including the office of the division's vice president; Office of Lifetime Engagement for Alumni, Parents, and Friends; External Relations; and the Student Alumni Society.

In 2017, an upscale café known as The Quorum became the newest live-in guest. Using the original Higgins family dining room

and sunroom, the university renovated the space to create a warm and intimate gathering spot for faculty and staff.

In 2019, the house underwent its most extensive restoration with the help of generous philanthropic support from WPI alumni. Texas-based alumnus Michael Abrams '77, who noticed the challenges of using the house's outdated electronics to communicate in meetings with fellow Alumni Association Board members, made a significant donation with his wife, Nancy, and the WPI Alumni Association contributed additional funds to update the building's electronics as well as restore the grand beauty and character of the house. Higgins House now is also home to the WPI Alumni Center and a welcoming spot on the Hill for WPI alumni.

“Higgins House is one of the most iconic symbols of the WPI campus. I always look forward to opportunities to come back to Higgins House, whether it's for attending Alumni Association Board meetings, supporting a student activity, or working remotely from

the Alumni Lounge in hopes of connecting with other alumni,” says incoming Alumni Association President Pamela Lynch '05. “The most recent renovation to Higgins House created more productive space for meetings and a lounge available for use by all alumni.”

The Alumni Association Board is currently working on a strategic plan to map out objectives and focus areas for the next five years. Lynch says Higgins House will be a part of the plan, adding, “We welcome input and ways to bring alumni, parents, and WPI friends back to campus to maximize engagement and promote meaningful connections. There are many fond memories of Higgins House, and I look forward to hearing from our alumni on how it remains a key part of WPI traditions.”

Contact alumni-office@wpi.edu to share your input or to contribute your Higgins House story.

—Sira Nara Frongillo

PHOTOS SCOTT ERB, DONNA DUFAULT



Chris Long '15 Finds a Career Within a Community



PHOTOS JAY WATSON

When Chris Long shows up at a skate park anywhere in the world, even though he might not know a single person there, he feels at home.

A sense of community knits skateboarders together—even if only for a fleeting hour—in a way that Long, a skate park designer with New Line Skateparks, finds both fascinating and comforting. “There are a lot of unlikely and unique connections made and discovered at a skate park,” he says. “It’s always refreshing to see groups of diverse individuals interacting and supporting each other.”

That tribal vibe played a big part in finding his current career path. About a year after earning his bachelor’s degree in civil engineering, Long, who is now based in San Francisco, attended a skate park grand opening in Boston and began casually chatting with folks nearby. At the time, he was doing civil engineering site work and roadway design and, while he appreciated the opportunities to gain real-world knowledge and essential job skills, he was steadily losing enthusiasm. “It was hard work and a good year, but I couldn’t see myself doing this forever,” he says.

At the park opening that day, he heard someone nearby mention very specific measurements of a ramp design and found himself in a conversation with none other than the park’s designer. The two continued chatting about skate park design and a career in the field.

“I gave him my number and said, ‘I am in civil engineering, please let me know if you ever need help.’” They kept in touch and the designer eventually helped Long identify the engineering skills that are increasingly in demand as more communities install professionally designed skate parks.

“When it comes down to it, an unsuccessful skate park is often the result of some very basic engineering and planning being overlooked,” he says.

The attention to detail in designing and building bowls, ledges, handrails, halfpipes, and ramps makes modern skate parks more artistic and sculptural community attractions, rather than the stereotype of a run-down, graffiti-covered area surrounded by torn chain-link fencing. The rebirth of the industry and the inherent design challenges inspire Long in his work at New Line, one of a handful of design and construction firms that specialize in concrete skate parks and pump tracks.

“Skate parks are no longer built from a napkin sketch,” he says. “The plans are fully engineered and quite detailed—just as much as any site or roadway project. I’m just so fascinated by it and the more I get to learn and study skate parks, the more I enjoy my work. A well-designed skate park can reshape a community and provide a creative, healthy outlet for all types of users.”

An Unexpected Direction

Long’s excitement for his work wasn’t anything he saw coming. “I was never 100 percent sold on civil engineering until I found skate park design,” he says, “and that was tough on me when I was in school. I wondered if I was doing all this work for a career I wasn’t sold on.”

When he began skating at Green Hill Park during his time at WPI, it was a necessary outlet from his school life. He never guessed what he liked to do in his spare time could be applied to an actual career. “In this role,” he says, “skating is much more part of my life than it ever was.”

Moving into design also pushed Long far out of his comfort zone. “Whether it’s a skate park or a traditional project, the design process can be a roller coaster of emotions, but the result is rewarding—when everything falls into place, it all makes sense,” says Long, whose official title is civil designer. “I don’t consider myself an artistic person by any

TURNING POINT

means, so to find success in this realm is rewarding.”

Whether he is conducting a site analysis, sketching a concept design, collaborating with community partners, working on grading and drainage calculations, or test riding a bowl during a construction site visit, his engineering sensibilities make design concepts work.

Imperfections invisible to the eye become almost offensive as Long evaluates a skate park’s quality as it nears completion—or even at a park where he’s skating for relaxation. A skate board’s small, hard wheels pick up every bump and dip—even those you can’t see, he explains. “I can hear it and feel it,” he says. “I’m more critical based on that and it makes me more passionate about getting it right.”

He also enjoys getting into communities and talking with people who are invested in bringing a skate park in, or even those set on preventing it. “We ask them, ‘What’s important to you when you walk into the park?’ When we engage with a community and consider their

input, the community develops a true sense of ownership for the project. They want a place for the whole community to enjoy.”

Skate parks offer something intangible as well. “There’s so much resilience,” he says. “There’s so much more failure than success at a skate park, but people keep getting up. Many use skateboarding as an outlet, like I did during my time at WPI. Making that resource more available to all demographics—even underprivileged demographics is important to me.”

In the end, after all the design is done, all the concrete has been poured, and adjustments have been made, Long’s pure delight at seeing people enjoy the parks he’s had a hand in designing is evident. “When I see a quality skate park being fully utilized and enjoyed by a community,” he says, “well, that’s the icing on the cake.”

—Julia Quinn-Szcesuil

David Heebner Helps Students Be All They Can Be

GENEROUS GIFT SUPPORTS CAREER DEVELOPMENT CENTER PROGRAMS.

For **David Heebner '67**, lieutenant general, U.S. Army retired, being “all you can be” isn’t a slogan. It’s one of life’s primary guidelines for having impact. That commitment gained momentum in his undergraduate years at WPI and continued through his two successful careers.

Now Heebner is helping more WPI students be all they can be with a generous commitment to the Career Development Center.

“I was always impressed with Dave’s personal commitment to ensuring that all students benefit from the full WPI experience,” says Philip Clay, senior vice president for student affairs. Heebner served as a WPI trustee for 18 years, including many years as chair of the Committee on Advising and Student Life, and continues today as trustee emeritus. “This gift is an expression of his dedication and determination to have impact for students well into WPI’s future.”

Heebner’s gift also supports *Beyond These Towers: The Campaign for WPI*, advancing the university toward its most ambitious fundraising goal yet.

For the self-described “Worcester kid” who grew up in the orbit of WPI, riding his bike to campus to play on the athletic fields, the university was always his college of choice.

“WPI was absolutely perfect for me,” Heebner says. He found a comfortable, familiar environment where he could easily connect with other students and where there were plenty of opportunities for extracurricular activities and leadership development roles. A ROTC scholarship helped overcome financial challenges and, importantly, introduced him to positive leadership role models and to the concept of national service.

Heebner also found WPI a challenging academic environment. “Fortunately, professors were always accessible and really helped with the inevitable academic challenges,” he says. “And time management lessons learned at WPI became one of the most important skills of my professional life.”

He credits these experiences at WPI with important personal growth and preparation for responsibilities he couldn’t even imagine while still a student.

After graduating from WPI with a mechanical engineering degree, Heebner trained as an Army Ranger and served in South Korea as an Air Defense Artillery officer. He then trained as an Army aviator and served in South Vietnam. While on active duty, he earned master’s degrees in operations research/systems analysis and national security affairs. His most significant military achievement, he says, was during the first Persian Gulf War in 1991 when he commanded the brigade responsible for the missile defense of Israel. He proudly notes that after their deployment, not a single Israeli citizen was killed while Saddam Hussein was firing SCUD missiles at Israeli cities.

Two assignments in Germany during the Cold War created important professional development experiences, as well as international travel

opportunities for his family. Eleven of Heebner’s final 14 years of service were at the Pentagon, where he held senior positions planning the Army’s future.

When it was time to transition to civilian life, he followed a familiar pattern for making life decisions. He returned to Worcester and talked with Bill Trask, who had directed WPI’s Office of Graduate and Career Plans for more than 30 years. Trask, who died in 2017 at age 87, is remembered by many alumni as a special confidant, advisor, and friend. Heebner says, “He was my go-to guy on so many occasions from college years to retirement.”

Heebner’s second career was with General Dynamics, where he was hired as the CEO’s strategic planner. He went on from there to serve in leadership roles as president of General Dynamics Land Systems and successive positions as executive vice presidents for three of the General Dynamics lines of business – Marine Systems Group, Combat Systems Group, and Information Systems & Technology Group. He served nearly 33 years on active duty and 15 years with General Dynamics.

Heebner also made time to deepen his involvement with WPI by becoming an active member of the Board of Trustees. Through this experience, he came to appreciate the positive impact that philanthropy has on the university. He was particularly inspired by Richard Whitcomb '43, known for his advancements to jet aircraft development and transonic flight. Whitcomb donated all his many awards to WPI’s archives and established an endowed professorship in chemistry and biochemistry.

“Over the years, I decided to donate as much as I could to the university because WPI has meant so much in preparing me to become ‘all I can be,’” says Heebner. “I simply want to do what I can to help our university prepare and inspire future students to have opportunities and impact of their own.”

Heebner’s philanthropy will make it possible for the Career Development Center to create a team of graduate student peer advisors who understand graduate students’ unique career needs and trajectories and can offer meaningful guidance. His fund will support career-focused fireside chats for students from underrepresented groups, and opportunities for students to meet potential employers on campus more regularly, between large-scale career fairs.

Heebner says that he measures success more in terms of fulfillment than business achievement. Making a financial commitment to WPI is another form of contribution that brings its own sense of fulfillment. “I’m grateful that WPI helped prepare me to have impact throughout my life,” he says, “and that, in turn, has provided the good fortune that makes this gift possible.”

—Judith Jaeger

PHOTO: JACQUEEN LEMAY



A Lifetime WPI Journey

ALUMNA HONORS PARENTS WITH ENDOWMENT.

“I wanted to give back to the community because WPI has been a home, a safe place, and the place where I acquired the education that has given me a wonderful profession, career, and life.” —April L. Hammond

When WPI alumni say their years on the Hill were some of the best of their lives, they're usually referring to the four years it took to earn their bachelor's degree. But when **April Hammond '85, MS '88** talks about her years spent with the university, it's a much different story. Hammond's WPI story begins during childhood as a professor's daughter, travels through her collegiate years where she earned her undergraduate degree in mechanical engineering and graduate degree in fire protection engineering, continues into her professional career while she serves as an WPI Advisory Board member, and lands most recently as a generous philanthropic donor to the university.

“WPI gave me the tools to practice life successfully and to the fullest,” she says.

To honor her beloved parents, Hammond recently included WPI in her estate plans by creating the Fahire and Professor Thom Hammond Endowed FPE Graduate Support Fund. The endowment will provide financial resources to recruit or retain outstanding graduate students studying fire protection engineering. She established her philanthropic legacy at WPI with deep gratitude for her mother, Fahire Hammond, who gave up a law practice to raise her three children, and for her father, Professor Thom Hammond, who taught at WPI for 22 years, beginning in 1959. Professor

Hammond regularly brought his young daughter to campus and encouraged her to earn a degree in fire protection engineering.

“I grew up at WPI. I did my homework under the stern but benevolent gaze of head librarian Mrs. [Bonnie Blanche] Schoonover in the old Alden Library, and I would get help with math problems from the WPI students,” says Hammond. “Campus was my playground: swimming in the pool, sledding down the old football field hill, peeking into Mrs. Higgins's beautiful gardens, and checking out the shop where my dad often went to fix a lawn mower or a part for his car.”

As a specialist in fire protection engineering, loss prevention, codes and standards, environmental site assessments, spill clean-up, and regulatory compliance, Hammond has, by all accounts, experienced a remarkable career. And ever mindful of the foundation for her success, she was compelled to give back to WPI for all it provided her.

“My father was a mechanical engineer who was an ardent supporter of the FPE program,” she says, “and the faculty members who developed it, such as professors Robert Fitzgerald, Donald Zwiep, and David Lucht; my heart is in supporting the continued success of WPI, its FPE program, and its students.”

—Sira Naras Frongillo

ALUMNI WEEKEND @WPI

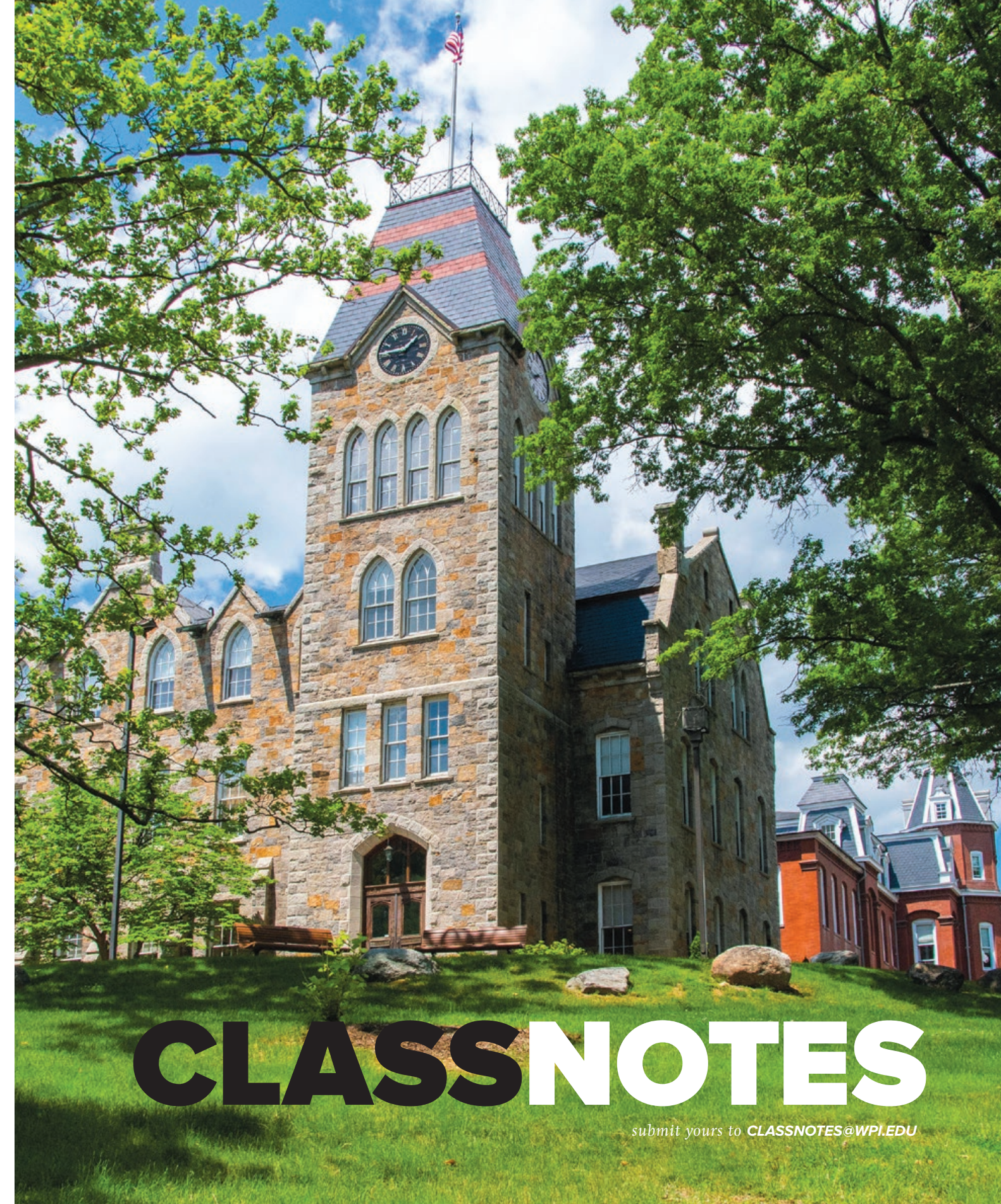
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1949

Howard Tinkham celebrated his 100th birthday in November 2022. He was featured in an article by *Sippican Week Today*, where he discussed his childhood, his education, his time in the U.S. Army, and his traveling (he has visited every continent). He was a mechanical engineering professor at the University of Massachusetts Dartmouth for 40 years. “Yesterday, I went to the cardiologist to verify that I’m alive,” he said in the story, “and he said yes, I still am.” To celebrate his birthday, his hometown of Mattapoisett gathered for a town-wide party and parade.

1958

Bill O’Neil writes, “My wife, Adele, and I have moved to our new Naples, Fla., home permanently after 52 years in Morristown, N.J.”

1959

David Bareiss’s novel *First Frigate* was reviewed by *Bensinga.com*. The review described the novel as a “must-read” fiction spy adventure story that he self-published in August 2022. He spent six years in the U.S. Army and worked 17 years as an engineer for a manufacturer of fossil fuel-fired and nuclear power plants.

1962

Bill Krein is an adjunct faculty member in The WPI Business School. He writes, “Great article about my former roommate and Vermont neighbor Jim Kachadorian [Winter 2023]. I really appreciate the digital version of the *Journal*.”

1974

Alden Bianchi has joined McDermott Will & Emery’s benefits and executive compensation practice group in Boston, after nearly 40 years as an attorney in Central Massachusetts. His new role focuses on welfare benefits. He says, “I’m becoming more of the best part of who I already am. I’m getting to focus on the practice areas that I know the most about, that I have the deepest experience with, and that I really enjoy.” He also represented the administration of then-Massachusetts Governor Mitt Romney during the reform of the state’s healthcare system and testified before the U.S. Senate Finance Committee in the lead-up to the Affordable Care Act’s passage.

1975

Scott Bicknell writes, “I retired in 2008 after a 31-year career with General Motors as a project engineer. Bob Taylor (mechanical engineering technician at WPI), who taught many of us how to weld and build things like Formula SAE race cars, became a lifelong friend. He instilled in everyone he touched that having fun while getting work done was possible. Unfortunately, Bob’s time with us was cut short at 58. Brenda, my life partner, and I are loving life in Michigan and Florida with our children and grandchildren.” **Robert Ballinger** was appointed by President Biden to the U.S. Nuclear Waste Technical Review Board. He is also serving his third four-year term on the Nuclear Regulatory Commission Advisory Committee on Reactor Safeguards. He is Professor Emeritus of Nuclear Science and



ERIK MACS, JOHN NOWOSACKI, AND MIKE ABRAMS, CLASS OF 1977

Engineering and Material Science and Engineering at MIT. According to the announcement, “His areas of research include environmental effects on material behavior and component life, stress corrosion cracking and hydrogen embrittlement in Light Water Reactor systems, environmental degradation of nuclear waste canisters, and the effect of radiation on aqueous chemistry.”

1977

Mike Abrams was a 2022 recipient of the Herbert F. Taylor Award for Distinguished Service to WPI. He is a member of the Alumni Association Board of Directors and a representative to the Board of Trustees Subcommittee on Lifetime Engagement. He is known to be among the first to step forward as an ambassador or challenger, supporting initiatives like WPI’s annual Giving Day and Goat Nation Giving Challenge. He also writes, “I visited **John “Noah” Nowosacki ’77**

recently at his home in North Reading as he was getting ready to move to Belton, Texas. My freshman year roommate **Erik Macs ’77** was also there to send Noah off to a warmer climate with a few toasts of Jack Daniels.

1979

Jason Providakes was named #31 in The Top 50 Consulting Firm CEOs of 2022 by *The Consulting Report*. He is the president and CEO of The MITRE Corporation, a nonprofit consulting firm. He joined the company as a lead scientist over 30 years ago, eventually leading its groundbreaking work with military and civilian government agencies. According to the announcement, “he helps MITRE deliver next-level solutions to critical issues in defense, healthcare, cybersecurity, and engineering through cutting-edge technology operated at federally funded research and development centers.”

Al Spada was named executive vice president and chief scientific officer at Histogen Inc.,

a clinical-stage therapeutics company. With more than 35 years of experience in pharma and biotech, he most recently served as president and CEO of Aya Biosciences, focusing on the discovery and development of novel therapies for the treatment of severe neuropsychiatric disorders. “Histogen’s focus on developing potential first-in-class pan-caspase and caspase selective inhibitors focused on treatments for infectious and inflammatory diseases is perfectly aligned with my scientific and industry expertise,” he said in the announcement. “I am excited to join the Histogen team at this pivotal time and look forward to working with them to advance the company’s caspase pipeline through clinical development.”

1981

Gregory Phipps was appointed general manager for the Reading Municipal Light Department. According to the announcement, he has “decades of leadership in several high-tech industries, including solar power, software, materials, and 3D imaging, during periods when each industry was undergoing dramatic market change.” He said, “This is an exciting time for the electric utility industry as we work to decarbonize our portfolio in accordance with Massachusetts climate legislation.”

Glenn Gerecke is the global head of technical operations at Sandoz, a business focused on improving access to medicines, medical information, and medical capacity building. He is responsible for “operational functions across Sandoz

manufacturing, supply chain, and distribution around the world,” according to the company’s website. With a 35+ year career in the industry, he has extensive experience in chemical, pharmaceutical, and radiopharmaceutical manufacturing across the globe and has held leadership positions with Phlow Corporation, Teva Pharmaceuticals, and Bristol Myers Squibb.

1982

Karen Oliver was recognized as a 2022 recipient of the Herbert F. Taylor Award for Distinguished Service to WPI. She is an executive committee member for WPI’s Women’s Impact Network (WIN), a leadership and philanthropy group focused on advancing women in science, technology, engineering, and math. As a member of the WIN Impact Committee, she has raised funds for and led the distribution of \$1.3 million in Impact grants to WPI students, faculty, and programs that support and advance women in STEM.

George Oliver, a WPI trustee, was interviewed at the Toronto International Economic Forum of the Americas where he discussed the importance of “Committing to Net Zero.” He is part of the World Economic Forum Alliance of CEO Climate Leaders, a group that urges governments to set goals to accelerate the Net Zero transition. He is the chairman and chief executive officer at Johnson Controls and was interviewed by Ritika Gupta of Bloomberg Television.

Paul Howard retired from his position of senior vice president of Tata & Howard, a water,

wastewater, and stormwater engineering solutions company that he co-founded in 1992 with Don Tata, whom he met while attending WPI. He will remain on the Board of Directors and serve as a technical advisor to the current leadership team. The company grew from a two-person start-up to a successful engineering firm with multiple New England and Arizona offices; it received the 2020 Bronze Award for Engineering Excellence from the American Council of Engineering Companies.

1984

Michelle Bugbee was presented with the Massachusetts Bar Foundation President’s Award at its Western Mass Grantee Reception this past October. She works in intellectual property law as senior counsel for Eastman, a chemical manufacturing company. Her career spans work in engineering and law with companies such as GE and Spalding. She also mentors law students interested in intellectual property law and is the co-chair of the Women in Intellectual Property Committee of the Intellectual Property Owners Association.

1985

Beth Phalen joined the board of directors for Insurity, a provider of cloud-based software for insurance carriers and brokers. She has more than 25 years of experience leading software, technology, and analytics organizations and is the former president of Dell EMC’s Data Protection Division. “I am excited to join Insurity’s board of

directors and work with one of the fastest growing cloud-based SaaS companies in insurance software,” she said in the announcement.

Tom Arseneault was named #28 in The Top 50 Consulting Firm CEOs of 2022 by *The Consulting Report*. As president and CEO of BAE Systems, he is responsible for “maintaining the defense and security company’s international operations and workforce of over 34,000.” He is also an executive director and officer director on BAE’s Board of Directors and a member of the company’s executive committee. He served in various other leadership roles at Lockheed Martin subsidiary Sanders and remained with the company following its acquisition by BAE in 2000.

1986

Rob Gremley was featured in a video as part of HxGN’s Spotlight series where he discussed “how leading brands optimize processes to deliver consistently high quality.” He is the CEO at ETQ, a quality management solutions company.

David Kolstad, CEO of Gentuity, spoke with reporters about the company’s first human use of its “Vis-M” High-Frequency Optical Coherence Tomography (HF-OCT) imaging system and probe. According to the announcement, this represents a significant technological advance for the field of neurointervention, making high resolution intravascular imaging in the brain possible. He said, “These procedures reflect years of technical innovation, development, and extensive testing. They are an important step in



SKULL MEMBERS FROM THE CLASS OF 1986 GATHERED FOR A REUNION: JOE GAMMAL, PHIL CYR, MIKE KELLY, KIM FAY BOUCHER, GARY SARGENT, CHRIS MCNEIL, AND DAVE HENRY.

our mission to develop a platform that will improve the understanding of target diseases, facilitate the development of novel therapies, and ensure optimal treatment delivery for the benefit of patients worldwide.”

1987

Paul Gaynor received WPI’s Robert H. Goddard Award for Outstanding Professional Achievement. Paul has more than 30 years of experience in the energy field, encompassing leadership and finance roles in energy, power, pipeline, and renewable energy sectors. He is the co-founder and CEO of Longroad Energy, where he is responsible for the overall management and strategic direction of the company. Prior to Longroad, Paul served as CEO of First Wind, which he founded in 2004. He has held various roles within Noble Power, Singapore

Power, PSG International, GE Capital, and GE Power Systems. Throughout his career, he has brought more than 75 renewable projects to the grid. He is now executive vice president of SunEdison.

Lisa Barton was appointed president and CEO at Alliant Energy. In this role, she oversees the company’s two public subsidiaries, Interstate Power and Light and Wisconsin Power and Light, with a focus on enabling a clean energy future. She has held prominent leadership positions with several energy-based organizations, including Eversource and American Electric Power.

1988

Kathleen Donaghue won her campaign for the 19th Worcester District of the House of Representatives in November after 250 days of campaigning. A longtime

Democratic activist, she said, “I’m excited to represent the people of the 19th Worcester District and to advocate for healthcare, fighting climate change, and education.” She will represent a newly created district that covers parts of Northborough, Westborough, and Framingham, Mass. A retired software developer, she has lived in Westborough for nearly 50 years.

Bill Riccio was a finalist for the Glastonbury, Conn., town council. Glastonbury received 29 applications from 14 states and Canada before narrowing it down to three finalists, with Bill among them. He has served as director of public services for the city of Newport, R.I., for the past 16 years. According to the announcement, he has also worked as project manager and highway engineer for the Rhode Island Department of Transportation for 17 years.

1989

Chris Fanning was interviewed by *EHS Daily Advisor* to discuss his work in and the current state of the software and technology industry. His 35-year career has included work in “building high-performance teams, driving innovation, scaling operations, and growing revenue and profitability.” He currently serves as president and CEO of KPA, a provider of software for a range of businesses that directs clients in manufacturing, automotive, construction, oil, and gas on employee safety and company compliance. He has held leadership positions with Survey Sampling International, Lattice Semiconductor Corporation, and Boston Consulting Group.

1990

Patti Newcomer, a WPI trustee, was named among “The 101 Top B2B

Marketing Influencers of 2022.” She is the chief marketing officer at FieldRoutes, an IT services and consulting company.

Michael Plourde was one of five telecommunications executives in the federal government contracting sector featured by the Potomac Officers Club, a division of Executive Mosaic. He is vice president of global engineering and programs for Comtech Telecommunications and his career spans more than 20 years in the fields of operations management, process management, and wireless communications, among others.

Michelle Gass was named to the 2022 Top Women CEOs in America of the Fortune 500 Companies list, coming in at No. 20. She served as Kohl’s CEO from 2018 to 2022 and held positions with Procter & Gamble and Starbucks. She currently serves as president and CEO of Levi Strauss.

William Oncay was appointed a member of the Easterseals Massachusetts (ESMA) Board of Directors. He specializes in web architecture and development and SQL database architecture and design. He is currently the director of ecommerce strategy at Berry Global.

1991

Toby Wyman was appointed general manager for Stonehenge Asset Management and Sports Facilities Companies in Rosenberg, Texas. He leads the day-to-day operations of the Fort Bend County Epicenter, a 230,000-square-foot multipurpose event center slated to open in July 2023. He has extensive leadership experience in sports and event marketing, including

with Academy Sports + Outdoors, the WNBA Atlanta Dream, the Atlanta Braves, and Foot Locker.

Stephen Kellett writes, “I retired from my ‘encore career’ as an ortho/sports medicine physical therapist in 2020 and recently enrolled in a sculpture atelier program at the prestigious Gage Academy in Seattle. My wife, Lee ’81, and I enjoy all the beautiful outdoor recreation opportunities the Pacific Northwest offers, including camping, hiking, and kayaking. We relocated from Massachusetts in 2016 and are fortunate to be close to our daughters and one-year old grandson. Look us up if you visit our beautiful city.”

1992

Gunars Vinkel was named interim Chief Operating Officer of Power Solutions at NN, an industrial engineering and materials science company. He has served in various leadership roles with the company and was operations director for PEP Group at the time of its acquisition by NN in 2015.

Michael Chen was appointed CFO of UNICEF USA, after serving 10 years as senior vice president, finance, for American multinational medical technology company Becton Dickinson & Co. In his current position, he steers the organization’s finance and audit committees. As a native of Vietnam, he personally benefited from UNICEF-supported programs during his time in refugee camps in the Philippines and Malaysia.

Patrick Tompkins is a director at CTA Construction Managers, which was recently recognized by The Chicago Athenaeum: Museum of Architecture and

Design, and The European Centre for Architecture Art Design and Urban Studies for its construction of the Somerville West Branch Library. According to the announcement, the project received the combined organizations’ 2022 American Architecture Award, which “highlights excellence in design for new buildings, landscape architecture, and urban planning globally.” CTA Construction Managers is a general contracting firm focused on municipal, academic, multi-family residential, commercial, and senior care facilities, and provides contracts to small, disadvantaged, minority, and women-owned company partners with a focus on green initiatives.

1994

John Harrington is the co-founder and chief product officer at HighByte, an industrial software development company. His role focuses on product management, customer and partner success, and company strategy. He is responsible for market research, customer use cases, product priorities, go-to-market, and financial planning.

1996

Mike Caprio writes, “I continue to work on global partner integrations with HBO Max and discovery+ for the merged Warner Bros. Discovery in New York City. My wife, Diana, and I purchased our first home in Miller Place on the north shore of Long Island, where we celebrated our fifth wedding anniversary in December 2022. Our 18-year-old cat Gau

Underfoot succumbed to chronic kidney disease and has been cryogenically preserved in Scottsdale, Ariz.”

David Curry spoke with *Worcester Magazine* about his two-decade experience as a drum circle leader in Massachusetts. Nicknamed “Drumhead,” he discovered his love of hand drumming and percussion soon after graduating from WPI. In 2001, he started his own drum circle and eventually began teaching others the art of drumming. He has brought his love of drumming to schools, churches, yoga classes, and other events, and is the cofounder of Worcester Community Drum Circle. In addition to leading various drum circles around Massachusetts, he continues to teach drumming privately and with Assabet Community Education in Marlborough, Mass.

1998

Dan Shreve was named vice president of market intelligence by Clean Energy Associates. The former head of energy storage for Wood Mackenzie, he has over 20 years of experience in power and renewables and is a “recognized authority on the decarbonization of power markets and the global renewable energy industry,” according to the announcement. “Global energy markets remain unsettled,” he said, “and with global conflict accelerating climate initiatives, executives require world-class commercial and technical market intelligence to support critical strategic and tactical decisions.”

Jason Hutt was interviewed by *Spaceflight Insider* to discuss his career with NASA. As a human-rating, systems engineering, and

PETER KORFUZI '24

WORCESTER, MA

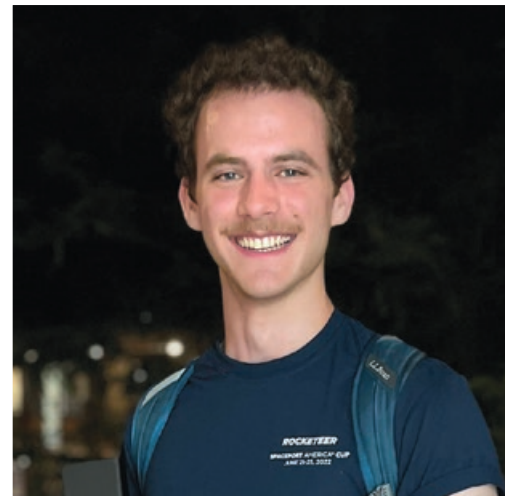
- GREAT MINDS/COMPASS SCHOLAR
- CONNECTIONS PROGRAM
- SPONSORSHIP OFFICER, HIGH POWERED ROCKETRY CLUB
- PRESIDENT, SIGMA GAMMA TAU, AEROSPACE ENGINEERS HONOR SOCIETY

Coming from Worcester, the home of Robert Goddard, and attending WPI as an aerospace engineer with an astronautical track, Peter Korfuzi '24 is in the perfect place to realize his dreams. Thanks to the financial aid and assistance he received as a Great Minds/CoPASS Scholar and the support from the Connections program, Peter has been able to dive into his interests and pursue his passions.

Peter shares, "The help and guidance from faculty and staff, along with a cohort of peers who understood my background as a first-generation, low-income student made the first couple of years of college far less daunting and disorienting for me. Without it, I would have made more mistakes and had less time to realize my potential. For all that and more I am grateful to those who provide support to WPI's financial aid, scholarships, and programs that support all students."

Your gifts to financial aid, scholarships, the Connections program, and more, help students like Peter not only attend WPI, but realize their full potential while here. We're so grateful.

wpi.edu/+give



Peter and members of the WPI HPRC travel team at the 2022 Spaceport America Cup's Intercollegiate Rocket Engineering Competition in Sierra County, N.M.



Peter (center) and members of the WPI HPRC travel team at the 2022 Spaceport America Cup's Intercollegiate Rocket Engineering Competition

integration lead for the Orion crew module, he was an important part of the first Artemis 1 Space Launch System launch attempt at the Kennedy Space Center. He detailed his experiences working to prepare the Artemis 1 launch and his thoughts on the past and future of the space industry.

Lazarus Vekiarides was appointed to the Board of Directors for PerformLine, a provider of omni-channel marketing compliance software. He has over 20 years of experience in product engineering and has served in positions with Amazon Web Services, Google, and Dell. He also co-founded ClearSky Data, a data storage and management start-up and holds 10 patents in caching, storage, and encryption.

2000

Deepthi Bathina joined SAIGroup as an operating partner and CEO-in-residence. SAIGroup, based in California, is a private investment firm focused on businesses with the potential to become leaders in enterprise artificial intelligence. According to the announcement, her role "will be responsible for building and launching a new customer-centric AI business applying SAIGroup's advanced technologies and data-driven solutions to improve patient outcomes and reduce costs for payers and providers." She is chair of the board of the Kerry Murphy Healey Center for Health Innovation and Entrepreneurship at Babson College, has held various leadership positions in the healthcare technology industry, and founded Health-Tech Ventures.

Andrea Sullivan was named to Worcester Magazine's 20 Women to Watch in 2023. She is deputy director of the Worcester Jewish Community Center (JCC), and also serves on the board of Women in Development of Central MA and the board of Friends of Wetherell Park. She said, "My goal for 2023 is to continue to lead the JCC professional team to recover from the immense impact COVID-19 had on our community center. Our membership and programming were devastated by the pandemic, and we are working tirelessly to regrow our community, diversify our programming offerings, and become stronger than we were before March 2020."

2001

Thomas Collins was promoted to Fastpath practice director at ProofID. He oversees a team of three engineers and a project manager to direct any and all clients that use ProofID to help them with their Fastpath solutions.

2002

Jody Staruk is a 2022 recipient of the Ichabod Washburn Young Alumni Award for Professional Achievement. She has project management experience through her work at Consigli Construction and currently oversees a \$25 million renovation of buildings at Tufts University, Boston College, and Eagle Hill School. She became Consigli's first female project executive in 2017 and led the company's first all-female team for a renovation project at the YWCA of Central Massachusetts.

Frances-Feliz Kearns was featured in an article by SouthCoast Today that discussed her work as director of engineering at Takeda Pharmaceuticals and her involvement with Old Rochester Regional (ORR) School District's Diversity, Equity, and Inclusion Subcommittee. She talked about her experiences growing up as a woman of color and how she discovered an interest in the biomedical engineering field. She also connected the ORR district with WPI to bring grant funding to the district to purchase new robots and training for middle and high school students.

2003

Jeff Stutzman was a panelist at NH Business Review's webinar "How to Protect Your Business in the Current, Extreme Landscape of Cyber Threats." He is the founder, CEO, and chief information security officer for Trusted Internet, a company that supervises virtual security for small, medium, and large companies. He has also worked for CISCO and Carnegie Mellon and has extensive experience with risk management, cyber investigations, and mergers & acquisitions in more than two dozen high-risk cyber threat areas around the world.

2004

Tom Daly was interviewed by Jake Warner of Cycle Podcast in the episode "Simplifying Global Networks and Insights into Startup Investing." He is the president and CEO at Big Network, a cloud-managed connectivity platform that works to connect people, places,

clouds, and their devices anywhere. He formerly served as senior vice president of infrastructure at Fastly and co-founded Dyn, an Internet performance management and web application security company.

Michael McCann was promoted to CEO at Limbach Holdings, an integrated building systems solutions firm. Previously, he served as COO and executive vice president at Limbach. He said, "I am committed to continuing to build upon the company's successes and leading the next chapter of Limbach."

2005

Pamela Lynch writes, "I am excited to announce that I am joining Aclarity as their Chief Operating Officer. We deliver innovative electrochemical systems, to eliminate cancerous chemicals and destroy PFAS forever, enabling clean water. As I reflect on the last six years at TPI Composites, I am extremely proud of all we have accomplished together. It is with mixed feelings that I am leaving TPI and moving on to the next chapter in my career."

2009

Greg Cole joined AiM Medical Robotics as Chief Technology Officer. AiM Medical Robotics is a leading developer of MRI-compatible intraoperative robotics for neurosurgery. His new position "will build and lead the teams of engineers and researchers that will develop and launch the company's core MRI-compatible robotics platform," according to the announcement. He has many years of experience in leadership



▶ JOHN KOPCHIK '77, DOROTHY HAMILTON KOPCHIK '79, LENA HILLIKER, AND ALEX KOPCHIK '15.



▶ KATRINA BRADLEY '16, ALISON BRASSER '15, MAEVE MCCLUSKEY '16, AND HANNAH BROWN '17



▶ REBECCA BAROLLI '16 AND KENNY MCPHERSON '16

roles in the medical devices and technology field. As a graduate student, he collaborated with WPI Professor Greg Fischer on research for interventional robotics and continues to develop the relationship between AiM and WPI's PracticePoint, a state-of-the-art collaborative healthcare research facility.

2012

Julie Mullen is a recipient of the Ichabod Washburn Young Alumni Award for Professional Achievement. She is the co-founder and CEO of Aclarity, a Massachusetts water technology start-up that develops and deploys patented wastewater treatment systems that cost-effectively destroy contaminants.

Dan Sullivan is a recipient of the John Boynton Young Alumni Award for Service to WPI. He is a development manager at WS Development, a member of the

Alumni Association Board of Directors and serves as treasurer of the Alumni Association.

Kathryn Gauthier is a recipient of the John Boynton Young Alumni Award for Service to WPI. She is a senior energy engineer at EBI Consulting, the chair of the Graduates of the Last Decade Committee, a member of the Alumni Association Board of Directors, and has served on the board's finance and bylaws review committees.

Chris Walker is founder and CEO of Refine Labs, which received a \$5 million investment from TIMIA Capital to help scale its growth and product development. The Boston-based company consults with venture-funded or private equity-funded SaaS companies and analyses new market needs and strategies for B2B marketing. Chris said, "We are really focused on how we deliver the right things for our customers. I believe that when you operate your business

as if you're not going to exit, you ironically end up being in the best position to exit at some point down the road."

2014

Raj Patel writes, "2022 has been a milestone year for me. I got married (shoutout to my lovely wife, Reshma) and we bought a new house together! A chapter has begun!"

2015

Alex Kopchik and Lena Hilliker were married on June 25, 2022, at St. Cecilia Music Center in Grand Rapids, Mich. Alex's parents are WPI alumni **John Kopchik '77** and **Dorothy Hamilton Kopchik '79**. Attendees included best man **Max Perlman '15**, music director **Andrew Strout '15**, and **Mike Burns '14**. Alex and Lena work for E&J Gallo Winery.

2016

KiJana Haney joined Arup's fire team and process hazards, risk and compliance (PHRC) team, as fire and life safety consultant. Arup is dedicated to sustainable development and its offices span across the world.

Katrina Bradley reports that she and other WPI alumni (**Alison Brasser '15**, **Maeve McCluskey '16**, **Hannah Brown '17**) were in a production of *Shrek the Musical* with the Needham Community Theatre.

Oat Tukaew joined STRATEG Consulting as a registered fire safety engineer. According to the company's announcement, "Oat is passionate about working with stakeholders to provide simple, innovative solutions to challenging problems. In addition to a strong technical background, he also brings with him expertise from project management, mentorship, and business development."

Rebecca Barolli '16 and **Kenny McPherson '16** were married this past October in Groton, Mass., at Gibbet Hill. She writes, "We had many WPI friends in attendance—both from Kenny's fraternity (Sig Ep) and the rowing team (I rowed!). Professor Steve Kmietek officiated, as he and his wife, Mary, have become close friends (he was originally my chemical engineering advisor). It was a wonderful day celebrating with all our WPI friends—we're forever thankful that WPI brought us together!!!!"

2017

Yeejin Choi was featured in *Design World's* "Spotlight on Women in Engineering" series. The article discussed her work as a test engineer at Allegro Microsystems along with what motivated her to become an engineer—partly because of a program she participated in during her

junior year in high school in Ghana (she is originally from Korea). She says, "The whole camp experience opened my eyes to envisioning and viewing the world from a different perspective, and my interest in science and technology was piqued." Of her current position with Allegro, she says her job is to "test, develop, and debug newly designed products to ensure product capability and performance. I've worked on many great projects with brilliant teams."

Amogh Raghunath was featured in an article by *International Business Times* that discussed his career in the data mining and analytics industry and the role of data engineering in organizations across the world. According to the article, he "designs detailed data platforms and uses Amazon Web Services to help support the business intelligence and marketing functions"

in his current position. He has held various roles as a software engineer and data analyst at companies such as Modelytics and Red Hat. He is also a published writer for the *Times of India* and has peer-reviewed academic work in his field.

2019

Emily Morra writes, "I'm happy to announce that this past fall I successfully defended my PhD thesis, *Sterilization and Post Processing of Bioresorbable Polymers for Cardiovascular Stent Applications*, at Queens University Belfast. Thank you to my supervisors, the BioIm-plantITN team, and everyone at Boston Scientific for this great experience!"

2020

Jakub Kaminski (MRE) was featured in an article by *SME* for the

humanitarian work he has done for Ukrainian soldiers and civilians. As project manager of the 3D Printing for Ukraine initiative, he works to bring much-needed tourniquets to the front lines in Ukraine. Due to a global shortage of tourniquets, he and his fellow volunteers set up resources for people around the world to produce the vital medical supply. "You do medical robotic research to plant a seed for the future," he said. "But suddenly, in war time, you can use engineering skills to make a difference today."

Daniel Pelaez was featured in a *Boston Globe* article that highlighted his work as the cofounder and CEO of Cyvl.ai, a company based in Somerville, Mass., that uses 3D software and artificial intelligence to help municipalities manage potholes and other infrastructure projects. He received support from MassVentures that funds



▶ JORGO GUSHI '22

tech start-ups with a focus on underserved founders and helping those founders turn research and early-stage innovations into viable commercial uses. His company has now partnered with civil engineering firms and its technology has been used in about 50 municipalities in the Northeast.

2022

Jorgo Gushi received the WPI Graduates of the Last Decade (GOLD)'s "10 Under 10" award for outstanding achievements. He works for MathWorks as an associate application support engineer while pursuing a master's in electrical and computer engineering at WPI full time. This past May, he received three official citations from the Massachusetts legislature for his work in service to higher education initiatives. He was awarded the Harold S. Black Award by WPI faculty for his demonstration of "outstanding creativity and enthusiasm in engineering problem solving, practical implementation of design, and exemplary character in contributions to the welfare of the WPI community."

Stephanie Tam reports, "I am happy to announce I will continue my learning at Neuraxis, where I



▶ CHRIS SON '22

have accepted a full-time position as a biomedical engineer, and will be joining the team in developing a system for neuroprotection through localized hypothermia delivery. I am beyond excited for this opportunity to challenge my creativity and pursue my long-term dreams of designing medical devices. I look forward to seeing how my time as a WPI student these last four years will translate to yet another new and unfamiliar place in my life that I have yet to explore, and what new things I will learn and discover along the way."

Chris Son writes, "I joined Boston Scientific full time as a pre-clinical research associate in

the endoscopy division. I am so grateful to aid in new product development and to join this extraordinary company whose passion is centered on prioritizing patients, driving innovation, and constantly improving company culture through diversity, equity, and inclusion. From my interviews to onboarding experience, I have been welcomed and supported by incredibly positive and passionate individuals. I look forward to seeing how my undergraduate experience translates to a corporation environment. I'm excited to continue my journey and I can't wait to grow in this next chapter!"



Alex Emanuel, Pioneer in Electric Power Systems and Beloved Teacher

Alexander E. Emanuel, a longtime professor of electrical engineering at WPI and a pioneer in electric power systems known worldwide for his groundbreaking work on the dangers of power system harmonics, died Jan. 24, 2023. He was 85.

Born in Romania, he attended Politehnica University of Bucharest but was expelled by the Communist regime after he applied for an exit visa. In 1961 he and his wife, Rodica, were able to emigrate to Israel, where he continued his studies at the Israel Institute of Technology (Technion), earning BS, MS, and doctoral degrees in electrical engineering. During this time, he fought in the Six-Day War as a member of the Israeli Defense Forces.

Emanuel worked in industry in Israel and the United States before joining the WPI faculty in 1974. Through his industry work, he became aware of how solid-state electronic devices were introducing harmonics into the electric grid, disrupting the normally smooth 60-cycle AC waveform and damaging or destroying electrical components.

He was among the first to point out the issue, and his diligent research and advocacy moved the power industry to take action.

His research earned him many professional honors, including life membership in the Institute of Electrical and Electronics Engineers (IEEE), a distinction bestowed on just one tenth of one percent of members. He established the biennial IEEE International Conference for Power System Harmonics, held for the first time in 1984 at WPI.

Emanuel, who retired in 2018, is remembered by several generations of alumni as a talented and caring educator and mentor and a distinguished and collegial faculty member. He is the only faculty member, to date, to receive WPI's Board of Trustees' Awards for teaching, research, and advising, and he was among the earliest recipients of the Chairman's Exemplary Faculty Prize.

He leaves two granddaughters. Rodica passed away in late 2022 and his son, David, passed away unexpectedly in February 2023.

Funds are being raised to establish an endowed scholarship in Emanuel's memory. To contribute, visit wpi.edu/+give.

—Michael Dorsey

2021

Jack Ruddat was featured in an article by *The Trumbull Times* for his work in searching for and identifying Connecticut's oldest trees. Currently pursuing a master's in theology at Holy Apostles College & Seminary in Cromwell, Conn., he has had a passion for trees from a young age. He often visits "old growth" forests to search for the oldest trees, taking samples from the tree to help discover its age. Some trees he has identified are more than 600 years old.

The WPI Alumni Association Welcomes the Class of 2023!

As alumni, you have access to many benefits and resources offered by the Alumni Association.

Insurance Discounts • Alumni Career Services • Alumni Tuition Incentive • Gordon Library Access
WPI Ring Program • Email • WPI Merchandise • Hoteling Space for Alumni in Worcester and the Seaport

More at wpi.edu/+alumni benefits



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Francis N. Noonan, Professor of Management and WPI's First Ombudsman

Frank Noonan, a longtime professor of management at WPI, died Jan. 23, 2023. He was 80. An expert in industrial engineering and operations management, he played a central role in designing and introducing WPI's MBA program in the 1980s. In the 1990s, he helped shape the university's master's program in manufacturing engineering and undergraduate program in industrial engineering. He served as head of the Management Department from 1983 to 1987 and interim department head during the 1994-95 academic year.

Noonan earned a BS in physics at Boston College, an MS in mathematics at Northeastern University, and a PhD in industrial engineering and operations research at the University of Massachusetts Amherst. He held positions early in his career for the U.S. Navy and NASA, and then worked as a senior systems analyst for Dynamics Research Corp., as a senior management scientist for New England Electric System, and as an assistant professor of industrial and operations engineering at the University of Michigan before joining the WPI faculty in 1978.

In addition to teaching and advising undergraduate projects and graduate theses in management, Noonan was affiliated for many years with WPI's Manufacturing Engineering Program and its Fire Protection Engineering Program, where he taught risk management.

In 1997, President Edward Parrish asked Noonan, who had earned an MA in counseling psychology at Lesley University, to serve as one of two inaugural university ombudsmen to help faculty and staff members address "delicate and difficult problems." He held the position, in addition to his teaching responsibilities, until his retirement in 2008. "I derive a lot of personal satisfaction and fulfillment," he once wrote, "from the role of peacemaker."

Frank leaves three daughters, a son, and two grandchildren. He was predeceased by his wife, Christine, and five siblings.

—Michael Dorsey

- Hugh Brautigam '43, ME**, SIGMA ALPHA EPSILON, Pawcatuck, R.I.
- Robert Appenzeller '46, ME**, New Carlisle, Ohio
- William Meadowcroft '48, CE**, SIGMA ALPHA EPSILON, Westland, Mass.
- Walter Scanlon '50, EE**, ALPHA TAU OMEGA, Falmouth, Mass.
- Bruce Bailey '51, ME**, SIGMA ALPHA EPSILON, Lincoln, Mass.
- Richard Coffey '51, CHE**, PHI KAPPA THETA, Wilbraham, Mass.
- Stanley Berman '52**, ALPHA EPSILON PI, Warrington, Pa.
- Roland St. Louis '52, CHE**, PHI KAPPA THETA, Groton, Conn.
- Thomas Hollocher '53, CH**, SIGMA ALPHA EPSILON, Sudbury, Mass.
- William Schoenemann '54, EE**, ALPHA EPSILON PI, Union City, Calif.
- John Goodwin '55, CE**, SIGMA ALPHA EPSILON, Arlington, Va.
- Robert Crane '57, EE, MS EE, PhD EE**, THETA CHI, New London, Conn.
- William Rawstron '57, ME**, SIGMA PHI EPSILON, Northborough, Mass.
- Leonides Xarras '58**, PHI SIGMA KAPPA, Leominster, Mass.
- Clifford Daw '59, CE**, Dublin, Calif.
- Walter Wajda '60, EE**, Santa Maria, Calif.
- Kenneth Parker '61, CE**, SIGMA ALPHA EPSILON, Barrington, R.I.
- John Lojko '63, ME**, PHI KAPPA THETA, Emmaus, Pa.
- Richard Carle '64, EE**, TAU KAPPA EPSILON, Evanston, Ill.
- James Maroney '66, MG**, PHI KAPPA THETA, Atkinson, N.H.
- Stewart Nelson '66, CE**, SIGMA PHI EPSILON, Peabody, Mass.
- Clinton Inglee '67, ME**, SIGMA ALPHA EPSILON, Summerfield, Fla.
- David Zlotek '69, EE, MS EE**, Fairfax, Vt.
- Kenneth Szefflinski '74, MA**, South Orleans, Mass.
- Brian Carpenter '75, MA**, North Scituate, R.I.

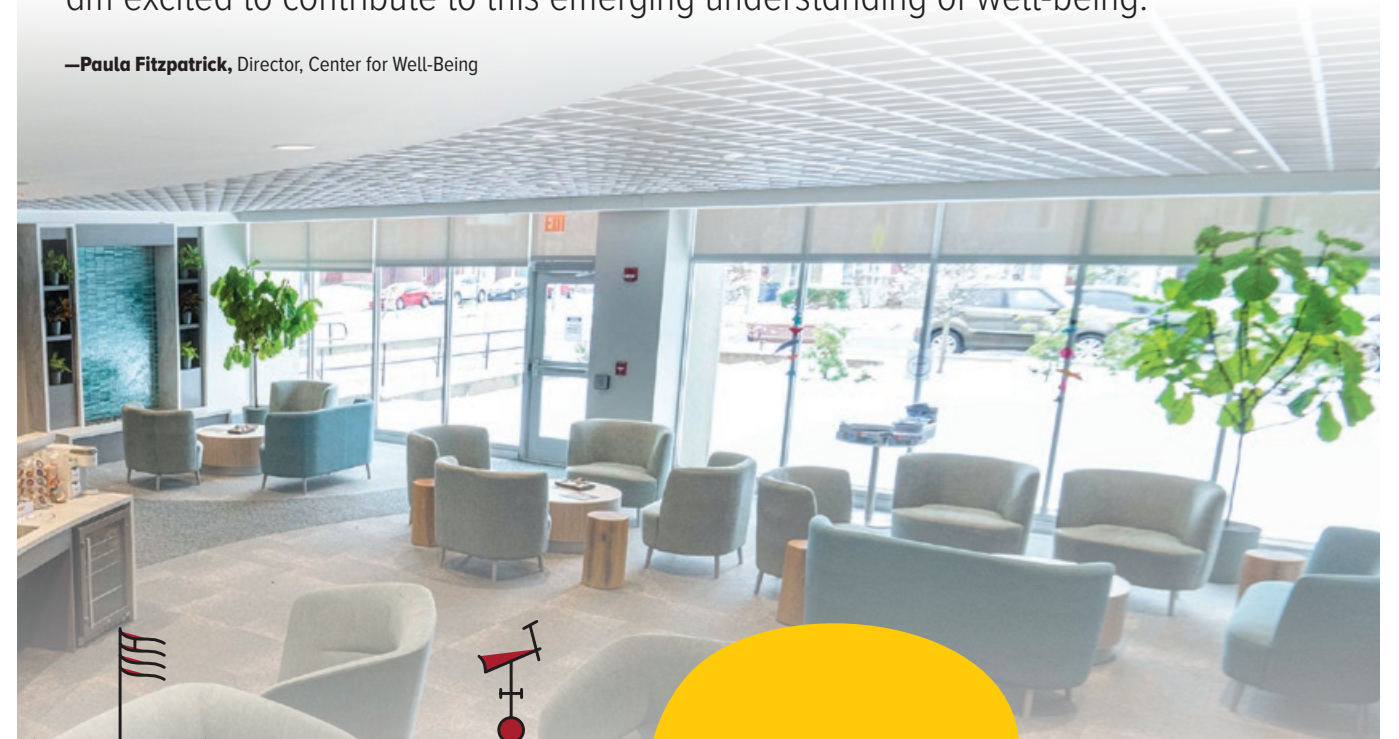
- Nandu Marketkar '75, EE**, Worcester, Mass.
- Roger Nowlin '75, MS MG**, Fitchburg, Mass.
- Paul Gardner '78, MS MG**, Berlin, Mass.
- Richard Ellison '82, EE**, Norton, Mass.
- Mark Lepkowski '82, EE**, Webster, Mass.
- Frederick Klich '82, EE**, Northampton, Mass.
- Gary Carey '83, BS EE, MS EE**, Millbury, Mass.
- Randy Lo '83, CHE**, Taipei, Taiwan
- Bridget McGuinness '83, CE**, Lynn, Mass.
- Donna Crosier '84, ME**, Troy, Ohio
- John Tyer '84, EE**, Jefferson, Mass.
- John St. Yves '92, SIM**, Leominster, Mass.
- Lee Evans '99, EE**, Hudson, Mass.
- Elyse Levy '00, MBA**, Brookline, Mass.
- Gregory Ulinski '01, MS BIO**, Millbury, Mass.
- Jonathan Grover '18**, Griswold, Conn.

The WPI community also notes the passing of these friends of the university: **Richard Custer, Alexander Emanuel, Zofia Glazer, and Francis Noonan.**

Complete obituaries can usually be found online by searching *legacy.com* or newspaper websites. The Alumni Office will assist classmates in locating additional information. Contact alumni-office@wpi.edu.

"I have great hopes for this center and all it represents. Not only is it a focal point for community support programming and wellness resources, but it is also a safe space where individuals can slow down and connect mind, body, and spirit in meaningful ways that foster greater resilience and holistic well-being that will carry them through life. Such a truly integrated and holistic strategy is rare, and I am excited to contribute to this emerging understanding of well-being."

—Paula Fitzpatrick, Director, Center for Well-Being



Our Center for Well-Being and pioneering Health & Wellness Collaborative officially launched in January 2023. To advance our efforts to create a community where everyone feels a strong sense of belonging and has the tools and opportunities to achieve beyond their greatest expectations, we need champions.

Be a champion.

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TOMMY DELL'AERA '24 COMPETED IN THE 2023 NCAA DIVISION III WRESTLING CHAMPIONSHIPS IN ROANOKE, VA. READ MORE ON PAGE 11.