

JOURNAL

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Youthful
VISION

JENNIFER KAMARA '12

IS HELPING
IMPROVE
HEALTH AROUND
THE WORLD,
ONE CLINIC
AT A TIME.



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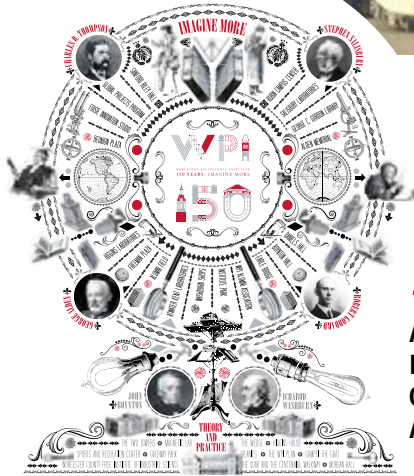
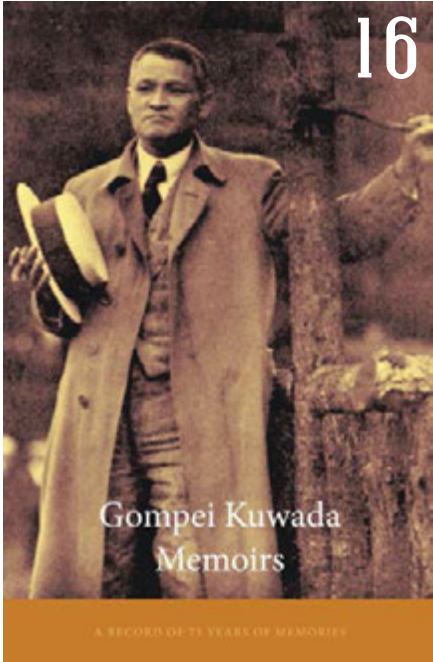
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WE WANT TO HEAR WHAT YOU HAVE TO SAY! PRAISE US OR PAN US, SIMPLY SHARE BY SUBMITTING YOUR LETTER TO EDITOR DOREEN MANNING AT DMANNING@WPI.EDU

Letters may be edited for length and clarity.



WATERED DOWN

I agree with David Spencer (Class of 1966) in the Winter issue of the *Journal* regarding WPI diversifying its curriculum so much that it is watering down the original intent of the college.

Members of my family from three generations have graduated from Worcester Tech (since 1918). My son was considering WPI, but opted for a state university since it cost about half of WPI's tuition. He graduated with a BS in mechanical engineering this spring. I admit that he saved the costs for room and board by living at home. However, his total student loan debt will be around \$50,000.

Colleges that have a highly diversified liberal curriculum charge outrageous tuition. Yet the degrees have little value, since most graduates must go to graduate school in order to find a decent paying job.

Science and technology are the pathways to the future. And, most parents and students know that gaining an education in these areas will afford a liveable lifestyle. After all, hasn't that always been the intent of technical colleges like WPI? That is, accelerate the technical knowledge of young students, so that they can immediately enter the workforce and earn a middle-class income.

—Bruce Green '69

OBIT GRIEVANCE

I was sorry to read in *WPI Journal* that Bob Chapman '52 had died. Bob and I were teammates on the WPI basketball team. I realize that the *Journal* is appealing to the younger generation but I think it's a damn shame that a guy like Bob, member of Skull, basketball player, SAE member, EE graduate, Pratt Whitney manager, gets a simple name and class year in the magazine. It seems only big donors get any recognition for what they have achieved. How soon we are forgotten. My classmate Dave Van Covern had similar remarks on page 9 of that issue.

—Dan Hoch '53

ROLE MODEL

I may have missed an article, or two, over the years, published in the *WPI Journal*. So, my comments may be redundant. However, having just received my Winter 2015 copy, my mind jolted back to my undergraduate years at WPI.

The striking reminder that I had was seeing young Leslie Small '72, one of the first two co-eds at WPI, who became freshmen in my sophomore year. I always felt that Ms. Small was a "plant" placed into

WPI to prove that women cannot only academically compete at WPI, but can excel.

I never had the opportunity to sit and chat with her, she was unreachable to us nerdy engineer students, and she didn't seem to fall into the fraternity party crowd. Ms. Small was—I know I will sound sexist—an extremely attractive young woman who, one could clearly see, had one and only one goal in her mind. That goal was to exceed in her education and take full advantage of what WPI had to offer. She continued on and received her degree in mathematics with a 4.0 average. I hate to use the word average, because 4.0 is perfect. I never saw a follow-up on her career, but, if you attended WPI in that era, she was a role model for all women to follow and to never feel intimidated to pursue a discipline in, what is referred to nowadays, as STEM programs. Though we never chatted, I would like to take this opportunity to say to Ms. Small: "I admire your focus, goals, and intelligence."

—Pete Markunas '71

PEACE OUT

With reference to David Spencer's letter in the Winter 2015 *WPI Journal*, I totally agree. This focus on project-based education may be enlightening to students to some extent but detrimental to their engineering careers and the reputation of a respected institute. The Peace Corps (of which I was a part for two years, '72 to '74) is much better equipped to handle this sort of endeavor. If the students are interested, let them join after they graduate. They should be focused on engineering while paying tuition.

—Robert "Mike" Malbon '63

DIFFERENT PERSPECTIVES

I have to give you credit for publishing the very negative views of David Spencer '66 in the Winter 2015 issue. I have a different perspective on the Plan.

I enrolled in WPI in the class of 1978 explicitly due to the flexibility offered by the Plan. I had compared several other universities for computer science programs and did not appreciate having to spend two years on the "core curriculum" before really digging into CS. I ended up completing my BS requirements and graduating with the class of 1977. I guess I was impatient.

What I found after starting my career at IBM is the several projects in my IQP, MQP, and final qualifying exam prepared me better than my peers. I was more experienced at dealing with groups of collaborators with differing skills and outlooks on life. I was

better at dealing with ambiguity—a trait in my role as enterprise architect that proved more valuable than you would expect. David Spencer said it was “fine for music and art majors” — that was certainly not my experience — but I do have a fondness for Pink Floyd and Led Zep.

Years later I toured WPI with my son Nicholas. He ended up choosing Stevens Institute for a major in mechanical engineering. His choice was driven by his personal preference for a more structured curriculum. Perhaps Mr. Spencer should realize that there is a “plan” for everyone. WPI has chosen a concept that worked well for me and a number of other fellow graduates. As Louis Blanc wrote, “From each according to his ability.”

—David Makris '78

POINT MISSED

In response to David Spencer's comments in the Winter 2015 *Journal* criticizing WPI's project focus, I respectfully argue that he is missing the point. However, before I go there, I will refute some of Mr. Spencer's statements.

I do not know how many other colleges have gone project-based. I do know that project-based learning has become a significant part of the curriculum in many, if not most, engineering schools. MIT, Stanford, and Clarkson, among many others, all have project-based learning as a component of their education. One need only search for Project Based Learning (PBL) together with the American Society for Engineering Education to uncover a multitude of papers on the positive impacts of PBL in an engineering curriculum. Thanks to Bill Grogan, John van Alstyne, and many others, WPI has been the leader of this transformation for over 40 years.

The level of innovation that takes place at the undergraduate level is staggering compared to the type of projects that were done during my time as an undergrad. As a judge for the Great Problems Seminar presentations, a member of the WPI Venture Forum, and a member of the Technology Advisors Network, I am exposed to the innovation that takes place on campus. I am frequently amazed by how these young men and women are capable of utilizing technology to create solutions to problems. And that is the point.

If you ask the management at United Technologies, Bose, IBM, Boston Scientific, and the hundreds of other employers why they hire WPI students over those from other universities, it's because they solve problems. Not only because they are good engineers and scientists, but because they are able to work

in a team environment. Because they are able to communicate their ideas. Because they are resourceful and they innovate.

Sending an undergraduate engineer to a third world country for project work not only fosters these business-critical skills but also imparts upon the students their ability (to President Leshin's point) to positively impact our world. Theory and practice. The project system at WPI is the underpinning of our ability to turn out smart, versatile, and well-rounded engineers. I'm looking forward to where we can take it from here.

—Phil Cyr '86, '02 (MBA)

KEARNS COMMENDED

It was with great pleasure I read the recent article on Kearns '83 [Winter 2015] — it brought back so many memories! Joel worked with ME professor Bill Durgin and me (EE at that time) on the MITRE–WPI Space Shuttle Experiment Get Away Special Canister (GASCAN) projects program for several years, being responsible for the design of the structure that supported the experiments other student teams were designing.

This was no trivial task for an undergraduate student in that the structure had to support all the experiments and battery box: it had to be protected against battery and other potential chemical leakages and off-gassing; it had to be designed to specific vibration and shock parameters; and, of course, it had to be limited in weight.

Using a combination of composite materials and aluminum, and extensively evaluating the various designs using CAD SW, Joel eventually came up with a design that was both functional and elegant, and met or exceeded all of the design parameters imposed by the NASA GASCAN program.

The success of the experiments was in no small part a direct result of the work Joel did on the structure, managing all of the safety aspects of the structure design, and working with the various experiment teams to integrate those experiments into the structure so that it continued to meet all of the NASA imposed safety standards. That structure can now be seen in the Atwater Kent “Pumpkin” lounge, where the original GASCAN that went into space on-board Columbia is on display.

I can only imagine how much more we'll hear about Joel as he continues in his space-flight career!

—Fred Looff

*Professor of Systems Engineering, and
Electrical and Computer Engineering*

STIMULATING CONVERSATION

You've found a clever way to stimulate letters by publishing those like the “Deficient Concept” letter in the winter issue and inviting response. Hopefully, there already have been a lot from those who graduated under the WPI Plan and can extol its virtues firsthand. I'm sure I'll be seen as an insider with favorably biased views. Nevertheless, in the event that you may find my thoughts on the subject useful, here they are.

The letter [from David Spencer] is worthy of response, if only to refute its many erroneous statements. As a member of the Board of Trustees for over 25 years and an alumni leader prior to that, I have followed the continuing evolution of the WPI Plan with much interest and careful attention.

The contention that the WPI project-based education is not being pursued by other leading STEM educational institutions (and others, as well) is uniformed at best. The Institute on Project-Based Learning, in association with the American Association of Colleges & Universities, has drawn so much interest that it has been heavily oversubscribed four months prior to its initial offering. This not only demonstrates WPI's leadership in project-based learning but the great institutional interest that exists in this approach to learning. Alumni should avail themselves of the opportunities provided by WPI to attend student presentations on their completed projects. As a member of the Board, I had many such opportunities, and found the presentations impressive and the learning experiences described by the students truly transformational.

The contention that undergrads lack the ability to innovate in a third world country (or anywhere else) ignores the many innovations and contributions described in this publication as well as those regularly described on the Interdisciplinary and Global Studies pages of the WPI website. The fact that WPI has so many project centers around the world, all sponsored by local agencies, finds that WPI students have much to contribute in addressing real existing problems.

Finally, I would note the ever-improving stature that WPI enjoys among STEM universities as measured by the continuously increasing number of applications for admission that the university receives and the quality of the entering classes, as measured by any existing standard.

—Paul Bayliss '60

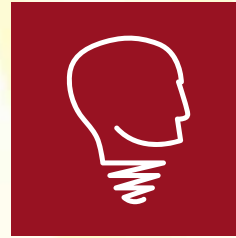
MEET THE CHALLENGE



GIVE
what you can



MAKE
a difference



INNOVATE
the future

Dorothy and Richard Weiss '42

Richard Weiss was an active and involved member of the WPI community, both as a student and alumnus. He was also a consistent donor to his alma mater. Richard died Oct. 7, 2013; Dorothy, his wife, continued his philanthropic legacy at WPI. As Alden Society members, they were recognized as those who have made planned gifts to WPI, most recently with generous commitments totaling over \$2.5 million to create a space in the Foisie Innovation Studio where student work will be displayed. With this gift, Dorothy also established the Weiss Jazz History Database and the Dorothy and Richard Weiss '42 Endowed Scholarship.



Dorothy Weiss, who died on May 11, 2015, did her part to make the Foisie Innovation Studio a vibrant center for collaborative learning, impactful research, and transformative projects.

Look forward with us, just as Richard and Dorothy did over the years. If we raise \$9 million together, the Alden Trust will invest another \$3 million to make the Foisie Innovation Studio a reality.

Every gift makes an **impact.**

 wpi.alumnifund.me



THE VIEW FROM HERE

Dear Friends,

My first-year journey at WPI can be summed up in one word: Amazing.

After 12 months on campus and extensive travels that have taken me throughout the region, the country, and the globe, amazing is the only word that captures what I have seen and experienced. Every day I have become more and more impressed by the innovative and important work we do here.

My enthusiasm for the innovation and creativity taking place at WPI began early on. Less than two weeks into my presidency, I attended an event at the White House hosted by the Office of Science and Technology Policy. I watched demonstrations of life-saving robot technologies, including the Smart Emergency Response System – technology developed at WPI that can help first responders and other emergency personnel locate disaster victims.

While I was in Washington, NASA arrived on our campus for the start of the Sample Return Robot Challenge. This Centennial Challenge competition, held over three days, led up to our annual TouchTomorrow festival of science and technology. At TouchTomorrow, I had the thrill of seeing thousands of guests, of all ages (including, no doubt, some future WPI students), enjoy demonstrations of our graduate research and student project work across a wide range of disciplines, as well as tours of some of our state-of-the-art teaching and research labs. The day made a wonderful impression on our visitors...and me.

What has really made a lasting impression on me as I've traveled the globe is the vast number of tremendously talented WPI alumni who are making contributions in STEM fields and in many critical industries. For example, on a trip to Panama last November, I was impressed by the important work WPI alumni are doing on the \$5.25 billion Canal Expansion Project, which will double the canal's cargo capacity. Starting this month, five WPI students (all women, incidentally) will work hand in hand with those alumni and other engineers on this massive civil engineering project.

My visits to WPI's project centers on Wall Street and in Thailand, China, Silicon Valley, and Worcester not only brought me closer to our impressive alumni base, but also provided powerful evidence of just how extensively our alumni lend their support to our undergraduates and graduate students as they work on groundbreaking engineering and business projects around the world.

I'm so proud of all of our alumni-student partnerships, which are marked by cooperation, team-building, and shared interests. These mutually beneficial relationships have enabled the greater WPI community to tackle important global problems while bringing about meaningful and lasting change in the world.

In this edition of the *WPI Journal*, you'll read stories of alumni who are having exactly that kind of impact on some of the most important transportation, health care, and business issues of our time. I'm looking forward to seeing the members of the newly minted Class of 2015 grace these pages in the future as they showcase their own world-class business ventures and projects and unleash their creativity and problem-solving skills to effect real change.

From my vantage point, WPI's destiny sits squarely at the intersection of opportunity and community. There are extraordinary opportunities in front of us; to seize them we must have a community of extraordinary people. And we do, as my first-year experience has made so clear.

I look forward to working with that community, which includes all of you, in the months ahead to seize those opportunities and take this 150-year-old Institute in some exciting new directions.

Let the journey continue!

Sincerely,

Laurie A. Leshin
President

ALDEN SOCIETY

MEMBERSHIP DRIVE—JOIN TODAY!



“Scholarships were invaluable to me. I couldn’t have gone to WPI without them. That’s why we decided to establish a scholarship at WPI through a planned gift, to help the next generation of students.”

— Tom Newman '64 and his wife, Bonnie



WPI



ALDEN
SOCIETY

HAVE YOU INCLUDED WPI

in a will or trust?

in a life income gift?

*as a beneficiary of life insurance,
IRA, or other retirement account?*

Let us know and we'll welcome you into the Alden Society. Membership is about giving you recognition NOW for your plans to support WPI in the FUTURE. To join, visit plannedgiving.wpi.edu.

FOR MORE INFORMATION

Contact Donna K. Stock
Executive Director of
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888-974-4438
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A SCIENTIST AND A SCHOLAR

WPI'S NEW PROVOST BRINGS A PASSION FOR TEACHING, LEARNING, AND RESEARCH

On June 1, Bruce Bursten joined WPI as the university's new provost. Previously Distinguished Professor of Chemistry and dean of the college of arts and sciences at the University of Tennessee at Knoxville, Bursten is co-author of the leading textbook *Chemistry: The Central Science*, now in its 13th edition.

TEACHABLE MOMENTS

As an undergraduate, I took a graduate-level biophysics course in X-ray diffraction taught by an amazing man, the late Professor Paul Sigler a renowned expert in determining the structures of large biological molecules. That course set a new bar for me in the degree of mathematical rigor, combined with an infectious passion for what he was teaching. **I remember at the time hoping that I could someday be as effective at connecting with students as he was.**

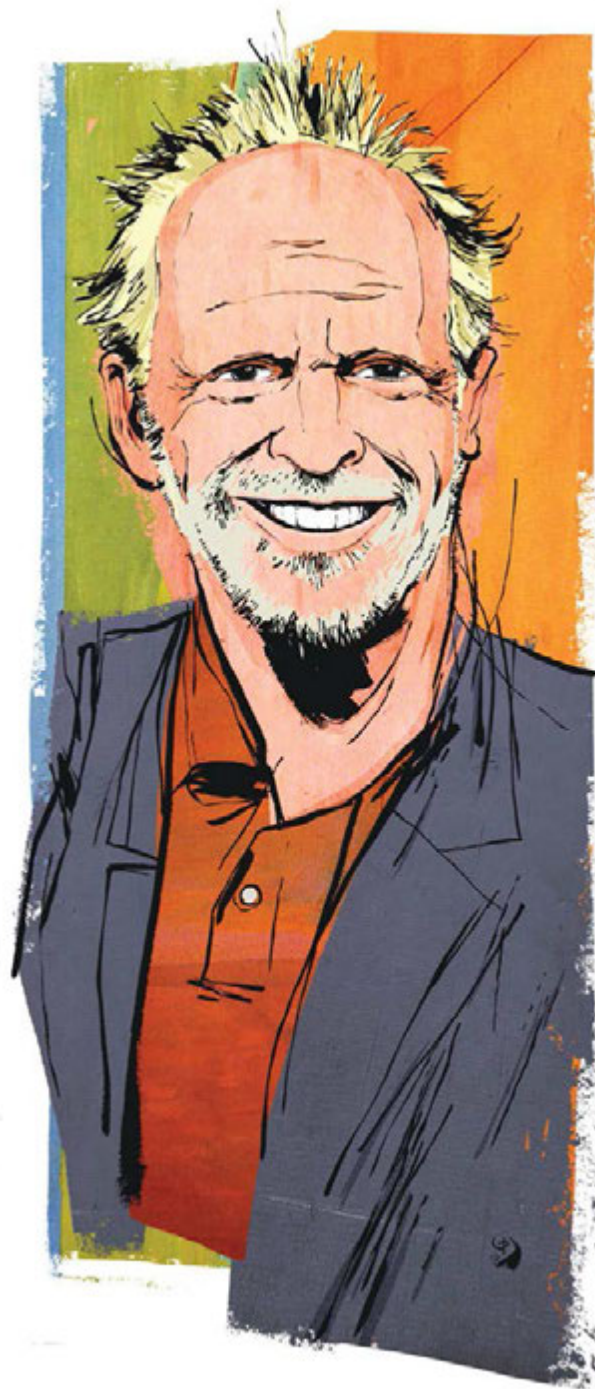
Later, when I taught first-year chemistry for the first time, I had that daunting experience of going into a large lecture hall and realizing that I was in charge. It turned out to be a marvelous experience, especially **"the light bulb moment"**—when we as teachers light up that new way of thinking in students' minds.

THE RIGHT CHEMISTRY

I was drawn to chemistry in part because of a love of mathematics. When I took first-year chemistry, it offered a fascinating look into mathematics while also having the breadth of real-world substances that have such an impact on humanity. I guess I could say that it was **my first experience with "theory and practice."** Our world is made from the elements of the periodic table, and the impact of chemistry in disparate areas has been remarkable.

SECRET SUPERPOWER

I am still awaiting my provost secret decoder ring to provide those superpowers. In my experience, the best provosts are superb at setting an overall vision for academic excellence, crafted by working with great people at a university. It should largely be a position that offers **optimism, empowerment, and enabling**—essentially allowing talented students and faculty to achieve their full potential, and determining what is needed to advance to the next level.



KING OF THE NERDS

JONATHAN ADLER MAKES ROYAL STATUS ON REALITY TV

This past spring, Jonathan Adler '07 ('09 MS) beat out 12 housemates competing in various STEM-related challenges to determine who is *King of the Nerds* during Season 3 of the TBS reality TV show.

Adler, who received his bachelor's and master's degrees in mathematics, is a Rhode Islander now living in Arizona. He went on to earn a PhD in industrial engineering at Arizona State University and now works as an advanced analytics consultant at Promontory Growth and Innovation.

One challenge required the building of a Rube Goldberg machine. In another, competitors were asked to steer remote-controlled golf carts pushing exercise balls across a course, and to hit marked goals.

Adler says his WPI education – and, specifically, MQP projects – were invaluable while on the show. “They give you a pile of parts and you have to decide what to do with it. There’s no teacher telling you exactly what to do,” he says. “It was amazing how there weren’t many people in the challenge able to do that.”

So what will the King do with his \$100,000 cash prize?

His original dream was to buy a Tesla electric vehicle. But now that he’s actually won, he feels he should do something more responsible with the money. “I think it’s important I do something nerdy with it.”





I lead a top
technological
university
#likeagirl

—TWEETED BY President Laurie Leshin (@LaurieofMars) during Super Bowl XLIX in response to an ad that deconstructed the common insult "You throw like a girl."



► QUOTABLE

“PEOPLE THINK ‘HEY, THIS IS GREAT, I’M GOING TO PLAY VIDEO GAMES ALL THE TIME!’

AT WPI STUDENTS LEARN THAT IT’S HARD TO CREATE COMPELLING AND LONG-LASTING VIDEO GAMES. THE TECHNICAL PEOPLE NEED EXPOSURE TO MAKING ART, AND IT’S NOT UNCOMMON FOR ARTISTS AT WPI TO TAKE CALCULUS.”

—IMGD Director Rob Lindeman
on WPI’s ranking as one of the nation’s
Best Video Game Colleges



PHOTO BY BEN BOCKO

CLOSE ENCOUNTERS WITH THE HUMANITIES

POETS, PAINTINGS, AND PRISONERS COME TOGETHER IN CLEMENTE CURRICULUM

The Clemente Course, a program of Mass Humanities, offers free college-level courses in the humanities to low-income adults. With WPI as the lead partner, and with support from several other area schools and organizations, Worcester recently became the fifth site in Massachusetts to offer the program. Worcester's active poetry scene and the Worcester Art Museum (host of spring session classes) are assets that "bring the humanities off the page," for Clemente students, says WPI humanities professor Jim Cocola, who serves as academic director for the Worcester program.

"Clemente is a great dismantler of stereotypes," Cocola says, noting that some students come in with the equivalent of a third-grade education, and others might be a few credits short of an advanced degree. The mix includes

17-year-olds and senior citizens and immigrants from all parts of the world, all of whom have had limited access to higher education for a variety of reasons.

"Being in the room with that kind of diversity is one thing," says Cocola. "Encountering the great works of the human imagination in the presence of that kind of diversity is another thing altogether."

The classics take on different nuances in this diverse group. Cocola notes that when reading Walt Whitman's "Song of Myself," some students might quarrel with the poet's assertion that "what I assume you shall assume." Others might take issue with Whitman's pedigree ("Born here from parents the same, and their parents the same"), or scoff at his leisure to "loafe at my ease observing a spear of summer grass."



“These students are not afraid to challenge, question, impugn, or reject ideas that don’t hold water with them,” Cocola says. On the other hand, Martin Luther King’s “Letter from Birmingham Jail” might resonate differently with students who have had firsthand experience with violence or injustice.

Cocola sits in on every session of the sections taught by other instructors. He was especially moved by a discussion of John Stuart Mill’s *On Liberty*, led by WPI professor Ruth Smith. He recalls watching as two students who had spent time in prison grappled with Mill’s concept of freedom and free will. “They were thinking about these questions in a very different way,” he says. “I see moments like that every single day when I observe. You can see the humanities at work in those moments.”

—Joan Killough-Miller



BETC LEADS THE WAY FOR BIOMANUFACTURING TRAINING

WPI’s Biomanufacturing Education and Training Center, a unique facility that educates industry leaders and WPI students alike, grew from a single WPI course. In 2007 WPI offered the superbly successful Fundamentals of Biomanufacturing. The desire was there to expand on that one class—and within a few short years, the BETC, with its state-of-the-art facility and labs full of multimillion-dollar equipment, was born.

The Center provides customized training, education, and hands-on lab work tailored for corporate employees and for individuals considering a career change. But the BETC isn’t just for established workers—it’s also meant to give WPI students an edge over their collegiate contemporaries who don’t have immediate access to such opportunities.

With academics and industry professionals on staff, there’s a dual focus to training, according to Kamal Rashid, BETC director and WPI research professor.

“We mix theory into practice and help [BETC students] learn how to do their jobs in an efficient, appropriate way,” Rashid says. “Because efficiency leads to productivity and productivity leads to economic growth.”

—Alison Baitz



IRRATIONAL RUN

It was chaos on the Quad as more than 200 runners traversed the campus for WPI's first Irrational Run, held 3.14.15 to celebrate Pi Day.

Numerous alumni turned out to join the campus community in circumnavigating the 3.14-mile course (run in three circuits), starting under Earle Bridge, passing the fountain, and finishing at Freeman Plaza. Gompei the Goat fired the starting pistol, and 15:59 minutes later, Deniz Karakoyunlu '07 (MS ECE, '10 PhD) took first place. Chief marketing officer Amy

Morton, who organized the inaugural race, says, "In 2015, Pi Day has a special meaning, not only because it is WPI's sesquicentennial year, but because it adds the next correct digit to pi." At 9:26:53 a.m., when > 0.43877 percent of runners had completed the course, the clock and the calendar aligned to represent 10 digits of pi.



UNCLE SAM WANTS YOU

CYBERCORPS SEEKS SCHOLARS WILLING TO SERVE IN THE WAR ON CYBERCRIME

To bolster the nation's cybersecurity workforce of qualified professionals, WPI has been awarded more than \$4.4 million in grant funding through the National Science Foundation's CyberCorps: Scholarship for Service initiative. The five-year grant will provide tuition and stipends for 25 students (U.S. citizenship required) with a demonstrated interest in the field. In return for their scholarships, CyberCorps graduates agree to work in a federal, state, local, or tribal government in a position related to cybersecurity for a period equal to the duration of the scholarship.

WPI has been active in cybersecurity research since 1995, and the university was recognized as a National Security Administration/Department of Homeland Security Center of Excellence in Information Assurance Research in 2013. The CyberCorps program will leverage WPI's existing cross-disciplinary strengths to educate the next generation of experts, with course work in technical subjects as well as management, policy, and behavioral aspects of cybersecurity, such as privacy.

"Every research university is increasing its presence in cybersecurity," says professor and program director Kathi Fisler, principal investigator on the NSF grant. "There are lots of hard problems and a lot of research money in it. But we do security education because we have a responsibility to our students, their employers, and those who use the products we help create. This grant is going to add a lot of energy and new activities to our cybersecurity education programs. Watch for additional courses and more security-related talks in the coming years."

NUCLEAR SURGE

NRC GRANT BOOSTS NUCLEAR ENGINEERING PROGRAMS

When nuclear power was seen as a viable, if controversial, power source, a surge of student interest helped WPI's nuclear engineering program flourish for decades. Young engineers graduated ready to work at power plants, with hands-on experience at WPI's Leslie C. Wilbur Nuclear Reactor, which was added to the Washburn Shops in 1959.

But when other power sources gained favor, the industry, and WPI's program, waned. Classes scaled back, and the reactor was decommissioned in 2011.

A recent influx of \$1.1 million in Nuclear Regulatory Commission (NRC) grants shows WPI's nuclear engineering program is picking up steam as students seek training in nuclear energy's new possibilities, says David Medich, assistant professor of physics. The grants will fund curriculum development, undergraduate

scholarships, graduate student work, and faculty development and research.

WPI's graduate certificate program in Nuclear Science and Engineering reflects the demand for experience in nuclear engineering, nuclear science, and the burgeoning medical and health physics field where radiation is used to treat and manage diseases. "The old program was geared toward operating a power reactor," says Medich. "Now many jobs are in the medical field."

Rolling with industry changes doesn't change WPI's overarching goal. "As the medical industry progresses, they will need more people who are trained in it," says Rick Sisson, professor of mechanical engineering. "And there's still a need for reactor operators and nuclear engineers."

Medich and Sisson hope the program continues to garner interest and possibly evolve into a major.

"We are looking to make really good engineers and scientists who have a solid foundation and can make contributions to the field," says Medich.

—Julia Quinn-Szcesuil



AFTER THE FALL

CE STUDENT'S THESIS HELPS RESTORE A RENAISSANCE MASTERPIECE

When a priceless marble sculpture toppled to the floor of the Metropolitan Museum of Art, it seemed like an irreplaceable piece of art and history had bitten the dust. Carved by Tullio Lombardo in 1490–95, the statue depicts Adam, the Bible's "first man," wearing a fig leaf and holding an apple.



The fall, caused by the collapse of the plywood pedestal supporting the statue, occurred a bit after closing time on a Sunday in October 2002. All the king's horses and all the king's men – that is, dozens of experts from a variety of disciplines – came together in the painstaking task of literally piecing the artwork back together. But sometimes it takes an engineer's touch.

WPI civil engineering graduate student Jessica Rosewitz, under the tutelage of her thesis advisor, assistant professor Nima Rahbar, assessed the best material to repair the statue's ankles and its left knee. "The great part of engineering," Rosewitz says, "is the combination of mechanics of materials and design theory, and the ability to adapt these sciences to any situation."

In this case, that meant performing finite element analysis to compute physical load tests on 8-inch-tall, 6-inch-diameter marble cores. The

cores had been cut at 45-degree angles, drilled, and then pinned back together using a half dozen different pinning materials.

After running stress simulations, the WPI researchers presented their results to the restoration team. Rosewitz explains that their work quantified "the internal densification damage by compression and splitting by tension in the marble around the pinhole," she says. "We found that a weaker pin such as fiberglass is a better choice than the traditional steel pin."

The restored statue was returned to public view in November, more than 12 years after the accident that shattered it into in 28 larger fragments and hundreds of smaller bits and shards. Rosewitz, who is basing her master's thesis on the project, says the experience helped her recognize the need for more engineers in historic preservation.

– Taryn Plumb

Met staffers at the Metropolitan Museum look on as Adam's head is reunited with his body.

Photo: Christopher Heins, Metropolitan Museum of Art Photograph Studio

THIS WON'T HURT A BIT

Volunteers from the WPI community rolled up their sleeves to assist with an effort to develop a robotic phlebotomist that might be pricking your arm in the near future. Dubbed "PhleBot[®]," the MQP advised by professors Greg Fisher and Patrick Flaherty is a project of WPI's Automation and Interventional Medicine (AIM) Robotics Research Laboratory. The challenge is to create a robot that can outperform humans at drawing blood samples, which would free up care providers to spend more time on more pressing patient needs.

Designed to be portable and comfortable, the device employs a cylindrical chamber that accommodates the patient's arm, with inflatable cuffs to stabilize the forearm. A motorized needle insertion mechanism (with a spindle drive accurate to 86 μm) positions the needle, equipped with a force sensor to regulate pressure.

PhleBot relies on near-infrared (NIR) imaging with contrast filters to locate veins. An image processing algorithm then determines the best site to stick—a skill that requires tactile sensitivity and some trial and error for human phlebotomists.

That's where the volunteer guinea pigs came in. At WPI's Health Care Delivery Institute, subjects bared their arms for infrared photos of their veins. By analyzing the images, the team will determine which NIR wavelength works best for visualizing veins.

"So many people tell us they've had to endure several needle sticks before a phlebotomist was successful," says team member Paulo Carvalho '15. "PhleBot would also drastically reduce needle stick injuries to medical personnel." Anurag Kesari '15 calls PhleBot the first step in the direction of intelligent point-of-care systems. He says, "Imagine if you could just walk into your local pharmacy and there's a little device into which you place your arm. Within minutes you could have a blood sample taken. That is the future of healthcare."

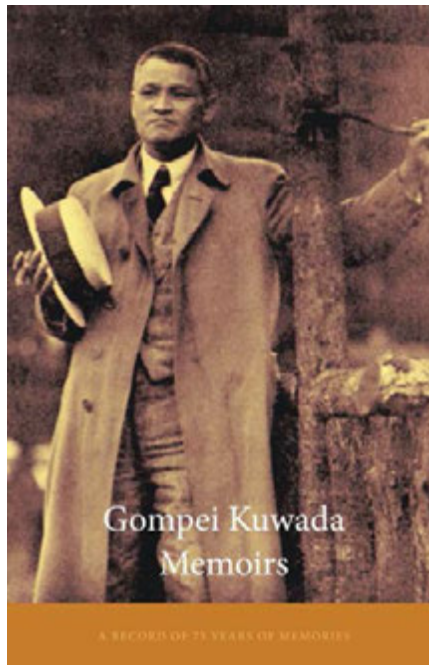
The students will present their work at the ASME International Design Engineering Technical Conference this summer.

GOMPEI TELLS ALL

ENGLISH TRANSLATION OF
KUWADA'S AUTOBIOGRAPHY
REVEALS THE MAN BEHIND
THE LEGEND

Depending on when you graduated from WPI, you might know “Gompei” as a cuddly mascot, or as an imposing bronze statuette with a huge head. Everyone knows the tale of Gompei Kuwada, a Japanese student in the Class of 1893, who was WPI's first—and last—actual Goat Keeper. (The matter of how Mr. Kuwada dispensed with the messy business of caring for a live goat is best left to the history books.)

But that's just one chapter in the life of a highly accomplished man. At the age of 74, Kuwada set down memories of his life as a student, an industrialist, and a world traveler who maintained friendships all over the globe. With vivid recall, he tells of learning English as a schoolboy and sailing to America in 1884. Young Gompei studied hard at WPI, but still made time to join friends for a late-night hot dog and coffee from a horse-drawn cart in Worcester. He cherished his Worcester ties and was pleased to



reconnect with WPI friends after World War II, when postal service between America and Japan resumed.

WPI learned of Kuwada's memoirs in 2011, through Arata Ichikawa, a relative who came to Worcester to learn more about his great-grand uncle. At Homecoming 2014, Ichikawa returned to WPI to celebrate the publication of an English translation of *Gompei Kuwada Memoirs: A Record of 75 Years of Memories*. Executive director of Alumni Relations Peter Thomas spearheaded the translation and publication. He says, “Reading the book, I learned a lot about the man who had no hesitation about jumping on a boat to pursue new technologies. [It] details the life of an incredible entrepreneur. Gompei was a spindle manufacturer in Japan and helped standardize the industry. He traveled all over the world to bring new technologies back to Japan.”

Translation was done by Tim Momose '13, who grew up Japan and graduated from WPI 120 years after Kuwada. He took great effort to figure out how to read the old *kanji* (Chinese characters used in modern Japanese) and to understand the context of Kuwada's era. Momose says, “As a student from Japan who studied in the United States, I was able to particularly connect with Mr. Kuwada's experiences of adapting to a new culture and adapting back to his native culture after his return. I hope that my translation has preserved the depth of the original autobiography.”

BIG DATA: TUMOR CELLS AND CANCER TREATMENTS

Just as cancer is not a single disease but a collection of many diseases, an individual tumor is not likely to be composed of just one type of cancer cell. In fact, the genetic mutations that lead to cancer in the first place also often result in tumors with a mix of cancer cell subtypes.

A WPI team has recently developed a new statistical model that uses an advanced algorithm to identify these multiple genetic subtypes in solid tumors by analyzing gene expression data from a small biopsy sample. The results can help shape more effective cancer treatments and also guide future research. Details of the new model are reported in the paper “GLAD: A mixed-membership model for heterogeneous tumor subtype classification” published by the journal *Bioinformatics*.

“Many of the statistical models

used today to classify tumors are limited by an ‘all-or-none’ approach,” says Patrick Flaherty, PhD, assistant professor of biomedical engineering. “A drug that can target one subtype of cancer cells may have no effect on another subtype. So we set out to develop a model that could more accurately predict the multiple fractions of cancer cell subtypes in a tumor.”

Flaherty's team developed a new model called GLAD (for Gaussian, Laplace, and Dirichlet, the statistical distributions in the model). GLAD was applied to

gene expression data from 202 glioblastoma (human brain tumor) samples obtained from the Cancer Genome Atlas Project. Glioblastoma tumors are thought to have four subtypes of cells, and GLAD accurately predicted the fraction of each.

“We are looking forward to the clinical testing,” says Flaherty, “and are hopeful that in the coming years the model will be helpful for physicians as they treat patients with combinations of therapies that are effective against an entire tumor.”

WHAT'S IN A LABEL?



Lincoln, Nebr.

CICERONE

WHO: **MATT STINCHFIELD '83**, owner of Ploughshare Brewing Co. in Lincoln, Neb., is a “beer scribe” and a Certified Cicerone® (the equivalent of a wine sommelier). “I have a sensitive palate for beer; for the last nine years I have been a judge at the Great American Beer Festival and have twice judged the World Beer Cup. Can you tell the difference between sulfitic and sulfidic aromas? Or geraniol from phenylethyl alcohol?”

BREW: “Currently, I am working on a sour cherry lambic-style beer that is a blend of vintages as young as a year and a half and as old as four years.”

SAFE SUDS: As a Safety Ambassador for the Brewers Association, Matt consults with small- and independent breweries and preaches safe operation to craft brewers guilds across the country. “I spent 30 years working in environmental chemistry, safety and health, and chemical emergency response. Which is probably how I got my brewing nickname: The Hazmeister.”



BREWMASTER

WHO: **JUSTIN MOORE '96** did his MQP at alumni-owned Wachusett Brewery, and went on to become a full-time craft brewer. He took his chemical engineering diploma west to Montana, where he's now director of operations for Red Lodge Ales Brewing Company.

BREW: “Our current flagship beer is Bent Nail IPA. It is a hoppy, strong pale ale that accounts for 50 percent of production and sales.”

GREEN CRAFT: “We have tried to incorporate many sustainable practices in our current facility. We built it with a solar thermal array (the largest in Montana during its installation) and a Freeaire system that uses outside air to refrigerate our coolers. We run our fleet of delivery vehicles on biodiesel.”



INSURGENTE

WHO: **CHRIS BANKER '07** took first place in Stone Brewing Co.'s Homebrew Competition. The prize? His winning stout, described as a creative take on Mexican-style hot chocolate, was commercially produced and distributed in collaboration with Cervceria Insurgente brewery in Baja California, Mexico.

BREW: Stone/Insurgente Xocoveza Mocha Stout is infused with coffee, vanilla, cocoa, pepper, cinnamon, and nutmeg—a creamy, semisweet brew layered with tiers of earthiness, spice, and roast.

DAY JOB: “While the collaboration with Stone was a fun experience, and it was exciting to have my beer on shelves and distributed nationally, the experience has not significantly changed my home brewing. I'm just more widely known on a national scale now. I still enjoy engineering and do not currently have plans to brew professionally.”

► Q & A

A GREEN GRAD IN THE STATEHOUSE

Matt Beaton '01 took office in January as secretary of the Massachusetts Executive Office of Energy and Environmental Affairs. Previously a Republican state representative, he was appointed by newly elected governor Charlie Baker to oversee the commonwealth's six environmental, natural resource, and energy regulatory agencies.

Q. WHAT IS YOUR EARLIEST MEMORY OF WANTING TO SAVE THE PLANET?

A. I won an award for my fourth grade science fair project that I called "The Environment." That was the hook that encouraged me to become a steward of our planet and subsequently dictated the course of my future academic career.



IMAGE COURTESY COMMUNITY ADVOCATE NEWSPAPER

Q. WHAT'S THE MOST VALUABLE THING YOU TOOK FROM WPI?

A. I was fortunate to perform fisheries research with the National Oceanic and Atmospheric Administration and local fisheries research on Martha's Vineyard during my MQP and IQP, respectively. I also had the flexibility to take a number of classes in both the biology and environmental engineering departments, which gave me great insight into natural systems. Additionally, courses on transcendental literature that I took in the humanities department with Professor Wes Mott had lasting impact on my respect for our natural environment.

Q. IF YOU WERE SPEAKING TO THIRD-GRADERS, HOW WOULD YOU SUM UP WHAT YOU DO?

A. At a recent speaking event at a local elementary school, I described my job as "the best job in state government," because it includes making sure you have clean air and water, open spaces to play, keeping the lights on at your home and school, tagging bears and bald eagles, and playing with cool renewable energy technologies.

Q. WHAT GRADE WOULD YOU GIVE THE COMMONWEALTH ON ITS 2013–2015 STRATEGIC PLAN? WHAT HOMEWORK REMAINS UNDONE, AND WHAT LEGACY WOULD YOU LIKE TO LEAVE?

A. I would give the Commonwealth a B-, soon to be A+ on its strategic plan. A top-to-bottom review of regulatory policy and fiscal priorities that maximizes every cent of taxpayer money that we reinvest in programs throughout the Commonwealth is long overdue. At the end of my role as secretary, I hope I am remembered for bringing more transparency into our energy policy; for stabilizing the rising cost of energy in the Commonwealth; for making Massachusetts a leader in the research, development, and installation of renewable and energy efficiency technologies; and as a champion of natural resource conservation who pioneered a concept I have termed "energy justice."

WORCESTER'S FIRE HYDRANTS got a leg up when students came to the rescue, taking shovels to snowbanks after record snowfalls in New England buried hydrants, causing at least one death in the region. In response to a plea from City Hall, WPI's Student Activities Office used social media to rally fraternities, sororities, and other organizations to the cause. Taking a cue from Valentine's Day, the dig-out was dubbed the "Cupid Shovel Project" — a play on the popular Cupid Shuffle line dance.

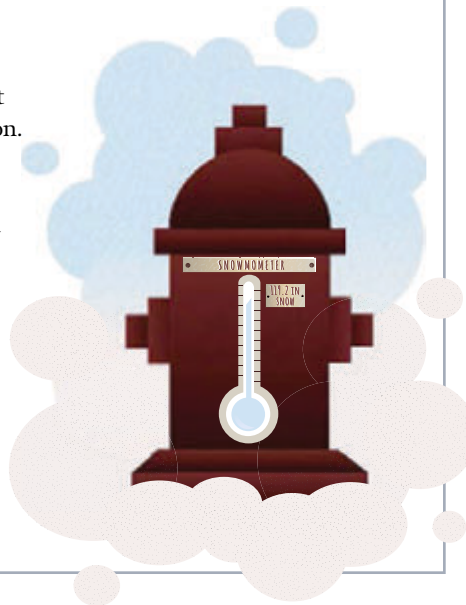


ILLUSTRATION BY BRITT HAFFORD

JIM KACHADORIAN '61 took a career turn this spring when he and his wife, Lea, officially transformed 65 acres of his Woodstock, Vt., property from a managed tree farm to a state-of-the-art maple sugaring operation. With a goal of 71,500 gallons of sap yielding 1,500 gallons of syrup from his 3,800 taps, it was a busy season for the civil engineering alum.

“The area we tapped is steep and difficult to log. Maple syrup provides a better income stream, plus it provides ongoing work for people. It’s win-win,” says Kachadorian.

Using advanced tapping techniques (a vacuum system and reverse osmosis to initially extract half the water from the sap before it gets to the evaporator) and employing a local tree service’s woodchip waste product to fuel the fire, the operation is as green as Kachadorian can make it.

Founder and owner of Green Mountain Homes, which was among the first companies to design and ship “kit” solar homes, Kachadorian is continuing his environmentally friendly work into retirement – albeit with a sticky turn.



ALGORITHMS FOR SUCCESS

ALGORITHMS

ALGORITHMS FOR SUCCESS

A LOVE OF MATH AND SCIENCE
LED **DON FOLEY '66** TO DIVE INTO
A CAREER THAT HAS TAKEN HIM
FROM DEVELOPING THE FIRST RETAIL
POINT-OF-SALE TERMINALS TO
DETECTING TERRORIST CHEMICAL
AGENTS—ALL WHILE CELEBRATING
THE NERD IN ALL OF US.

BY KATE SILVER | ILLUSTRATION ANTHONY FREDA

For a man of mystery who's earned the government's highest top secret clearance, worked on myriad Department of Defense projects (including stealth technology), and turned a multimillion-dollar business group into a multibillion-dollar business group, Don Foley also happens to be just a really nice guy.

Within the first five minutes of our telephone conversation, he was choking up as he related a memory of his father from the early 1960s, before Foley enrolled at WPI. Back then, the electrical engineering major (who later earned a master's in EE) thought the engineering school of his dreams was just that—a dream.

Sure, he was a self-proclaimed brainiac. "I was a nerd before it was sexy to be a nerd," he admits proudly. But he came from a working class family, and money was tight. It was his devoted father who, literally and figuratively, drove him to pursue WPI.

Foley still remembers the day clearly. He and his dad made the hour's drive from their home in Hartford to Worcester. As he tagged along on a campus tour, he fell quickly and unabashedly in love with the Institute. "It was what I wanted," he says, explaining that for anyone who loved math and science like he did, this was a place of fantasy. While Don was touring, his dad had a meeting with two of the school's deans.

By the time father and son got back in the car, Foley had prepared

himself. No matter how much he loved the school, he wasn't sure his family could manage the tuition. And if they couldn't, he didn't want his dad to feel bad, so he did his best to sound lukewarm about what he'd just seen.

That's when his father shared this: "Well, whatever you do, choose where you want to go. I want you to know they offered you a full scholarship, but you don't have to choose it."

It's here that Foley choked up. His dad, whip-smart, was a first-generation American, born in a tenement to Irish immigrants. He'd never had a chance to go to college, himself. And yet here he was, putting no pressure on his son, who'd just been offered a full scholarship.

"I said, 'Dad, that's it. I was afraid to tell you that I loved the place. I'm going. That's it.'"

Today, nearly 50 years after he graduated, Foley says he couldn't be more thankful for the day that WPI became a reality for him. In fact, in detailing his successes in business—and there have been many—he always comes back to WPI. "I really believe this: WPI enabled any success I had."

LIFELONG LESSONS

It wasn't just the academics at WPI that shaped Foley. It was everything. He was a member of the Tech Senate his sophomore and junior years,

president his senior year, co-chair of the junior prom, a member of Lambda Chi Alpha fraternity, and an inductee into Skull. His involvement in all of these activities taught him how to communicate and lead. He even met his wife-to-be, Bonnie, at a campus party. He took her to the junior prom and they were married soon after he graduated.

Though it's been nearly five decades since he was a freshman, the names of professors who left their mark roll off his tongue: he remembers that Romeo Moruzzi was the first professor to teach him signal processing, and recalls fondly how the two went on to write papers together for the Institute of Electrical and Electronics Engineers (IEEE). He thinks back to Owen Kennedy, who taught the first course he took on digital computing.

"They were extraordinarily bright people who just dedicated their lives to teaching others," he says. "They cared. I mean, I was taught by full professors in my freshman year. That doesn't happen at most of the schools that have graduate recognition." The lessons he learned from Moruzzi and Kennedy about digital signal processing would go on to shape his career.

Bill Grogan, who taught electrical engineering and later became dean of undergraduate studies, was a mentor. Foley suspects that Grogan helped him earn a coveted position: a summer job with Bell Labs in Holmdel, N.J., an honor bestowed on only one student per year. The way Foley describes it, going to the Labs in 1965 was akin to

meeting his favorite celebrity.

"Before AT&T disbanded Bell Labs, it invented everything," he says. Founded in 1925 to perform research for the phone company, Bell Labs invented the transistor and the laser and performed the first transatlantic telephone call and the first long-distance television transmission, among many other technological breakthroughs. Working there, Foley felt alive.

"I got paid \$500 a month," he says, "and I don't think I ever felt richer in my life."

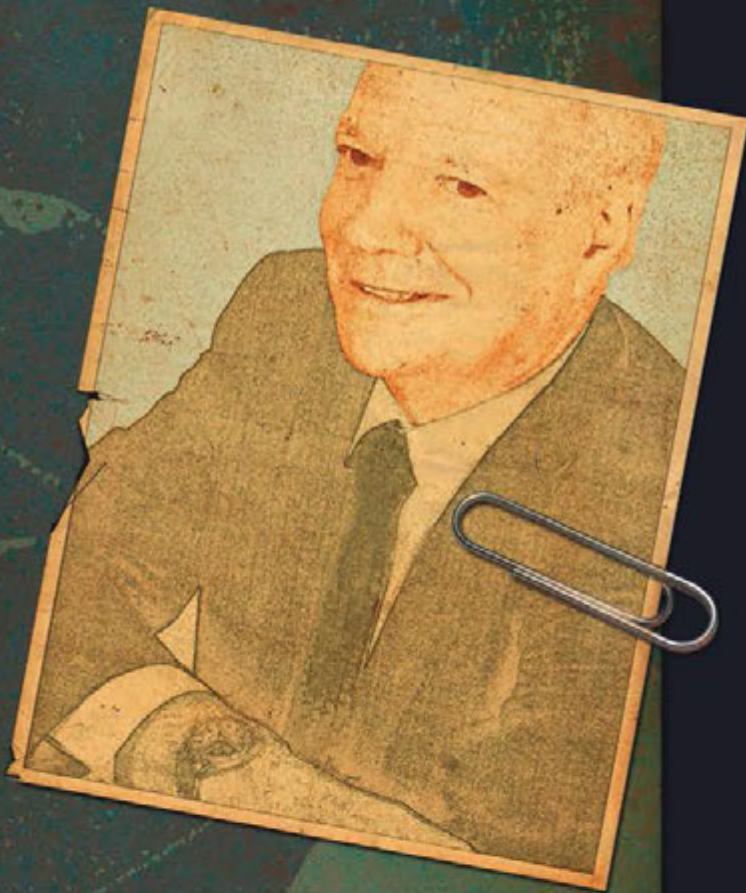
After he earned his doctorate in computer and electrical engineering at Syracuse University, his thesis advisor, John Sammon Jr., offered Foley a position with his new company, Pattern Analysis and Recognition, which later became PAR Technology Corporation. Thinking back on the job, Foley, who served as executive vice president, laughs.

"We started the company, with no money, in a condemned hairdressing building. It was the filthiest place," he says. There, his work focused on areas he'd learned he loved while at WPI: analyzing signals or waveforms.

Performing work for various government contracts, he analyzed acoustic, seismic, and magnetic signals in order to detect military targets, while using various processing techniques to minimize false alarms.

In the beginning, this work was accomplished on large mainframe computers. In time, PAR was given an early version of what would become the microprocessor, on which Foley and his colleagues could code their algorithms. At





**“I GOT PAID \$500
A MONTH,” HE SAYS,
“AND I DON’T
THINK I EVER FELT
RICHER IN MY LIFE.”**

the same time, his team at PAR saw the commercial potential for that microprocessor, and developed what became known in the restaurant industry as the point-of-sale terminal. The theory behind it: why should a McDonald’s employee ring up individual prices when he or she can simply hit buttons for burgers and fries and have the machine handle the tax and add up the totals? The success of the terminal led to PAR’s initial public offering – the market put a value of \$150 million on the company.

Having excelled at his first job, Foley thought back to the assistance he received through his scholarship, and decided to find a job that allowed him to give back. That turned out to be a position as director of the special projects office at the Defense Advanced Research Projects Agency (DARPA), aka the agency that invented the Internet. “It’s probably one of the most special places in America,” he says, thinking back. (Much of the work he did there was related to military applications of disruptive technologies, and it was classified).

Foley was there at an important time of technological change. In the 1980s and 1990s the price of computing power, memory, and storage dropped dramatically, as the size of those components became smaller and smaller. It was then that Foley’s work at DARPA focused on leading-edge techniques to develop adaptive spatial-time algorithms or computer processing techniques. This required enormous computer power to identify and precisely locate targets of interest – especially hard-to-detect (i.e., stealthy) targets. The resulting algorithms led to a new generation of smart sensors, which provided the armed forces with a technological advantage. That technology is still in use by U.S. military today.

**“SOME PEOPLE CAN
LEARN BY DOING
A LOT OF READING,
A LOT OF RESEARCH.
DON LEARNS BY
ASKING QUESTIONS.”**

While working at DARPA, Foley got an offer he couldn't refuse from Bob Beyster, who founded Science Applications International Corporation (SAIC), an intelligence, military, aerospace, engineering, and systems contractor. At the time, SAIC was the largest employee-owned research and engineering company in the nation, and Beyster offered Foley the opportunity to help grow the company as group president of its Research and Intelligence Group. There, he oversaw 45,000 employees, most of whom were engineers, scientists, and computer scientists. During his 20 years with SAIC, his group's revenues grew from \$70 million to \$2 billion and the company's grew from \$1.67 billion to \$10 billion. SAIC became his second IPO when it went public in 2006.

Though he oversaw countless projects, one, in particular, stands out. In 2001, just a week after the terrorist attacks of 9/11, anonymous letters laced with anthrax were sent to congressional offices and media companies. “The nation had no idea how to clean up from the anthrax,” says Foley. Under contract with DARPA, a team of SAIC engineers developed the procedures – including a gaseous spray – that would be used to clean the congressional offices. The procedures, he says, were an outgrowth of the work SAIC was performing under government contract to develop algorithms to detect pathogens and chemical agents. Foley says the work was incredibly gratifying. “They gave us the flag that was flying over Congress on the day that anthrax was spread there,” he recalls. “That was a very proud moment.”

PAYING IT FORWARD

PAR founder Sammon has a unique perspective on Foley that spans nearly 50 years. He met the engineer as a doctoral student, and now Foley serves as an advisor to PAR's board. When asked what makes Foley stand out, Sammon gives a nod to his engineering skills, but says a real differentiator is the way he interacts with others.

“I think he's a great communicator, he's very engaging,” Sammon says. “Some people can learn by doing a lot of reading, a lot of research. Don learns by asking questions. One question will lead to another question, which will lead to another question, deeper and deeper; it's a style that he's developed over time. I don't know if he picked it up at WPI or not, but he has a very inquisitive mind. It's a mind that is constantly seeking deeper understanding of whatever the subject is.”

Sammon says another thing that distinguishes Foley is his willingness to serve others and act as a mentor. “Don has a real desire to help people. Somehow, he's adopted that as a principle contribution. He did it at PAR, and he did it throughout his career. I truly see it today as he serves as an advisor to the board, working with some of the younger people in my company.”

And that's where the nice guy comes back into play. While Foley is proud of the engineering projects he's worked on and the business growth he led, he's never lost sight of his employees. For him, growing a company isn't just about growing the bottom line. It's about creating more American jobs, and helping people lead interesting and fulfilling careers.

“I always felt a great burden when I was president,” Foley says. “If we could have a good year, we could give out bonuses, and each year we could work on something that was more exciting.”

Today, at age 70, when he's not busy managing his own company (Martingale Consulting, in Potomac, Md.), mentoring CEOs, and serving on a number of boards, Foley is having a blast as a grandfather of eight. He says that his “nerd” gene managed to skip his four children (“They all followed my wife: great social skills – much better than mine!”), but he has his eye on two of those grandkids as future nerds.

If that's the case, Foley's got some work to do. He admits, “My hope is that maybe I can talk them into WPI.” **J**

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Youthful **VISION**

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WITH
RELENTLESS
OPTIMISM
HARD-WON
FROM A
TUMULTUOUS
UPBRINGING,

Jennifer Kamara '12

IS HELPING
IMPROVE
HEALTH
AROUND
THE WORLD,
ONE CLINIC
AT A TIME.

“I am so grateful that I lived that life because now I appreciate things so much more.”

The masked men burst into Jennifer Kamara’s Sierra Leone home, brandishing AK-47s. The seven-year-old watched them train their weapons, first on her and then on her mother, all the while demanding that her parents give them all their money or be shot.

“No, don’t do it,” yelled their commander. “He is the doctor in the community.” The men took everything, including the family’s car, but left them alive. They chose not to kill a doctor, a rarity in a country with just one doctor for every 60,000 people.

Growing up in the midst of a brutal civil war, Kamara saw bodies in the street with arms hacked off, and woke up to bullet holes in the walls of her home. But it was the words of that rebel commander that stayed with her. “They had been doing all of these terrible things, but they chose not to do that to us because of the impact my dad had,” she says. “I was deeply influenced by that.”

Now 24, Kamara has taken a circuitous journey in her father’s footsteps, leaving her war-torn homeland to study chemical engineering at WPI, and then returning to Sierra Leone last year to set up a health clinic and train doctors through her own nonprofit World Health Equity. She stayed during the summer despite the raging Ebola epidemic that has claimed more than 10,000 lives—and for one terrifying moment seemed likely to take hers as well.

Kamara brushes off hardship with a shy smile. “It was cool growing up like that,” she insists over coffee at a café in Cambridge.

“I am so grateful that I lived that life because now I appreciate things so much more.”

That combination of optimism and quiet determination has led Kamara to make a big difference in the world, just a few years after graduation. “You can’t say no to her,” says David Sengeh, a postdoctoral student at the MIT Media Lab and a board member of her nonprofit. “And that’s because you don’t want to. She finds the resources she needs and makes the plan to put them together.”

HOPES AND DREAMS

Half Ukrainian (on her mother’s side), Kamara was born in that country, where her parents met while her father was studying surgery. The couple settled in her father’s Sierra Leone, and he established a clinic in the poor community where Kamara was to spend her childhood living without electricity or running water. Still, when she recalls those years, it isn’t the deprivation she remembers.

The family lived above her father’s clinic, and she regularly came down to assist him and meet her neighbors, whom she came to know as individuals rather than nameless victims of poverty. “I was able to see them as people with the same hopes and dreams as everyone else, and not look down on them,” she says.

When she received a scholarship to study at an affluent high school, she saw a completely different world, one in which her classmates were vacationing in Europe while she was at

home studying, by candlelight, photocopies from textbooks she couldn’t afford. Living between those two worlds gave her a unique perspective—showing her the need that existed, and the resources available to fill that need.

When it came time for her to go to college, Kamara was determined to follow an older brother to the United States; she chose WPI after searching online for colleges at an Internet café and finding that WPI accepted a high proportion of international students and offered scholarships (she received one). Having always been interested in science, she chose to study chemical engineering.

Not that the shift was easy.

“My third week of cell bio class with Professor David Adams, everyone was taking a test,” she says, “and I was like, ‘what is everyone doing?’” She didn’t realize the test was posted online, so she failed to take it. When she went to Adams in tears, he told her that if she received an A or B on the next two tests, he’d waive the one she missed (she aced them both). “I don’t think I would have had that personalized attention at a larger school,” she says.

COMPASSION TO ACTION

For her MQP, Kamara worked with a team of students in Costa Rica that helped a local community develop a plan for a sustainable water supply. Her advisor, Jennifer Rudolph, professor of Asian history, says Kamara was particularly adept at working collaboratively within the group to develop solid plans. “She had a level of maturity and life experience that is rare for an undergraduate,” Rudolph says. But just as clearly, she remembers Kamara’s compassion for the poor people in the local community, who, Kamara says, reminded her of the people she grew up with in Sierra Leone.

That compassion turned to action after she graduated in 2012. Deciding she wanted to pursue medicine like her father, she began work at Novartis doing oncology research.



Meanwhile, back in Sierra Leone, her father was lamenting the difficulty of treating patients in the Bamoi community, a tribe of 25,000 people north of the capital Freetown. People there lived in mud huts, 10 to a home, a two-hour drive over dirt roads from the nearest hospital.

Vowing to help, Kamara contacted an aid organization in Sierra Leone for assistance in setting up a pilot clinic in the community. “They didn’t have the resources,” she says, squinting her eyes earnestly, “but I couldn’t let it go.” She contacted the Ministry of Health in Sierra Leone, as well as Novartis, to ask for funding, but she kept hearing excuses. “Either I was too young, or I didn’t have the money, or I wasn’t a doctor.”

Undeterred, Kamara began setting aside a portion of her own paycheck to fund a clinic, which her father visited once a month. “My

mom thought I was crazy. She said, ‘You don’t have any money yourself and you are sending your money away,’” says Kamara. “But how could you not? Twenty dollars is a bag of rice for a family for an entire month. If I send 200 dollars, that could make a huge impact in their lives.” Nurses at the fledgling clinic collected data in a notebook on cases of malnutrition, cholera, and malaria. In one year, the clinic was able to serve 2,500 patients—a tenth of the population—and cut down malaria in the region by 20 percent.

With that data in hand, Kamara applied for nonprofit status in order to raise more funds for a permanent clinic. She called her new organization World Health Equity, and recruited two other WPI alums, Michaella Reif ’14 and Margaret Hester ’14, who were inspired to join Kamara after hearing her speak on

campus. “The biggest impression I got from Jennifer is that she is absolutely fearless,” says Hester, “but not in an aggressive way. There is this absolute positivity that radiates from her. Even if you are not experienced, she says to give it a go.”

Kamara put her own words into action, calling upon everyone she knew in order to raise \$25,000 to start construction on the clinic. When complete, it will have four beds, a consultation room, and its own generator to power a refrigerator to store medicines. “Our goal is to have it up by the summer of 2016,” she says, her face lighting up at the thought. The Ministry of Health has agreed to staff it with health workers, and Kamara hopes a medical resident can rotate through the clinic to care for patients, along with a nurse and a midwife.



BABY BOX PROGRAM

The United States lags behind other wealthy nations on infant mortality. Following the example of Finland, which has the lowest infant mortality rate in the world due, in part, to the implementation of its Baby Box program, WHE is partnering with Project Hope and the Baby Box Company to implement its own program in Massachusetts. Providing essential items for the care of a newborn to disadvantaged parents, the Baby Box can be filled with clothes, diapers, lotion, and other essentials, and once emptied, can serve for a while as a crib. You can help by making contributing via Paypal:

- \$5 brand new pacifier
- \$10 brand new baby bottles
- \$20 box and mattress (vital components)
- \$30 pack of diapers
- \$100 entire baby box complete with accompanying items

TO DONATE, visit worldhealthequity.org

Fresh off that success, Kamara looked for a larger way to make a difference in a country with the second highest infant mortality rate and the highest maternal mortality rate in the world. Hearing about a program in Kenya that helped cut down on deaths of mothers in childbirth, she cold-called the head of the program to talk about techniques.

In developed countries, postpartum hemorrhage is stopped using an apparatus called a Bakri Balloon, which inflates inside the uterus to apply pressure like a Band-Aid. At several hundred dollars each, however, the cost is prohibitive in sub-Saharan Africa. The solution in Kenya was to create a simple substitute with a condom and a catheter to inflate it—at the cost of only a few dollars.

By this time, Kamara had left Novartis to work as a consultant on world health issues at Massachusetts General Hospital. With the help of MGH staff, she was able to set up a similar program in 50 clinics in Freetown, traveling there in January to train workers. Officials at Sierra Leone's Ministry of Health were so pleased, they asked her to come back in May to train workers at 50 more clinics. Kamara proudly notes that so far the procedure has been used successfully on 40 women who suffered postpartum hemorrhage, drastically reducing complications in births.

Kamara was so passionate about implementing the program that she hardly gave it a second thought when the Ebola epidemic swept through the country last spring. "I wasn't really worried for myself, since I wasn't touching blood or patients, but I was worried about the doctors we were working with," she says. Nevertheless, one day as she was performing trainings, she felt suddenly feverish and weak.

Though Kamara had had malaria as a child, this felt much worse. She sequestered herself at her father's house, waiting for two agonizing days for the results of the test. "The worst part of it was feeling isolated," she says. "It was scary

to think about potentially dying alone." The test came back with good news. "I was like, 'I had malaria, thank God!'" Kamara says, throwing up her hands in memory of the joy she felt.

Characteristically, the experience motivated her even more to help others. "It gave me a further understanding of the disease, and just how terrible it is for people to feel so alone," she says. As the epidemic spread, Kamara's organization began raising funds for protective equipment against Ebola, which has claimed the lives of 60 health workers to date. Working with the disaster aid organization World Vision, WHE was able to supply all 100 of its partner clinics with the equipment, and train health workers how to use it.

Kamara's ability to identify a need and then quickly take measures to fill it has allowed her to make a substantial impact in Sierra Leone in just a short time. But she harbors bigger dreams for her organization. Already, WHE has branched out to work in the United States, where it is distributing "Baby Boxes" full of needed supplies to disadvantaged mothers in Massachusetts.

Eventually, Kamara hopes to make World Health Equity truly global in addressing health access issues in other countries, perhaps including her native Ukraine. To bring her work to the next level, she is taking on a new position in New York City as a strategy consultant for Huron Consulting Group. "I've already changed careers three times in three years out of school," she laughs. She is hoping the new position will give her a firmer basis in business strategy to help make her organization more effective and sustainable.

"I am just going to take it one project at a time, and make an impact wherever I can," she says. "I know I will not be able to change the world, but if I can make a meaningful, and definite, and sustainable impact, then I will be happy." J

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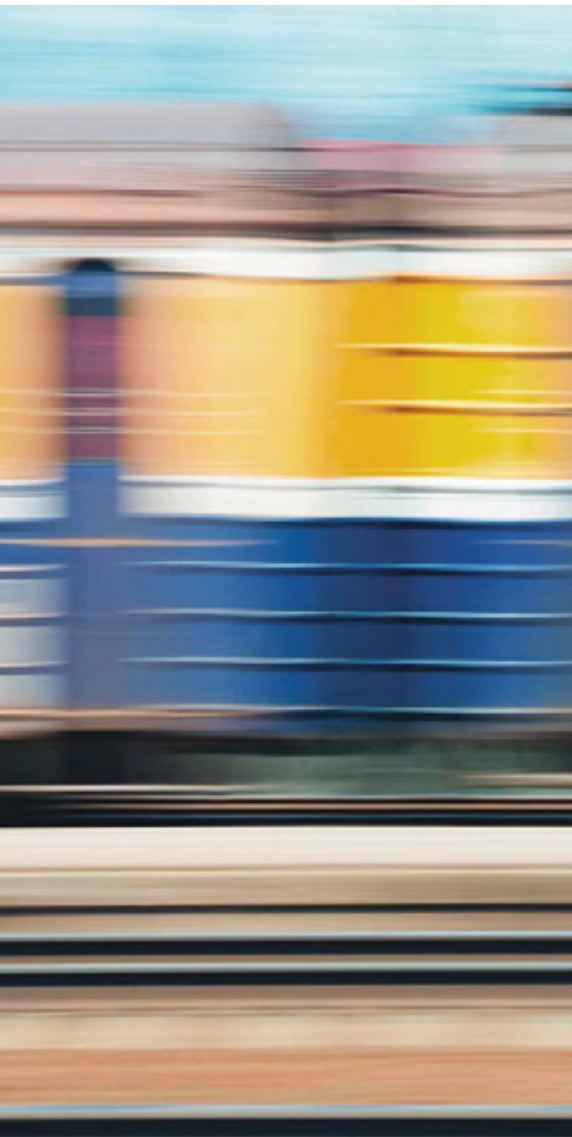
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ON THE





RIGHT TRACK

**DAVID
DIAZ '87**

**TACKLES THE
TRANSPORTATION
FRONTIER**

BY JOSHUA ZAFFOS

PORTRAIT PHOTOGRAPHY AKINTOLA HANIF

Boston's long, bitterly cold, and snowy winter (a record-setting 110 inches) reached its nadir in early February of this year. On a Monday morning, heavy snow covered a stretch of commuter rail tracks on the Massachusetts Bay Transportation Authority (MBTA) Red Line, stalling travel and stranding 48 passengers inside a train for two hours. The interruption was indicative of months of closures and delays for the MBTA – locally known as “the T” – and it underscored the

personal and financial costs of the agency's staggering \$6.7 billion maintenance backlog.

David Diaz wasn't among the forsaken and frozen, but he could commiserate with the passengers and the MBTA officials. Diaz is vice president for special projects and regional manager for LTK Engineering Services, headquartered outside Philadelphia. His more than 30 years' experience making trains run safely and reliably began with his working for – and riding – the T.

“I endured many a hard winter in Boston,” Diaz says, “including working for the T during the winter of 1995–96, which was the previous record holder—a mere 107 inches of snow.”

Diaz still works with the MBTA; he and LTK provide technical support for the authority. He says this winter’s transit trials are a reminder of how big-picture, long-term transportation challenges (infrastructure investment, maintenance backlogs) can impact critical short-term issues—like reliable daily commuter service.

“Unfortunately, this winter was an unusual, crippling type of snow event with no way to remove the snow,” Diaz says. “And, the old fleets and the aging equipment and infrastructure really caught up with the T. “Among the lessons learned, there needs to be a real

commitment to renewing infrastructure and equipment. It takes a *lot* of time and money.”

Diaz is passionate about such logistical and engineering elements, and feels that the future of American rail and transit service relies on delivering on those expectations. System hiccups, like the T’s winter snafus, can hinder support, but Diaz sees the American rail and transit system moving in the right direction.

“It’s going to take a while but we’re going to get there,” he says, sounding like a trusty railroad conductor. “We’re going to link rural communities with cities, like Europe does, and it’s going to serve us well when we get there.”

ON COURSE

Diaz grew up the oldest of four sons in the working-class city of Taunton, Mass., where his father, a physician, envisioned David following in his footsteps. As a boy, however, Diaz dreamed of becoming a fighter pilot and was fascinated with planes, trains, and heavy-duty construction equipment. “I’ve always had an interest in big things that move,” he says.

His admiration for his grandfather, a self-taught engineer who designed and built dairy industry equipment and built his company into an international business, propelled him on his future career path. “He was a great inspiration to me,” Diaz says.

Because of his engineering interests, Diaz aspired to attend WPI, although he wasn’t accepted out of high school. Instead, he began at Assumption College and then enrolled in the 3-2 Program, a cooperative course of study that enabled him to take engineering classes at WPI after his freshman year. “I was going to find my way to WPI by hook or by crook,” Diaz laughs. “The experience taught me to persevere.”

Looking back, WPI mentors (particularly dean of academic advising John van Alstyne) provided Diaz with a structured yet personalized education that made him feel proficient and ready to tackle real-world problems. “It gave me confidence to meet career challenges—and it carries on into everything I do,” he says.

Diaz gained his entry into transit engineering through an apprenticeship at the MBTA, one of

the country’s oldest rail and mass transportation networks. He apprenticed at the Riverside Carhouse on the Green Line, maintaining the MBTA’s light-rail vehicles and getting hands-on workshop experience. The opportunity ultimately helped launch his career.

In Worcester, he gained experience in science and engineering communications by volunteering at the New England Science Center (now the EcoTarium) and performing as a Mr. Wizard-type of science educator for children as part of his IQP. At the end of five years, he’d earned a BS in mathematics at Assumption and a BS in mechanical engineering at WPI.

Following graduation and a first job at toy and board game manufacturer Hasbro, the MBTA recruited Diaz into full-time employment. He oversaw maintenance on the light rail fleet, before moving up to serve as chief mechanical officer for the T’s commuter rail and then as chief operating officer for the Blue Line. Along the way, he built on his engineering background and knowledge, but also gained valuable insight into the nontechnical aspects that make trains go.

“I learned that technology solves only part of the problem,” Diaz says of his time with the MBTA. “Knowing how to work with people can solve the rest.” To that end, he took part-time classes and received an MBA from Northeastern University.

Diaz left the MBTA in 1996 to join Amtrak, the nation’s publicly funded, for-profit railroad corporation, which runs more than 300 trains daily on 21,300 miles of track. As chief mechanical officer for Amtrak’s Northeast Corridor, he helped inaugurate the Acela Express, the first high-speed rail service in the U.S., which connects Boston and Washington, D.C., with trains that can travel up to 150 miles per hour.

“Bringing high-speed rail to the United States was huge, and it’s probably the best project I was ever affiliated with,” Diaz says.

The new service presented opportunities and challenges, including integrating the Acela trainsets and their unique specifications into the larger rail network, and enlisting and preparing the trains and their crews for service.



In his position, Diaz oversaw design review for trains and facilities, fleet maintenance and testing, and personnel management, including hiring and labor agreements. Service began in late 2000 and the Acela has continued to improve its efficiency and shorten its travel times ever since, attracting greater ridership and contributing significant and much-needed revenue to Amtrak.

“It really changed how passenger rail is happening in the Northeast,” he says, “and, of course, it’s become a catalyst for discussions about putting high-speed rail on the agenda for other parts of the country.”

NEXT STOPS

For the past 14 years, Diaz has worked for LTK, one of the world’s leading rail- and transit-engineering consulting firms, promoting the engineering needed to support safe, efficient, and reliable transit service. Chances are if a U.S. city or region has a commuter train, Diaz has poured his insight into its operations, from the East Coast (MBTA, Long Island Rail Road, New Jersey Transit) to the South (Atlanta’s MARTA) to the Midwest (Minneapolis’s Northstar Commuter Rail), to the West (the Bay Area’s Caltrain).

Through his senior-level position, he manages both engineering and business relationships with clients within a range of responsibilities and programs. He selects and procures new trains for rail systems, and develops and evaluates maintenance plans and schedules for transit networks. He also conducts forensic investigations of accidents to improve safety. Most recently, he and his team determined what caused three vintage streetcars in Memphis, Tenn., to catch fire. They recommended that the city modify the trolleys and maintenance procedures to prevent future fires.

Diaz’s job and his past contacts and experiences enable him to keep his hands dirty in fabrication shops and work zones. “The fun part of every engineer’s job is to tinker,” he says. He also gets the chance to mentor young engineers in offices and workshops — “a very



rewarding part of my role as a vice president,” he says — and he has taught continuing education courses for railroad professionals at the University of Wisconsin, Madison.

Currently, Diaz is working on a project to develop and implement “positive train control,” embedded technology that minimizes human error or judgment in train operations that can result in accidents. “We’re coming up with intelligent technologies to manage train movements so they don’t violate signals or go faster than they should around curves or grades,” he says. “It’s pretty exciting and very challenging, technically.”

In other efforts, he continues to push for safer, cheaper, quieter, and more efficient and reliable trains. In cities like Boston, that can mean upgrading centuries-old systems to meet new uses and withstand weather and time. In many other places, Diaz and others are aiming to build out new networks that fit in with the environment and serve communities’ current and future needs. Each development is another engineering opportunity, and another step toward more extensive regional and nationwide rail service. Despite a long history in the United States, railroads remain an evolving technological and transportation frontier.

Building mass transit networks also requires winning over people — not just commuters, but policymakers who are responsible for approving and funding rail systems within and between cities. “Transit has been a catalyst for economic development,” Diaz says, “and, from that standpoint, we’re trying to more easily integrate it into society and landscapes, and make people realize they’re part of the greater good” when they’re using and supporting mass transit.

Diaz points to Denver — another city whose rail system he’s worked on for LTK — where light rail and commuter trains are extending routes within the city and between bedroom communities and downtown growth. The progress has elevated development and real estate prices near rail stops, and helped reduce vehicle traffic and pollution in many areas.

“I’ve seen Denver take off and it’s amazing,” he says. “Quite frankly, there’s no reason that can’t happen in more places with support and capital investment.”

“It takes that spark, backing, and vision — and the confidence that you can deliver on those promises. That’s where the engineering comes in.” J



*putting
it to
the test*

AT PRESENT, 23 STATES HAVE LEGALIZED RECREATIONAL AND/OR MEDICAL USE OF MARIJUANA. WITH LEGALIZATION COMES THE NEED FOR REGULATION AND QUALITY CONTROL SIMILAR TO ANY INDUSTRY—FROM FOOD AND COSMETICS, TO PHARMACEUTICALS AND ALCOHOLIC BEVERAGES. IN COLORADO,

Jeannine Machon '85

ENSURES THAT CANNABIS PRODUCTS ARE STRINGENTLY TESTED AND CLOSELY REGULATED UNDER STATE STATUTES.

BY JOAN KILLOUGH-MILLER
PHOTOGRAPHY CHRIS SCHNEIDER



There was a time when Jeannine Machon's children didn't like to talk about what their mom did for a living.

That changed in 2012 with the passage of Amendment 64, when Colorado voters legalized the sale of retail marijuana to adults over 21. With the launch of a government-regulated marijuana industry for recreational users came a business opportunity for Machon to expand her mobile cannabis-testing operation into a full-scale permanent laboratory—one of the first to be licensed and certified by the Colorado Department of Public Health and Environment.

Amendment 64 also brought an opportunity for Machon to be part of the initial rule-making committees of the state's new Marijuana Enforcement Division. She continues to work with state legislators and industry groups to refine the regulations that govern this nascent industry.

"It's a brave new world out here," Machon quipped a year ago, when submitting a class note about her Denver-based business, CMT Laboratories LLC. "We're writing the rules as we go." Although she had been testing *medical* marijuana for years (it's been legal in Colorado since 2000), the wider recreational market has brought new challenges.

Machon uses the term "push me-pull me" a lot when talking about her work and the frustrations of the "shape-shifting" standards she must follow when testing cannabis flowers and manufactured products that are sold to consumers in state-licensed shops.

Why is laboratory testing so important? Machon cuts to the chase.

"Because you have to know: Are you buying beer or are you buying vodka?" That is, the potency of plants and manufactured "edibles" varies widely, and consumers need to understand—continuing the alcohol analogy—whether to imbibe a whole bottle, or just a shot. Machon's laboratory is equipped to test the potency and homogeneity of THC (delta-9-tetrahydrocannabinol) and eight lesser-known cannabinoids. Pull-down menus on the CMT website detail the other categories of testing, which include terpenes, residual solvents,



"What sets her lab apart from competitors, she says, is its sound and repeatable science, and her commitment to helping her customers educate their customers."



pesticides, and microorganisms such as *E. coli*, *salmonella*, and *aspergillus*. What sets her lab apart from competitors, she says, is its “sound and repeatable science,” and her commitment to helping her customers educate their customers.

“You go to Starbucks, and order a *grande*: Is that two shots, or three shots of espresso?” Machon continues, comparing marijuana shops’ “budtenders” to the coffee chain’s baristas. “You should know that as a consumer.

And you need to know: When is all that ‘espresso’ going to kick in?” The delayed effects of marijuana edibles can catch inexperienced users unaware, she notes, so CMT provides fact sheets and information cards, as well as consultations to help growers and producers understand their lab results.

CREAM OF THE CROP

Before Amendment 64, Machon and her business partner were among the few laboratory analysts providing quality control for the cannabis prescribed to registered medical patients. They started out toting their monitoring apparatus around in the back of her Mini Cooper to do on-site testing for medical dispensaries and growers. She refers to those early customers as “the cream of the crop,” because “they were the ones interested in truly knowing what they grow.”

Despite the jokes that inevitably arise, Machon and partners bring strong credentials to their enterprise. After earning her BS in computer science at WPI, she earned an MBA and worked as a corporate consultant for Accenture, where she specialized in helping manufacturing clients streamline just-in-time operations.

The transition into laboratory analytics for her was a marketing position with Forston Labs, a small start-up that sold portable monitors developed for water and soil analysis, as well as for food and beverage industries. Forston’s unique hand-held meters were used at California wineries, and in olive oil processing, where they could tell extra virgin from imposters. But Machon and her co-worker, Jill Brzezick, a chemist with a master’s in toxicology, occasionally got inquiries from marijuana growers in the western states who wanted to test their crops.

Forston went belly-up right around the time the medical marijuana industry was starting to take root in Colorado. In 2011 Machon and Brzezick founded Colorado Mobil Testing, based in Fort Collins, to provide quality control.

“My kids were in junior high and high school at the time, and this was something I could make work with their schedules,” says Machon.

“When we transitioned to CMT, we bumped up, established an office, and expanded our equipment and analytical capabilities.” They also brought on another partner, Michael Glavanovich, a PhD in analytical chemistry and former EPA lab director, to help build and run the new lab.

“These days, I’m driving an hour each way to work, and figuring out how to get dinner in the crockpot,” Machon laments with a laugh. Her kids – one in college, the other starting to look – now like to visit mom’s workplace. “They both became science wonks in high school,” she says, “so the whole science and medicinal part of it fascinates them.” Machon, in turn, serves as president of the high school’s accountability/advisory committee and, at the superintendent’s request, lends her business expertise to the finance committee. With her management background, she has been encouraged to run for the school board. “These people know what I do,” she says matter-of-factly. “It all coexists.

“I use every bit of everything I learned at WPI,” she declares emphatically. “The critical thinking, the collaborative projects mentality, the focus that was required for quick turnaround of the seven-week terms – that’s all transferable to any job you could name.”

WHO’S TESTING THE TESTERS?

This spring, Machon saw the passage of a bill she authored – HB-1283, Marijuana Reference Library and Lab Testing Access, sponsored by State Rep. Steve Lebsack. The measure puts in place a requirement for proficiency testing for the state’s marijuana testing laboratories by the end of 2015, and will make standardized samples available for laboratories to calibrate their results. Machon refers to it as a ‘mother-ship’ of laboratories to test all of the labs, something she’s advocated for from the start. Working with the Colorado Cannabis Chamber of Commerce (she is a founding member), she champions “practical and pragmatic” regulation that aligns with good manufacturing practices found in any other industry.

“For example,” she says, “producers of marijuana edibles have upped their game; they’re not making stuff in a dishwasher or

“The reality is, prohibition didn’t make alcohol go away. Back then, people had no idea what they were drinking, where it came from, or what could have been in it. Laboratory regulation here in Colorado has organized the cannabis industry and made it a proper business venture.”



washing machine out in the garage anymore. The way the rules are written now, every batch has to be tested over and over again, and if there’s the slightest variability in the legal limits of concentration of THC, a whole batch of candy bars or a vat of soda is thrown out.” She points out that even the FDA has a range of acceptable variability for pharmaceutical products, and calls for reasonable standards to be set for her industry.

In the early days after marijuana prohibition was lifted, Machon was part of the rule-making process, serving on working groups created by Colorado’s Marijuana Enforcement Division. She helped set standards for testing and sampling, and sat in on sessions to delineate product labeling, packaging, and advertising.

“Anytime you’re not following the rules, you run the risk of losing your license,” Machon notes, “but there’s always a new rule being put into effect, and every new rule is going to go into effect *tomorrow*. That’s the ‘push me-pull me.’ If you’re the kind of person that needs to just plant your feet, focus on your business, and run for the goal line – this is *not* the industry for you. A lot of people think it’s going to be a slam dunk, but they don’t realize

how controlled and ever-changing it all is.”

On days when she’s caught up in the conundrums, Machon sometimes asks, “My god, why am I doing this?” And then there are the high points, the weeks when she says to herself, “Damn, I’m writing a bill! One that’s made it through the Senate Finance Commission, and passed in the House!

“The reality is, prohibition didn’t make alcohol go away. Back then, people had no idea what they were drinking, where it came from, or what could have been in it. Laboratory regulation here in Colorado has organized the cannabis industry and made it a proper business venture. So the product you’re getting is cleaner and better, and you know what it is.

“From an entrepreneurial, business-driving perspective – one that I attribute to WPI and its free-thinking, innovative climate – it’s an entrepreneur’s dream. You’re writing the rules, you’re watching them change, you’re paving the way.”

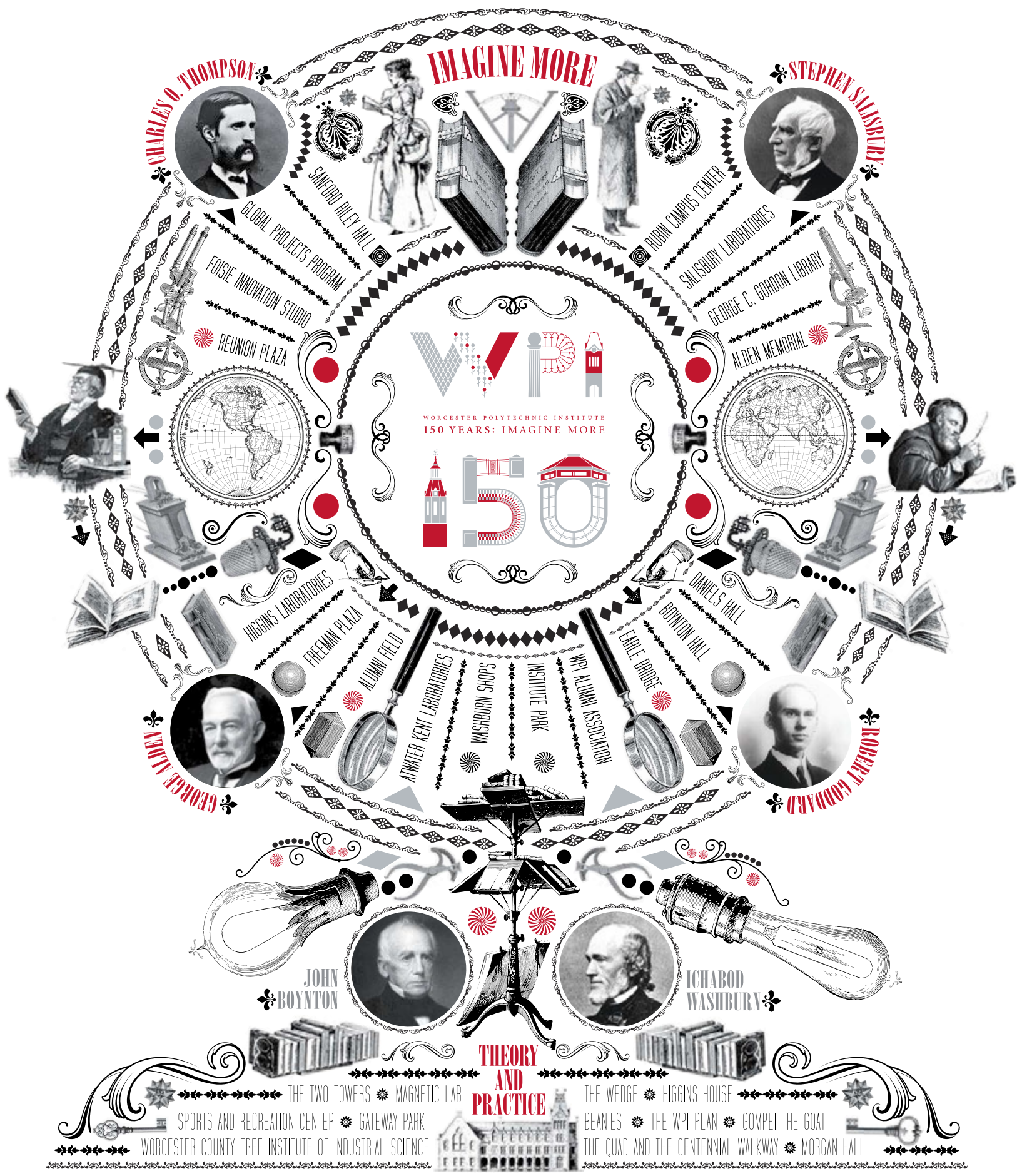
The eyes of the nation are on Colorado, and Machon says her profession incites more than just small talk when she travels. “When I fly in and out of Denver, and someone asks, ‘So what do you do?’ it is interesting

to see how much of an airplane will get involved in the conversation, once it opens up. At first I just say, ‘I run an analytical laboratory.’ If they ask, ‘What do you test?’ I’ll tell them, ‘I test marijuana, and I’m state licensed, and certified by the same government entity that certifies our state’s EPA labs and dairy labs.’

When they question further, Machon will ask if they’ve heard of “Charlotte’s Web” – a strain of marijuana described by Dr. Sanjay Gupta in a CNN documentary about a child whose intractable epilepsy was successfully treated by a plant that now bears her name.

Machon explains to her seatmates, “I test the properties of marijuana that could do that, and the properties of other strains that just get you high.’ And they say, ‘Really?’

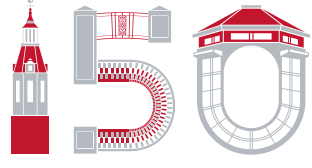
“And then they’re curious. I look on it as a chance to educate. With so many states considering legalization, the more people understand about the science behind it, the better the industry will be.” J



IMAGINE MORE



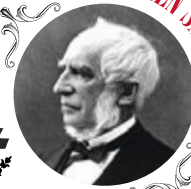
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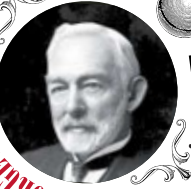
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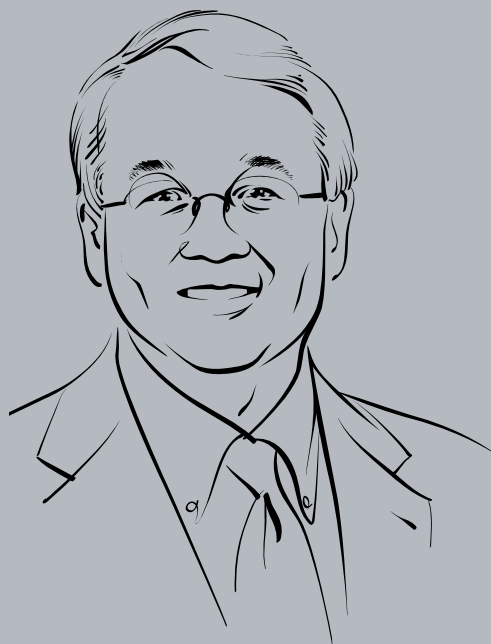


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FROM THE
NATIONAL
CAMPAIGN
CHAIR

Dear Alumni:

With gratitude and appreciation, I'm pleased to announce: We did it! Thanks to the generous support of alumni, parents, students, faculty, staff, friends, foundations, and corporations, *if...The Campaign to Advance WPI* has reached nearly \$250 million—well beyond our \$200 million goal—making this the most successful fundraising endeavor in WPI history. I am especially proud to report that more than 10,000 alumni made gifts to this campaign. Your financial contributions at every level, your volunteer efforts on behalf of WPI, and your engagement in the life of this university are helping secure a bright future for our alma mater.

We owe a debt of gratitude to the dedicated volunteers who led this campaign. Trustee Don Peterson '71 kicked off the leadership phase of the campaign during his term as board chair and weathered us through the worst of the global economic downturn. During his term as board chair, Trustee emeritus Steve Rubin '74 prepared us for the public launch. Trustee Phil Ryan '65 has played a significant role, both as interim president and as current board chair, during the final two years of the campaign. Trustee emeritus Warner Fletcher provided vital leadership during his year as board chair and has been an advocate for WPI throughout the campaign. Trustee and Campaign Advancement Committee chair Bob Martin '75, trustee and vice chair Joan Szkutak '79—along with trustees Steve Halstedt '68 and Stu Kazin '61, and trustees emeriti Judy Nitsch '75 and Bob Beckett '57—have provided significant guidance to our efforts throughout the duration of the campaign. Every one of these volunteers, and so many others who joined them, have also led by example, inspiring others through their philanthropy.

We all can be proud of the impact this campaign is already having on WPI. The campus is evolving with new and renovated facilities to meet the needs of our students and faculty as they seek solutions to complex, real-world problems. Our academic programs have been enhanced by endowed professorships, fellowships, and endowments that will keep WPI ever forward-looking in its quest to address the world's most pressing challenges. More deserving, talented, and ambitious students have access to a world-class WPI education as a result of the scholarship support generated by this campaign.

One of the most gratifying moments of this campaign was the day we announced the \$40 million commitment from Bob Foisie '56. It was a historic moment for WPI, to receive the largest individual commitment in its history. But it was even more striking to see students and alumni meeting Mr. Foisie for the first time and thanking him for the scholarship support that made their WPI education possible—indeed, for changing their lives for the better. That's what this campaign has been about: changing lives, whether through a scholarship, research support, donating to a new campus building, supporting a student project, or simply giving to the university's area of greatest need. I've always described WPI as the great enabler of my life, and I'm proud to have served my alma mater in a way that will enable positive change for others.

The resounding success of *if...The Campaign to Advance WPI* sets the stage for President Leshin to lead this university to even greater levels of excellence and impact. I, for one, am eager to see what the future holds.

Michael J. Dolan '75
Senior Vice President, Exxon Mobil Corporation
WPI Trustee and National Campaign Chair

IF... THE CAMPAIGN TO ADVANCE WPI

WITH NEARLY \$250 MILLION RAISED AND MORE THAN 100% OF THE GOAL REACHED, THE CAPITAL CAMPAIGN WAS ABOUT WHAT THIS REMARKABLE UNIVERSITY—AND THE GREATER WPI COMMUNITY—COULD ACHIEVE IF WE ALL COMMITTED TO A BRIGHTER FUTURE.

“I FIRST WANT TO THANK and celebrate the extraordinary loyalty and generosity of the entire WPI community as we conclude our highly successful campaign, having raised record levels of support for student financial aid, faculty teaching and research, campus facilities, and unrestricted support.

“We celebrate this campaign at the same time that we celebrate WPI’s 150th birthday and the inauguration of Laurie Leshin as our 16th president. This campaign provides a solid foundation as President Leshin leads our community in strategically planning WPI’s future and our next levels of excellence and impact on our students, on higher education, and throughout the world. Our shared accomplishments are only a bright promise of that which WPI has yet to achieve.”

PHILIP B. RYAN '65
CHAIR, WPI BOARD OF TRUSTEES

“I AM DELIGHTED with the campaign results – any time you can exceed your goal by nearly 25 percent you have to be pleased. Thanks to the generosity of our WPI alumni and friends, we were able to achieve this outstanding result.

“I see this campaign signifying that we have taken our giving potential to another level and have expanded our base of alumni who are reconnecting with the university. This is important for the future, as we want more of our alumni to stay connected with the school – and this campaign started that process.”

JOAN BOLDUC SZKUTAK '79
TRUSTEE, CAMPAIGN
ADVANCEMENT COMMITTEE
VICE CHAIR

“THE SKY’S THE LIMIT for WPI as we move forward with the support of our generous alumni and friends and build on the most successful fundraising effort in the university’s history to expand WPI’s impact.”

LAURIE A. LESHIN
PRESIDENT

“SUPPORT FOR THE CAMPAIGN was widespread and strong in the WPI community. Alumni, students, faculty, staff, and friends all joined in to generously advance WPI’s goals and resulted in a record-setting campaign.

I’d say that our biggest success was the sheer breadth of the Campaign. new donors. Trustee support and help. A record number of WPI alumni, students, faculty, staff, and community friends joined together in support of the campaign, with many first-time donors. The WPI trustees both generously donated to the campaign and actively helped find, connect, and solicit support for the campaign – opening many new doors and establishing key relationships with donors.”

ROBERT MARTIN '75
TRUSTEE, ADVANCEMENT
COMMITTEE CHAIR

“WE HAVE HAD A WONDERFUL CAMPAIGN. It has exceeded our goals in several important ways. First, we’ve raised nearly \$250 million for WPI – by far our best campaign ever, and double our previous best. Just as important, we’ve reconnected with many of our alums and supporters – a wonderful asset for WPI going forward.

And, finally, we’ve assembled a world-class advancement team – a capability that will help us keep WPI among the best, most innovative technical institutions in the world for many years to come.

Many thanks to Bill McAvoy, Jo-Ann Alessandrini, the advancement team, the administration and faculty, my fellow trustees, and the entire extended WPI family for achieving incredible results!”

MICHAEL J. DOLAN '75
TRUSTEE AND NATIONAL
CAMPAIGN CHAIR

ROBERT H. GODDARD AWARD
FOR OUTSTANDING
PROFESSIONAL ACHIEVEMENT



LARRY JONES '75

is principal of Aegis Management, a management consulting service for technology and service companies, and a leader of world-class public and private companies.

JIM GIZA '95 MS

is entrepreneur and cofounder of KAYAK, a travel price comparison website.

JOE ADAMS JR. '75

is president of Energy and Industry at MWH, overseeing oil and gas, mining, and hydroelectric projects around the world, including the \$3 billion Panama canal expansion.



ALUMNI HONORS

2015 AWARD RECIPIENTS

During Alumni Weekend, the WPI Alumni Association honored 10 of the university's most accomplished and dedicated alumni. The WPI community celebrates these individuals for their unyielding support of the university and their impressive professional achievements.

HERBERT F. TAYLOR AWARD
FOR DISTINGUISHED
SERVICE TO WPI



ICHABOD WASHBURN
YOUNG ALUMNI AWARD
FOR PROFESSIONAL
ACHIEVEMENT

JOE SANTOS '95,

a commander in the U.S. Navy, was recently a member of the CNO's staff in the Strategy Branch of OPNAV NOOX and is currently a military professor in national security affairs.

JASON ANDERSON '95

is founder and president of market research agency Insights Meta, an active member of the Google Consumer Surveys advisory board, and a sought-after speaker.

BOB MARTIN '75, WPI trustee and chair of the board's Advancement Committee – under whose combined efforts with the national campaign chair, if...*The Campaign to Advance WPI* exceeded its \$200 million goal a year early.

MIKE AGHAJANIAN '80 served as the first alumnus volunteer advisor for an off-campus IQP – in Melbourne, Australia.

JOHN BOYNTON YOUNG
ALUMNI AWARD FOR
SERVICE TO WPI



MIKE FERRO '10 is chair of the Graduates of the Last Decade Committee, an at-large member of the Alumni Association Board of Directors, and a member of the Tau Kappa Epsilon/Zeta-Mu Board of Advisors.

WILLIAM HERBERT '05 is a two-term member of the Alumni Association Board of Directors, leader of the first three Alumni Association Community Service Day projects, host of Incoming Student Barbecues, and founder of the WPI Acronym Dictionary.

WILLIAM R. GROGAN
AWARD FOR OUTSTANDING
CONTRIBUTIONS TO THE
MISSION OF WPI



PHIL RYAN '65, chair of the WPI Board of Trustees, served as interim president from June 2013 to May 2014 during a presidential transition.



John Gabranski '75, President Leshin,
Tina Dutra '15, Jody Terranova '98

DRIVING THE LEGACY FORWARD

2015 SCHOLARSHIP DINNER
CELEBRATES WPI'S PAST, PRESENT,
AND FUTURE

“Yes, the idea of working on explosive bolts for the first manned space shuttles to Mars gives me absolute goose bumps. And, yes, I believe that I will represent WPI's third tower and have an impact on the world. But for me, like for each of you here tonight, there needs to be more.”

SCHOLARSHIP RECIPIENT TINA DUTRA '15 shared these powerful words with more than 250 guests at this year's annual Scholarship Dinner. With over 95 percent of WPI undergraduate students receiving some form of financial assistance, Dutra, a mechanical engineering major who joined Ensign-Bickford Aerospace and Defense as a project engineer in May, represented many of her peers at the elegant dinner held on April 1 in the Rubin Campus Center.

In WPI's 150th year, the Scholarship Dinner honored the university's Two Towers tradition and celebrated triumphs in both STEM disciplines and the humanities and arts, speaking to the promise of WPI as a premier global polytechnic. In keeping with the sesquicentennial theme, Dutra shared her pride in her place in WPI history as a mechanical engineering major who received a nearly 100-year-old Heald Brothers Scholarship. She spoke passionately of her future as a project engineer for manned Mars missions. “I believe that with hard work and commitment I will represent WPI's third tower and have a positive impact on the world,” she said, and, likely, everyone in the room believed her.

More proof of WPI's legacy of impact was found in the words of Jody Terranova '98, this year's alumna

scholarship recipient speaker. A pediatrician and assistant professor of pediatric medicine at the University of Connecticut, she was the recipient of a Harry Feldman Scholarship (funded by Robert A. Foisie '56). Beyond practicing medicine in an underserved community and serving as deputy mayor of Windsor, Conn., Terranova has made an impact on the world by generously giving back to the WPI community. “I was very thankful to receive my scholarship over the four years that I was here ... and I am proud to contribute by giving back.” With eloquence and an engaging smile she spoke directly to the scholarship recipients: “I would ask you not only to thank your donors here tonight, but to go out into the world and do something that affects other people in a positive way, so that you can further spread the influence and impact of your donor's support onto others.”

Scholarship donor and WPI Arts and Sciences Advisory Board member John Gabranski '75 spoke with great humility on behalf of the university's scholarship donors. As a retired partner of PricewaterhouseCoopers, Gabranski said his WPI education provides the framework and platform for his life endeavors and successes. He told his fellow scholarship donors, “We're of a generation now where I think it's our turn to give back. So I represent all of the donors in the audience tonight who, I think, feel very much the same. We were the beneficiaries. We were very fortunate to come to WPI ... and now we want to return the favor to our current scholarship recipients and to future WPI students.”

President Leshin closed the evening with a heartfelt thank you to the many generous scholarship donors. She then spoke directly to the student recipients, acknowledging the daily rigors that they face and tasking them to go forth and fortify WPI's third tower of impact. She deftly tied it all together by saying “there is something special that really connects us across the generations of thinkers and learners and doers out in the world to continue to drive that [impact] legacy forward.”

—Sira A. Naras

ALUMNI WEEKEND MAY 28-31



ONE HUNDRED FIFTY YEARS OF TRADITION provided the backdrop for the more than 600 alumni and friends who returned to campus for Alumni Weekend 2015. Recognizing the best of our alumni, celebrating milestone reunions, playing a round of golf, learning from current faculty and students, sharing memories, meeting new friends (plus a few robots), and having an all-around great time was the order of the weekend.





FROM THE ALUMNI PRESIDENT

Dear Alumni:

For me, WPI has always been about family. The friends and colleagues I have gained since stepping onto campus all those years ago are my extended family. Coming back to campus always feels like coming home. After 150 years, the campus is as beautiful as ever.

Alumni Weekend was fantastic. It was great to see so many alumni back on campus revisiting old memories and creating new ones. From the Class of 2015 back for their zero-year to the Class of 1965 celebrating their 50th to everyone in between—even in non-reunion years—everyone had a great time reconnecting with Tech.

One of my favorite parts of Alumni Weekend is getting to hear about all of the accomplishments of our distinguished award recipients. It was an honor to participate in recognizing the significant contributions these alumni have made to the university and their chosen fields. It was especially nice to honor William Herbert '05 and Mike Ferro '10, with whom I have served on the Alumni Association Board of Directors and consider part of my WPI family.

Shortly after Alumni Weekend, the campus was again bustling with activity. TouchTomorrow welcomed thousands of community members, offering the opportunity for kids of all ages to learn interactively about science, technology, and robots.

Families come together in times of need, and the WPI family is no different. When called upon to support *if...The Campaign to Advance WPI*, you answered the call. In fact you answered so strongly that the \$200 million goal was exceeded well in advance of the target date of June 30, 2015. Your commitment of nearly \$250 million will help ensure that the full potential of the university is realized. We came together so that the students and faculty will have the resources to achieve amazing things.

On March 19—WPI's first Giving Day—we came together to support the Foisie Innovation Studio. The news that Alumni Gym will need to come down in order to make the studio a reality may mark the end of an alumni icon for some. I view it as a continuation, an evolution. The alumni coming together to raise over \$328,000 in just 24 hours is the exact spirit and commitment that was displayed by the original Alumni Gym donors. They raised the funds to provide a resource that students desperately needed. A century later, we have done the same.

All the best,

Rachel '96 '06

Rachel M. Delisle '96, '06 MBA

FOR THE LOVE OF ART AND ALMA MATER

ON A GOLDEN AFTERNOON IN WESTFIELD, N.J., DOROTHY “DOTTY” WEISS GINGERLY GRASPED A PENCIL AND SKETCHED SEVERAL SNOWDROPS HARVESTED FROM HER FLOWER GARDEN. THE SIMPLE ACT BROUGHT HER GREAT JOY—AS DID THE SCULPTURES AND PAINTINGS SHE CREATED OVER THE YEARS.

BEFORE HER PASSING ON MAY 11, 2015, THE 93-YEAR-OLD WIDOW OF J. RICHARD WEISS '42 EMBRACED ART AND MUSIC, TWIN PASSIONS THE COUPLE SHARED THROUGHOUT THEIR 70-YEAR MARRIAGE.

A nearby desk drawer held dozens of CDs from iconic music artists, including Bennie Goodman and Leonard Bernstein, people she and her late husband once counted among their dearest acquaintances.

“We knew a lot of people who were in the music field and we enjoyed being close to artists, because they were important people to us,” said Weiss during an interview only a few weeks before her death. “When we had an opportunity to buy into the jazz scene, we did that because music was important to us.”

The couple became lifelong music patrons and members of

jazz societies in New Jersey and Pennsylvania. They also developed a fond loyalty to WPI, which played a role in making their dreams possible.

When the two met in 1940, Richard was halfway through his chemical engineering program at WPI. A “studious fellow,” according to Dotty, he had a keen mind, a zest for life, and—like many young men of that era—a limited budget. In fact, during his first year in Worcester, he lived with an older couple and worked on their furnace in trade for housing.

But a full scholarship to attend WPI allowed the New Orleans native to develop the skills he would later use during his 45-year career with pharmaceutical giant Merck and Company.

“It was a blessing that Mr. Weiss had that scholarship, and so we always felt connected to WPI,” Dotty said. “We don’t have children, but we always had WPI and enjoyed donating to it over the years.”

The Weisses gave faithfully to the Annual Fund, supported WPI athletics, and attended class reunions. Richard served as a class agent and he encouraged his fellow alumni to support the school; he often visited campus to recruit WPI graduates for positions at Merck. Even as a student, he



This image of Mamie Moffitt and her 5 Jazz Hounds is included in the Weiss Jazz History Database

proved a natural leader and a generous contributor of his time and talent. He participated in sports, the Masque theatre organization, several honor societies, and Theta Chi fraternity, for which he served as treasurer and later as president.

Dorothy Weiss continued her husband’s generous legacy by committing more than \$2.5 million to the Foisie Innovation Studio, the Weiss Jazz History Database, and the Weiss scholarship. The Dorothy and J. Richard Weiss '42 Endowed Scholarship establishes a fund to help recruit and support students like Richard who have the talent and the drive, but need the financial means to fulfill their calling.

The Weiss Jazz History Database, founded and directed by Rich Falco, assistant teaching professor of music and director of jazz studies at WPI, will help rescue, preserve, and archive historically significant materials related to jazz

music, such as old recordings, photographs, television footage, and artist interviews.

The Weiss gift will also provide space in the Foisie Innovation Studio for displaying original work at the intersection of the humanities and arts and the STEM fields, created by students. Known as the Connector, it will also highlight alumni inventions and student projects.

Dotty Weiss hoped this space will help campus visitors realize the value not only of WPI’s technical instruction but of its humanities program. “I would like people to visit WPI and become acquainted with the music and art as well as the engineering, because I think music and art are a very important part of anybody’s life,” she said. “The more of it we have in our lives, the more joy we experience. And, music and the arts are things you can enjoy for your whole lifetime.”



LEAVING THE WORLD A BETTER PLACE

THE LEGACY OF JOHN BLACK '53

WPI alumni change the world in many ways, big and small. John Black is one of those graduates who, through his actions and the life he led, left the world a better place. He died Aug. 30, 2014, at the age of 84, but he left behind a legacy of compassion and philanthropy that will impact generations to come.

“John was probably the most caring, humble person I’ve ever known. All he cared about was helping others,” says Millie Fitzpatrick, Black’s close friend of 12 years. “I think his goal in life was to see that others could have what they needed.”

According to Fitzpatrick, Black and his late sister, who was a teacher, were lifelong advocates of education. To that end, he committed more than \$5 million of his estate to WPI, all to support

undergraduate scholarships.

Black was born and raised in Medford, Mass. He attended the U.S. Coast Guard Academy for two years before transferring to WPI. He majored in mechanical engineering and was a member of Sigma Phi Epsilon fraternity. After graduation, he embarked on an engineering career that led to positions at General Electric, Honeywell, Coalex Energy Corporation, MSI Industries, and W. P. Keith Company. Along the way he developed a taste for entrepreneurship, creating a non-automotive “decelerator,” which was such a success that he was bought out in 1963 by Universal Match and semi-retired. He also established an automation company in the late 1970s, well ahead of its time.

Black spent most of his career

in Colorado, and in the 1980s moved to a modest home just up the street from Millie Fitzpatrick. In 2000, her husband passed away, and Black was divorced by then. The two became acquainted through a neighbor and often discussed travel. Fitzpatrick had been a stewardess before she had children and later worked as a travel agent. When Black and his sister traveled, Millie made their arrangements. Later, she and Black traveled to Germany together for his nephew’s wedding—each paying their own way, she notes.

“I was very fortunate to have two wonderful men in my life—my late husband and John.”

She recalls Black’s fondness for baking and gardening, how they shared seedlings from each other’s vegetable patches. The two spoke every day and, replaying his Coast Guard days, even had a secret window-blind signal to let each other know they were safe each morning and night. One of Fitzpatrick’s favorite memories is Black’s walking the two blocks to her house after every snowfall, snow shovel over his shoulder, to come clear her driveway.

“We eventually adopted him as a father,” says Ken Fitzpatrick ’93 (MS), Millie’s son. And Black adopted the Fitzpatricks as his family, supporting many of his adopted grandchildren in their

higher education pursuits. With his estate gift to WPI, Black will continue to provide valuable financial assistance for veterans of Iraq and Afghanistan and their children.

Ken Fitzpatrick describes John Black as a very private person, but also “a warm man and very unpretentious.”

He notes Black’s dedication to the Coast Guard; he received a commission in the Coast Guard Reserve after graduating from WPI and diligently maintained those ties throughout his life. He also maintained his ties to WPI, returning to campus whenever he came to the Boston area to visit his sister. Fitzpatrick’s niece is a WPI student, and this thrilled Black.

Though he was surprised to learn the extent of Black’s estate—“a man who lived simply and modestly”—Fitzpatrick was not surprised to learn where Black had chosen to direct his philanthropy.

“I think he saw the value of education and that people can make a better life through education,” says Fitzpatrick. “He clearly valued what WPI does.”

Black is one of those WPI alumni who made, and will continue to make, a positive impact on the world, one person at a time.

1948

Ron Moltenbrey writes, “After 65 years-plus of wonderful married life, I lost my wife. She married me and supported me for the last year of getting my MS degree at WPI in 1949. We developed many friendships with both faculty and fellow students. We both wanted to get back for my 65th reunion in 2013 but health problems prevented it. WPI was certainly a very important part of our journey through life. My best wishes to all of my living WPI friends.”

Here’s the latest from **Bob Nikander**. “I’m chairman of the C. A. Briggs Company, a mid-Atlantic distributor of electrical sensors and controls for process and machine automation. Been here since 1964. Still enjoy working 45 hours per week, because every day brings something different. From my Tech days, i is still equal to e divided by r . Best to all!”

1952

Mon Dickinson writes, “My wife and I are now closer to WPI as well as our beloved Block Island. Last summer we moved from Maryland to StoneRidge, a continuing care retirement community, in Mystic, Conn. Anne is a resident in an assisted living memory care unit, and I have an apartment in an adjacent independent living unit. We are both doing well. I returned to the college for the installation of our new president and plan to get back again this spring. StoneRidge is working out for us splendidly, and I am now a member of an 11-member Residents Council and chair the finance committee. We will be back on Block Island for Race Week and the 4th of July, but then will rent for the high season. Come and visit!”

1953

David Hathaway writes, “I have been impressed with the increased knowledge of genetics and find at the age of 84 that we should be helping science find cures for so many critical

health problems. I believe that we need to help such smart people like George Church at the Harvard Medical School, who is looking for 100,000 folks to donate their DNA so scientists may have a the working material to search for clues to help people stay or become more healthy and live productive lives. At PGPstudy.com you can read more and find out how to submit your DNA sample. I have donated mine, and I find that attending the seminars every two years mind blowing!”

1954

Henry Strage came to campus with his wife, Alberta, in March, with an eventful itinerary. In a single day, he presented the 2015 Strage Innovation Awards; unveiled the Strage Innovation Creativity and Entrepreneurship Library (housed in Gordon Library); and gave a lecture and signed copies of his newest book, *Two Ceramic Horses on a Cracked Base*—a family saga that plays out across four continents. The 500-page tome features vintage photographs and lively vignettes culled from Henry’s years of research into his family’s history.

1955

Robert Holdenvenson (né Holden) writes from San Diego, “My political activism has paid off; Toni Atkins, whom I have supported since she first ran for the city council is now Speaker of the Assembly, the second most powerful office in the state of California after the Governor. Locally, assembly-women Lorena Gonzale, former secretary-treasurer of the Labor Council Shirley Weber, as well as Senator Marty Block are close associates of mine.” He advises, “To get close to a politician, attend their first fundraiser—they will never forget you!”

1957

Audrey Carlan shares, “Yes, I am still around, albeit (shhh) an octogenarian! (It just creeps up on you!) I have been living here in sunny So. California over

49 years! Even though our state taxes are high and we are running out of water, you can’t beat the winters (or lack of them) here. As a professor emeritus of math and computing, I take great pride in seeing my grandson (age 14.5) enroll in community college classes in computing, finance, anthropology...all online. Did I say he is a computer whiz? I enjoy keeping informed about the happenings at WPI. I am so proud that there is a very talented and capable woman Pres.”

A message from **Al “Pappy” Papanou**: “Be proud, World Famous Class of ‘57. Per our Excellence Scholarship report, we have given out \$471,185 in scholarships since we established the fund in 1982—an average of almost \$15,000 per year. Of special interest is that our total contributions to the fund have been just over \$325,000, but through the wise management of WPI, the fund now has a market value of a speck under \$600,000! (I wish I could add my IRA to their investment expertise...) This coming year it looks like we’ll have at least \$26,000 to give out. This is our required distribution, based on a convoluted formula probably derived from some inverse hyperbolic function devised by Flytrap Brown—or maybe Arthur B—as a ‘farewell’ gesture. We are the leaders in rewarding excellence. With our 20th Reunion coming up in 2017 (for the third time), let’s dig deep and continue to empower future graduates!”

1959

Jim Alfieri is still “on the run” for the Leukemia & Lymphoma Society and the Team-In-Training (TNT) in northern California. He got his start in 2000, when he ran in the annual Mayor’s Marathon in Anchorage, Alaska, to honor his brother-in-law, John Duff, who was suffering from multiple myeloma, and has since passed away. Over the next 15, Jim completed dozens of full- and half-marathons, serving as participant, mentor, and team captain.

In early 2011 Jim was diagnosed with non-Hodgkin lymphoma and took a brief break from running to undergo treatment, but he was not out of action for long. Six months later he was back fundraising and training with his team. He’s also grateful for the generous contributions by many of his WPI friends. Jim finished 2014 by running the Berkeley Half Marathon along with his oldest son James, and in June marked his 15th year with TNT.

Jim’s long career with the State of California Highway Division included serving as supervising engineer for many projects on the Golden Gate Bridge. He is currently consulting to Caltrans in Sacramento. He and his wife, Janet, live at 4707 Ponderosa Drive, Santa Rosa CA 95404. Another of Janet’s brothers, **Jim Duff ‘57**, passed away in 2011.

Bob Hayden writes, “Happily living with Lucy in Brevard, N.C. Our 55th wedding anniversary is coming up in June, and we recently became great-grandparents. Although I officially retired in 2000, I have continued to consult as a band saw specialist. For the past six years I have been doing this in China for an average of five weeks a year. I was honored as outstanding consulting expert by the Hunan government in 2010. I’m going again in May for another five weeks, and I hope again to lose 10 to 15 pounds.”

Allen Levesque is coauthor of a new book, *Modeling of Digital Communication Systems Using SIMULINK*, published by Wiley in March 2015. (See the Bookshelf column in this issue for more information.) Allen and his coauthor are founders of G5 Scientific LLC, a Boston-area consulting company specializing in digital communications technology. An elected Fellow of the IEEE, Allen has recently held a part-time appointment as research scientist in WPI’s Center for Wireless Information Network Studies. He and his wife, Barbara, live in Chelmsford, Mass., and enjoy spending time at the Quechee Lakes Resort in Quechee, Vt.”



WPI

Homecoming 2015



September 25 & 26

**150 YEARS OF HISTORY AND TRADITION CALLS.
MAKE IT YOUR YEAR TO COME BACK TO THE HILL.**

Special celebrations during Homecoming 2015

- *Rowing 50th Anniversary*
- *Sigma Pi 50th Anniversary*
- *SocComm Reunion*

*Plus, a celebration of all past presidents
of the Alumni Association*

Events and details at wpi.edu/+homecoming

1964

Fred Bartkiewicz began official retirement from Performance Compounding in Pawcatuck, Conn., on New Year's Day 2015.

Novelist **Gary Goshgarian** was honored last year with the Robert H. Goddard Award for Outstanding Professional Achievement for his career as an accomplished novelist at the class's 50th reunion. In a story that appeared in *News@Northeastern* (where he an English professor) he claimed, "I'm probably the only person who has graduated from WPI and then spent his entire professional life teaching English. The experiences I had were absolutely essential for me to write the books I do."

Bruce Maccabee notes, "My new book, *The FBI CIA UFO Connection* is doing well. It is available at Amazon. Famous actor Dan Aykroyd (*Saturday Night Live*, *Ghostbusters*, etc.) has endorsed the book." Aykroyd appeared on the satirical *The HuffPost Show* to discuss his own UFO sightings and recommended Maccabee's book.

Eugene Niemi (MS ME) is on sabbatical from UMass Lowell, where he is a professor in the mechanical engineering department.

1965

David Coombe's widow, Betty, reports that David passed away in January. With her background as an RN, she was able to keep him at home until the end. Services were held in Mystic, Conn. The houses they each grew up in are on either side of the Mystic River, Betty relates, "so in that sense he has truly gone home." Betty says she was pleased to receive a wonderful call from **Wayne Ponick** at the time.

"Time for a brief note to catch up on recent news," writes **Mort Gutman**. "After 12 years, I finally retired from working as a 9-1-1 dispatcher in Bethel, Conn. Marilyne, my bride of almost 47



'67

"I tutor students (grades 6 to 12) in mathematics."

— Arnie Miller '67

years, and I have moved to a 55+ community in Southbury. Terrific place, with lots to do, and no lawn mowing or snow shoveling...a blessing this past winter! We were accompanied in our move by our two rescued Boston terriers, Moishe and Fenway. I had a knee replaced last fall and managed to develop a massive infection, which required two additional surgeries over the following two weeks, and six weeks of IV antibiotics. But I'm doing OK now and walking the dogs whenever the weather permits. I hope to get back to flying light planes soon, which is my passion."

Charlie Seaver sends this note. "After 39 years with DuPont (technical, managerial, and developmental assignments in 13 business units, I retired and have enjoyed traveling with my wife, Carolyn, visiting with family (three grandkids – 10, 8, 3), hybridizing hostas, and some hiking on the AT. I have recently been working on an innovative way to make shredded leaf mulch cheaper and easier." Charlie lives in Hockessin, Del.

1966

Philip Blackman writes, "Hawaii CyberSpace Academy, which I originated, launched the state's Inventive Engineer Poster Contests two years ago. Recently the College of Engineering, UH Manoa, invited our student winners to present displays and engage hundreds of middle-school students in engineering concepts. The WPI alumni and admissions offices supported our "process of thinking" games with foam WPI cube puzzles, which were a big hit. We are inviting students at WPI to "appear" in the classes via Skype in facilitated active dialog.

I applied the experience I got garnering support among WPI department heads to organize a WPI team to compete in the DARPA Grand Challenge a decade ago. My donation funded the entry fee and expenses the next year for the NASA Regolith Challenge WPI team. This too anticipated WPI formally establishing a robot degree program. I have been invited to lecture at Senshu University, Ikuta Campus in Tokyo. Topics will be robotics and engineering design skills for managers."

1967

Arnie Miller writes, "I am a retired vice president of a high-tech software company in Massachusetts. I tutor students (grades 6 to 12) in mathematics, including basic math and pre-algebra, to AP calculus and statistics, in Cambridge, Belmont, Arlington, Lexington, and Brookline. I am a member of the Alden Society to ensure that resources will be available to support the mission of WPI far into the future. The photo shows me working with one of my students, using the game of LUDIX to encourage critical thinking. Her name is Zoe, she's a bright, young student who enjoys being challenged. I provide her with 'advanced' math insight into algebra and geometry beyond her regular fourth-grade math curriculum."

Douglas Pike shares, "My wife, Carolyn, is a former assistant to Professor Karl Koontz in CE, and she also assisted Professor James Danielli in the newly formed Life Sciences department. Danielli was also the founding editor of the *Journal of Theoretical Biology*, with offices in the Alden Memorial bell tower, working with famous scientists like Linus Pauling and Jonas Salk. There was electricity (and some friction) in the air, which was fired by many WPI faculty. The MQP and IQP experiences were true eye openers for me personally, and for many faculty and students. Lectures and labs are good, but are not a substitute for the experience of hands-on projects. We need both

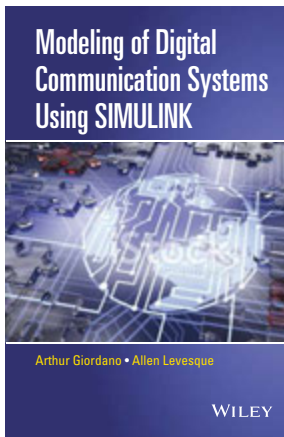
recent books by WPI AUTHORS

MODELING OF DIGITAL COMMUNICATION SYSTEMS USING SIMULINK

ALLEN H. LEVESQUE '59

AND **ARTHUR A. GIORDANO** | WILEY

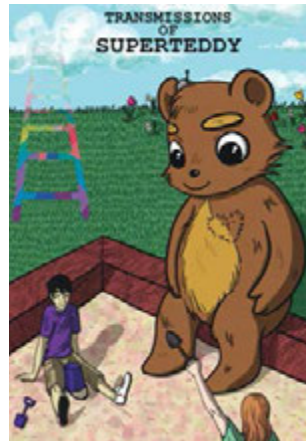
Levesque teamed up with the co-founder of his consulting firm, G5 Scientific, to create a comprehensive guide to using SIMULINK, an extension of the MATLAB modeling tool, for simulations in digital and wireless communications. The book includes case examples, from basic to complex, and provides online access to useable simulations. Levesque, who has taught graduate courses in digital communications at WPI, is currently a research scientist in WPI's Center for Wireless Information Network Studies.



TRANSMISSIONS OF SUPERTEDDY

DAN TANA '03 | CREATE SPACE

What if a gigantic teddy bear came down to Earth to show humanity the error of its ways? Tana's playful novel records the wisdom of an imaginary friend and superhero named Theodore Fluffington, who is dedicated to helping Earthlings create a society more like the one he comes from, in which all people are fundamentally happy and free from misery. Tana scorns capitalists, restrictive laws, and the confines of gender, while he lays out the guidelines for a world where love, understanding, and just a little silliness can overcome the obstacles to a more pleasant place to live. Pen and ink illustrations by Jennifer Volkman add feeling to the tale.

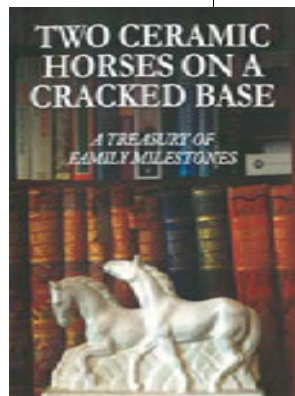
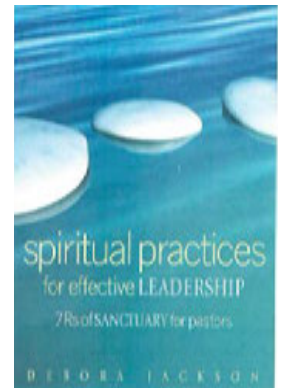


THROUGH THE BLACK HOLE

KRISTEN SMITH '14 | MASCOT BOOKS

The year is 2509. The world's population is approaching 33 billion. Robots have replaced teachers, high-tech glasses have replaced classrooms, and the human race is threatened by pollution and political turmoil...

Smith's first novel, written in the summer between her junior and senior year, depicts humanity's struggle to redeem itself after centuries of environmental disaster have left us on the brink of another ice age, and nuclear war has destroyed 99 percent of the population. Will the sun fizzle out and slump into senescence as nothing more than a dwarf white star? Can a handful of brilliant and determined scientists turn things around? Smith, who is currently working on her MBA online at Southern New Hampshire University and working at a preschool, hopes to continue writing.



TWO CERAMIC HORSES ON A CRACKED BASE:

A Treasury of Family Milestones

HENRY M. STRAGE '54 | SELF PUBLISHED

Henry Strage's family history reads like a James Michener novel, with generations of colorful characters who migrate across continents, survive wars and upheavals, and adapt to America with sometimes humorous misadventures. Strage began by collecting family stories to pass on to his grandchildren – and wound up with a 500-page tome of meticulously documented anecdotes, full of archival photographs, travel documents, vintage news clippings, and family trees. Part V, "Higher Education," tells of his years at WPI, where he played soccer, almost electrocuted his ROTC instructor, and lost part of his scholarship because of a controversial article in Tech News. "Don't make the mistake I did," says Strage, who spent a decade researching his ancestors. "Ask your parents about their stories while you still can."

SCIENCE FOR PARENTS

KARLA TALANIAN '87 ('91 MBA)

CREATE SPACE

Most kids have an innate desire to play with dirt or watch grasshoppers jump around, Talanian writes, but parents sometimes feel ill-equipped to cope with the questions that result. Her guidebook—aimed at those who don't have the benefit of a science degree—begins with physics ("Don't worry—it won't hurt!") and progresses through the natural sciences, with examples and experiments to do together. It also defines basic terms and includes a primer on the metric system, with real-life examples (a grain of sand, a large dog) to put things in perspective. Talanian, an elementary school teacher and the administrator of a mathematics enrichment program, draws on her chemistry and biotechnology degrees, as well as her experience in industry and in raising three children.



SPIRITUAL PRACTICES OF EFFECTIVE LEADERSHIP: 7 Rs of Sanctuary for Pastors

DEBORA JACKSON '89

JUDSON PRESS

As Jackson moved from a career as an executive in the corporate world to a calling in Christian ministry, she found that the challenges of leadership remained the same. Her "7 Rs"—which include Retreat, Reflect, Recalibrate, and Return—are designed to help pastors maintain the spiritual wholeness and well-being they need to be effective leaders. Drawing from religious texts, scientific texts, and management studies, she documents the value of "time apart" and guides overburdened pastors through the process of establishing renewal practices that work for them.

classroom and projects, but they need to be integrated to achieve the best results.

"While running with the WPI Footpounders and working in admissions, I interviewed **Chrys Demetry '88**, daughter of Professor **Jim Demetry '58**, back when she was a prospective student. Today, as a WPI professor, she has worked tirelessly on classroom/project integration. The WPI Plan is not just another "capstone" experience. We need to keep the electricity in the air. To work its best, the WPI Plan requires a low student-to-faculty ratio in an age of rising costs. Excellence is not cheap."

1968

Alan Berg ('74 MS CE) has retired from civil engineering practice in order to devote full time to teaching bridge and competing in bridge tournaments. He is a Silver Life Master in the American Contract Bridge League, is accredited as a bridge teacher and club director by the ACBL, and is a member of the American Bridge Teachers Association.

Geof Tamulonis sends this update: "Retired and based in Cambridge, U.K., in a great relationship. Travelling around a bit as three of my children have ended up in NYC, while the fourth is in Portugal. Keeping fit with modern jive dancing, Argentinian tango, cycling, and hill walking."

1969

David Johnson got together with **John Weil** and **Andy Heman** recently, at the home of Mary Pauly, widow of classmate **Alvin Pauly**. They had a toast to fellow ATO brother **Chris Cowles** who passed away in March of this year.

Ed Mierzejewski writes, "I continue to be engaged in transportation planning consulting with Renaissance Planning Group in Tampa, Fla. Aline has fully retired as an ANRP from Moffitt Cancer

Center. We continue to enjoy traveling. This year's plan includes a trip to Warsaw, Berlin, Amsterdam, and Brussels. We enjoy seeing classmate **Dennis Murphy** and his wife, Diane Young, each winter on their snowbird routine." Ed also paid a visit to the WPI Graduate Admissions table at the 94th Annual Transportation Research Board's Meeting in Washington, D.C.

1971

Paul Cleary has served for 12 years as U.S. magistrate judge for the federal court in Tulsa, Okla. He writes, "My son, Conor, practices law in Tulsa. Oldest daughter, Caitlin, taught in Turkey on a Fulbright Scholarship and now lives in El Rito, N.M. My youngest daughter, Dylan, is a graduate student in entomology at the University of Arkansas."

Steve Williams writes, "I retired in 2013, after 40 years in the patent field. I began my career as a patent examiner with the U.S. Patent Office, attended law school evenings (Catholic and Suffolk), and worked as a patent attorney with Foster Grant/American Hoechst, American Optical, Ares Serono, Dike Bronstein law offices, The Gillette Company, and W. R. Grace. My wife, Pamela, and I were married in Nantucket 39 years ago, and we have lived in Worcester for 36 years. We celebrated our son's wedding in April."

Martin Wolf was honored with the 2015 Elva Walker Spillane Distinguished Service Award by the American Cleaning Institute during its 2015 Annual Meeting & Industry Convention. Wolf's career with Seventh Generation was the subject of a profile in the Winter 2015 issue of *WPI Journal*.

1973

Inventor and entrepreneur **Dean Kamen** was a keynote speaker at the 2015 R&D 100 Technology Conference. Kamen, who founded FIRST Robotics, dropped by the New England District

Championship at WPI, which brought 60 teams of robots and their high school humanoids to campus in April. WPI's associate director of robotics engineering, Ken Stafford, says, "Whenever Dean is here, an entourage follows him. Among [these] high school students he's a hero."

1974

John Mathews has now completed 20 years at UMassAmherst working in design and construction management as assistant director for campus projects. He oversaw the construction of \$1 billion in building projects, including a national award-winning cogeneration facility. He still competes at the Masters level in rowing, 40 years after representing the U.S. at the Montreal Olympic Games as WPI's first Olympian. Married 30 years to his wife, Barbara, he lives in Hadley, Mass.

1975

Allen Downs writes, "Greetings from England. After a rewarding career in pharmaceutical licensing, I nearly retired in June 2014 but instead took a multi-year assignment for 'one more lap' working in Cambridge, U.K. While it has been challenging starting a new job in a new country, I am enjoying the energy of working with a group close to half my age, and adopting an urban cycle commuter lifestyle for something different. Donna and I do the occasional tourist outing as we enjoy the opportunity of my working in this picturesque and stimulating city. With our youngest children almost through college, we are looking forward to yet another life adventure just around the next bend. I am looking forward to getting back on campus again to see all the changes that I have read about over the years."

Bob Horner writes from his home in Groveland, Mass., "Older son James got married in June 2014. Younger son Dan has a good job and his own apartment. Pam is retired, and I am

enjoying my job as a public policy director. Life is good!"

1977

Peter Chenard has retired from Pratt & Whitney as vice president of operations for Military Programs after 37 years. "I loved my career there, but was ready for a change of pace. After taking four months off, I started a consulting business providing engineering solutions for aerospace businesses. I am consulting three days a week to engineering firms and private equity firms looking to understand the aerospace market. This summer we will spend the other four days of the week boating out of Watch Hill, R.I. During the last couple of years I enjoyed working with the WPI business school to establish projects for graduate students to demonstrate their business skills solving real multi-discipline business problems. It was great to see these students tackle some very difficult problems and provide solutions using data and analysis. Hello to my alumni friends!"

1978

Paul Angelico returned to Aurora Algae Inc. in December as president and CEO. He previously served at the company as chief operating officer from 2011 through 2013. Before joining Aurora Algae, he was a principal at The Dover Group.

1979

Arthur Hughes writes, "Still running my own independent financial advisory firm. Have hired two associates. Will be empty nesting again, after having two junior hockey boys living in the house. They just lost in the first round of playoffs. One boy got a ride to play at Arizona State, and Kim and I are excited for him. Our daughters are doing great; Megan is doing her residency at LSU and Ashley is in fashion in Houston."

Stephen Rusckowski was elected to the board of Xerox Corp. He is president and chief executive officer of Quest Diagnostics. Prior to joining Quest, he was CEO of Philips Healthcare.

1980

Martin Rowe sent a wintry photo in March, and wrote, "By the time you read this, the snow should be gone. We can only hope. After the last big storm, the snow was over my head. I now spend my days entirely online covering electronics test and measurement for *EDN* and *EE Times*. The b2b media business has seen tremendous change in the 23 years since I started. There's no end in sight."

1981

Lee Laviolette was featured on the March 2015 issue of *Pipeline & Gas Journal*. He serves as managing director of the newly expanded energy practice for Navigant Consulting.

Jeffrey Smith writes, "Back at the helm of Knowledge Consulting Company (KC2), specializing in technology and science future strategies for U.S. Defense, Intelligence, and National Security agencies. Latest KC2 research work revolved around 'defensive strategies and consequence impact assessment for financial terrorism threats including cyber-based delivery models.' Also involved in a sports performance technologies start-up firm – Hotfoot Athletics – as COO/CTO."

1982

Bob Bean ('85 MS ME) is developing Acoustic Stream, "The Guitarists' 4-in-1 Wireless Companion." The device allows musicians to record and play back song ideas, which can later be synched to an iPhone or iPad. It also functions as a precision tuner, and a temperature/humidity monitor that sends danger alerts to your mobile device. After a successful Kickstarter campaign, Bob is looking to partner with a major guitar maker, according to an article in the *Worcester Telegram & Gazette*.

Classmates **Scott Dale** and **Steven Tartaro** work for The DeMatteis Organizations in Elmont, N.Y. They recently made news with their work on a net-zero energy-efficient public school on New York's Staten Island.

"In the category of better late than never," **Jay Koven** writes, "I am currently a third-year PhD candidate in computer science at NYU Polytechnic School of Engineering, working with the Security and Privacy Lab. My current work is on forensic examination of large email datasets, and I am planning on completing my dissertation in about two years. Working on a doctorate has left little time for much else in my life. I am looking forward to the relatively light stresses of a normal job."

Peter Sherlock ('86 MS EE) came to campus as a keynote speaker for the "In Great Company" program sponsored by WPI's Academic and Corporate Engagement division. He is senior vice president of MITRE's Program and Technology Center for National Security and director, Bedford Operations.



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1983

In May 2014, **Andy Crosby** purchased Maple Wood Acquisitions, a furniture manufacturing company in Ashburnham, Mass. He writes, “For more than four decades, Maple Wood (now known as ABCrosby & Co.) has provided the highest quality contract furniture, ranging from industrial work tops to restaurant tables and table tops, to a complete line of contract furniture for the education, healthcare, hospitality, and retail markets. Check us out at abcrosby.com.”

Cathy Coyne Parker is associate director of career services at the University at Albany, SUNY. She left IBM to join the University eight years ago, after completing her master’s degree in mental health counseling. One of her focus areas is working with students in the College of Computing and Information.

Matt Stinchfield founded Ploughshare Brewing Co., a start-up microbrewery in Lincoln, Neb. With his sous chef and catering experience, he’s also skilled in food-beer pairings and *cuisine à la bière*. Read more about Matt’s life in beer on page 17.

Carolyn (Kachanis) and **Walter Towner** were on hand to judge the Greeks Got Talent show at WPI during Greek Week 2015. “Wally’s jokes were not very funny, as usual (per Carolyn),” notes an email sent by Wally. He is currently an assistant teaching professor at WPI’s Foisie School of Business, and director of the Center for Innovative Manufacturing Solutions.

1985

Arthur Barrett was a featured speaker at the Exit Planning Exchange (XPX) Boston 2015 Annual Summit. He is the current president of Barrett Distribution Centers, a third-party logistics solutions company headquartered in Franklin, Mass.

Mike Raspuzzi recently changed jobs and is now working at EMC

Corporation in Hopkinton, Mass., within the technical support engineering organization.

1987

Jasmohan Singh (“Class of 1987, but I graduated in 1986”) shares, “It was a pleasure meeting the Honorable Governor of South Carolina during my recent visit to New Delhi, India. All my best to the Class of 1987, as well as 1986 and 1988. Also my best to all the competent engineers who took the Competency Exam – which was part of the WPI Plan at the time. Go Tech!”

Karla Talanian (’91 MBA) published her first book, *Science for Parents*, this year. “After graduating from WPI, I went on to work for several years in the biotechnology industry. I am now an elementary math teacher and the administrator of a mathematics enrichment school. I often found myself teaching and re-teaching science to my own three children as they progressed through school, and I often wondered about the parents who did not have the benefit of a science degree, and how they coped with this nightly ritual. So I wrote a book.” See the Bookshelf column on page 53 for more on Karla’s handbook, which enlivens concepts with simple experiments.

Karyn Van De Mark writes, “I am continuing my career in early-stage drug discovery research at Merck Research Laboratories in Boston, after 11 years at Biogen Idec. As a scientist in the newly formed group, IMR (immuno-Modulatory Receptors), I am responsible for cellular assay development for target validation, focusing on therapeutics that target the immune response in autoimmune diseases. One of my achievements has been using the new CRISPR Technology to knockout genes of interest in cell lines to study a particular disease pathway. I am excited by my new field, after many years working in oncology, a continuation of the focus of my MQP. I attended the Advanced Course in Immunology last July, sponsored by the American

Association of Immunologists and am amazed as to the advances in the immunology field. I live in Woburn, Mass., with my husband, **Jeff Denker ’88**, and our daughters, Katie, 16, and Jenna, 12.”

1988

Andrew Bruce assumed the role of chief operations officer of MHWirth after holding this role in interim status since joining the company in May 2014.

Pascale Fung was elected a fellow of the IEEE for 2015 by the Hong Kong University of Science and Technology.

Larry LaFreniere is president of Electric Supply Center (ESC), headquartered in Burlington, Mass. The company opened a 135,000-square-foot central distribution center in Woburn this spring. “Over the past two years we have doubled in size and our customer base has expanded all across New England,” he says.

Bryan Sheppeck tells us he’s looking forward to the 11th annual ATO Red Sox Road Trip. This year they’ll follow the team to Kansas City, joined by fellow ’88 classmates **Steve Gale, Dave Welch, Steve Farr, Dan Hoaglund, Jim Matthews, Tony Mastromatteo, John Walsh, Greg Woods, Greg Duplessie, and Chris McGinty**, as well as **Dave Hall** and **Gregg Speer** from the Class of ’84, **Karl Fischer ’85, Al Hall** and **Mark Gunville** from ’87, and – representing the Class of ’89 – **Brian Pothier, Mike Fitzpatrick, Roughneen, Brian Gilmartin, and Chris Winalski** – plus **Jack Gale ’96 (MBA)**. Go Sox!!”

1989

Michael Fitzpatrick writes, “Just dropping a note to let you know I was recently promoted to superintendent of systems management for MassDOT’s Highway Operations Center, based in South Boston. I have been here at HOC since February 2007, before that working at Mass Turnpike Authority beginning June 2005.”

Debora Jackson published *Spiritual Practices for Effective Leadership: 7Rs of Sanctuary for Pastors* to help spiritual leaders cope with burnout, exhaustion, and depression. Her book outlines a process that ushers pastors into Retreat and Release, in order to Review and Reconnect, before Reflecting and Recalibrating – all with the goal of Returning to ministry as more effective leaders. Previously senior pastor of the First Baptist Church in Needham, Mass., she now serves as executive director of the Ministers Council, American Baptist Churches, USA. See Bookshelf on page 53 for more information.

1990

Rory Welch, director of business development at Intelsat General, was elected vice chair of the board of directors of the Hosted Payload Alliance. HPA works to promote the benefits of hosted government payloads on commercial satellites. Before joining Intelsat, he served as an Air Force space operations officer.

1991

Michael Ahearne, C. T. Bauer Professor of Marketing at the University of Houston, gave a lecture at WPI in February. His talk, “Managing the Sales Force during a Period of Disruptive Organizational Change: Two Longitudinal Studies,” based on two longitudinal studies of salespeople during a period of disruptive organizational change, was part of the Foisie School of Business Academic Speaker Series.

Daren (’04 MBA) and **Kimberly (Harding) Burke ’90** are proud to announce that their daughter, Katelyn, will be attending WPI in the fall of 2015. “All the changes on campus are impressive,” they write. “Looking forward to the next four years!”

Nick Corcione spoke on campus about WPI students’ global project work on the Panama Canal Expansion Project. He is a project sponsor and a member of the CEE advisory board. Nick’s

development firm, Grupo Corione, also administers a nonprofit organization that supports socially vulnerable youth, focusing on education, sports, environmental stewardship, and service learning.

1992

David Andrade shares, “I’ve started working with an educational consulting firm, Educational Collaborators, helping school districts around the country adopt Google Apps and Chromebooks as well as other educational technologies, and improve their operations.”

David Jolie joined Sunshine Minting as director of global operations. Prior to this, he served as division manager and manufacturing director for Pyrotek

Inc. in its Spokane Valley and North Carolina facilities.

Houssam Toutanji will become the new dean of Western Michigan University’s College of Engineering and Applied Sciences at the start of the 2015–16 academic year. He is currently professor and chair of civil and environmental engineering at the University of Alabama-Huntsville.

1994

Matthew Thibodeau was appointed a vice president of Sargent & Lundy LLC in Chicago. A project director in the company’s Chicago-based consulting group, he is responsible for the direction of international and U.S.-based owners’ engineering and independent engineering engagements, including

recent work on wind power, solar power, biomass, gas, and coal projects.

Matt Turner writes, “I have been working at Dassault Systemes SIMULIA (formerly HKS or Abaqus Inc. – best known for Abaqus engineering simulation software) for over 14 years, and managing a small team for the past year. I run often and use the rowing machine sometimes (habits that began with rowing at WPI). I also still have my old cars, including the 1970 Firebird that I drove while at WPI.

Amanda and I (we met at WPI) celebrated our 20th wedding anniversary earlier this year. Our children are growing up. Abigail started college at Savannah College of Art & Design last fall. Andrew is taking his SATs, working on his Eagle Scout project, and is a lifeguard for Boy Scouts and the local YMCA.”

1995

Troy Thompson was the subject of a “Sunday Sit-Down” interview in the Worcester *Telegram & Gazette*. He discussed the origins of his “No Evil Project” (noevilproject.com), which was on exhibit in Worcester this spring, at the Denholm Building on Main Street, with grant support from the Worcester Arts Foundation, and a successful Kickstarter campaign to print banners.

1996

Charlie Bobbish recently completed the sale of CMX Technologies, the defense contracting services firm that he founded in 2005. He tells us the award-winning CMX was acquired by Xator Corp., where he will serve as an executive officer focused on



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FALL 2015

[CLASSnotes]

technology-based security solutions in support of the U.S. intelligence community as well as corporate development. “I recently joined the Mach 37 cybersecurity accelerator as a business mentor to start-up firms. I reside in Reston, Va., with my wife, Sue.”

Victor Hugo González Jaramillo (MS MG) resurrected a take-home exam in manufacturing process from long ago. “I think that it is a good example of how hard—and fun—it was,” he writes. [He got a 92.] He received a PhD in manufacturing engineering from WPI and holds the title Profesor Titular Principal I de Ingenierías.

Tim Tully is on the move, transferring to the Duke Energy Headquarters in Charlotte, N.C. “In my new position, I will be responsible for providing governance and oversight of all engineering outsourcing in support of Duke Energy’s Nuclear Fleet. Cara, Seamus, and Aidan will also be making the move to Clover, S.C., while Connor will be entering the University of South Carolina as a freshman this coming fall.”

1997

Marni Hall is director of regulatory science for the FDA, in the Office of Surveillance and Epidemiology, Center for Drug Evaluation and Research. In this role, she leads post-market drug safety activities, including pharmacoeconomics research programs, pharmacovigilance innovative tool development efforts, and regulatory science policy initiatives. Marni continues to lecture at Columbia University’s Mailman School of Public Health, where she has been an adjunct professor since 2007. Her credentials include a master of public health from the Mailman School, as well as an MS in biochemistry and a PhD in toxicology from Columbia University’s Graduate School of Arts and Sciences.

1998

Jeffrey Alderson was recently appointed a principal enterprise software analyst at Eduventures Inc. In this role, Jeff oversees the coverage of key strategic and operational IT issues. Prior to joining Eduventures, he was lead architect at Houghton Mifflin Harcourt.

Rich Cournoyer (’99 MS MFG) was honored by the Community College of Rhode Island with one of 25 “Celebrating Alumni for 50 Years” awards. The festivities delayed his preparations for his upcoming 5,500-mile motorcycle trip from Beijing to Shanghai, “via the LONG way,” he writes. “Unfortunately, I will not be riding my retirement Harley on this trip (it’s not allowed). I spent October and November 2014 in China looking for motorcycle dealers, contacts, translators, and the like. I’m proud to say that I got my Chinese auto/motorcycle license, and a motorcycle.” Rich plans to return to China in early April to pick up the new motorcycle and start on the epic ride, which will include a visit to Xi’an, home of the Terra-Cotta Warriors, and a two-month side trip to Tibet.

1999

Jason Kehl and **Mike Banic ’87** have teamed up at Vectra Networks, where they are VP of engineering and VP of marketing, respectively. Jason reports that he and his wife visited WPI during a trip to Boston to visit their kids, and his daughter took photos of their brick in the Centennial Walkway.

Annika Nilsson Ripps, a master’s degree student at the Boston Architectural College, is one of the school’s six Ada Louise Huxtable Fellows for 2015. The fellowship in Civic Engagement and Service Learning will allow her to further her research on improving and strengthening communities through spatial design, by exploring how design can protect, nurture, and strengthen human engagement—both interpersonal and with the environment.



2000

Stefano Ceriana joined Reiss Engineering as a senior engineer and project manager.

2002

Jody (Kenniston) Staruk writes, “My husband, Daniel, and I welcomed our second baby girl, Molly Claire, on Nov. 1, 2014. Big sister Madilyn is in heaven!”

2003

Dan Tana published *Transmissions of Superteddy* shortly before his death on June 2, 2015. His story, available on Amazon, is about an imaginary friend and superhero named Theodore Fluffington. “It’s about a friendly visitor

from another realm of existence who comes to this world and helps people find greater happiness,” Dan said. Find out more about Superteddy in the Bookshelf feature on page 53.

2004

Sarah Doherty and **Michael Schwartz ’04** were married Aug. 2, 2014, in Portsmouth N.H. “We had a fantastic day celebrating and were so very lucky to be joined by friends and family who came from near and far to celebrate with us. Although we did not know each other while we attended WPI—in fact we met years later while living in Virginia—we still find it incredible what a small world it is, made even more so by being a member of the WPI community. We were thrilled to be able



'07

“Running through the campus brought back many memories”

— Deniz Karakoyunlu '07

Justin MacEachern, a project executive for Gilbane Building Co. in Boston was named to *Engineering News-Record New England's* Top Young Professionals List. The judges based their selections on criteria that included community service, career experience, industry involvement, industry certifications, and professional licensures and/or accreditations currently held or in progress.

Erik Ross sends this news: “I have recently been accepted into a PhD program in mechanical engineering at Notre Dame with guaranteed funding for five years. I am currently packing, as I will be leaving my home in Wappingers Falls, N.Y., and moving into a beautiful loft just outside campus with a hipster coffee shop in the same building. My focus at Notre Dame will be in the Aero-Optics group and will probably include both computational engineering and experimental engineering. Even though I accepted this opportunity in Indiana, I still love WPI!”

Stefanie (Wojcik) and **Chris Salini** welcomed a baby boy on March 3, 2015. “His name is Luca and we are so overjoyed with this new addition to our family!” she says.

Madeline Sola and **Andrew Campbell '05** were married in South Windsor, Conn., on Oct. 18, 2014. The wedding was celebrated by many WPI alumni, including bridesmaid **Romiya (Glover) Barry** and groomsman **Stuart Howes**

to celebrate and visit with our WPI friends and family and so thankful to everyone who helped make it such a special day. We both find it incredible how influential WPI has been in both of our families and friends in forging bonds, friendships, and marriages that have lasted so many years. We hope we are so lucky!”

Ricardo De Lima was a resident artist at the subSamson gallery in Boston's South End from September 2014 to February 2015. Ricardo co-curates Picó Picante, a monthly transnational music event, and Spectacle Boston, a collaborative performance space for experimental music and visual arts. He has also co-produced the activist film series “Cinematic Disobedience.”

'05. Madeline and Andrew currently reside in Vernon with their newly adopted dog, Lucy. Madeline works as a structures engineer for Pratt & Whitney in East Hartford, and Andrew recently joined Hagen & Company, based in Salem, Mass., as a consultant.

2005

Erin Bryan and **Mike Milkin** welcomed the addition of their first child, Lazarus William, on Dec. 16, 2014.

William Herbert ran the 2015 Boston Marathon (his first marathon) on behalf of the Pediatric Hematology and Oncology Department at Massachusetts General Hospital. At press time, he reported over \$12,500 raised for non-clinical programs to help patients and their families cope with treatment and its negative impacts.

Aaron “Ace” Judell received an Emmy Award from the National Academy of Television Arts & Sciences. He and several of his coworkers on “CBS This Morning” won in the category of Outstanding Technical Team at the 42nd Annual Daytime Creative Arts Emmy Awards. Aaron has been working in various audio capacities at CBS News for the past seven years.

Greg Krane and his wife, Farleigh, enjoyed their first Florida winter after having moved from Westerly, R.I., to Gainesville, Fla. In March they had the pleasure of hosting Greg's Sigma Pi fraternity brother **Sean Scheriff '06**. Together they embarked on the great Northern Florida tradition of tubing down the springs.

Jocelyn (Lally) Sarrantonio and her husband, Tim Sarrantonio, welcomed their first child, Pepper, into the world on Jan. 18. “Pepper can't wait to visit WPI and attend the Frontiers program when she's old enough!” says Jocelyn.

Joe Vaughn posed for a photo proudly sporting the crimson T-shirt he won in the *Journal's* Class Notes contest. In the

background are some of the buildings he's worked on as part of Macau's casino resort developments, including the City of Dreams, MGM Cotai, and The Plaza Macau. “It's hard to find a sunny day in China,” he writes, “but we had some good weather recently.”

2006

Tim Climis and his wife, Sarah, welcomed their first child, Greg, into the world in March.

After nine great years with GE, **Ashley (Bourgault) King** tells us, she relocated to the San Francisco Bay area and accepted a position as global supply manager with Apple.

2007

Vanessa Marie Castro has signed up for the Alzheimer's Association's Walk to End Alzheimer's in New York City, on Oct. 18, 2015, to honor the memory of her father, Jose E. Castro, who passed away from the disease on March 8, 2015. This will be the second time that she has participated. She notes that this is the world's largest event to raise awareness and funds for Alzheimer's care, support, and research. Vanessa's video, in which she talks about her journey with the disease and why she walks, will be posted on the NYC Chapter Walk Page. Check out her team page at act.alz.org/goto/Spidey.

Matthew Clark and **Rachel Berg** were married May 27, 2014. They now reside in Salem, Mass., and are both engineers at GE Aviation.

Deniz Karakoyunlu was the champion of WPI's first Irrational Run, held on Pi Day (3-14-15). “Running through the campus brought back many memories of each of the buildings,” he says. “First we ran by Stratton Hall, where I took that difficult math class. Then downhill to Atwater Kent, the place I spent more time than anywhere else for six years. All the memories flashed back in a split

[CLASSnotes]

second—the times I studied until the early hours of morning; the courses I was a teaching assistant for; the \$1 hamburger days. The library reminded me of when I was preparing for my interviews in a quiet corner. Coming back up the ramp, I got to see the faces of all the racers, most of whom were current students—it was great to see them running in a road race instead of running to a class. I ran past Boynton Hall, where I used to pay my monthly rent for my WPI-owned apartment on Schussler Road. Then came a circuit around the Quad and back to the

Rickard Hansen (MS FPE) has been conducting doctoral studies at Malardalen University in Sweden. He writes, “On the 27th of May I will defend my doctoral dissertation, ‘Study of Heat Release Rates of Mining Vehicles in Underground Hard Rock Mines.’ Faculty opponent will be Professor Nicholas Dembsey from WPI. The event will take place in Västerås, Sweden. The dissertation comprises a unique study on fire safety in hard rock underground mines, with a focus on heat release rates of mining vehicles. Until today most of the research on

Artist **Damien Rigden** created prints of WPI buildings, including lino cuts of stylized Boynton and Washburn towers, and a copper etching of Boynton Hall. See his work at theartofkane.com, or contact him at damien.rigden@gmail.com.

Mary Kate Toomey graduated from UMass Amherst’s Isenberg School of Management in May 2015 with an MBA. She was invited to join Beta Gamma Sigma, the international business honor society.

technology provider, alongside Google and only a handful of other chosen studios. When *Wired*, *The Telegraph*, and BBC are saying that this tech is going to change the world, it’s pretty big news. We’re being actively courted by venture capitalists and have been all over the news due to this announcement. Read more on our website, owlchemylabs.com.”

Sean Seymour announced his engagement to Kirsten Jones. The wedding is planned for June 13, 2015, at Alyson’s Orchard in Walpole, N.H. Sean is currently employed as a process engineer with Saint Gobain Crystals.



'09

fountain. And repeat (twice). I am proud to be the winner of WPI’s first Irrational Run and I hope this race becomes a tradition for years to come!”

2008

Jessica Coelho became engaged in February to Mike Yaworski. She’s currently serving as president of AFSCME Local 3713 and working as a project engineer at The Metropolitan District in Hartford, Conn.

“We were married August 2014 at the Worcester Art Museum.”

— Rachel Katz '09 and Paul Vasiliadis '10

underground mines has been on coal mines, and this dissertation fills a number of knowledge gaps on underground hard rock mines in order to improve the safety of the miners.”

2009

Jen Keating ('14 MS ECE) and **Brett Ponsler ('11 MS CS)** were married in August 2014, after Jen completed her master’s. “WPI alumni spanning graduation years 2008 to 2015 were present,” writes Jen. “We spent November traveling throughout Thailand, then moved out to California for my dream job as a senior scientist in the Biomedical Optics group at Triple Ring Technologies, where I do contract R&D in medical devices, medical imaging in vitro tech, security, and space systems. Brett is having a blast as a software engineer for iRobot, where he works on the defense and security side. Since he’s working remotely, we’ve got robots travelling around our house.”

Karen O’Sullivan dropped by to visit the WPI Graduate Admissions table at the 94th Annual Transportation Research Board’s Meeting in Washington, D.C.

Alex Schwartz is “founder, CEO, and janitor” of Owlchemy Labs video game studio. He writes, “We recently announced at the worldwide Game Developers Conference (GDC) that we’ve been secretly working with arguably the most prestigious video game company in the world (Valve Corporation) on a secret project relating to VR. We are developing software for the premiere virtual reality headset and have announced that our small company is now day-1 partners on the leading VR

2010

Emmanuel Akese ('11 MBA) is a specialist in product and process quality at UTC Aerospace Systems in Windsor Locks, Conn. He writes, “I will always remain indebted to WPI for an outstanding education and career path. With my WPI experience, success is an everyday vocabulary!”

2011

José Molina works for Boriken Space Ventures, an aerospace infrastructure and application business, where he holds the post of spaceport operations engineer.

2012

Laura Fineman married **Eric Wong '07** in August. She is a senior lab technician at the Dana Farber Cancer Institute in Boston. He is an R&D engineer for Boston Scientific.

Victoria Howland joined the Civil Division of PARE Corp. of Lincoln, R.I. She is also a member of PARE’s Sustainable Design Committee.

Michael Mieyr (MENGR) joined Houston Engineering’s Minot, N.D., office as a municipal engineer.

Kushi Sellahennedige performed as concertmaster in the Boston Symphony Orchestra’s new “Onstage at Symphony”

“Hello from the South Pole.”

— Marissa Goerke '14

'14

program on Jan. 31. The program brought together 80 musicians from across Massachusetts chosen at random to perform with the BSO. She continues as a boiler performance engineer at Babcock Power.

John Wilder writes, “Had a great time celebrating Delta Sigma Tau / Alpha Chi Rho’s 50th anniversary in March. There were over 300 people in attendance, including four out of our five original founders!”

2013

Doug Gardiner writes that he has aspirations to start graduate school this coming fall at either Rice University or George Mason. He lives in Haverhill, Mass.

Hanlin Hong has developed a computer-controlled wok that can whip up stir-fry meals on its own. He demonstrated the “Smartwok” at the MIT China Innovation and Entrepreneurship Forum.

Peter Wallace launched a new app, Mettle, in the iPhone Store. Mettle allows users to compete with friends while donating to charity. Users choose a category, shoot a video in that category, send to a friend, and compete for points. The app can also be used as a medium to share videos to help a particular cause. “Remember the Ice Bucket Challenge?” Peter asks. “Mettle takes video challenges to an entirely new level!”

2014

Joshua Croke is CEO and creative director of Origin Designers, based in Worcester. He was named one of “15 People to Watch in 2015” by *Pulse* magazine of Central Massachusetts. In



his award write-up, he credited Professor Sharon Wulf with giving him “that kick that I needed” to start the company. Joshua also founded Action!Worcester, a nonprofit organization that seeks to build and promote Worcester as a town that is appealing to college students and young people.

“Hello from the South Pole,” writes **Marissa Goerke**, who is working for Lockheed Martin as a “Cusp Tech” (engineering and science support associate), under the company’s NSF Antarctic Support Contract. “I run nine different space weather experiments for multiple universities, mostly dealing with ionosphere, magnetosphere, cosmic rays, and radiation belt experiments. I also volunteer on the flight deck and help test the jet fuel on the days we have incoming planes. Since February I have

been in charge of running the greenhouse, which provides our only source of fresh food for nine months of the year.” Marissa blogs for friends and family at 90south.blogspot.com.

Caryn MacDonald was hired as a project engineer in the Wastewater Services Group at Wright-Pierce, Andover, Mass.

WPI had a strong showing in the first StartUp Worcester awards, with two winners from the Class of 2014. **Chris Molica** is founder of Sensae, a biomedical and robotics engineering company that provides integrated sensors and systems to build a fitness feedback platform for adaptive instructive exercise and physical therapy. **Aaron Birt (MS MTE)** is a founder of YourScene, a mobile app designed to

connect students, residents, and visitors in Worcester by providing customized event notifications. The competition, sponsored by the Worcester Regional Chamber of Commerce along with Running Start and The Venture Forum, provides winners with support for their start-ups, including a year of free membership, workspace, and networking connections. A third winner was WPI IMGD grad student **Elias Aoude**, founder of the game development studio For All to Play.

“Hello from Kuwait!” writes **Marlisa (Cardoso) Overton**. “It’s nice to be able to keep up with my alma mater when I’m so far from home. I’m currently deployed with my Army unit in Camp Buehring, Kuwait. I am a platoon leader in a medical company. My medics and I run an aid station here that serves and treats our entire brigade. To give you some perspective, that’s a few thousand soldiers. Not every day is glorious, but I’m proud to be out here serving my country!”

Kristen Smith’s first novel, *Through the Black Hole*, was published by Mascot Books in January. After writing the book in the summer between junior and senior year, she waged a successful Kickstarter campaign to fund editing and professional publishing. The story begins in 2509 AD, with an overpopulated, overheated world overly dependent on technology, and goes on the show scientists and engineers devoted to saving humanity from its mistakes. Kristen is currently working at a preschool while she completes an MBA online, although she says she would like to continue writing.

'14

“I’m proud to be out here serving my country.”

— Marlisa (Cardoso) Overton '14



WORCESTER POLYTECHNIC INSTITUTE
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WPI has been serving society with 150 years of educating leaders and innovators in engineering, science, and technology. The Annual Fund helps make it all possible.

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IN ITS SESQUICENTENNIAL YEAR, WPI SUFFERED THE LOSS OF THREE PEOPLE WHO PLAYED A KEY ROLE IN TRANSFORMING THE UNIVERSITY INTO WHAT IT IS TODAY. THESE PIONEERS HELPED REVOLUTIONIZE EDUCATION AT WPI, AND THEIR WORK IS STILL HELPING TO SHAPE THE NATURE OF TECHNOLOGICAL EDUCATION WORLDWIDE.



FRANCIS C. LUTZ WPI'S SECOND DEAN OF UNDERGRADUATE STUDIES

Frank Lutz came to WPI in 1972 as an assistant professor of civil engineering. He helped establish WPI's Washington Project Center – the university's first, and the model for the more than 40 that exist today. Lutz served as the Center's first director and was appointed associate dean for projects in 1980. Even as he took on overall responsibility for undergraduate studies, first as

OUR POSITION OF INNOVATIVE LEADERSHIP IN HIGHER EDUCATION MAKES THE DEAN OF UNDERGRADUATE STUDIES AT WPI A SPECIAL POSITION INDEED. I AM LOOKING FORWARD TO THE CHALLENGES AND THE OPPORTUNITIES OF THE YEARS AHEAD."

—FRANK LUTZ, IN 1990, ON HIS APPOINTMENT AS DEAN OF UNDERGRADUATE STUDIES

associate dean, and then dean, he continued as a professor, pursuing his research interests in hydrology, water resources, and water quality.

Lutz left WPI in 1996 to become the founding dean of the Monmouth University School of Science and retired in 2013. He died April 19, 2015, at age 71. His survivors include his wife of 43 years, Evelyn (Zommer) Lutz, his daughter, Stephanie Hoitt, and her two daughters.

EDMUND TITUS CRANCH WPI'S 12TH PRESIDENT

Ed Cranch took the helm as president less than a decade after the launch of the WPI Plan. He served from 1978 to 1985, and steered the university soundly through a time of double-digit inflation and a declining college-age population. WPI thrived during the Cranch years, with expansion of campus facilities and academic offerings. Under his leadership, applications doubled, as did total revenues, and alumni giving grew threefold.

"I FOUND THAT WPI PEOPLE I MET SHARED WITH ME THE CONVICTION THAT INSTITUTIONS OF TECHNOLOGY AND SCIENCE ARE DESTINED TO PLAY AN INCREASINGLY IMPORTANT ROLE IN AMERICAN HIGHER EDUCATION. ITS POSITION AS A LEADER IN QUALITY UNDERGRADUATE EDUCATION WAS CERTAINLY ONE OF THE MOST ENTICING REASONS FOR COMING."

—ED CRANCH, ACCEPTING THE INVITATION TO BECOME WPI'S 12TH PRESIDENT IN 1978



Cranch worked with faculty to broaden WPI's programs to meet the changing needs and interests of students and

industry. This included launching international exchange programs and establishing a robotics laboratory in the Washburn Shops, as well as an MBA program and doctoral programs in computer science and materials science and engineering. With the dawn of the personal computer age in the late 1970s, one of his major initiatives was to pave the way to integrate personal computers into the Institute's academic and research endeavors.

Cranch was elected national president of ASEE in 1985. He was also a fellow of ASEE, and ASME, as well as a member of the Tau Beta Pi honorary engineering fraternity. After stepping down as WPI president, he accepted a position as founding president of the Wang Institute of Graduate Studies. He went on to serve as Granite State Distinguished Professor in the University of New Hampshire system from 1987 until 1995. In retirement he was a consultant on engineering education and distance learning.

Cranch died Feb. 4, 2015, at age 92, in Florida, where he spent winters with his wife of 70 years, Virginia Harrison Cranch. He is survived by her, as well as three children, five granddaughters, and three great-grandchildren.

The Journal will share complete obituaries, where available, and assist classmates in contacting surviving family members. Email jkmiller@wpi.edu or call 508-831-5998. For information about memorial contributions, call +1-877-974-3863, or email giving@wpi.edu.



WILLIAM R. GROGAN '46, "WPI VISIONARY"

Bill Grogan, dean emeritus of undergraduate studies, died May 12, 2015, at the age of 90. Grogan helped design and implement the WPI Plan, a radical overhaul of the Institute's curriculum. In the words of board chairman Phil Ryan '65, "He clearly redefined how scientists and engineers should be educated to meet the global challenges and favorably impact the lives of people throughout the world."

Grogan majored in electrical engineering at WPI and earned a

master's degree in 1949. He joined the electrical engineering faculty at his alma mater after returning from Navy service during World War II and remained on the faculty for four decades, with only a brief interruption when he was re-called to serve in the Korean War.

Grogan was part of the committee that crafted the unique project-based curriculum that would be approved in 1970 as the WPI Plan. Shortly after the Plan was approved, he was asked to serve as WPI's first dean of undergraduate studies. Decades later, reflecting on that time, he wrote that President Hazzard had handed him a three-word job description: "Implement the Plan." Working with the president,

Grogan helped win external support for the Plan's implementation, including a \$1.2 million award from the National Science Foundation. Harvard University's David Riesman, a member of the NSF committee charged with monitoring the implementation of the plan, wrote of Grogan, "At first glance, he seems a most unlikely sage of liberal education. He is genial, ruddy, generous, never sarcastic, amiable—everyone calls him 'Bill' almost instantly. Yet, in my judgment, the fact that the

Plan not only survives but is stronger than ever is Bill Grogan's doing." Riesman also referred to him as "WPI's Harry Truman."

Grogan was elected a fellow of IEEE and received the organization's Major Educational Innovation Award. His WPI honors for service and scholarship are many, culminating with the 2012 Goat's Head Award for Lifetime Commitment to WPI. In 1990, the year he retired, he received an honorary doctorate in engineering and the Alumni Association established the William R. Grogan Award for the Support of the Mission of WPI; 16 years later, the association gave the award to Grogan. He was presented with the WPI Presidential Medal in 2005, with the simple inscription "WPI Visionary."

Grogan also earned the admiration of WPI students. The staff of the *Peddler* twice dedicated the yearbook to him, and the student body named him "Man of the Year" in 1967. A devoted mentor to the WPI chapter of Phi Kappa Theta fraternity, he was honored by the chapter as KAP's Man of Achievement in 2012. He was inducted into Skull in 1952.

Grogan was predeceased by his wife, Mae, and his brother, Ed. He leaves his sister, Betty McNamara, three nephews, and a niece.

"BILL'S VISIONARY WORK ON THE WPI PLAN HELPED DEVISE A PROGRAM THAT WAS THREE DECADES AHEAD OF ITS TIME, BUT PERHAPS MORE IMPORTANT, HIS SKILLS OF PERSUASION AND LEADERSHIP LED TO THE COMPLETE TRANSFORMATION OF A CAMPUS CULTURE AND CURRICULUM INTO SOMETHING TRULY NEW AND INNOVATIVE. THE ENTIRE UNIVERSITY—AND ABOUT 22,000 GRADUATES OF THE WPI PLAN—OWE BILL AN ENORMOUS DEBT OF GRATITUDE."

—RICK VAZ '79,
Dean of WPI's Interdisciplinary
and Global Studies Division

IN MEMORY

WILLIAM J. CULLEN '32, Lambda Chi Alpha
JAMES D. HOULIHAN '42, Sigma Alpha Epsilon
RODNEY G. PAIGE '42, Phi Gamma Delta
WILLIAM N. WHEELER '42, Lambda Chi Alpha
HERBERT ASHER '44, Alpha Epsilon Pi
MARTIN J. REILLY '44
SIDNEY STAYMAN '44, Alpha Epsilon Pi
DAVID M. TROTSKY '44
BRADFORD BRIGHTMAN JR. '45, Sigma Alpha Epsilon
EDWARD J. LEMIEUX '47, Phi Sigma Kappa
MYRON E. LUNCHICK '48
ROGER N. WENTZEL '49
JEREMIAH P. O'NEIL '50, Phi Kappa Theta

ELI S. SANDERSON '50
JOHN H. GEARIN '53, Phi Kappa Theta
LAWRENCE B. HARRIGAN JR. '56, Phi Kappa Theta
JOSEPH D. GRZYB JR. '57, Sigma Alpha Epsilon
JOHN E. KING '59
J. ARMAND CHOINIERE '60 (SIM)
RONALD G. DEGON '61, Sigma Alpha Epsilon
DAVID H. SORENSON '61, Sigma Phi Epsilon
DAVID A. COOMBE '65, Theta Chi
JAMES A. KEITH '65, Sigma Pi
ROBERT J. SCALZI '66
CHRISTOPHER J. COWLES '69, Alpha Tau Omega
ALBERT A. LATOUR '69 PhD

AUGUST E. SAPEGA '72 PhD
RICHARD J. RANELLI '76 MS
ALLAN SCHWEBER '78
RICHARD VAN HOUTEN '82
NICHOLAS A. JOHNSON '85
TREVOR D. PARSONS '01, Phi Kappa Theta
DANIEL J. TANA '03
ANTON J. KIRSCHNER '12

The WPI Community also notes the passing of Alden Research Lab engineer CHARLES B. BLACK, carpenter and locksmith FRANCIS X. STOPYRA, and

HAZEL HARRISON BUCK,
DONALD P. CORRIVEAU, and
STANLEY W. DZIUBAN JR.,
friends of WPI.

Correction: The fraternity affiliation of Jacob Erlich '62 noted in the previous issue of WPI Journal was incorrect. Jesse (as he was known to friends) belonged to Alpha Epsilon Pi. We apologize for the error and thank the loyal classmates who reported it.



TOUCH TOMORROW

A FESTIVAL OF SCIENCE, TECHNOLOGY, AND ROBOTS AT WPI

We were thrilled to welcome thousands of guests to WPI's beautiful campus for **TouchTomorrow 2015**. WPI put its best foot forward, and surely many of the kids who were with us for the day will be members of the classes of **2020-2030!**



MEET THE CHALLENGE



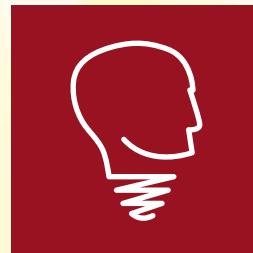
GIVE

what you can



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a difference



INNOVATE

the future

Look forward with us. If we raise \$9 million together,
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