WPI WELCOMES OUR 17TH PRESIDENT,
Grace Wang
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 surprised her so far, and how she relaxes and unwinds.

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EMBRACING THE QUIRKENESS

I asked this question of WPI's new president, Grace Wang, when we down for an interview that became the cover story in this issue. After we talked several months before her (first official day on the 6th), she was getting to know the community through afternoon visits to campus, meeting with key groups to listen and learn about what makes WPI so unique. Check out her answer on the full interview starting on page 6.

As a relatively new member of the community myself, I pondered what makes this community special. A reminder to those of you who don't want to open your minds, it is incredibly refreshing to read about all the young people dedicated to making a real difference 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, 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.

So, dear readers, I open this question up to your answer. What surprised you about WPI that I should have answered the question when I first arrived? This is certainly a topic of WPI’s new president, Grace Wang, when we sat down for an interview that became the cover story in this issue. After we talked several months before her (first official day on the 6th), she was getting to know the community through afternoon visits to campus, meeting with key groups to listen and learn about what makes WPI so unique. Check out her answer on the full interview starting on page 6.

A student group that sells goat cheese? Yes, the choices are many when considering the unusual elements that make this community special.

A reminder: Please send your preferred way of receiving the infoupdate@wpi.edu.

Sincerely,

Grace

A LETTER FROM THE PRESIDENT

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.

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

Letters to the editor may be edited for clarity, length, and accuracy. Please allow two weeks for response. Non-editorial correspondence without return address that must or must not be published. Opinions expressed do not necessarily reflect the views of WPI. Send your letters to wpijournal@wpi.edu.

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 write 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 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

“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 by employers in continuing to make a difference in the world as they build meaningful lives. As in prior years, our graduates were sought out by employers in
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 Braud, 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

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 rock 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 40 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
STUDENT CLUB SPOTLIGHT:

GALACTIC SENATE (STAR WARS CLUB)

Although the Star Wars franchise has become somewhat nostalgic for its passionate, outdated 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 droid 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.

——Steve Foskett

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 Moonov 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 prototyping, and a growing number of taking-advantages, 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 aming 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 sandblasted,” 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 Foskett

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 internships 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.

“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 partnerships with Harrison Street reflect 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
A team led by Emmanuel Agu has been awarded $2.5 million by the National Institutes of Health to develop a smartphone app that can detect infections from about 1,500 photographs combined with thermal images. The app uses deep learning computer models to rapidly identify infections in the field to rapidly identify infections. Agu and a team of researchers will train deep learning computer models to detect infections from about 1,500 photographs combined with thermal images. 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.

The Deep Infected Wound Detector will enable visiting nurses and other health workers in the field to rapidly identify infections that health care workers can visually inspect a wound without exposing and disturbing vulnerable tissue.

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 foundation of the dressing, produced by a bacteria Hansenii, is a stretchable and optically transparent cellulose produced by a bacteria Hansenii, which 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. 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 Gatlids, assistant professor of surgery at UMass Chan, also is a principal investigator on the project. Other researchers involved include 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 Giannemire, NP.

—Steve Fossett

Emmanuel Agu

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 Ken Tumay. “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 selection, design, and implementation of medical devices for developing countries. Mensah is principal investigator on the MLSC grant, and空军山口, 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

Danielle Cote

Receives Early Career Faculty Fellow Award

Danielle Cote, Harold L. Jurist ’63 and Heather E. Jurist Dean’s professor 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 W. Sears 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.

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 metallic, ceramic, polymeric, nanostructured, biological, electronic, photonic, and multifunctional.

Iannacchione 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.

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 Komagataebacter 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.

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Space is a valuable resource at WPI, and, despite the physical restraints of a small campus, there’s great value in students having physical spaces 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 (DIME) 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 College of 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 multi-faith worship space houses Gomper’s Closet, where students in need may request and receive clothing.

In addition, the Muslim Students Association (MSA) is working with Dean Debora Jackson, and Director of Multicultural Education & Community Engagement Arnold Lane Jr., to create WPI’s first formal affinity spaces—physical areas set aside for traditionally underrepresented groups—in addition to renovating some existing student spaces.

In Other Words, While Space at WPI Is Valuable, Students Feel Safe, Comfortable, and Fully Themselves in Peace.

—Mia Lumunden

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 unbreakable, 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 as they’re working 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 our 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 also for advisors, guides, and peers to help align 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 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 Mone, 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 Bambard Wamback

Dell’Aera was WPI’s first wrestler to qualify for the NCAA since 2020. Head Coach Matt Drey’s squad quadrupled its win total, posted better finishes in both the NEWA Duals and NCAA Northeast Regionals, and delivered the highest team GPA 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.) Aquatics 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.

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,” they admit. “I was 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 the 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 hit me 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 Bowery 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 safe, comfortable, and welcoming for LGBTQIAP+-folks—one that they don’t have to build themselves.”

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,” Schroeder says. “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.”
Crystal H. Brown  
ASSISTANT PROFESSOR IN THE DEPARTMENT OF SOCIAL SCIENCE AND POLICY STUDIES

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.

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.

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.

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.

BORGEN
This is the complete series DVD of Borgen.

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.

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.

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

PHOTO BY TODD VERLANDER

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

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.”

For more than 28 years, beginning with the Institute’s founding, creating a suddenly 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 Worchester. Educated in his native Connecticut and abroad in London, Gladwin was a successful artist with a studio on Worchester’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 affectionately remembered as a beloved instructor and welcome presence at WPI reunions long after his retirement. His art is on rotating exhibitions 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.

“The Archivist: Artist, Historian, and Teacher—Professor George Gladwin.” 
—University Archivist Arthur Carlson, assistant director of the George C. Gordon Library
A TIME OF RENEWAL

The first warm days of spring often tempt the winter weary to pause and enjoy the moment.
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’s 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—to 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’ve grown and how they are taking what they’ve learned and venturing forth into the world. I love to hear their stories.

What would you look forward to at WPI? I’m particularly looking forward to working with the campus community. When I asked 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.
Danielle Antonellis founded a nonprofit to reduce risk in vulnerable communities around the world.

BY AMY CRAWFORD
PHOTOGRAPHY BY DERRICK ZELLMANN
“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.

“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.
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, where 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 — we 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 $1,000 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 positively vive,” 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.”

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 IDP 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. 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.”

**“I HOPE THAT IN 10 YEARS WE WILL HAVE FIGURED OUT WHAT WORKS AND WHAT DOESN’T, AND WHAT CAN WE DO, AND WHOSE SUPPORT DOING THIS WORK COMPLETELY INDEPENDENTLY OF.”**
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 here and I’ve got to give them a hand.” He explains before disappearing again into the blurred background. It’s a fitting sendoff for his career at WPI, where he has spent nearly a decade designing lenses and developing optical systems for an array of applications.

Air Force’s U-2 reconnaissance plane. In that role, Delaney and his colleagues built high-altitude, multi-spectral cameras designed to capture 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 99.5 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.
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 analyze sublayers of a canvas’s surface, and the subsequent results are generally limited to the area sampled. “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 rarer 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 paint- ing contained just a handful of colors, which would make the spectral imaging “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 Pearl Earring, a four works in the National Gallery attributed to Dutch master Johannes Vermeer. The painting’s brush strokes 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 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 that the handling of the underlayer of paint in Girl with a Pearl Earring wasn’t every 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 Pearl Earring? Though the painting’s technique didn’t arise 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 Pearl Earring matched those of Vermeer’s core, 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 10-2 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 his underlayers, Delaney helped confirm a series of painted sketches that belied the abstract expressionist’s seemingly chaotic technique.

PHOTOS COURTESY OF THE NATIONAL GALLERY OF ART

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 his underlayers, Delaney helped confirm a series of painted sketches that belied the abstract expressionist’s seemingly chaotic technique.
DMITRY KORKIN HAS MADE THE COMPUTER A POWERFUL ALLY FOR UNLOCKING THE MYSTERIES OF BIOLOGY AND MEDICINE.

BY MICHAEL DORSEY
ILLUSTRATIONS BY MR. XERTY
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.

Biometrics 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 that it is possible for a single gene to produce hundreds of different proteins. In between the transcription of genes and the translation step, 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.”
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 Andrew Sali, now a member of the National Academy of Sciences.

Korkin has also been partnering with practicing clinicians. A recent paper in the European Journal of Psychiatry, 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 Keaplan Fund for Neuroscience Research. Established by Harry Keaplan Jr. 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 varying 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. “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.”

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**DIET, JUST BY ITSELF, CAN HAVE A PROFUND 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.**

**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.”

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 these interactions, in turn, may change the course of a disease, it may be possible to develop diagnostic tools that detect these 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.”

Much of the work Korkin tackles with his bioinformatics tools involves massive amounts of data. But many of the challenges of science are manifested at the alternative splicing level. “For me,” Korkin says, “the big question is, does biology follow the same principles that we understand at the DNA level.”

The team found that the shortest paths in complex networks are not random; rather, they follow fundamental laws of organization. With an understanding of these laws, 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.

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**FILLING IN THE HOLES**

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“For me,” Korkin says, “the big question is, does biology follow the same principles that we understand at the DNA level?” 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.
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.

ALUMNI NEWS

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

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!

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.

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

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

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.

ALSO INCLUDED FOR THE WEEKEND:
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
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 rundown, 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 was never 100 percent sold on civil engineering until I found skate park design.”

When he began skating at Green Hill Park during his time at WPI, it was a necessary outlet for all types of users. “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.”

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.
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 WPS 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 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 Placements 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 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’s 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 Aeger
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 32 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, sledging 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

“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

A Lifetime WPI Journey
ALUMNA HONORS PARENTS WITH ENDOWMENT.

WPI donor

“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
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CLASSNOTES
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1949
Howard Fitch was celebrated Wednesday, Oct. 26, in Manchester, New Hampshire, to celebrate his 90th birthday. He was featured in an article by Appriss Way Today, where he discussed his childhood, his education, his time in the U.S. Army, and his traveling job which he says is a very different life. He was a mechanical engineering professor at the University of Massachusetts Dartmouth for 40 years. “Yesterday, I went to the cardiovascular laboratory that I’m alive,” he said in the story, “and he says, ‘I still am.’ To celebrate his birthday, his hometown of Mattapoisett gathered for a town-wide party and parade.

1958
Bill O’Neil wrote, “My wife, Adele, and I have moved to our new Naples, Fla., home permanently after 52 years in Morristown, N.J.”

1959
David Bicknell’s novel first Frigate was reviewed by Bewingsa. The review described the novel as a “time-travel” fiction 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 Small 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 WPI Alumni News neighbor Jim Kachadorian [Winter 2023]. I really appreciate the digital version of the journal.”

1974
Adler Baruch 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 of what 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 it really excites.” 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, “Felted! In early 2013 after a 31-year career as General Motors as a project engineer, Bob Taylor (mechanical engineering technician at the GM facility) taught many of us how to weld and build things like Formula SAE race cars, became a lifelong friend. He insisted in everyone he touched that having fun while getting work done was possible. Unfortunately, Bob’s time with us was over at 58. Brenda, my lifelong partner, and I are living well in 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 Engineering and Management Science and Engineering at MIT. According to the announce- ment, “His areas of research include environmental effects on material behavior and component life, stress corrosion cracking and hydrogen embrittle- ment in Light Water Reactor systems, environmental degradation of nuclear waste canisters, and the effects of radiation on aqueous chemistry.”

1977
K H Abravanel was a 2012 recipient of the Heritage Foundation 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 Life 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 [the] ‘Ish’ [Bowman] ’77 recently at his home in North Reading as he was getting ready to move to Belton, Texas. My freshman year roommate E/R. Mac’77 was also there to send Noah off to a warmer climate with a few toasts of Jack Daniels."

1979
Gregory Phpoo was appointed general manager of the Reading Municipal Light Department. According to the announce- ment, “His areas of research include material behavior in mechanical systems, environmental degradation of nuclear waste canisters, and the effects of radiation on aqueous chemistry.”

1981
Gregory Phipps was named #13 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 ground-breaking 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 has served as president and CEO of Ajo Biosciences, focusing on the discovery and development of novel therapies for the treatment of severe neurological disorders. “Histogen’s focus is in developing potential first-in-clini- cal pan-caspase and caspase selective inhibitors focused on treatments for infections and inflammatory diseases is perfectly aligned with my scientific and industry experi- ence,” he said in the announcement. “I am excited to join the Histogen team at this pivotal point and look forward to working with them to advance the company’s caspase pipeline through clinical development.”

1982
Karin O’Neil was recognized as a 2022 recipient of the R. 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 donated time to programs that support and advance women in STEM.

1984
Michaela Sejersen was presented with the Massachusetts Bar Foundation President’s Award at its Western Mass. Granite Reception this past October. She works in intellectual property law as senior counsel for Eastman, a chemical manafacturing company. She also represents companies in a variety of industries, including solar and wind, in intellectual property and patent law with companies such as GE and spandex. She also serves on the leadership board of the Intellectual Property Owners Association.

1985
Beth Piatnik joined the board of directors for Springboard, 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 Inotia’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 Abram was named #28 in The Consulting Firm CEOs of 2022 by The Consulting Report. As president and CEO of BAE Systems, he is responsible for “maintaining the defense and space industry’s international operations and workforce of over 30,000.” He is also an executive director and officer on BAE’s Board of Directors and a member of the company’s executive committee. He serves in various other leadership roles at Lockheed Martin subsidiary leading and remained with the company following its acquisition by BAE in 2000.

1986
Rob Gradey was featured in a video of the firm of Gradey & Associates where he discussed “how brand leaders optimize their content to deliver the highest quality.” He is the CEO of ETIQ, a quality management systems company.

David Kadirat, CEO of Genuity, spoke with reporters about the company’s first human use of its “Vis-M” (High-Frequency Optical Coherence Tomography [OCT]) imaging system and probe. According to the announce- ment, “It provides an innovative and cost-effective technological advance for the field of neurointervention, making highly mechanic Spotlight imaging and 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...
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 Gayten 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 as 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 Fervoresource and Ameren Electric Power.

1988
Kathleen Ongahui won her campaign for the 19th Worcester District of the House of Representatives in November after 280 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 healthier, 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 corrid was a finalist for the Glastonbury Comm., 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 ERS 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 Levi Strauss.

Walter O’Day was appointed a member of the Eastern Seaboard (ESMA) Board of Directors. He is a recognized leader in the architecture and development and SQL database architecture and design. He is currently the director of ecommerce strategy at Berry Global.

1991
Toby Wyma was appointed general manager for Stone Age Management and Sports Facilities Companies in Rosen- burg, Texas. He leads the day-to-day operations of the Fort Bend County Epicenter, a 230,000-square-foot multipur- pose event center dated to open in July 2021. 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.

Michael Pitrew 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 Gasi was named to the 2022 Top Women CEOs in America of the Fortune 500 Companies list, coming in at No. 28. 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.

1992
Susie Vinell 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 Chit was appointed CEO of UNICEF USA, after serving 10 years as senior vice president, finance, for American multina- tional 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 benefi- ted from UNICEF-supported programs during his time in refugee camps in the Philippines and Malaysia.

1994
John Harrington is the co-founder and chief product officer at Highbyte, an industrial software and technology company partners with a focus on green initiatives.

1998
Dan Browe was named vice president of market intelligence by Clean Energy Associates. He is the former head of energy storage for Wood Mackenzie, he has 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.”

Toby Wyma was interviewed by Spaceflight Insider to discuss his career with NASA. As a human- rating, systems engineering, and marketing influencers of 2022.” She is the chief marketing officer at FieldRoutes, an IT services and consulting company.

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PETER KORFUZI ’24
WORCESTER, MA
- GREAT MINDS/COMPASS SCHOLAR
- CONNECTIONS PROGRAM
- SPONSORSHIP OFFICER, HIGH POWERED ROCKETEY 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 received as a Great Minds/COMPASS 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 80th 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.

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.

Lazaru Vihidik was appointed to the Board of Directors for Perform Line, 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 startup 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 Kery Murphy Haley Center for Health Innovation and Entrepreneurship at Babson College, has held various leadership positions in the healthcare technology industry, and founded HealthTech Ventures.

Andrea Sullivan was named to Worcester Magazine’s ‘20 Women to Watch in 2021. She is deputy director of the Worcester Jewish Community Center (JC), and also serves on the board of Women in Development of Central MA and the board of Friends of Wethersfield Park. She said, “My goal for 2022 is to continue to lead the JCC professional team to recover from the immense impact COVID-19 had on our community center. Our membershipe and programming were devastated by the pandemic, and we are working tirelessly to regroup our community, diversify our programming offerings, and become stronger than we were before March 2020.”

2001
Theresa Galvin was promoted to Fastpath practice director at ProofID. She 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 was a 2002 recipient of the Ichabod Washburn Young Alumni Award for Professional Achievement. She has project management experience through her work at Conigli Construction and currently oversees a $25 million renovation of buildings at Tufts University, Boston College, and Eagle Hill School. She became Conigli’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.

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 dangerous 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.”

2004
Tam 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 Cloud, 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 solutions systems 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’s.”

2005
Jody Staruk
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 USCIS 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.

2006
Thomas Collins was named to the Ichabod Washburn Young Alumni Award, Chapter of Limbach.”

2007
Pamela Lynch was project manager for 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.”

2008
Greg Cole joined AIM Medical Robotics as Chief Technology Officer. AIM Medical Robotics is a leader developing MRI-compatible robots and training for middle area around the world.

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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
JULIUS MCKENNA is a recipient of the John Boynton 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.

2013
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.

2014
Kathryn Gaither 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.

2015
Kareem el-Ghazali and Lena Hilliker were married on June 25, 2012, at St. Cecilia Music Center in Grand Rapids, Mich. Alex’s parents are WPI alumni. \[ \text{el-Ghazali ‘17} \] and \[ \text{Hilliker ‘17} \] were in a production of Shrek the Musical at the Northfield Community Theatre.

2016
Kjarnan Sari joined Arup’s fire team and process hazards, fire and compliance (PHBC) 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 Brossin ’12, Monica McCulley ’16, Hannah Brown ’17) were in a production of Shrek the Musical with the Northfield Community Theatre.

2017
Rebecca Barati and Kenny McPartlin were married on October 15, 2017, in Boston, Mass., at Gibbet Hill. She writes, “We had many WPI friends in attendance—both from Kenny’s fraternity (Sig Epi) and the rowing team (I rowed). Professor Steve Kmatzoff 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!”

2018
Tina Tivarski joined STRATEG Consulting as a registered fire safety engineer. According to the company’s announcement, “Tina 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.”

2019
Emily Morea writes, “I’m happy to announce that this past fall I successfully defended my PhD thesis, Sterilization and Post Processing of Biocompatible Polymers for Cardiovascular Stent Applications, at Queens University Belfast. Thank you to my supervisors, the Rodmac team, and everyone at Boston Science for this great experience!”

2020
Julia Kangaroo (MME) was featured in an article by SME for the humanitarian work he has done for Ukrainians soldiers and civilians. As project manager of the 3D Printing for Ukraine initiative, he works to bring much-needed humanitarian aid 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 Cytl.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
Some trees he has identified are used in about 50 municipalities in the Northeast. His company has now partnered with civil engineering firms and its technology has been used in about 50 municipalities in the Northeast.

2021

Jack Rodica was featured in an article by The Townhall 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.

2022

Jorgi Gahe received the WPI Graduates of the Last Decade (GOLD)’s “10 Under 10” award for outstanding achievement. 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.”

Stephania Tam reports, “I am happy to announce I will continue my learning at Neuraxis, where I 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 experiences, I have been welcomed and supported by incredibly positive and passionate individuals. I look forward to seeing how my undergraduate experience translates to a corporate 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, Emanuel 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
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 a systems analyst for 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 Parish 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 Dorney

Hugh Brautigam '43, ME, SIGMA ALPHA EPSILON, Pawcatuck, R.I.
Robert Appenreiter '46, ME, New Carlisle, Ohio
Walter Scantlon '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 Holocher '53, CH, SIGMA ALPHA EPSILON, Sudbury, Mass.
William Schennenmann '54, EE, ALPHA EPSILON PI, Union City, Calif.
Robert Crane '57, EE, MS EE, PHI EPSILON E, THETA CHI, New London, Conn.
Leonides Xarras '58, PHI SIGMA KAPPA, Leominster, Mass.
Clifford Dew '59, CE, Dublin, Calif.
Walter Wajda '60, EE, Santa Maria, Calif.
Kenneth Parker '61, CE, SIGMA EPSILON, Barrington, R.I.
John Loke '63, ME, PHI KAPPA THETA, Emmaus, Pa.
Richard Carle '64, EE, TAU KAPPA EPSILON, Extonton, Ill.
James Maroney '66, MG, PHI KAPPA THETA, Altherton, N.H.
Clinton Inglee '67, ME, SIGMA EPSILON, Summerfield, Fla.
David Zotek '69, EE, MS EE, Fairfax, Va.
Kenneth Szeffin '74, MA, South Orleans, Mass.
Brian Carpenter '75, MA, North Scituate, R.I.
Roger Nowlin '75, MS MG, Fitchburg, Mass.
Paul Gardner '78, MS MG, Berlin, Mass.
Richard Ellison '82, EE, Norton, Mass.
Mark Lepikowski '82, EE, Webster, Mass.
Frederick Klich '82, EE, Northampton, Mass.
Gary Carey '83, BS EE, MS EE, Milbury, Mass.
Randy Lo '83, CHE, Taipei, Taiwan
Bridget McGuiness '83, CE, Lynn, Mass.
Donna Crosse '84, ME, Troy, Ohio
John Tyer '84, EE, efferson, Mass.
John St. Yves '84, SIM, Leominster, Mass.
Lee Evans '89, EE, Hudson, Mass.
Elyse Levy '90, MBA, Brockline, Mass.
Gregory Ulinski '91, MS E10, Milbury, Mass.
Jonathan Grover '18, G35, Groton, 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 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
TOMMY DELLABE' 24 COMPETED IN THE 2023 NCAA DIVISION III WRESTLING CHAMPIONSHIPS IN ROANOKE, VA. READ MORE ON PAGE 11.