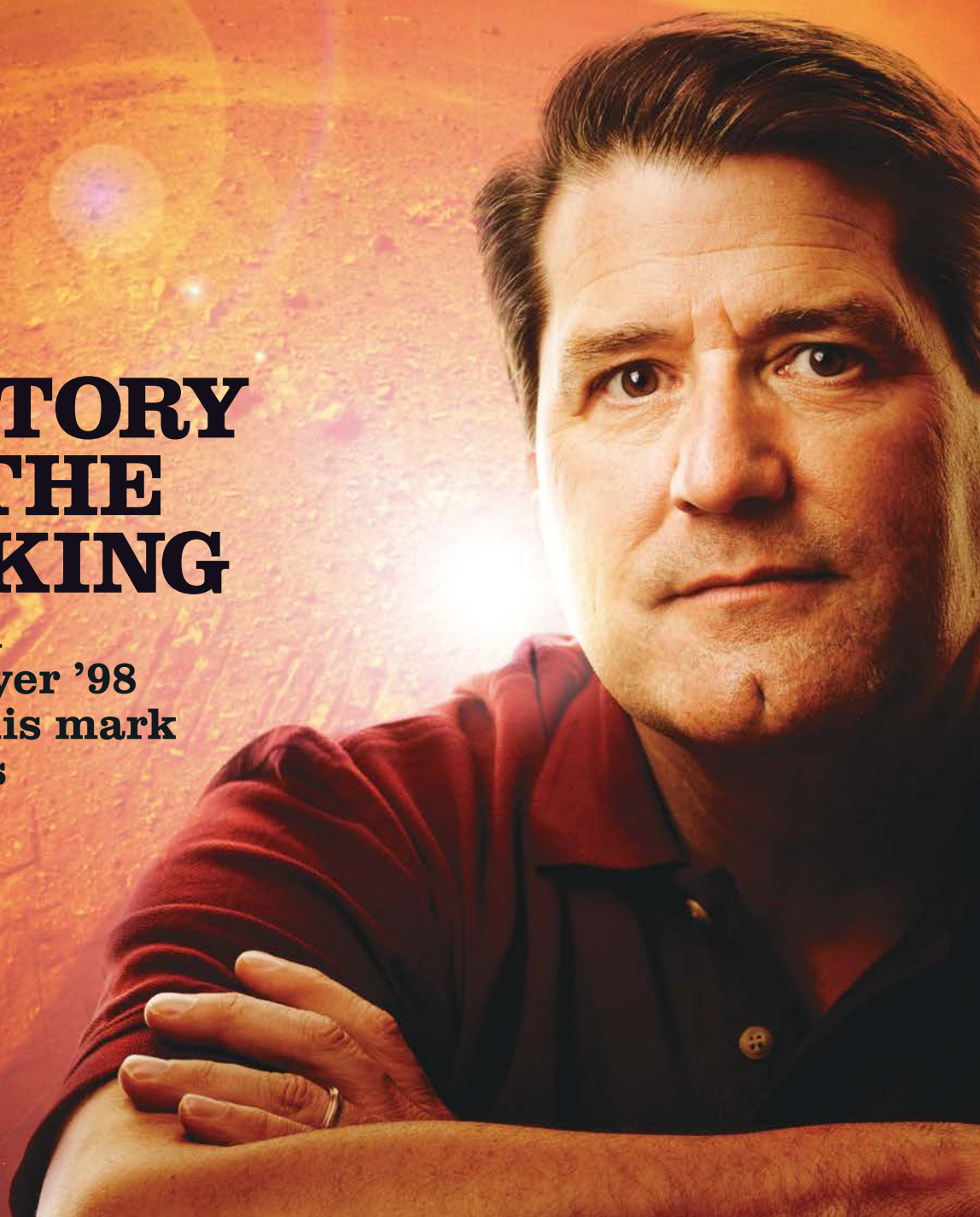


W
P
JOURNAL

HISTORY IN THE MAKING

**Richard
Cournoyer '98
leaves his mark
on Mars**





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POLYTECHNIC INSTITUTE

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OUR GLOBAL PERSPECTIVE



WALL STREET, DEC. 4
Hosted by
Mark Rice,
Dean of the School of
Business, and Mike Zarrilli '71,
WPI Trustee

WASHINGTON, DC, DEC. 5
Hosted by
Karen Kashmanian Oates,
Peterson Family Dean of
Arts & Sciences

SILICON VALLEY, FEB. 19
Hosted by
Dean Oates

WORCESTER, FEB. 27
Hosted by
Selçuk Güçeri,
Gordon Dean of
Engineering

SANTA FE, APRIL 25
Hosted by
Eric Overström, Provost

Join alumni, faculty, and students at one of these WPI Global Project Center events and learn how today's students are continuing your tradition of making a difference in the world through engineering, science, and technology.

If you're traveling, make an event part of your trip!

Events include student project presentations and a reception. For locations, times, and to register, visit wpi.imodules.com or contact the Office of Alumni Relations at 508-831-5600, alumni-office@wpi.edu.



MANY THANKS TO THE ALUMNI AND FRIENDS WHO JOINED US AT THE BOSTON PROJECT CENTER ON OCT. 10,
HOSTED BY STEVE RUBIN '74, CHAIR OF THE WPI BOARD OF TRUSTEES.

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Richard Cournoyer '98, '99 (MS MFE) cheered along with the rest of the world as Mars rover *Curiosity* pulled off a perfect landing. The moment was not without white knuckles for the engineer who helped build it.

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The largest capital campaign in Institute history is under way with a goal of raising \$200 million. Three alumni speak out about the importance of WPI, its lasting impact, its future, and why they continue to give.

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Rocket Woman

Jennifer Anderson Crock '95 has watched her rocket engines soar into space—and into the Smithsonian National Air and Space Museum.

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A Sphere of Genomics

The entrepreneurial spirit of CEO Richard Resnick '98 (MS CS) has put him at the heart of a genomics evolution.

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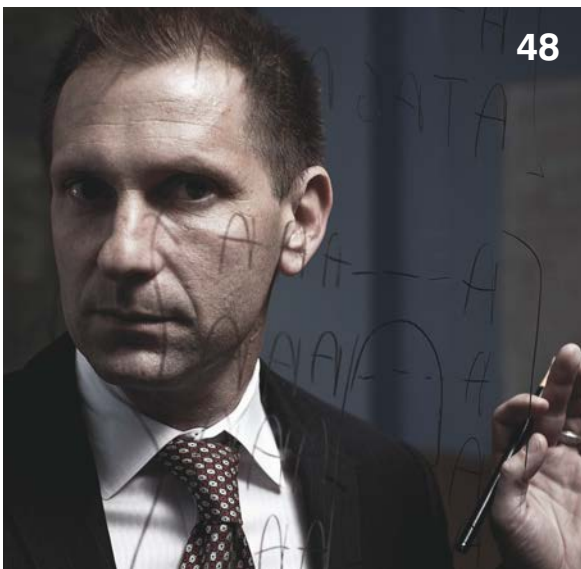
The Restoration of the WPI Journal

One hundred fifteen years ago, WPI launched a magazine designed to keep alumni informed about "Tech" and fellow classmates. With the name officially reinstated, we take a quick look at the history of the *WPI Journal*.

BY CLAIRE ROBINSON



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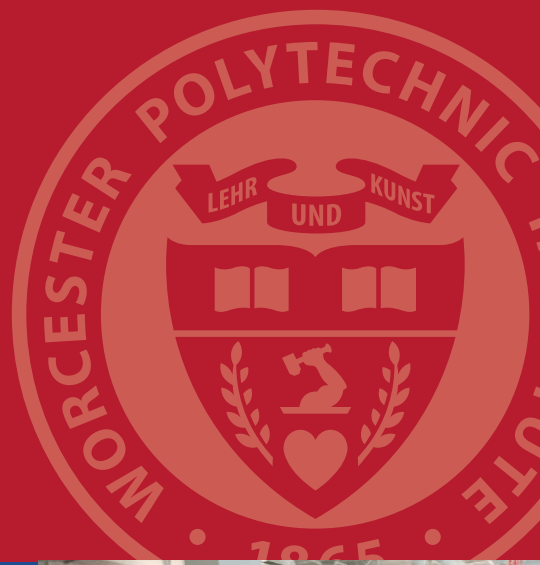
Professor Heineman tests your brainpower with a
new Sujiken challenge, and Sam Feller '07 gets witty
with his Awkward Engineer.

Our newest center for excellence

for our campus and our community.

"The Sports & Recreation Center project embodies the values that are at the core of the WPI experience. It's a collaborative space serving the whole student community... It truly is a new center for excellence."

WPI President Dennis Berkey,
Dedication Ceremony, September 5, 2012



Reporting History

History doesn't repeat itself, but it rhymes.

—Mark Twain

When it came time to name this fledging but pioneering university back in 1865, the founders of your alma mater were nothing if not ambitious, settling for the precise, yet protracted, WORCESTER COUNTY FREE INSTITUTE OF INDUSTRIAL SCIENCE. While the name didn't trip off the tongue, it served the intended purpose for two decades, describing a new kind of university (industrial science), its target market (Worcester County), and a prominent attribute (free!).

History informs us that "County" and "Free" would eventually prove problematic; still, a name change seemed inevitable, as WCFIIS doesn't lend itself to modern day marketing. And so it happened back in 1887—125 years ago—that the leaders of WCFIIS changed the course of history by changing the university's name to the more concise Worcester Polytechnic Institute. Since the initials WPI are now known across the country, and the university attracts students from around the globe, the decision seems to have been a good one.

You'll note from our cover that we've changed our name, too, reverting to the original title that served this publication well for more than 100 years—*WPI Journal*. The reasons for the change were many, not the least being mnemonics. While *Transformations*, both the metaphor and the magazine, accurately reflected a WPI education, the word itself did not stick, as many alumni still refer to this publication as the *Journal*. With WPI's 150th anniversary just around the bend, the timing seem propitious to bring back a name that has obvious staying power, not to mention a distinguished history. From the papers of Robert Goddard to the legend of Gomepei, the *WPI Journal* has recorded some significant history over the years, and the challenge of adding to that tradition was too tempting for this editorial team to ignore. A brief look back at the *Journal* begins on page 54.

Our efforts toward capturing history continue with our cover story on Richard Cournoyer '98, MS '99, who, as manufacturing manager for NASA's Jet Propulsion Lab, supervised the six machine divisions that built much of the Mars rover *Curiosity*, which made history this past summer. Cournoyer's team also

built the amazing Sky Crane, the descent sequence that somehow slowed *Curiosity* from 13,000 mph down to 1.7 mph, as it safely lowered the 2,000 lb. mobile science lab onto the surface of Mars.

Even if one isn't a space buff, talking with Cournoyer is an easy way to get goosebumps, as history and humor come at you in equal parts. A terrific storyteller with a keen eye for detail, Cournoyer builds narratives the way he builds most things—superbly. Among the anecdotes that charm is his telling of why the letters J-P-L now appear in Morse code upon the surface of Mars. While NASA says the dots and dashes were added to the tire treads to help measure a complete rotation of *Curiosity*'s wheels, Cournoyer tells a slightly different tale, that of a playful team member adding the code after a request to put the actual letters J-P-L on the tires was turned down. "Someone on the team, and I can't quite remember who," says the engineer with remarkable recall, "made an educated guess that no one in the chain of command spoke Morse code. And they were right." Such are the details of history.

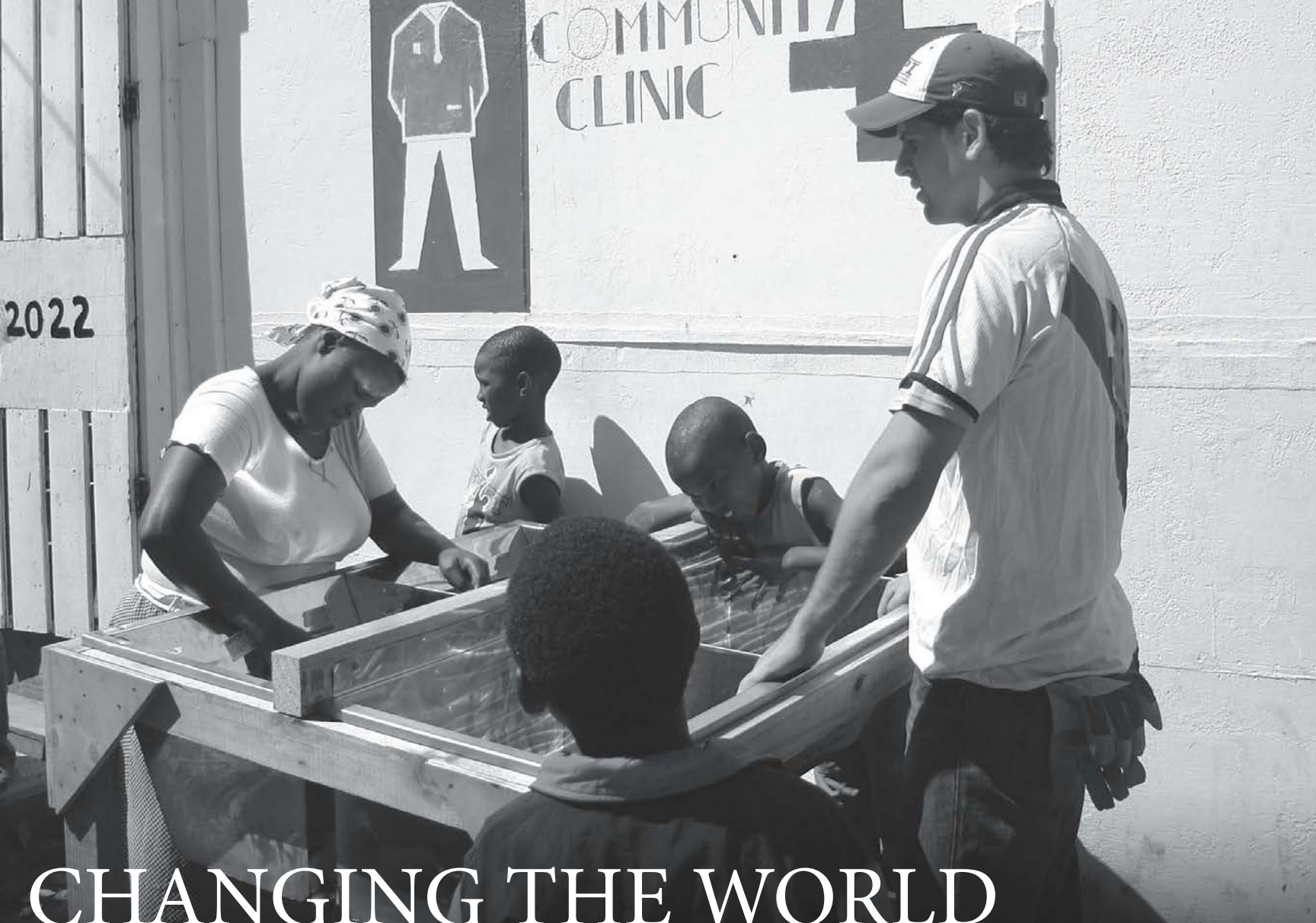
The history of Cournoyer's career is equally beguiling. A non-traditional student, Cournoyer worked in manufacturing for several years before returning to school at the age of 35. In matriculating to WPI, he says he found the ideal learning environment, as the mix of theory and hands-on building proved perfect for his temperament. Upon graduating, he knew what he wanted to do. "I wanted to make history."

Anyone who stayed up late the night of August 5, 2012, to witness the amazing arrival and safe landing of *Curiosity* knows that Cournoyer and the many other engineers at NASA did just that. They made history.

And the *WPI Journal* is, once again, proud to bring it to you.



JAMES WOLKEN, EDITOR



CHANGING THE WORLD IS A DEGREE REQUIREMENT



WPI

36 YEARS

SIX CONTINENTS

3,000 PROJECTS

Three significant projects are required to graduate from WPI—and 50 percent of our students complete at least one overseas. The challenges vary with the venue— from building a sustainable laundry facility for a community outside Cape Town, South Africa, to preserving the environmental, artistic and cultural heritage of Venice, Italy. Wherever they go, WPI students become immersed in the local culture, researching and implementing projects as scientists and engineers do to solve problems and change lives.

Share how your WPI project experience changed your life at global@wpi.edu.

Weight of a Mini Cooper: 2,315 lbs.
 Weight of the Mars rover *Curiosity*: 1,982 lbs.
 Speed of *Curiosity* as it entered Mars atmosphere: 13,200 mph
Curiosity's average speed while on the surface of Mars: 0.00073 mph
 Processing power of *Curiosity's* on-board computer: 200 MHz
 Processing power of an Apple iPhone 4S: 800 MHz
 Distance in miles from WPI's campus to Cape Canaveral: 1,283
 Distance in miles from WPI's campus to the planet Mars: 350,000,000
 Amount of calories in one ounce of American cheese: 105
 In one ounce of goat cheese: 75
 Cost of the Human Genome Project: \$3 billion
 Estimated cost to sequence a human genome today: \$1,000
 Years taken to complete the Human Genome Project: 13
 Estimated days to sequence a human genome now: 1
 Horsepower of the Lamborghini Diablo VT: 550
 Horsepower of the Space Shuttle: 37 million
 Amount of fuel in gallons carried by the Space Shuttle: 835,958
 Number of gallons of gasoline carried by the Chevy Volt: 9.3
 Number of electric vehicle charging stations at WPI: 1
 Percentage of small businesses that survive at least two years: 69
 At least seven years: 31
 Number of unemployed Americans: 12.7 million
 Number of new jobs created by small businesses since October 2009: 1.1 million
 Northeast Ranking of WPI's part-time MBA program: 1
 Dollars raised by WPI's previous capital campaign: \$153.8 million
 Number of alumni who contributed: 11,000
 Total number of WPI alumni: 37,000
 Years lived by an average domestic goat: 12
 Years Gompei has lived in the heart of WPI students and alumni: 121
 Cost of a Justin Bieber concert ticket: \$84
 Recommended first-time gift to the WPI Annual Fund: \$50





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I enjoyed reading your feature story on slam poet Jesse Parent. I still remember the moment I first heard and saw Jesse Parent perform. He was riveting, and he had such control over his voice and body, and in his writing. That's pretty much the trifecta in the poetry slam.

TAYLOR MALI

Four-time National Poetry Slam Champion

I was truly heartened to read of WPI's continued commitment to teaching the whole student, to include the humanities. I graduated from WPI in 1985 with a degree in ME and spent 20 years in the Air Force. Upon retiring in 2005, I took a position as a professor of history at Pennsylvania College of Technology. The time I spent at WPI under the Plan truly helped to prepare me for a life of learning that combined STEM with the humanities.

Today, the importance of the humanities is often dismissed as institutions focus on workforce development and other vocational biases. While it's true that we need jobs, we also need humane ways to live. The humanities help us with both—especially the latter.

WILLIAM J. ASTORE '85

I just received the spring edition of *Transformations* and am saddened to see John Korzick's ('68) name in the completed careers section. When I arrived at WPI, it had one of the worst football teams in New England, that is, until Jack arrived. He could have played quarterback anywhere, never mind a small college like WPI. Otto Graham, the former great NFL quarterback and coach at the Coast Guard Academy, which we played, was of the opinion that he was NFL caliber. I remember working out with Jack every night after work in the summer of 1968 in preparation for the season. It was grueling trying to keep up with him, but pure joy because I knew I was in the presence of greatness. My hands would be red after catching his passes. Not only was he a great athlete but also a great leader. He got us all to believe we

could win, and we did. We went from doormat to powerhouse with him at the helm. During that time at WPI he was a larger-than-life figure and it was an honor to be his friend and teammate. My deepest sympathy to his family and loved ones.

MICHAEL SANTORA '71

Our careers and lives have been shaped by Don Zwiep. Ever optimistic and visionary, Don not only helped us create one of the most innovative and best mechanical engineering programs in the nation, but he also provided the environment in which we could thrive. His role in establishing the WPI Plan cannot be overstated. The courage to abandon the accepted lockstep curricula driven by national accreditation changed both WPI and those very accreditation agencies. We have been rewarded to see outcomes based on pedagogy established throughout engineering education and project-based education becoming the norm.

Thanks to Don, our graduates have helped build the foundation of technological economy through their contributions to industry, government, and universities. Never one to miss an opportunity, Don showed us how to establish relationships that are the basis of the network we enjoy. Nowhere is the network stronger than in the ASME, where Don was revered because of his unwavering and enthusiastic support for mechanical engineering and his leadership of the Society.

We should not forget that Don presided over the transition to research-based graduate programs, which have produced remarkable students carrying forth traits that made the Department so successful. We all carry that Zwiep gene that "giving back" is our highest responsibility.

WILLIAM W. DURGIN

Provost, SUNYIT

Former Associate Provost for Academic Affairs
and Vice President for Research, WPI





WPI

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Graduate Programs: Online and Corporate



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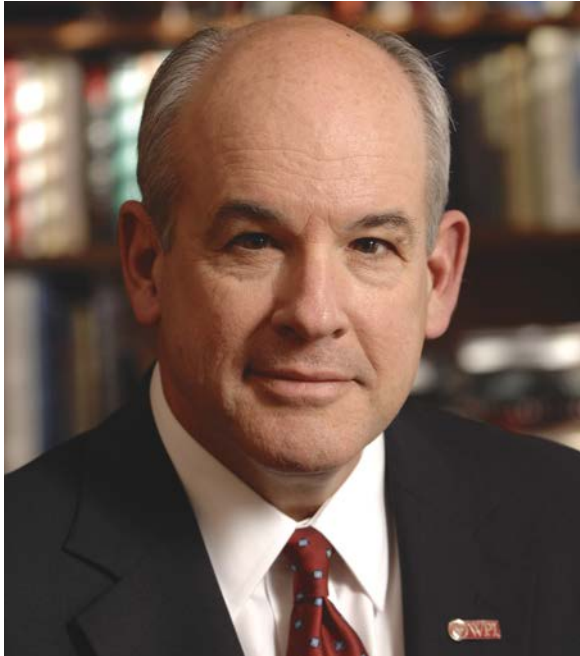
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cpe.wpi.edu/+systems

Demand is soaring for systems engineers. Designed for busy professionals and taught by seasoned real-world experts, our programs deliver practical knowledge in a flexible format. Whether online or in the classroom, you earn a degree with the same rigor and prestige that has made WPI a leading technological university for nearly 150 years.

*As ranked by Money/Payscale.com's list of great careers (money.cnn.com).



Creating the Future

Apart from the ballot box, philanthropy presents the one opportunity the individual has to express his meaningful choice over the direction in which our society will progress.

—George G. Kirstein

This past summer WPI launched the public phase of a \$200 million capital campaign, the largest fundraising effort in the Institute's history. Entitled *If...The Campaign to Advance WPI*, this capital campaign is the result of careful planning by the WPI community, including alumni, faculty, students, trustees, and staff, who came together to identify some of the Institute's greatest opportunities, as well as its most pressing needs, and thereby set the goals for this campaign, the results from which promise to strengthen this university in profound ways.

The title, "If . . ." uses the script "f," a mathematical reference to the concept of "function" and the open-ended ellipsis to invite those who

understand the power of mathematics, science, technology, and engineering to imagine what profoundly important advances can yet be achieved by highly motivated and brilliantly nurtured students and faculty in the truly exceptional learning community that is WPI.

At its core, the *If... Campaign* is about advancing further the incredible heritage of a university that has always been all about the important and the necessary—putting knowledge to work to improve the world around it. It's about honoring John Boynton, Ichabod Washburn, and their fellow founders who pioneered a new kind of institution nearly 150 years ago. It's about a faculty that, decades later, had the courage and foresight to revolutionize its curriculum, bringing collaborative and project-based learning to the forefront of American education, in what would famously be called the WPI Plan (a model to which other universities could only aspire).

This campaign is an opportunity for broader participation in an institution that places the teaching of the tools and practice of innovation among its top academic goals; an institution that owns responsibility for the development of the whole student; an institution committed to its students' journeys far beyond their expectations and comfort zones, far beyond the traditional classroom. This campaign is about having the tools, teachers, workspace, and lab equipment that enable and encourage WPI students to take their ideas from sketchbook to marketplace. It's about celebrating the important benefits that come from an education grounded and enriched by serious engagement with the humanities and arts. It's about research, e-journals, great problems, lab work, team meetings, project centers, varsity sports, jazz and theatre rehearsals, interdisciplinary ideas and collaboration, and developing the leadership skills to move people, projects, and ideas forward.

In other words, the *If... Campaign* is about the many, many things that make WPI such a powerful learning environment. It's also about making the smart investments that will keep WPI strong for many years.

Structurally, the *If... Campaign* is organized around four main goals:

Scholarships—\$75 million. WPI must continue to increase the amount of financial aid available to ensure that the best, brightest, and most deserving students, can continue to attend WPI. The costs of operating an institution of such high quality as WPI are unavoidably high. And the value of a WPI education, as measured by career-earning potential as well as quality of life, is very high. Yet cost of attendance remains a considerable barrier to students of limited means but great ability and strong character. This need has motivated some of our largest scholarship donors, and we hope that

many more will follow their example to ensure that all deserving students, especially those from low- and middle-income families, can attend WPI. This is simply the highest priority for this campaign.

The Home of Discovery & Achievement—\$55 million. WPI's beautiful campus is highly functional, not only to support the academic and research activities of our students and faculty, but also to provide a complete living and learning environment characteristic of the finest residential colleges and universities. Continual refurbishing, renovating, and maintaining our facilities, as well as necessary new construction, is among the most important responsibilities of every administration. The most recent examples, which are among the designated beneficiaries of this campaign, are a new residence hall on Faraday Street, the recently completed Sports & Recreation Center, and the planned redevelopment of the former Alumni Gym as a center for innovation, entrepreneurial activity, and interdisciplinary collaboration of a highly creative nature. As our curriculum and the society we serve have evolved, so must the facilities that support this amazingly creative learning community in all its dimensions.

Faculty and Academic Programs—\$50 million. I am proud to say that WPI is now fully competitive for the best faculty available in higher education, and that we filter all of our prospective faculty candidates to ensure a deep commitment to the education of our students in the spirit of the WPI Plan as well as a strong commitment to excellence in research and scholarship that is aligned with our strategic goals. They must, first and foremost, be outstanding teachers, well versed in proven pedagogical strategies that both inform and inspire, as well as bringing the excitement of discovery in the quest for solutions of important problems or advances on grand challenges.

Similarly, WPI must invest in new disciplines and academic programs as the world around us changes. In recent decades WPI has launched new academic programs in disciplines the founding architects of the WPI Plan had never dreamed of, such as robotics engineering, biomedical engineering, fire protection engineering, and interactive media and game development. Investments in talented faculty and innovative academic programs that will transform our world are critical to an innovation university like WPI.

WPI Annual Fund—\$20 million. We wish to strengthen our annual fund so that WPI emerges from this campaign with stronger annual support and a closer, more meaningful relationship to its core constituents, especially you, our WPI alumni. The Annual Fund might be thought of as a "student and faculty opportunity fund." It allows WPI to seize unanticipated opportunities and seed promising ventures.

This campaign is about having the tools, teachers, workspace, and lab equipment that enable and encourage WPI students to take their ideas from sketchbook to marketplace.

For instance, the Annual Fund can help when a student's financial situation unexpectedly changes, or it can send a deserving project team to a national competition to showcase their work, or add an important new e-journal on bioinformatics to the Gordon Library. The Annual Fund gives WPI the strength to move ahead and the opportunity to make *today* a special day in the life of a WPI student or faculty member.

These four investment areas are the cornerstones of the If... Campaign and represent the goals we wish to achieve together. If we do so, we will, each of us, strengthen WPI in important and lasting ways. To date, the campaign has raised \$116 million toward our \$200 million goal. This is outstanding progress, but we still have much work to do, and I invite you to take an active part in this historic and important achievement.

Increasingly, WPI is recognized as an ideal model for high-value, effective, and meaningful education. A WPI degree continues to grow in value, offering our alumni, as well as current students and their families, an outstanding return on their education investment. Our ethos of collaboration and our focus on important challenges and opportunities, in both education and research, provide valuable fabric to communities, corporations, and the greater society. And, now, with your help, we have a historic opportunity to increase our momentum and strengthen WPI for many years to come. We welcome your collaboration and we look forward to working with you as together we shape WPI's future.



▶ MISSION ACCOMPLISHED

TouchTomorrow Celebrates Science, Technology, and Robots

THEY CAME TO PILOT space rovers, launch rockets, hang with astronauts—and witness top robotics teams compete for \$1.5 million in NASA prize money. Moms and dads, tots and teens, faculty, staff, alumni, and friends filled the campus, captivated by dozens of hands-on exhibits and interactive displays. TouchTomorrow, a festival of science, technology, and robots held on campus June 16, was by all accounts a shining moment in WPI's longstanding commitment to K-12 programming. WPI had the honor of being the first university to host the prestigious NASA Centennial Challenge, and the first East Coast venue.

"WPI has clearly set the bar high," says Sam Ortega, program manager for the NASA Centennial Challenges Program. "TouchTomorrow was a wonderful showcase for technology, particularly robotics, and its importance in exploring space and improving quality of life on earth."

WPI launched the festival, which ran concurrent to the NASA challenge, to attract all ages to the wonder and fun of technical disciplines. Mission accomplished. According to one of the NASA educators stationed at the Campus Center, "the crowds were thicker than at Universal Studios." Final count: 7,000 visitors.

"It was exhilarating," says Stu Kazin '61, one of several WPI trustees in attendance. "I was never more proud to be a member of the WPI community. It was a coup for the school and for the city."

Participants had the opportunity to go on a lunar quest, explore black holes, visit a virtual space station, and be photographed in a NASA space suit. They jammed Olin Hall to meet astronauts Chris Ferguson and Lee Morin, who were among the guests at the opening ceremonies emceed by President Dennis Berkey. Other guests included Congressman Jim McGovern, NASA deputy administrator Lori Garver, and chief technologist Mason Peck, as well as Worcester city officials.

In between scheduled events, NASA officials mingled with visitors, enjoying out-of-this-world music, space-themed food, and cutting-edge technologies, including a new GOAT on campus—the Guest Orientation, Assistance, and Telepresence robot tour guide.

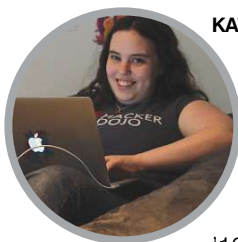
Crowds lingered at the day's end, reluctant to leave. Although none of the NASA challenge competitors met the criteria for a win this year, faculty, staff, and community organizations are joyfully calling for a do-over, and planning is under way for the second annual festival.



▶Q&A

Hack On

Katy Levinson lives a Hacker's dream



KATY LEVINSON '09 IS DIRECTOR of Hacker Dojo, “a physical community space for hackers and thinkers” in Mountain View, Calif. Pinterest was developed there, and the company's first two engineers were hired from the Dojo's membership. Paul Ventimiglia '12 and the Paul's Robotics team used one of the Dojo's buildings as their California base of operations for the 2009 NASA prize-winning Moonraker Lunar Regolith Excavation Challenge. To learn more, the *Journal* caught up with Levinson for a quick chat.

Who belongs to Hacker Dojo?

The average users are in their late 20s, but ages range from our youngest members at 16 (one who tested out of high school, and one who uses this place to complement her formal education) to people well over 50 (who tend to be a little better dressed than I was as a WPI undergrad, and a little more business-oriented). We do have more female members than I expected.

Do other WPI people find their way to you?

Mike Lundy '06 and Andrew Rondeau '03 have been core members for a long time. We've been a resource for the Silicon Valley Project Center, as we're less than a mile from where the students live. We have ties to others in the hackerspace community, and I've been working closely with Joseph Schlesinger '10, founder of a sister space called TekArts in New Hampshire, which grew out his IQP.

What kinds of projects do you work on yourself?

I make three things: robots, code, and communities. My robots, sadly, are currently few and far between, but I've launched two code projects: amacron.com and sendmeawesome.com. Some days I feel like I'm doing another IQP, except in real life everybody specializes in a different subset of the problem, instead of all of us freaking out about the same things.

Hacker Dojo is trying to raise a quarter million dollars. What are your fundraising tactics and goals?

We've done everything we can think of, from corporate sponsorships to charitable grants, to running a mile in our underwear. It's sad to say that even a million dollars won't get you so far in Silicon Valley.

▶QUOTABLE

“The start-up world involves long hours and sleepless nights. But that's like every day of C-Term, right?!”

ELYSE BAILEY '11

▶TALISMAN

Gompei Revisited

Beloved mascot gets a new wardrobe

WPI HAS ROLLED OUT a new and improved version of its mascot.

We know what you're thinking: “Improved? How could Gompei possibly get any better?” Well, ladies and gentlemen, he just did. The revamped goat, taking the stage along with WPI's new sports logo, displays a more athletic look (see p. 30).

It's not the first time Gompei's appearance has changed throughout the years—from overalls to SuperFan T-shirt—but one thing is sure: he's always had a

place in the hearts of WPI students. As Joey Botelho '14, a current Student Alumni Society member responsible for overseeing the mascot, says, “Gompei has become a link for the campus community; a constant throughout WPI history [since 1893] that alumni and students relate to and can look back on as a source of great memories.”



►FRATERNAL

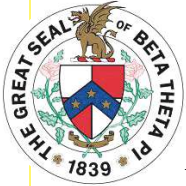
It's All Greek to Us

WPI welcomes Beta Theta Pi fraternity to its Greek ranks

IN MAY WPI announced that Beta Theta Pi will be joining its Greek community, becoming the 15th fraternity on campus. The expansion committee, composed of representatives from current fraternities, alumni, faculty, and staff, made the decision after campus visits and presentations by three potential organizations.

Beta Theta Pi was founded at Miami University in 1839 and has 119 collegiate chapters with more than 130,000 members. Its mission statement, "Developing men of principle for a principled life," is one that ties in well with the values of WPI. "We look forward to having an active and involved chapter be part of campus, whose influence will be positive and whose goals and endeavors will reflect positively on the fraternity/sorority community for years to come," says Geordie Folinis '13, Interfraternity Council president.

The expansion comes a year after two new sororities, Theta Nu Xi and Alpha Phi, were added to the Greek system. Beta Theta Pi will expand a Greek community that already includes over 30 percent of WPI's students.



►PRIDE

We Salute You

ROTC commission is all in the family for one WPI graduate

THE "FIRST SALUTE" of a commissioned ROTC cadet is revered tradition, but U. S. Army 2nd Lt. M. Spenser Brouwer '12 received his from someone very special—his great-grandfather, G. Burton Thompson, of Hartford, Conn. Brouwer was commissioned along with 22 ROTC cadets from the Colleges of Worcester Consortium, including 13

WPI graduates, during a joint ceremony in Alden Memorial prior to this year's Commencement ceremonies.

"This was an amazing day for us," says Brouwer's mother, Debra. "To watch our son swear an oath to defend our country was moving, but to see him salute his 89-year-old great-grandfather was priceless. My grandfather is a humble man who has spent his entire life serving others through his church and community. Like most veterans, he does not brag of his service; as a matter of fact he rarely speaks of it. My grandfather is my hero and I am delighted that my son has chosen



2nd Lt. Brouwer receives his first salute from his great-grandfather

the same path. I am one proud Army granddaughter and mom.”

Brouwer, a mechanical engineering major from Olathe, Kans., came to WPI prepare for a career designing robots for the Army. His academic program included an emphasis in robotics engineering, and a minor in manufacturing engineering. He is now serving with the 110th Maintenance Company, Massachusetts National Guard, as an ordnance officer and attending the Army's Officer Basic Course. He works for QinetiQ North America in Franklin, Mass., and plans to pursue an MBA part-time after completing his military training.

▶ CLASS CHARACTER

2016

Along with an impressive academic profile, this year's entering class brings some unique talents to campus. Here are field notes on some first year students, gathered by the Admissions Office.



drives dog sleds



special passion for square dancing



nationally ranked chess player



created online library booking program for school



competed in international firefighting competition



writes for Brazilian website: pixelgeek.com.br



Taekwondo national champion and U.S. Open winner



opera performer



attended clown academy



translator for Special Olympics in Greece 2011



plays double bass



working on a project inspired by the BP oil spill



junior Olympics fencing competitor



collects and restores pre-1916 cars



plays fife for Revolutionary and Civil war reenactments



crossed Iowa by bike—450 miles in 7 days

►KUDOS

WPI's Robotics Director Honored

Stafford an "uber mentor" for Mass Academy students

KEN STAFFORD, director of the WPI Robotics Resource Center and advisor to the WPI/Mass Academy FIRST Team 190, spurred the team on to the South Florida FIRST Robotics Competition Regional event in March and took home the prestigious Woodie Flowers Award. Team 190 won the "Leadership in Controls" award for its innovative approach to both the hybrid/autonomous and operator-controlled portions of the challenge.

The Woodie Flowers Award recognizes mentors who lead, inspire, and empower. Each year, students may submit an essay nominating one mentor from their team. Stafford, who has worked with Team 190 for 12 years, was called an "uber mentor" by the students. "He consistently pushes them to think outside of their norm," said the judge who announced the award. "His students recognize and appreciate just what life lessons they are learning from this inspirational mentor." He then called on the audience to congratulate Stafford as "a mentor who puts service before self, and integrity before all."



Ken Stafford, sporting a flamboyant mohawk to fire up team spirit, accepts the Woodie Flowers Award from William Murphy, founder of the award, who awarded the first one to its namesake in 1996.

►ENTREPRENEURIAL

Pins & Needles

WPI takes microthread technology to the next level

NEARLY THREE YEARS AGO, associate professor of biomedical engineering George Pins developed a novel approach to repairing damaged anterior cruciate ligaments (ACLs) in the knee. "The original idea," says Pins, "was to use thin collagen threads as a scaffold for the tissue engineering that would be used to replace the ACL." Today these structures—called microthreads—are in higher demand than Pins ever thought possible.

Glenn Gaudette, associate professor of biomedical engineering at WPI, uses the technology in his own work to fight heart disease. But Gaudette isn't the only one eager to use microthreads. As he puts it, "The use of these microthreads is spreading across labs here at WPI, and to our

collaborators around the country."

This spread called for an increase in production and quality of the microthreads, previously made by hand. The call was met when the biomedical engineering department recently announced the development of a new computer-controlled microthread extrusion system. The system, capable of continuous production of microthreads at various diameters, can produce over 300 threads in an hour.

The development of this system opens the door for the continued establishment of microthreads as a valuable technology in the biomedical field. According to Pins, "This is becoming a platform technology, growing in ways we hadn't imagined when we first began this line of research."

Utilizing the new system, Pins and Gaudette recently founded VitaThreads, a company that will commercialize the microthreads. Harry Wotton '94 will serve as chief executive officer.



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Joel Brattin and students at St. Alfege, where the protagonists of Dickens's last complete novel, *Our Mutual Friend*, were finally wed.

►EXPERIENCED

A Tale of Two Passions

THIS SUMMER, a group of WPI students crossed the Atlantic to walk in the footsteps of three great artists—William Shakespeare, Charles Dickens, and Jimi Hendrix. What better guide for the seven-week “experience” than Professor Joel Brattin, whose academic research is divided between 19th century novelist Dickens, and 1960s guitarist Hendrix.

The course, “Dickens, Shakespeare, Hendrix, and London,” featured visits to sites closely associated with the three. Students attended a performance of *Henry V* at Shakespeare’s Globe (rebuilt in the 1990s, close to the original site). They visited Hendrix’s London flat and the studios where he recorded key works, including his album *Are You Experienced?* They also toured Marshalsea Prison, where Dickens’s father was imprisoned for debt—an event that strongly flavored the author’s life and work.

Brattin’s scholarly passions were ignited when he was growing up in Michigan. He still recalls the moment in 1967 when one of his sisters popped the newly released *Are You Experienced?* on the record player, and the childhood friend who urged him to read *Great Expectations*. “I learned to love Shakespeare in London, in my undergraduate days,” he says.

Initially, Dickens edged out the guitarist for Brattin’s scholarly attention. But while working on his PhD dissertation on Dickens, he reviewed a Hendrix biography—since then, he’s written more than 250 Hendrix-related articles and reviews and more than 60 on Dickens. He has also served as trustee, secretary/treasurer, vice president, and president of The Dickens Society.

At WPI he is credited with bringing the Robert D. Fellman Dickens Collection to Gordon Library, and his presentation “A Visual Exploration of the Best of Hendrix” has delighted scholars and fans alike. Brattin is perhaps the world’s only scholar equally at home interpreting the authorial revisions in a Dickens manuscript and analyzing the guitar legend’s genius on the fretboard.

►CHRONICLE

Students Translate Biography of a Chinese Resistance Fighter

LITTLE BIT OF Chinese history is now available in English, through the efforts of Gordon Library and WPI students.

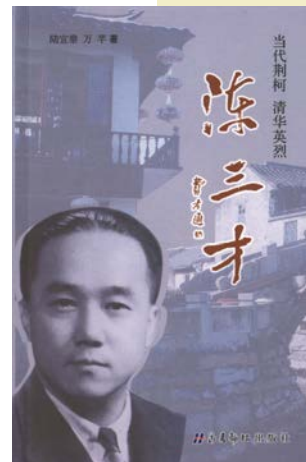
Sarcey Chen '24 was an electrical engineering major from China. After graduating from WPI, he returned to his homeland and founded the North Pole Appliance Company. His dream was to help the Chinese use new technology to transport fresh food long distances in refrigerated rail cars. Chosen by his classmates as an exemplary leader, Chen was profiled in a *WPI Journal* article called “The Measure of a Man.”

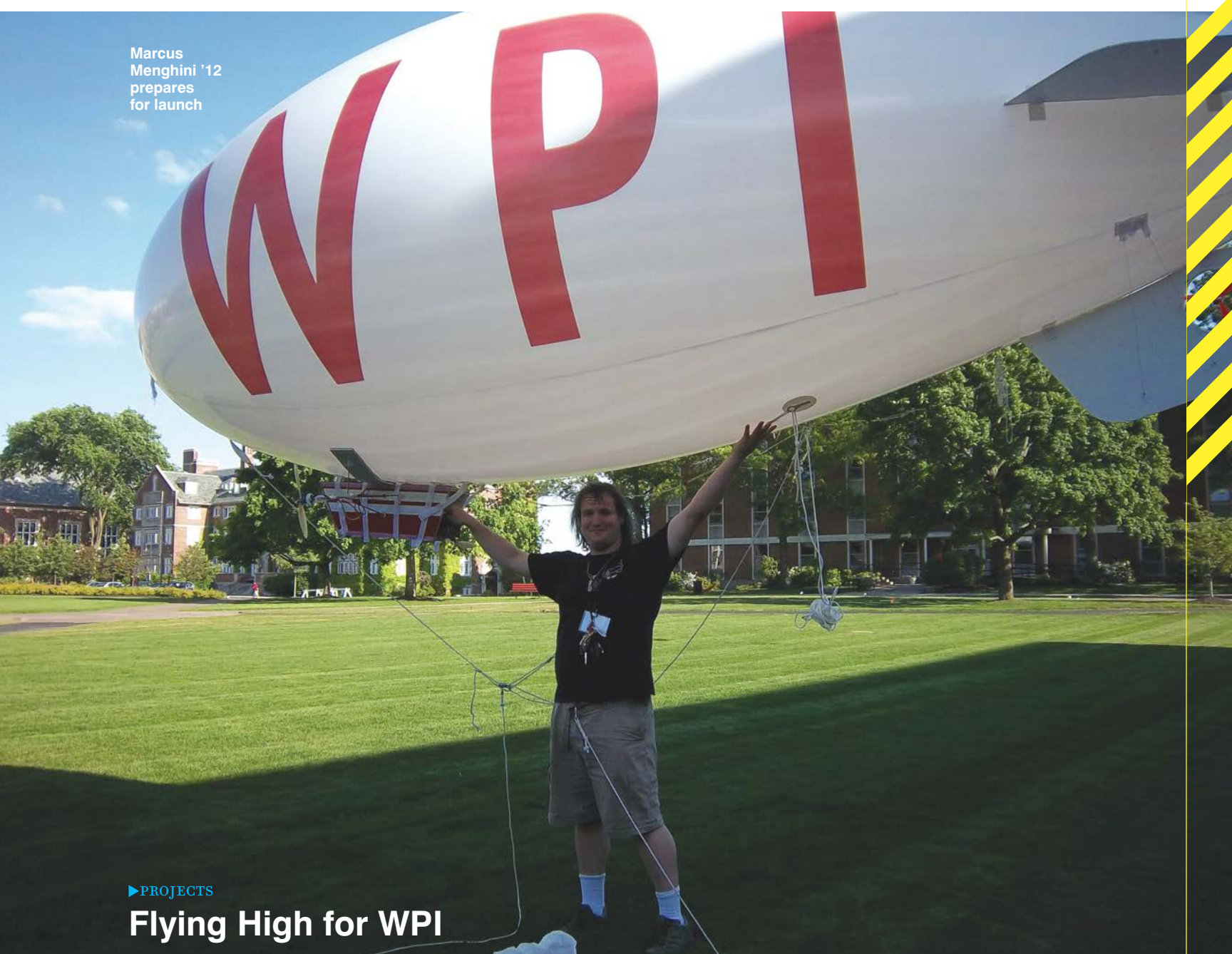
Chen took part in the resistance to Japan’s occupation of Shanghai in the late 1930s. He raised money for the Chinese forces and helped plan construction of routes for the army. In 1940 WPI received word that he had been imprisoned and executed. Information was restricted during the war years, but a 1946 letter from his nephew, Haw King Chen,

read, “I suppose you have heard of the tragic death of my uncle, Sarcey Chen; he died as a martyr to the cause of active resistance to Japanese aggression. He was shot by the traitor Wang Ching-wei, chairman of the puppet government sponsored by the Japanese invaders.”

Last spring, students, staff, and faculty gathered to celebrate the completion of a bilingual version of the biography, originally written in Chinese by Yitai Lu and Qian Wan. WPI students Xiaowen Zhen '12, Xiaolin Zhen '12, and Chao Liao '12 spent several years on the translation.

Speakers at the reception included WPI archivist Margaret Anderson, who spearheaded the project, and Nienling Leung, whose father was a classmate and friend of Chen’s at Tsinghua University. A limited print run, produced by WPI’s bindery, is available in Gordon Library, and an electronic version is planned for the digital collection.





Marcus Menghini '12 prepares for launch

► PROJECTS

Flying High for WPI

LOOK! UP IN THE SKY! IT'S A BIRD! IT'S A PLANE!

No, it's an MQP. Project code: BLMP. "Development of an Autonomous Blimp" is the work of robotics engineering majors Daniel Lanier, Daniel Sarafcomm, and Marcus Menghini, members of the Class of 2012. Their objective was to create a dirigible-based platform that could autonomously navigate between two points, using GPS. The 16-foot blimp is 6 feet in diameter and contains 250 cubic feet of helium, which creates

8 pounds of lift, according to its creators. It also features two gondola-mounted electric motors for propulsion, and a live video camera downlink.

The team sees this as a "rolling" project that will be taken up and advanced by future student teams. The possibilities for refinement and improvement include a communications system, collision avoidance capabilities, and Android phone-based control. The possibilities for fun displays of WPI pride are unlimited.

►SUGAR HIGH

Diabetes Care? There's an App for That

HOW DOES WPI plan to fight one of the nation's leading causes of death? Smart phones, of course. WPI's Healthcare Delivery Institute (HDI) has received \$1.2 million from the NSF to develop a smart phone application to help those suffering from advanced diabetes.

Unofficially dubbed "Sugar," the app will allow patients to track and archive their blood sugar and weight levels through their smart phones and take images of foot ulcers. Based on these observations, the app will relay personalized feedback derived from clinical research.

The app is one of several projects under way for the HDI, a new WPI center composed of faculty and students from science, engineering, and business working to reinvent healthcare delivery by creating technology to increase productivity, reduce costs, and empower patients. Managing Director Vera Tice '86 (MS EE), says, "We see a tremendous opportunity for improvement by developing technology-based solutions that engage patients in care delivery."



►DEVOTION

Student Pitches In for Homeless and Hurricane Katrina Victims

ASCE honoree finds new significance in her work

DANIELLE ANTONELLIS HAS an engineer's practicality and a dreamer's passion, and that's a powerful combination.

The 2012 civil engineering graduate from Duxbury, Mass., spent her undergraduate years at the heart of WPI's Habitat for Humanity group. In cooperation with Habitat for Humanity–MetroWest/Greater Worcester, Antonellis and her classmates worked on area builds and sponsored an annual "Build a Shed" project for Habitat families. She led the group twice to New Orleans, where they learned about the mission of Mack McClendon in the Lower Ninth Ward, an area devastated by poverty and Hurricane Katrina.

Antonellis with Mack McClendon, founder of the Lower Ninth Ward Village community center in New Orleans.

McClendon's grass roots community center, the Lower Ninth Ward Village, "is a place where kids can come and just be kids,"

says Antonellis. "Their stories are amazing."

The students returned to WPI determined to "do something significant," a drive that became last October's festival, Building Dreams in New Orleans. It featured live jazz, "an authentic New Orleans seafood dinner for 300," and Mack McClendon himself as keynote speaker. With corporate sponsorship and "tremendous support" from President Berkey and the WPI community, the festival raised \$11,000 for the Village.

"It may not be a new playground," says Antonellis, who recently returned from another New Orleans visit. "But at least you know you're helping to keep the lights on."

Antonellis now works at Tyco, in Cranston, R.I., while finishing her master's in fire protection engineering at WPI. But it is unlikely the young woman named one of the ASCE's National Engineering Week Foundation's "New Faces of Engineering, College Edition" will forget her devotion to New Orleans—or to homelessness.

As if to drive that point home, a fire engulfed her apartment in the spring, right before she left Worcester. "As I dialed 911," she recalls, "I said to my roommate [also an FPE student], 'This is why we do what we do.'"

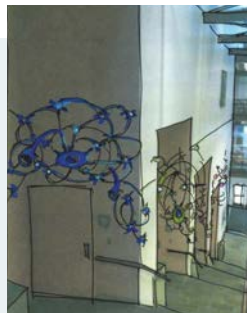
►FUSION

Of Art and Machinery

Artist-in-Residence program unveils its first exhibit

FULLER LABS IS HOME to the Division of Information Technology, the Department of Computer Science, the Department of Interactive Media and Game Development, and...art!

This year, Associate Professor Joshua Rosenstock (Humanities and Arts) established an Artist in Residence program. After receiving more than a hundred applications from interested artists, he selected Deborah Aschheim from Los Angeles to come to WPI to collaborate with a group of students on a piece of public art.



Aschheim's work centers on her interpretation of how the brain processes, stores, and retrieves memories, inspired by her grandparents' struggles with Alzheimer's disease. Working with some of Rosenstock's undergraduate students, she brought her vision "What Do Machines Remember?" to life in the stairwell of Fuller Labs. The project combines aspects of biology, electrical engineering, art, computer science, and interactive media, resulting in light sculptures that are reminiscent of the neural networks of the brain.

Colorful intersecting strings of lights are broken up by small TV monitors that run videos created by the students.

Fuller Labs, itself home to many computers and other equipment, is a perfect venue for the display. What was once empty wall space is now a destination, a place to pause, gaze at the work, and contemplate just what *do* machines remember?



WPI



1938
1943
1948
1953
1958
1963
1968

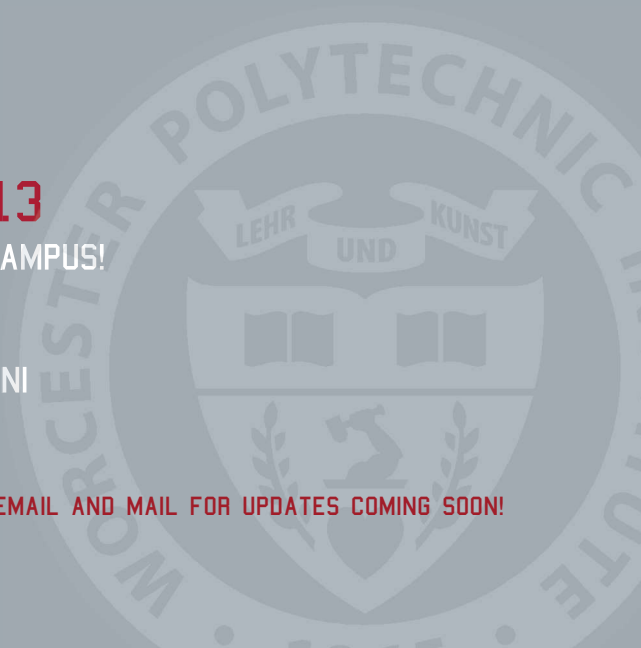
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1978
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HOW RICHARD COURNOYER '98 IS LEAVING
HIS MARK ON MARS **by kate silver**

HISTORY IN THE MAKING

PHOTOGRAPHY BY KEVIN SCANLON + ILLUSTRATED BY STEPHEN WEBSTER





ON AUGUST 6, RICHARD COURNOYER WAS RUNNING ON PURE ADRENALIN. HE'D BEEN UP ALL NIGHT, STARING AT THE COMPUTER AT HIS HOME OUTSIDE OF LOS ANGELES, WAITING ON PINS AND NEEDLES FOR CURIOSITY TO LAND ON MARS.

As he devoured any photos and videos that came through, he knew the stats: nearly half the missions to Mars have failed. So he busied himself, Tweeting fun facts about his favorite part on the spacecraft (the “thruster cluster”) and posting a photo of the team who built the Mars Science Laboratory (MSL)—his team, with whom he served as the group supervisor of the NASA Jet Propulsion Lab’s (JPL) Prototype and R&D Machining Services.

Just before 1:30 a.m. EDT, the true test came. This was the landing sequence that left viewers—including Cournoyer—with mouths agape as MSL hurdled through space at 13,000 miles per hour, taking a mere seven minutes to come to a complete stop, nailing the perfect landing on the Red Planet. For Cournoyer, it couldn’t have been more beautiful.

“I’m a man who doesn’t cry but there were tears in my eyes,” he says. “I was like a proud papa. I was one of tens of thousands who built this unit, but in my mind, that was my baby.”

In that moment, he’d accomplished his career goal. He’d made history—using his bare hands.



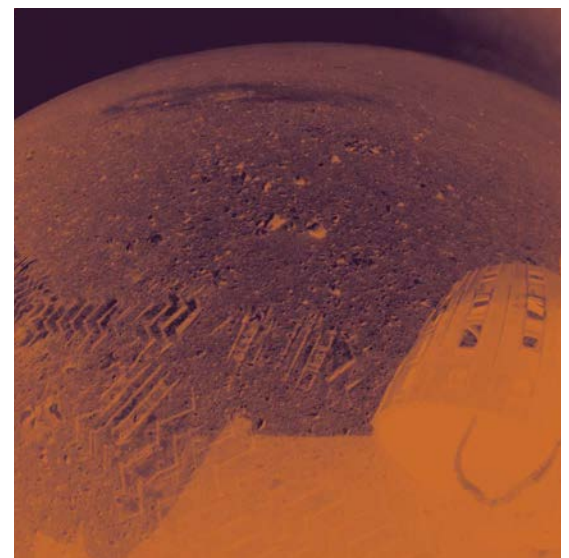
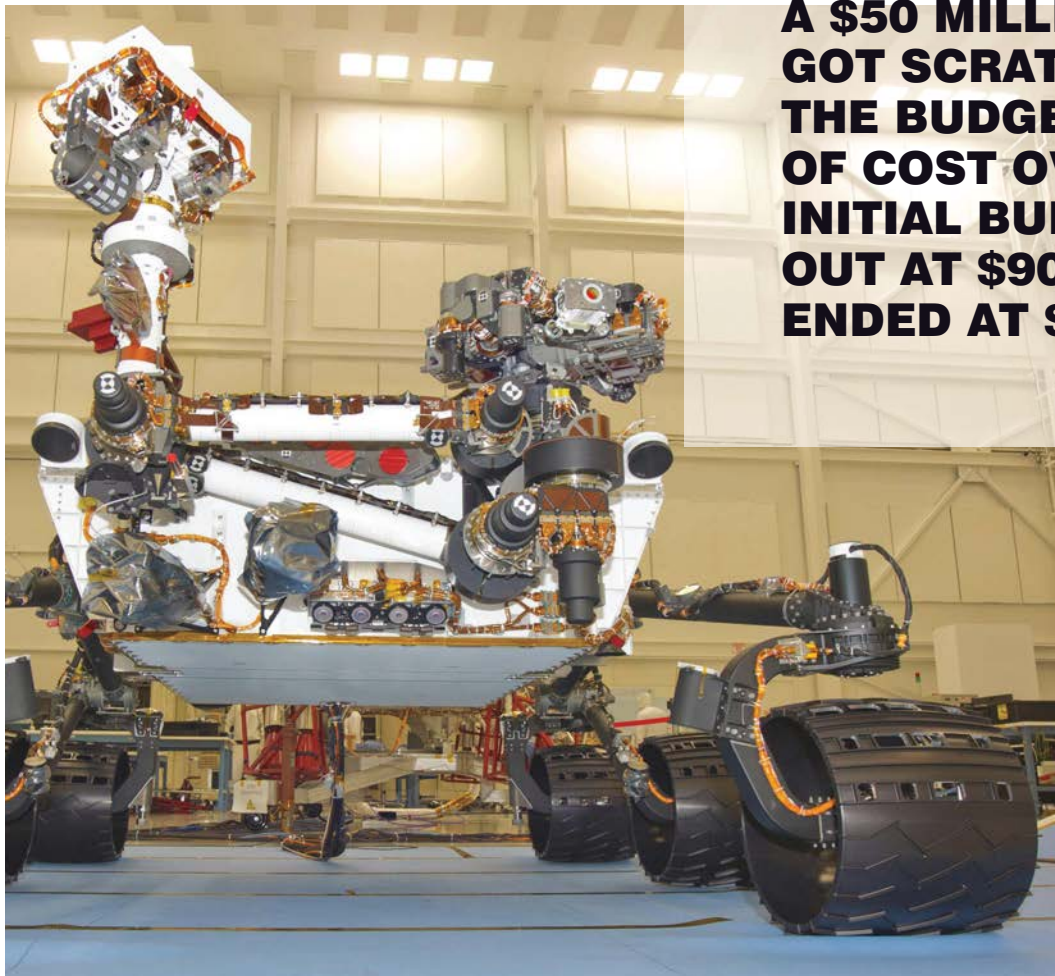
Cournoyer’s career arc with NASA actually follows that of MSL’s earthly journey. He began working at JPL in 2006, overseeing the six machine shops that manufacture robots, instruments, Mars rovers, and so much more. A few months after he was hired, his teams began building MSL. The goal was to build a vehicle that would spend two (earth) years on Mars, researching its climate, geology, and habitability. “MSL is the first robot that has a laboratory, so I like to say that MSL is studying the science of Mars,” Cournoyer explains. After the launch, he planned to retire early, which he did in March of 2012 at age 53, just months after MSL took to the skies.

JPL built three vehicles involved in MSL. There’s the rover itself armed with a battery of instruments that will perform tests and determine, among other things, whether Mars did or could support life. The team also played a role in manufacturing the “cruise stage,” which blasted off Nov. 26, 2012, and carried the car-sized rover from low earth’s orbit to Mars, where it traveled 352 million miles over eight months before closing in on the planet.

Following that came the now famous descent stage (a.k.a. the sky crane), which rocketed the MSL to its ultimate landing on Mars. In August the rover blasted into the Mars atmosphere, beginning what was dubbed “seven minutes of terror” by JPL engineers, as *Curiosity* landed. It took a giant parachute and eight Mars landing engines (MLEs— a.k.a. Mars lunar engines, or rockets) to slow everything down. Then, like some kind of giant Cirque du Soleil creature, the rover, which was attached to the sky crane by



“WE NEVER GOT TO TEST THE DESCENT VEHICLE HERE ON EARTH,” SAYS COURNOYER. “THAT WAS A \$50 MILLION TEST THAT GOT SCRATCHED OUT OF THE BUDGET BECAUSE OF COST OVERRUNS. THE INITIAL BUDGET STARTED OUT AT \$900 MILLION. IT ENDED AT \$2.6 BILLION.”





IF... WE INVEST IN STUDENTS

IF... WE INVEST IN FUTURE LEADERS AND INNOVATORS

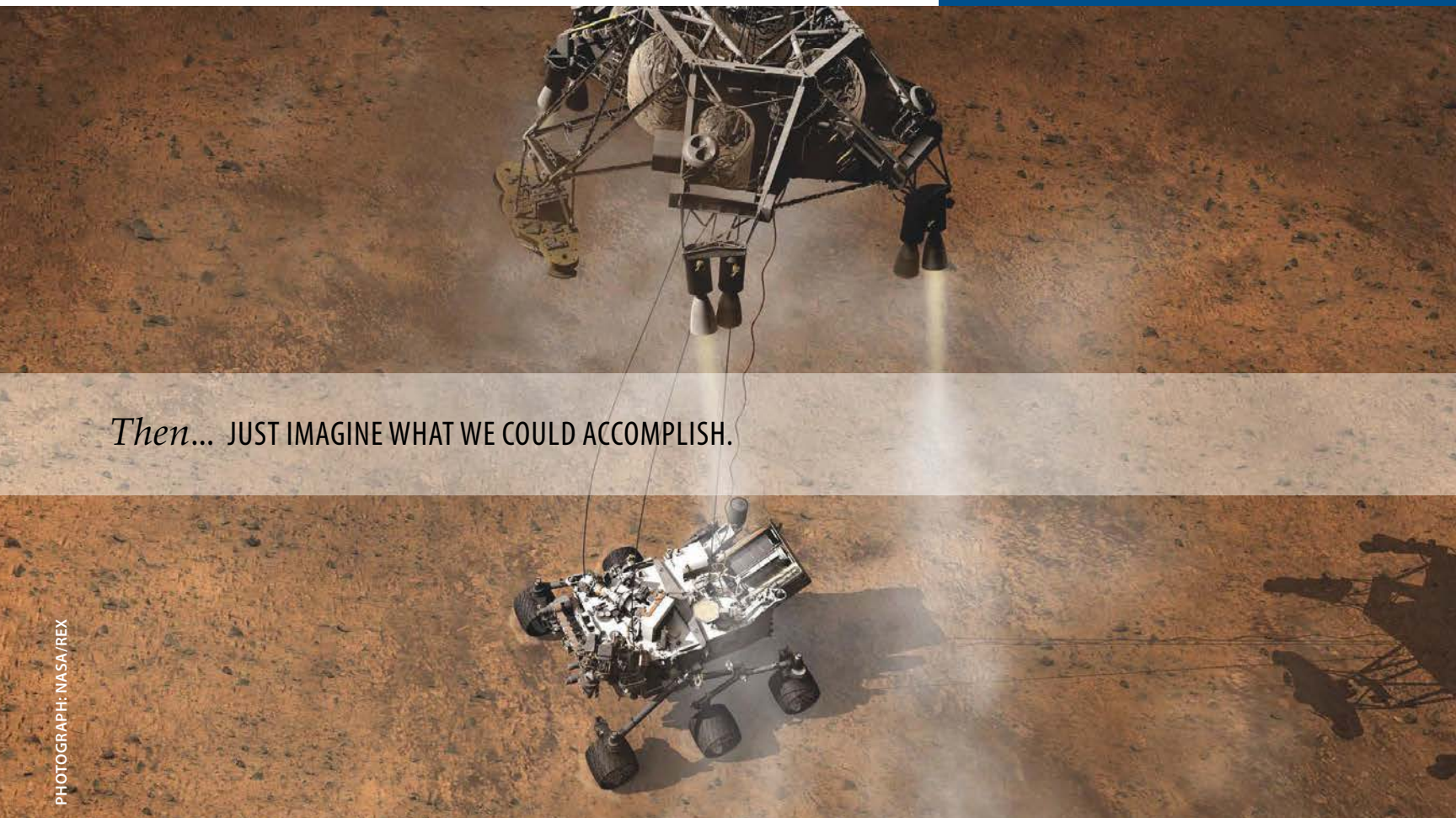
IF... WE INVEST IN PLACES AND SPACES

IF... WE INVEST IN OPPORTUNITY



the campaign to **advance WPI**

RICHARD COURNOYER, CLASS OF '98.
A former NASA staffer worked on essential
parts of the rover Curiosity, including
the landing gear.



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PHOTOGRAPH: NASA/REX

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nylon cables, was lowered about 66 feet to Mars, cushioned by its own wheels and suspension system. At touchdown, the spacecraft severed the cable cords and flew away.

The journey was a remarkable success. The world watched. JPL engineers cheered. And Cournoyer, sitting at home, alone, in front of his computer, felt a surge of pride and relief. Although the general public doesn't know it, the landing stage was one of the most intense parts of the mission. Not only because of the symphony-like orchestration of complex movements, and not just because of the eight rockets that acted as enormous brakes. But because it had never been tested.

"We never got to test the descent vehicle here on earth," says Cournoyer. "That was a \$50 million test that got scratched out of the budget because of cost overruns. The initial budget started out at \$900 million. It ended at \$2.6 billion."

Another item that led to cost overruns is the wheels of the rover. There was a design flaw in the actuators of the vehicle—the little motors and gearboxes that drive the rover. Upon testing, the titanium actuators, which were designed by JPL but built by a contractor, weren't as sturdy as the engineers had hoped. So the team decided to use a proven design that had been used on successful Mars rovers *Spirit* and *Opportunity*. Although the fix didn't take long, it threw the schedule off. As Mars revolved away from the ideal location, the team had to wait until the planets were, literally, aligned again. It took 26 months.



Now that MSL has successfully landed, the tests can begin. Most of those tests involve the robot arm, built by Cournoyer's teams at JPL. "Without the arm, the rover is nothing but a golf cart," he says. The 7-ft arm is equipped with a camera, drill, scoop, and more. Cournoyer is particularly impressed with a device called a thwacker, a spring-loaded mechanism that, yes, "thwacks" the arm of the rover to shake off particles it's collected to avoid sample contamination. The "MSL goes and drills a lock and it scoops up soil," Cournoyer explains. "But you don't want sample number 2 to look like sample number 1. Nor do you want sample number 10 to look like sample number 1. What that means is you have to remove all of the residue of your sample before you go and pull your second sample." That's when the "thwacking" occurs.

Another critical instrument is the tunable laser spectrometer (TSL), also known as a Herriott cell. It's a gas analyzer searching for gas compositions in the Mars atmosphere, as well as methane on Mars (and is lovingly nicknamed "the fart sniffer" by Cournoyer's team). The scientists knew from a past mission that there is, indeed, methane gas on Mars. That could signify signs of life, or it could point to an earthquake or volcanic activity. The Herriott cell uses a complex series of lasers and mirrors to search for this greenhouse gas, and it may be able to determine whether the methane comes from former plant life or geological activity on the planet. The results will impact future missions to Mars. It could also answer the question that's been nagging at Cournoyer since childhood: Are we alone?

Cournoyer can't remember exactly when he caught "the space bug," as he calls it. Growing up in the '60s, he remembers taping the audio the first time man landed on the moon. "I was just fascinated," he says. "I was born and raised a good Catholic boy and taught never to doubt whether there's a God. But there's a scientist in me, going, 'Are we alone?' I'd love to be part of answering that question."

It wasn't until much later in life that Cournoyer found his interplanetary career. He grew up in Warwick, R.I., in a manufacturing family. True to form, he was always good with his hands. He says that from the time he was crawling he would take things apart and put them back together seamlessly—a gift he refers to as "the knack."

"I am extremely talented with my hands, mechanically," he says. "You can bring me a box of parts of something that you have taken apart and I look at it and I just know how it goes together, I can reassemble it," he says. As he grew up, he worked on more complex items, reassembling electronics and mechanics. When he was 15, his dad bought him a 1963 Ford Falcon for \$30. The teenager, without any training, put a new engine and transmission in it, worked on the suspension, painted it, and by the time he was 16, the car was like new.

When he graduated from high school, his parents lobbied for him to go to college. Cournoyer wasn't interested. He saw his father, his sister, and other family members making good money in manufacturing, and that was where he wanted to be. He got a job with General Dynamics Electric Boat Division in Rhode Island, which designed and constructed submarines for the U.S. Navy. For nearly 20 years, he worked his way through the ranks—first as a tool and die maker, then a supervisor, and finally a manager. "Eventually it come to the point where I couldn't make any more money because I didn't have the 'sheepskin on the wall,'" he says. He decided to go back to school.

His plan was to enroll at the University of Rhode Island. But when he shared that plan with the admissions staff, they suggested that at age 35, because he'd been out of school for so long, a better place to start would be a community college. In 1995 he enrolled at Community College of Rhode Island, where he took five semesters of math classes with Professor Michael Latina, who became a mentor to him, challenging him on what he wanted to do, who he wanted to be, where he was going to go next. Latina, who had received his PhD from Brown University, had attended WPI for his undergraduate education. He encouraged Cournoyer to enroll at WPI, explaining that it was different from the ivy leagues, because professors, not grad students, taught classes. Cournoyer remembers the conversation vividly. "He said, 'Do you want to work with some of the best professors in the world? Go to WPI, because they teach classes,'" says Cournoyer. "That absolutely sold me."

At WPI, that space bug grew. There he was, attending the same school as Robert Goddard, the father of modern rocketry. Cournoyer recalls paying homage to the statue at the Pakachoag Golf Course many times. He laughs about the coffee-fueled trips he took from Worcester to Cape Canaveral in the late '90s to watch a shuttle launch, only to drive all night and make it back to class on time. He

“I GOT A GREAT EDUCATION AT WPI,” COURNOYER SAYS. “AND I’M MECHANICALLY INCLINED. YOU PUT THOSE TOGETHER AND THE WORLD’S AT MY DOORSTEP. I CAN BUILD AND PRODUCE PRACTICALLY ANYTHING TODAY.”

revels in the fact that he took a course on heat transfer from a visiting professor who had been a leader in the Russian space program. And he loved meeting other students like himself who also had “the knack.” But most of all, he found that his technical history fit perfectly with the academics at WPI. “What enforces WPI is its strong manufacturing background. It’s not just academia. They know how to put things together,” he says. “You want something made and you want it made right and within cost, WPI is truly one of the best learning institutions in America that ties that in.”

Cournoyer received a BS in mechanical engineering (with an emphasis on biomedical, “for fun,” he says) and an MS in manufacturing engineering from WPI. While in grad school, he taught Intro to Manufacturing and courses on pro-engineering CAD/CAM software. He also ran the Industrial Robotics/Automation Laboratory. It was in that role, according to Professor Christopher Brown, that Cournoyer really flourished, thanks, in part, to his extensive experience in manufacturing. Whether the machines were new or old, Cournoyer knew how to handle them, and Brown describes him as infinitely patient in teaching other students how to do the same. “He was an unusual student because he’d already worked as a machinist and had come in to learn engineering. He was a friendly, easy-going kind of guy. Bright, very bright,” says Brown, who taught Cournoyer in two classes, Intro to Manufacturing, an undergrad class, and Axiomatic Design in grad school.

Brown recalls the time that one of his students wanted to make a pair of skis for his MQP. Cournoyer, who was running the lab at the time, was able to make the mold for the skis. He worked with the student throughout the project, showing him how to use the different machines and, over time, they created a working product. Brown said that the project-based education at WPI was perfect for someone like Cournoyer. “If you think of that example, how he interacted with another student, it was great—his creativity could come out on this long-term project. It wasn’t just ‘How do I cram for the next test?’” Adds Brown, “They made an excellent pair of skis.”

When Cournoyer graduated in 1998, his dream job, he says, was to “make history.” And with the word “make,” he meant manufacturing, whether it was producing robots, spacecraft, or, as time would tell, both. He moved to California in 2000 and submitted his resume to JPL. There was only one position he wanted out of 5,000—manufacturing manager—and he was determined to wait patiently until that position became available. So he networked, getting to know people who worked at JPL and asking them to keep an eye on that position. In 2006, he was hired. The history making began.

When Brown heard the news, he was thrilled. “In my eyes, that was a big win for JPL. He’s just the guy they needed,” the professor says. “I was so happy that it worked out. Because I knew it would provide Richard with the intellectual challenge that would make him happy and I knew that JPL was getting one of the best people they possibly could for that kind of job.”



When Cournoyer retired in March, it was 26 months later than he’d planned, because of MSL delays. The early retirement was inspired by a promise to his father, who died at age 64 from prostate cancer. On his deathbed, his father told Cournoyer that he didn’t know if cancer was genetic, but in case it was, he offered these words of advice: “Retire young. Enjoy life. Run out of money. And then when you run out of money and your health is still good, go back to work.”

And that’s just what Cournoyer is doing. In his retirement, he’s gotten caught up in endless projects. He admits his house looks like something out of Inspector Gadget, with appliances that respond to voice commands, doors that open and close with the touch of a button... the list goes on. His most recent project has been producing biodiesel out of used waste oil from a Chinese restaurant. Cournoyer designed and built his own processing unit and 2000G centrifuge to clean the oil, which then powers his new Mercedes.

While tinkering, he’s had a lot of time to think over the last few months. Looking back on his career, Cournoyer credits WPI for much of what he’s accomplished. Long before he began classes, his goal was to teach the world how to be better at manufacturing. At JPL, he was able to do just that. “I got a great education at WPI,” he says. “And I’m mechanically inclined. You put those together and the world’s at my doorstep. I can build and produce practically anything today.”

Despite the thousands of invention ideas that fill his waking and sleeping hours, Cournoyer says he’s not sure of his next step. He’s considered returning to WPI to get his PhD, but he’s in no rush to make any decisions. For the next two years or so, he plans to keep on tinkering, while allowing plenty of time to follow his many Twitter feeds on NASA, MSL, *Curiosity*, and more. “I’m alerted within microseconds of a new picture, a new video coming on board,” he says. “And then I go in and watch and sit there with that big smile, going, ‘Yeah, baby, she’s doing beautifully.’”

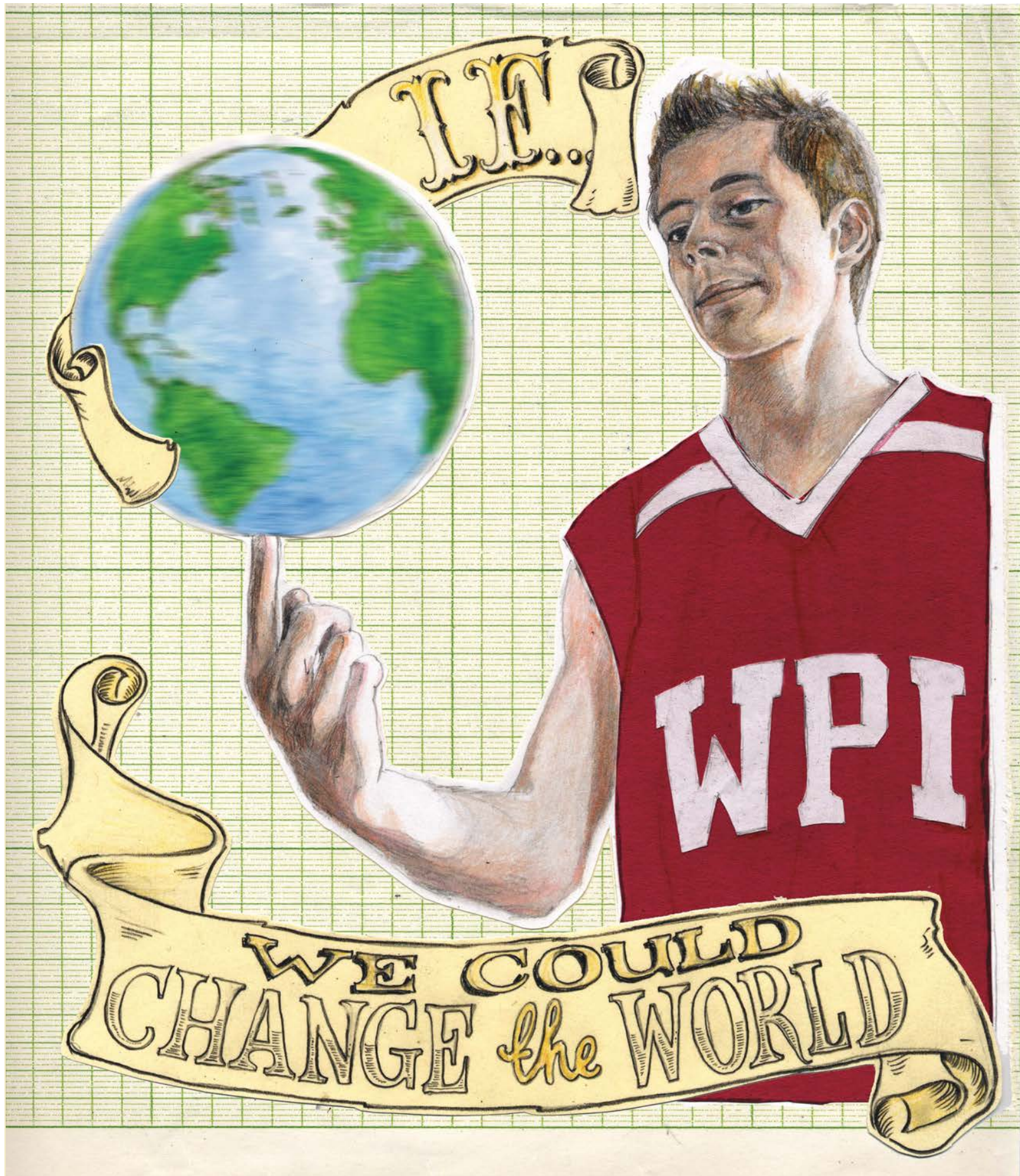
Even in retirement, Cournoyer is making history. ■

homecoming

From the dedication of the Innovators exhibit in the Gordon Library to the SGA Leadership recognition event, from the Athletic Hall of Fame and Alumni Awards ceremonies to the Parade of Floats, football game, the Rope Pull, and reunions—Homecoming 2012, Oct. 5 and 6, proved a great weekend to be back on The Hill.







As the largest campaign in WPI history sets out to raise \$200 million, three alumni speak out about the school's importance, its lasting impact, its future, and why they continue to give.

By **Kate Silver** ILLUSTRATION BY DAVID FULLARTON

“IF”

For two letters, it's a pretty big word – dreamy and ambitious, the natural ellipses to a sentence. That's exactly the intent of If...The Campaign to Advance WPI, the far-reaching endeavor to raise \$200 million before the university's 150th anniversary in 2015.

The campaign is at once universal – as it strives to advance WPI to greater heights than ever before – and personal – with the vision behind every gift as diverse and driven as each individual donor. The funds raised by the largest capital campaign in the history of the university will touch all aspects of the school: scholarships and financial aid (\$75 million) to support a talented and ambitious student body; faculty and academic support (\$50 million) to attract and encourage the passion and research of exemplary professors; improving campus life and academic facilities (\$55 million) to provide students with the best possible living and learning environment; and contributions to unrestricted support (\$20 million) to address urgent projects and needed improvements as they arise.

The fundraising, which the board of trustees approved in 2008, had already raised more than \$114 million by the time of the public launch May 31, 2012, thanks to the support of alumni, corporations, foundations, parents, and friends. With more than 57 percent of the goal already accomplished, WPI president and

CEO Dennis Berkey says the campaign continues to present a unique opportunity to alumni, family, and friends to add to the momentum that has driven WPI forward in recent years.

“For nearly 150 years, WPI has provided a distinctive type of education, based on a strong command of the theory and practice of engineering and science, and complemented by rich experiences in the arts and humanities,” said Berkey. “Increasingly recognized as an ideal model for high-value, effective education, WPI’s curriculum and educational philosophy have inspired similar developments at numerous other colleges and universities. Our ethos of collaboration and our focus on important challenges and opportunities, in both education and research, provide invaluable, sustaining momentum, and now we have an important opportunity to add to that momentum.”

William McAvoy, vice president for university advancement, emphasizes that this is a critical time to make a difference at WPI. “Under the leadership of President Berkey and chairman

Steve Rubin '74, the university is on an upward trajectory,” he says, before ticking off the latest rankings of WPI: The Princeton Review named WPI one of the “2012 Best Colleges,” ranking it 17th among national colleges and universities for career services; Richard Florida’s newest book, *The Rise of the Creative Class, Revisited*, names Worcester No. 14 of America’s most creative cities; Bloomberg BusinessWeek and PayScale have continuously named WPI one of the top 20 colleges in the nation that offer the highest return on investment, with an expected net ROI of \$842,900 over a 30-year period; in 2008, Forbes.com published a PayScale survey that named WPI among “The Top Colleges for Getting Rich,” and in 2009 and 2010 PayScale ranked the university as one of the top 10 schools for highest median starting salary.

McAvoy adds that those accolades don’t just distinguish the school—they distinguish its alumni. “It’s very clear to me that alumni are extremely proud of WPI and the unique educational



Paying it Forward

Mike Dolan was one of six kids, raised on the modest income of his electrician father in the small mill town of North Attleboro, Mass. In high school, he applied to and was accepted by the top engineering schools in the nation. Problem was, he couldn’t afford them. The one exception was WPI, which offered him a viable financial aid package.

With the help of a grant and a loan, he enrolled. For four years, he participated in the work-study program and picked up odd jobs along the way, raking leaves, helping Worcester residents pack up and move, anything he could find to earn money to help pay for his education. Once, when a job fell through, he couldn’t afford to pay for his books for that term. The dean of students somehow got wind of it, and loaned him \$150. “WPI has always

model that is so successful here. They are proud of the time they spent here as students and how WPI has helped them in their careers as they've charted their own way," he says. "Giving back is not just a way of saying 'thanks' to the university. It's a way of sharing the same educational opportunities they had with a new generation. If we give back, the university moves forward."

John Wilson '65, credits his WPI education for his career successes, and that compels him to give back. The CEO and chairman of the board at Paul J. Ford & Company, a structural engineering firm, Wilson remembers the first assembly he attended as a freshman. There, he says, the faculty stressed the fact that every student benefits from the generosity of donors, whether they're paying full tuition or not. "All of us have been supported to go to WPI and to continue on and earn a good living," says Wilson. "We need to remember that, and we need to give back to the university so that we can pay back and we can pay forward."

Today, as chair of the WPI Annual Fund Board and a member of WPI's National Campaign Cabinet, Wilson is committed to doing just that.

"If..." poses an open-ended sentence for those touched by WPI, particularly alumni. The following are the stories of three who are helping write the narrative of the campaign through their time and gifts. Although it's been decades since they graduated, they know that the true faces of the campaign aren't statistics or rankings. They're the students chatting on the Quad between classes about their IQPs, the professors managing project centers in Windhoek, Namibia, and Beijing, China; the residents of Worcester who have been touched by WPI initiatives, such as the development of Gateway Park into an academic and commercial hub for the life sciences and bioengineering departments, as well as the work of the Worcester Community Project Center.

Those reasons, and more, are why these alumni continue to invest in WPI. ■

been a school that helped out kids who needed it," he says.

Now, as the senior vice president and a member of the management committee at ExxonMobil, Dolan credits WPI for helping steer his career and life. "Getting a WPI education for a kid from a small town who had never been anywhere, never done anything, was a great enabler," he says. He loved the fact that he was immersed in team projects that applied to real-world problems, while receiving a broad-based education in writing, history, and the arts, as well as engineering.

"At one point someone said, 'If Leonardo da Vinci had been looking for an engineering school, he would have come to WPI. I like that. It's kind of that Renaissance Man approach to engineering that WPI has been so good at."

That approach awakened in Dolan a thirst for travel, as he learned about history and other cultures. His chemical engineering training gave him a global pathway to explore that passion, and his job has led him and his family to live in 18 different locations around the world, including Saudi Arabia, Belgium, and Australia. He says he's grateful to have had enough financial success along the way that he's able to help support a number of

meaningful organizations—particularly his alma mater.

"My wife and I have some favorite charities that we give to but WPI is chief among them because of what WPI did for me all those years ago," he says. "I'm eternally indebted to [those donors] and the only way that I can pay them back is by doing what they did for me for this next generation of kids." In addition, Dolan serves on WPI's board of trustees and is the national campaign chair of If...The Campaign to Advance WPI.

To pay it forward even more, Mike Dolan issued "The Dolan Challenge," in which he pledged to match every dollar that was given by alumni graduating in the last 10 years. The timing, he says, is vital. Dolan says he's been awed by changes at WPI in recent years under the leadership of President Berkey, as the school has grown from a well-regarded regional engineering school into a national engineering destination. He says that if the university is going to continue attracting exemplary professors and a diverse student body, it must also have the facilities, financial aid, and cutting-edge academic programs to keep up the momentum. "We've all benefitted tremendously over the years," he says, "from the gifts of the founders, all the way through."

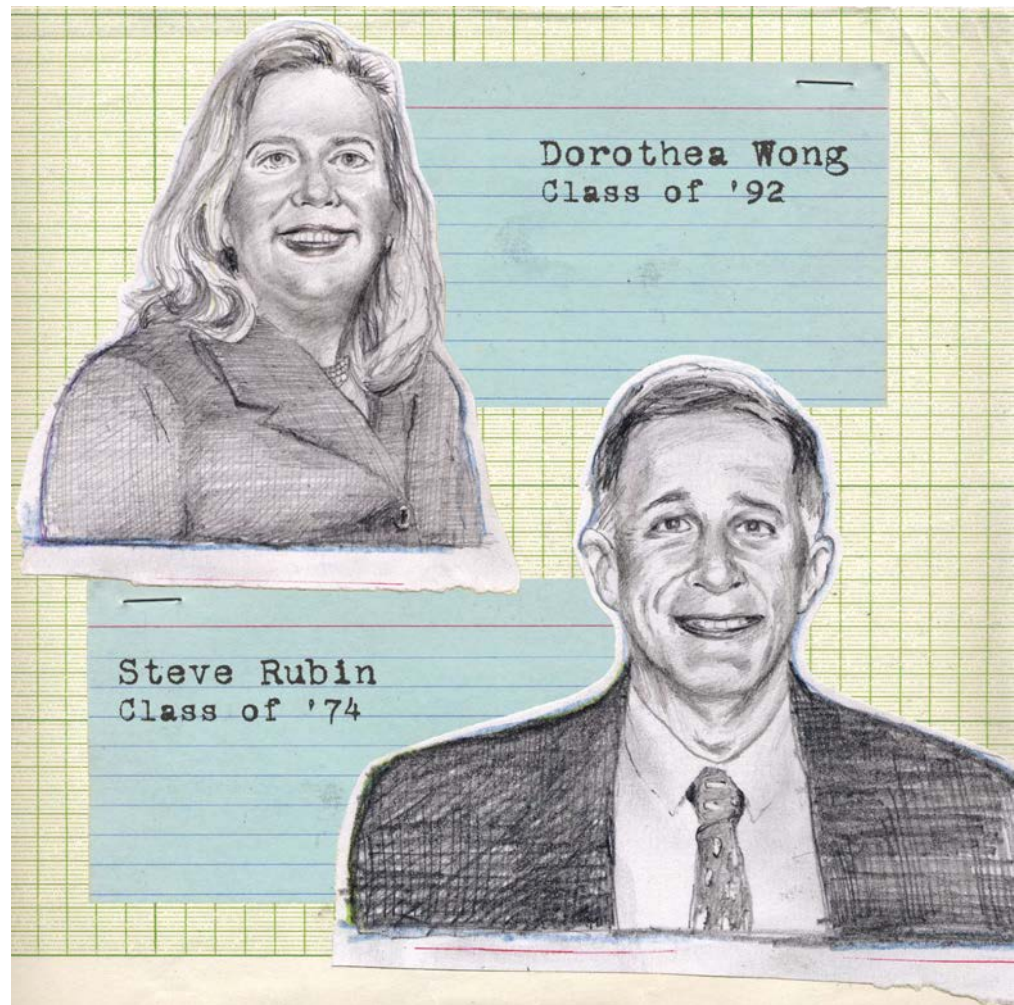
"At one point someone said, 'If Leonardo da Vinci had been looking for an engineering school, he would have come to WPI...'"

Making a Difference

Although her career path has strayed from her mechanical engineering roots, Dorothea Carraway Wong's ties to WPI today are as strong as ever. As a trustee, alumni ambassador, and chair of diversity and women's programs, she remains close to the WPI faculty and staff, her fellow board members, and countless friends. Despite her time spent at RPI, where she received an MS in metallurgy, or the time she spent earning her MBA at Harvard Business School, Wong says no school touched her like WPI. "WPI made the biggest difference," she says. "It's the people that are on campus and the connection that you have with them."

Wong was a sports star at WPI. She earned 11 varsity letters in basketball, cross country, and track, while learning invaluable lessons about leadership, communication, and determination. The school also exercised her mind, and she says she continues to embrace the "Lehr und Kunst" motto even today, in her role as director of Supply Chain Integration for United Technologies Aerospace Systems, one of the largest global suppliers of technologically advanced aerospace and industrial products. "That theme has helped me the most, translating theory into practice in the technological world but also in the business landscape," she says. "I think my professors enabled me to become a person that can succeed...that's a big part of why I care so much. It's made me the person I am." By giving back to WPI, she's enabling other young women to excel in science and technology, while making a positive impact on the world.

When she thinks about the impact of the If...The Campaign to Advance WPI, Wong considers recent campus developments, like the new Sports & Recreation Center, a building supported by gifts from alumni, friends, and foundations. She also thinks about the consistent supply of high-caliber professors, and the re-



"I think my professors enabled me to become a person that can succeed...that's a big part of why I care so much."

markable project centers—more than 35 that span the globe, where students are immersed in solving real-world problems. In those advancements she sees the tangible impact that her gifts, and those of her classmates, have had on the school. "I believe WPI students are catalysts for world change," she says. To Wong, WPI is a proven investment, because she's been there, she trusts the school's mission, and she can actually see the direct results of philanthropy on campus.

Wong says when she thinks about the future of WPI, she also thinks about her own children, ages 6 and 8, as well as possible grandchildren. She wants them to have even more opportunities than she had, and that's what drives her. "If' is about possibilities," she says. "It's about making a difference, well into the future."

Did You Know

More than 1,300 companies nationwide support a matching gift program? Since 2008, WPI has received almost \$900,000 through these programs. Visit our searchable matching gift database at wpi.edu/offices/giving/matching-database.html, to see if your company offers to match your gift to WPI.

“You take WPI graduates and pop them into a business and they’re going to be productive from day one.”

Building a Foundation

Steve Rubin’s business successes are so intertwined with his WPI education, he’s honestly not sure where one stops and the other begins. In 1981 the computer science major started his first company, a developer of computer-based process control systems. The staff he hired came primarily from WPI. “I can tell you that out of my first 10 employees, seven of them were from WPI,” he said. “They were all raised on the Plan, so they knew how to work as a team, they knew how to solve problems, they had open minds.” With the help of that staff, Rubin led Intellution, his software company, to become the leading supplier of industrial automation software, with more than 500,000 installations worldwide and more than 300 employees, before being acquired by Emerson Electric in 1995. (General Electric acquired Intellution from Emerson in 2002.)

Today, Rubin remains as dedicated to the university as ever. He has been on the board of trustees for 17 years, and now serves as chair. In fact, 30 years after starting his first company, he’s in the midst of opening another software company, named Recognisis, which will produce a database that enables institutions to keep track of items used to honor or memori-

alize stewards. Again, he went directly to WPI in search of his staff, and at start-up time hired three employees who are WPI grads or students.

“I give back to WPI because if it weren’t for WPI, I don’t think my company would have been this successful. They’re just really good people to work with. You take WPI graduates and pop them into a business and they’re going to be productive from day one,” he says.

For Rubin, this campaign is about scholarships and faculty support. He wants to see WPI continue to attract a diverse student body, where students have an opportunity to flourish, regardless of their socio-economic background. He’d also like to see the faculty have the opportunity to pursue academic passions through WPI’s project centers and other research opportunities. That, in turn, will trickle down throughout the entire university, benefiting students, as well.

“The thing about WPI is it’s always had a classic New England engineering approach to things: Don’t boast about stuff; be conservative and just do your thing. But the new reality is WPI has been doing great work over the years,” says Rubin. “If we support WPI, we will make a very beneficial impact on our planet, on our society.” ■



Paul S. Morgan,

former chair of the WPI Board of Trustees and father of trustee Philip R. “Flip” Morgan, died Sept. 23, 2012. He is survived by his wife, Nancy, and their children. Five generations of Morgans have served on WPI’s board and members of the Morgan family have contributed greatly, as civic leaders and philanthropists, to the success of Worcester and the university, where Morgan Hall and the Morgan Teaching and Learning Center bear their name.

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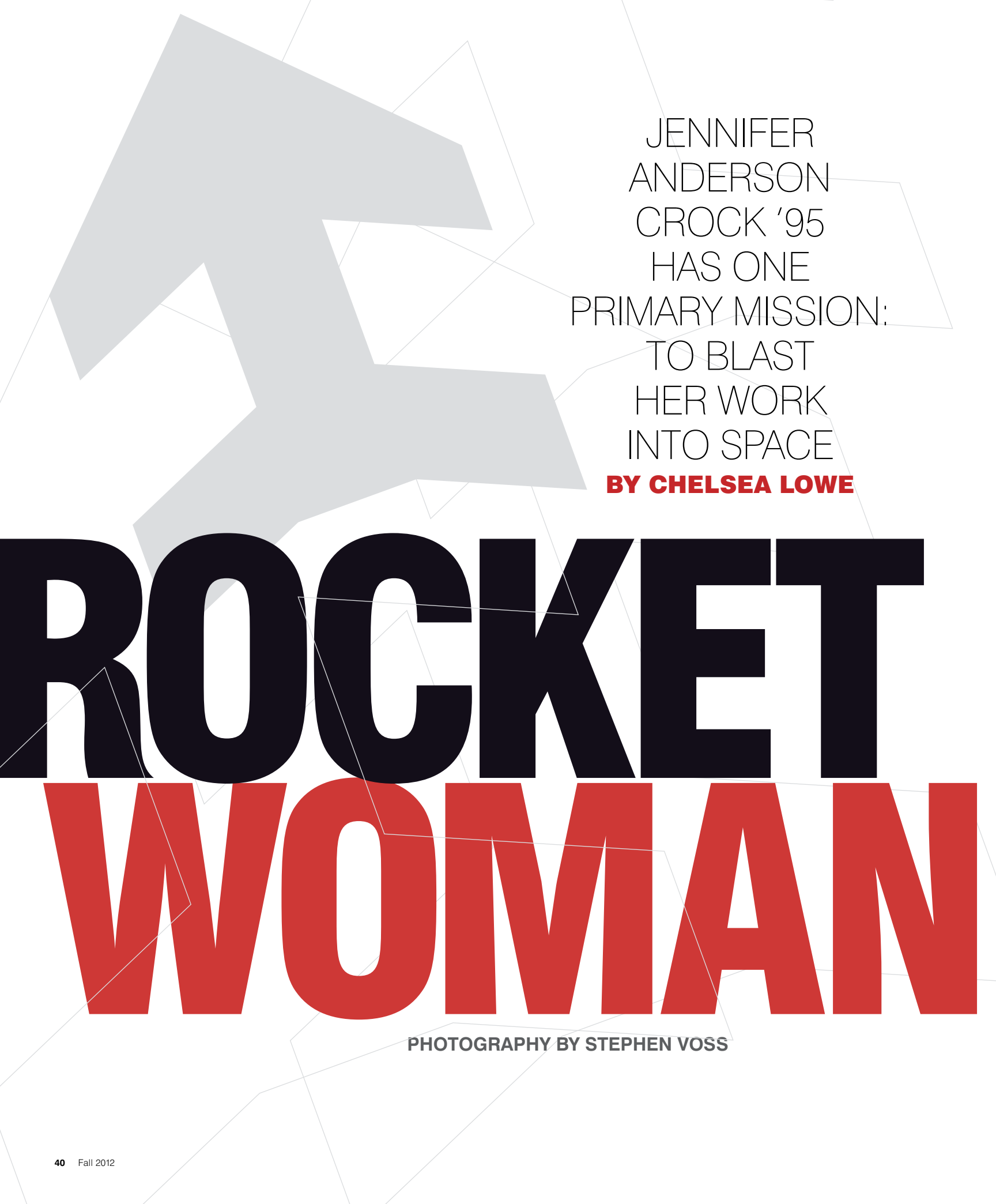
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JENNIFER
ANDERSON
CROCK '95
HAS ONE
PRIMARY MISSION:
TO BLAST
HER WORK
INTO SPACE

BY CHELSEA LOWE

ROCKET WOMAN

PHOTOGRAPHY BY STEPHEN VOSS



To Jennifer Crock's children, the Smithsonian National Air and Space Museum is more than a sight-seeing destination, it's a chance for an up-close glimpse of the types of products their mom helps build.

"Many of my company's products are actually on display," says Crock, who is a program manager at ATK, a Fortune 500 aerospace and defense company with offices nationally. "It's really kind of cool. I can take the kids and say, 'This is what I do at work.'"

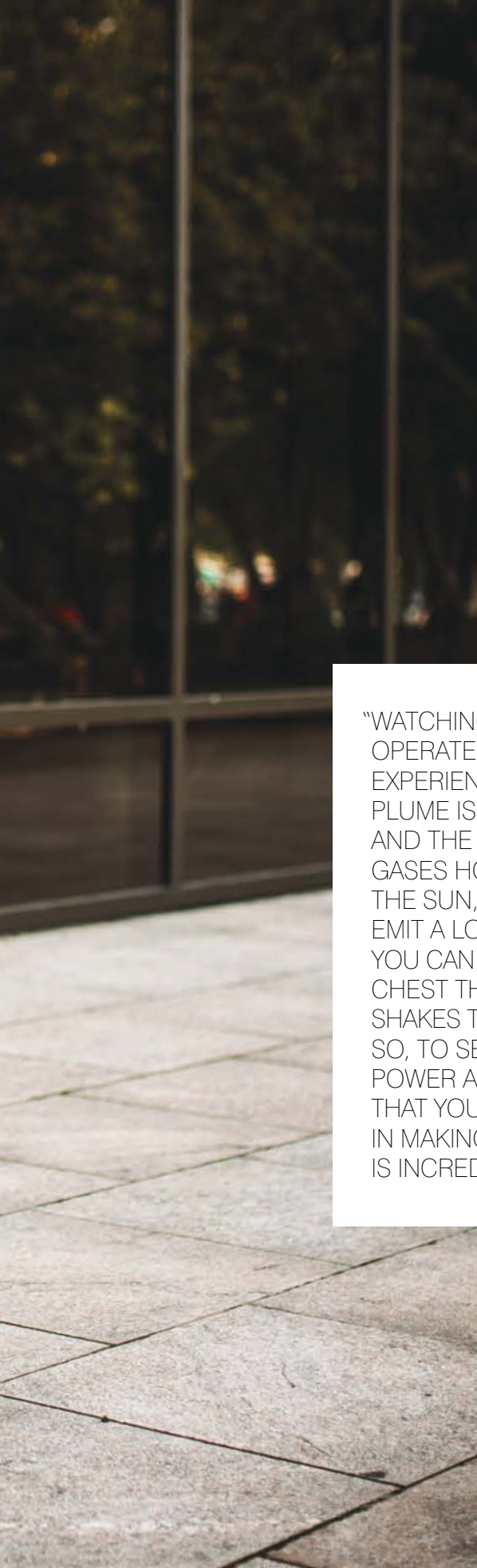
It's moments like those that remind Crock that the job she's been doing day in and day out for the past 14 years has yielded some pretty stellar results. And we mean that literally. Crock helmed the team whose solid rocket motor took over from the Pegasus rocket to blast the Interstellar Boundary Explorer (IBEX) from low-earth orbit up another 50,000 miles, where it is returning data about the composition of the heliosphere. Scientists are using the information to map the boundaries of our solar system.

The next project on tap for Crock's team is to design and build a new, solid rocket motor for future exploration missions. It will be incorporated into an autonomous stage that is capable of its own guidance, navigation, and control.

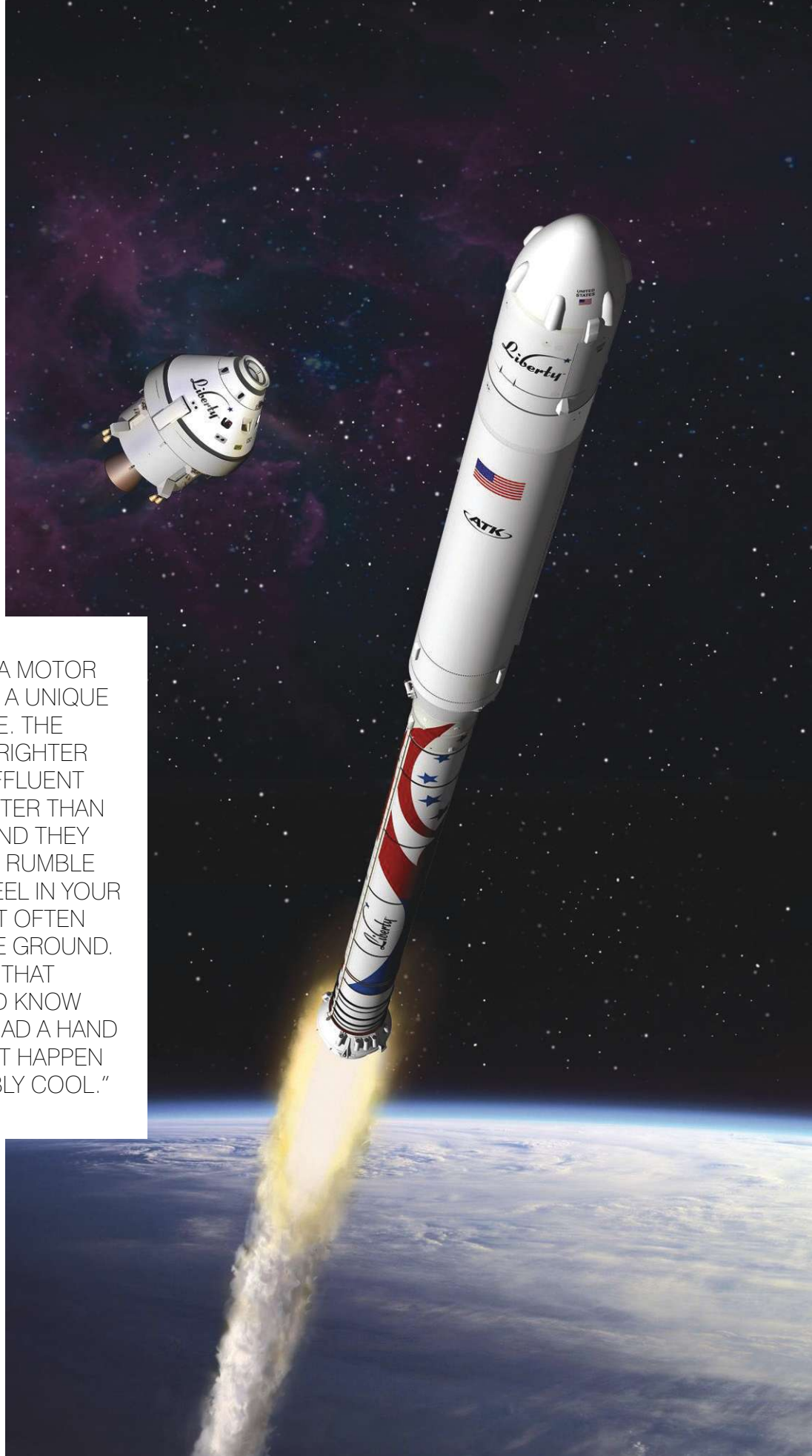
"I never really stop to think about it," she says, "but we've done some amazing work that has led to some truly groundbreaking science."

Crock, who lives in Delaware with her husband, Karl, and their two sons, Nathan, 10, and Philip, 7, joined ATK's Propulsion and Controls division in Elkton, Md., in 1998, three years after graduating from WPI with a degree in aeronautical engineering. Her first stop after college was W. L. Gore & Associates, where she designed next-generation filters for computer disk drives. But the experience made her realize





"WATCHING A MOTOR OPERATE IS A UNIQUE EXPERIENCE. THE PLUME IS BRIGHTER AND THE EFFLUENT GASES HOTTER THAN THE SUN, AND THEY EMIT A LOW RUMBLE YOU CAN FEEL IN YOUR CHEST THAT OFTEN SHAKES THE GROUND. SO, TO SEE THAT POWER AND KNOW THAT YOU HAD A HAND IN MAKING IT HAPPEN IS INCREDIBLY COOL."



she prefers wide-view rather than nitty-gritty engineering. As a program manager, Crock is involved in every aspect of development, from conception to delivery. She wasn't on the job long before she had a strong sense of déjà vu.

"It's a lot like doing an MQP. Every day," she laughs.

New projects for Crock begin pre-contract, when she huddles with the marketing and business development teams to write proposals for clients, which include governmental agencies, like the U.S. military and NASA, and commercial entities, including Lockheed Martin and Boeing. When ATK wins a new contract, the execution phase begins, starting with design. Typically, she

assembles a multidisciplinary team that, depending on the scope of the project, can range from six core individuals to dozens of engineers, analysts, and managers.

Crock was among seven project managers from Elkton who worked on the Attitude Control Motor (ACM) on the Orion Launch Abort System (LAS) for the Constellation Program, which planned ultimately to send explorers to the moon and Mars. That mission was scrubbed in 2010, but plans are in the works to reuse parts of it for future manned missions. She had 40 people on her team, whose work involved managing and verifying that the ACM met all of the design and performance requirements exacted by the launch abort system—essentially an escape system for the craft. The LAS and Orion crew capsules were created to replace the shuttle, incorporating painful lessons from the ill-fated *Challenger*, which, in 1986, broke apart shortly after launch, killing everyone on board, including New Hampshire teacher Christa McAuliffe.

"Obviously, the folks on *Challenger* had no way to get out," says Crock, who remembers the disaster. "I was in seventh-grade science class when there was an announcement over the intercom. Even watching it now brings tears to my eyes."

As is often the case, that tragedy brought about greater safeguards for future generations. "Everyone who worked on the LAS was also aware of what a great responsibility we had to ensure that our astronauts remained safe in the event of an accident," says Crock.

The *Apollo* spacecraft of the late 1960s and early '70s had a launch abort system, almost like a giant rocket on top of the capsule that could pull the capsule away from the launch vehicle. But it could be used only at certain points during the mission. The LAS allows the crew to escape at any time. When triggered, either automatically or manually by the crew, the large abort motor pulls the capsule away from the launch vehicle, while the attitude control motor steers. When the motors have burned out, the tower jettison motor pulls the whole stack away as the capsule separates from the abort motor. It then glides back to earth with the aid of parachutes.

Among the most viscerally rewarding aspects of program management happens toward the end, when a new design is tested through static firing. The rocket motor is fired up under simulated flight conditions, sometimes in an altitude chamber. To Crock, these static firings are "nerve racking and exhilarating all at once. Rocket motors are unforgiving products: they have to work perfectly the first time—every time—and you can't give them a test run first."

"However," she adds, "when it goes well, it's an awesome feeling. Watching a motor operate is a unique experience. The plume is brighter and the effluent gases hotter than the sun, and they emit a low rumble you can feel in your chest that often



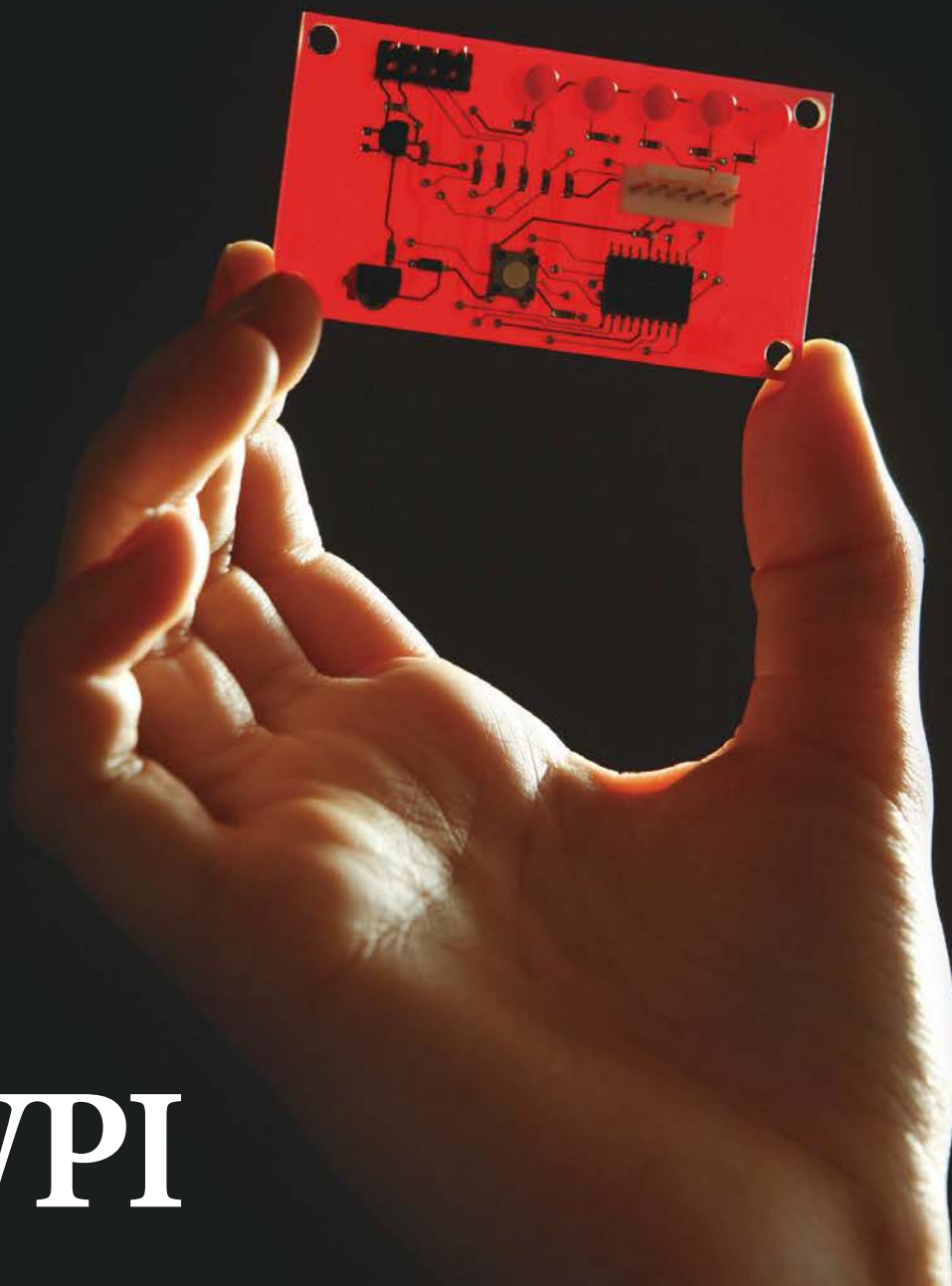
Successful ground test of the main abort motor for NASA's Orion Multi-Purpose Crew Vehicle.

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WPI

shakes the ground. So, to see that power and know that you had a hand in making it happen is incredibly cool.”

Other cool career experiences have included a tour of the space shuttle *Endeavor* while it was being readied for STS [Space Transportation System] -127 in June 2009. “The shuttle is to my generation as *Apollo* was to earlier ones: a source of great inspiration. Being able to walk around on the gantry, walk down the astronaut walk and poke my head inside the orbiter while it was being prepped was almost surreal.”

Given the opportunity, Crock says, she would likely participate in a space flight. “I’ve met astronauts and worked with them. Listening to them talk about their experiences in space is fascinating.”

In fact, she says, she’d originally considered attending the U.S. Air Force Academy to attain a pilot’s license, but ultimately decided WPI was a better fit. It was her project advisor and mentor Nikolaos Gatsonis who turned her on to propulsion, which figured into her MQP: analyzing the environments created by using nuclear electric propulsion and how they affect spacecraft design.

For her IQP, she wrote articles for *Space Design Journal*. It was, she says, “a good opportunity to learn about space topics and issues, [and] hone my tech writing skills.”

“I’ve come to appreciate my WPI education more each day, says Crock. “Having good communication skills and the ability

to step back and understand the big picture of a problem, as well as its nuances, have proved invaluable. I also think that the fast-paced nature of WPI’s quarter system has helped me to be able to make decisions quickly. In school, you had to hit the ground running and keep up the pace to succeed. The business world is much the same.”

Which doesn’t leave her much time to stop and reflect. But just as the occasional trip to the Smithsonian will remind her of the far-reaching impact of her work, there are other reminders as well—including having her autograph on planet Mars.

ATK designed and built some of the elements used to safely land the *Spirit* and *Opportunity* rovers, including the gas generators that inflated the air bags that cushioned the vehicles on impact. NASA allowed ATK employees to sign their names on the protective cover around the air bags.

“If you look carefully at pictures of the landing sites, you can pick out the covers on the ground,” says Crock. And somewhere on them are her name and the names of her husband and sons. “Looking back at the experiences that I have had with space missions, I can only hope that my kids will also get an opportunity to be part of something bigger and have that same sense of pride in their accomplishments. Who knows, maybe someday they will get to look at those air bags on Mars with their names on them in person.” ■



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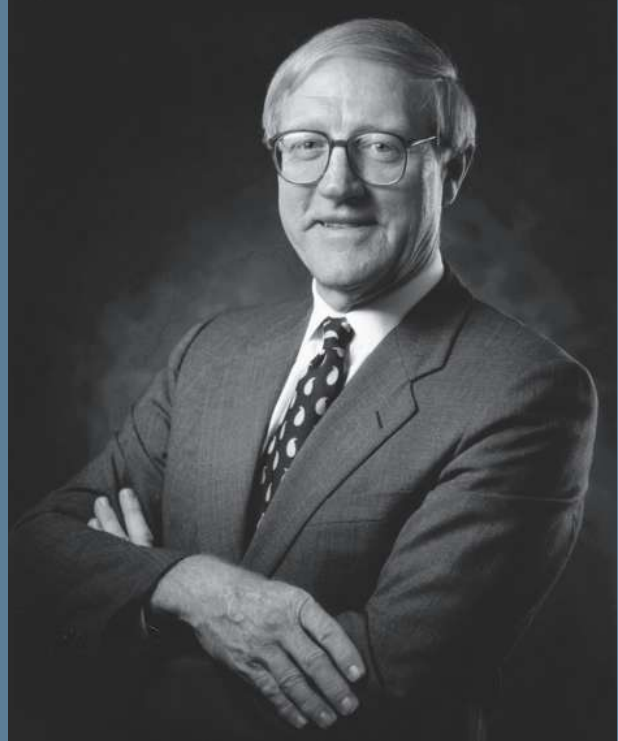
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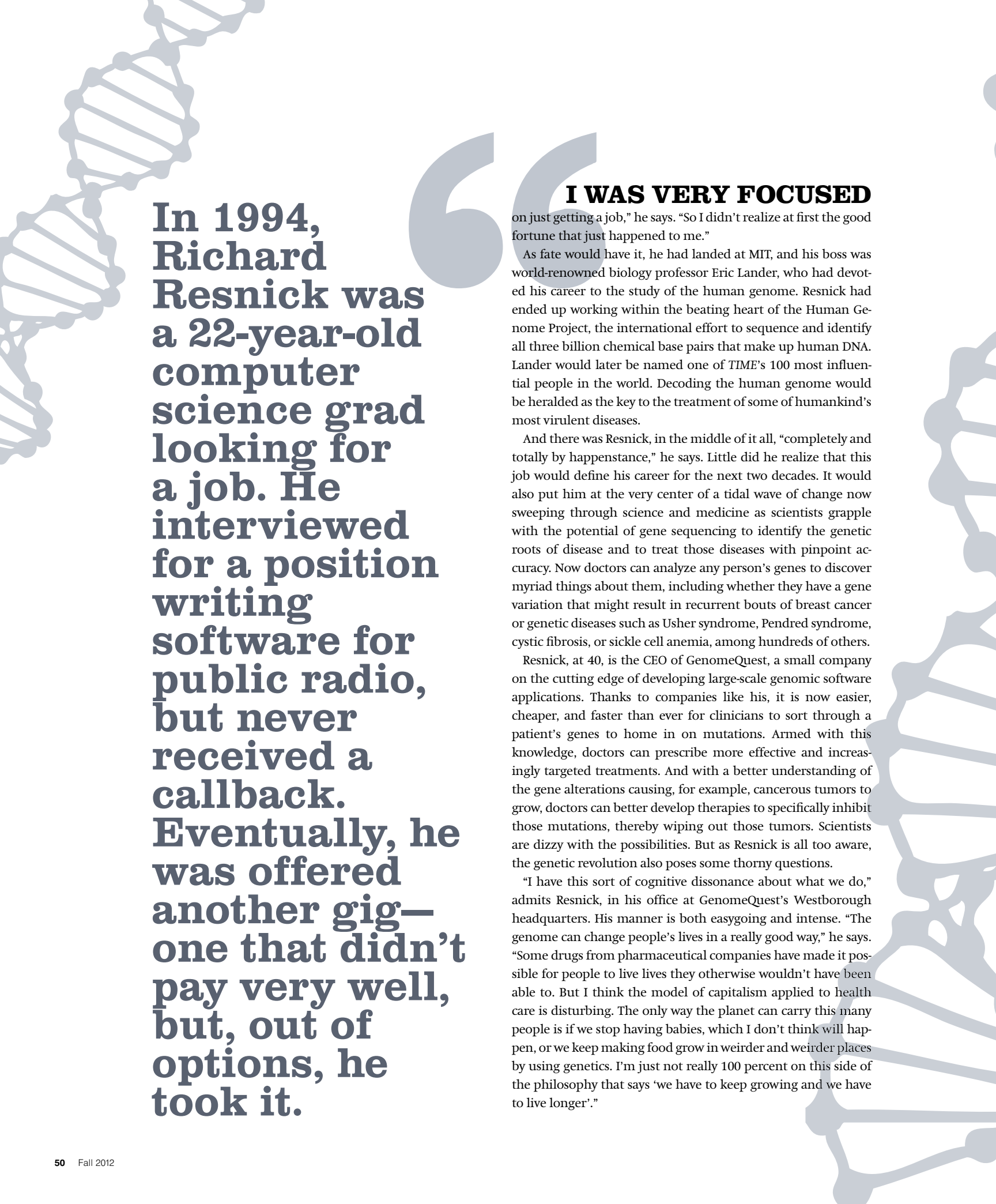
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RICHARD RESNICK, MS '98,
HAS FOUND HIMSELF AT
THE HEART OF A
GENOMICS EVOLUTION
by pamela reynolds

g·e·n·o·
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In 1994, Richard Resnick was a 22-year-old computer science grad looking for a job. He interviewed for a position writing software for public radio, but never received a callback. Eventually, he was offered another gig—one that didn't pay very well, but, out of options, he took it.

I WAS VERY FOCUSED

on just getting a job," he says. "So I didn't realize at first the good fortune that just happened to me."

As fate would have it, he had landed at MIT, and his boss was world-renowned biology professor Eric Lander, who had devoted his career to the study of the human genome. Resnick had ended up working within the beating heart of the Human Genome Project, the international effort to sequence and identify all three billion chemical base pairs that make up human DNA. Lander would later be named one of *TIME*'s 100 most influential people in the world. Decoding the human genome would be heralded as the key to the treatment of some of humankind's most virulent diseases.

And there was Resnick, in the middle of it all, "completely and totally by happenstance," he says. Little did he realize that this job would define his career for the next two decades. It would also put him at the very center of a tidal wave of change now sweeping through science and medicine as scientists grapple with the potential of gene sequencing to identify the genetic roots of disease and to treat those diseases with pinpoint accuracy. Now doctors can analyze any person's genes to discover myriad things about them, including whether they have a gene variation that might result in recurrent bouts of breast cancer or genetic diseases such as Usher syndrome, Pendred syndrome, cystic fibrosis, or sickle cell anemia, among hundreds of others.

Resnick, at 40, is the CEO of GenomeQuest, a small company on the cutting edge of developing large-scale genomic software applications. Thanks to companies like his, it is now easier, cheaper, and faster than ever for clinicians to sort through a patient's genes to home in on mutations. Armed with this knowledge, doctors can prescribe more effective and increasingly targeted treatments. And with a better understanding of the gene alterations causing, for example, cancerous tumors to grow, doctors can better develop therapies to specifically inhibit those mutations, thereby wiping out those tumors. Scientists are dizzy with the possibilities. But as Resnick is all too aware, the genetic revolution also poses some thorny questions.

"I have this sort of cognitive dissonance about what we do," admits Resnick, in his office at GenomeQuest's Westborough headquarters. His manner is both easygoing and intense. "The genome can change people's lives in a really good way," he says. "Some drugs from pharmaceutical companies have made it possible for people to live lives they otherwise wouldn't have been able to. But I think the model of capitalism applied to health care is disturbing. The only way the planet can carry this many people is if we stop having babies, which I don't think will happen, or we keep making food grow in weirder and weirder places by using genetics. I'm just not really 100 percent on this side of the philosophy that says 'we have to keep growing and we have to live longer'."



Variations on a Gene

By January 2011, Resnick had served at the helm of GenomeQuest for only a short while. He had taken on leadership at the company after the former CEO resigned in 2010. Up until that time, the company, with only about 30 employees, had focused primarily on sequencing data management in non-clinical applications. Pharmaceutical companies used GQ software to help analyze why certain drugs worked in some patients but not others. Agricultural firms used it to help ascertain which plant species would grow better in certain types of soil and climatic conditions. Legal firms, genetic centers, and academic institutions used it to research intellectual property patents on genomic sequences. The software allowed these outfits to sift through enormous amounts of data, analyzing and organizing to their specific needs. It was not, however, used in doctor's offices or clinical labs.

Until the day Resnick received a call from Richard Smith, MD, professor and vice chair of the Otolaryngology Department at the University of Iowa. Smith, who Resnick describes as a "brilliant visionary," had hit upon an idea: he wanted to use genetic sequencing to develop the first molecular diagnostic test for individuals with hearing loss. The new diagnostic test would screen, in parallel, the 70 known genes associated with inherited deafness. And it would do so in a fraction of the time and at a fraction of the cost of the "old-fashioned" way of gene sequencing.

"So this guy Rick Smith called and said, 'We're deploying old sequencing technology used during the human genome project,'" recalls Resnick. "It's slow, it's costly, and it will takes us a year to

sequence all 70 of these genes. What we'd like to do is replace the old way with the new way, clinically. Not for research, but for real patients.' It was his vision and his idea. And he had already seen our software work on the research side, so he was energized to move ahead."

Excited by the challenge, GenomeQuest developed GQ-Dx, a clinical decision-support system for whole- and partial-genome diagnostics. It would allow doctors to analyze variations in the genes and proteins of patients and compare them to a reference genome. With the help of GQ-Dx software, researchers at the University of Iowa were able to begin using a test they had developed called OtoSCOPE, which has reduced the time for a comprehensive genetic diagnosis of hearing loss from one year to less than three months. Thanks to the new test, doctors can now relatively quickly and easily determine the severity, progression, recurrence risk and treatment for a patient's hearing loss. The price of the new test is just \$2,000.

"I can't say enough about Richard," says Smith. "He's put a lot of personal effort and time in this and it's been wonderful for us and I hope wonderful for him." Smith says that the GQ software has allowed his lab to take a huge step forward in the ease of data analysis. In the month after the OtoSCOPE platform went live, the lab received 30 requests for the sequencing and analysis of DNA. Smith's lab is now planning to develop genetic tests for rare renal diseases and neurological diseases.

There are many other potential clinical uses for this type of technology. Resnick says pharmacy benefit managers at health



insurance companies are intrigued by the possibilities of lowering costs and providing better service by making sure patients get the right drugs in the right dosages. “Using genetics, they can actually help guide patients to take the right medicine,” says Resnick. “If you’ve got this particular genotype, then they could say, ‘your dose for this is too high, you want to go lower than that.’” It is truly personalized medicine.

The industry is clearly in its infancy. Right now, GenomeQuest has only a handful of clients focused on clinical applications (the University of Iowa, Emory Genetic Labs in Decatur, Ga., and UMass Memorial Medical Center in Worcester.) Its competitors are also few at the moment. They include Knome Inc., Omicia Inc., Softgenetics LLC, DNAnexus, and Cartegenia. But if the field is relatively small, it will not stay that way for long. Macquarie Capital, an equity research specialist, estimates the clinical sequencing business will reach \$3.6 billion within just a couple of years. The small guys currently dominate the market but large lab diagnostic outfits like Quest Diagnostics and LabCorp are poised to jump into the business, making these kinds of genetic tests the center of their business. Google is circling as well. Google Ventures fund has sunk a significant chunk of money into genome sequencing firms.

“The clinical thing is just now starting,” says Resnick. “Ultimately, as the price of sequencing and the value of sequencing drops to near zero, all of the value becomes the interpretation and what you do with the data. So we’re at the right place at the right time. The plan is to take the strategy we’ve got and just explode it. Grow it up. This is a multibillion dollar market and it could be a very big company, very successful, and drive the cost of health care down—and change people’s lives.”

Sequencing, for Better or Worse

Taped to the wall of Resnick’s airy and uncluttered office, wrapped in windows and whiteboards, is one lonely little piece of paper. It’s a life insurance application that Resnick filled out shortly after he married his wife, Molly. He was given the option of checking off one of three boxes: No. 1: To the best of my knowledge I have not had a genetic test. No. 2: I have had a genetic test and I am sharing the information with you. No. 3: I have had a

genetic test and I am not willing to share the information with you. Resnick checked box 1, but if he had checked box 3 he would have been subject to a higher life insurance premium. And if, by chance, he had taken a test and shared that information, he would have no idea how it could be used. “They could be interpreting it wrong,” he says. “It’s unsettling to say the least.”

This is the root of Resnick’s ambivalence about what has turned out to be his life’s work. His wife has multiple sclerosis, which has underscored for him the importance of using genetics to cure disease. As he travels the world to advocate for the genomics revolution, he has been known to use his wife’s story to

“advance his cause.” But somewhere in the back of his mind, there’s wariness. Yes, he is a computer scientist by training (he did his undergraduate work at UMass Amherst and earned a master’s degree in computer science from WPI around the time he worked at Lander’s lab and before getting his MBA from MIT Sloan School of Management), but he still remains a bit of a rebel. Perhaps this is not surprising for someone who spent a year after high school milking cows at a kibbutz in Israel.

George Heineman, associate professor of computer science, became friends with Resnick during his time at WPI and remains a friend today. “His circumspection about genomics is probably also born of his entrepreneurial personality. He has been involved in numerous projects during his career, including ventures into music software

and bioinformatics. Genomics alone,” Heineman says, “would be too specifically focused on a single application.” Resnick, he says, is most gifted at defining a new business strategy and getting others to buy into that vision, no matter what it is.

Genomics entered Resnick’s life by chance, one of any number of paths he might have taken. But now that genomics is his life (and is in all of ours), there’s no going back. “I guarantee you that stuff is going to happen,” he says. “It’s like nuclear fission. It’s like anything else. We have to, as a society, be really clear about what the risks are, and wake up to them. There will be bad people who do bad things with this data.” On the other hand, he says, “you simply can’t put the brakes on society. The only thing you can do is control what you do as an individual and maybe influence a very small sphere of people around you.”

That’s what Resnick is working on—only in his case, the sphere is a little bigger. ■

**GENOMICS
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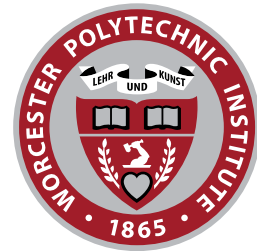
Meg Lindberg '04 (ChemEng), '13 (MBA)
Product Strategy Director, Liberty Mutual Insurance

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business@wpi.edu or 508-831-4665

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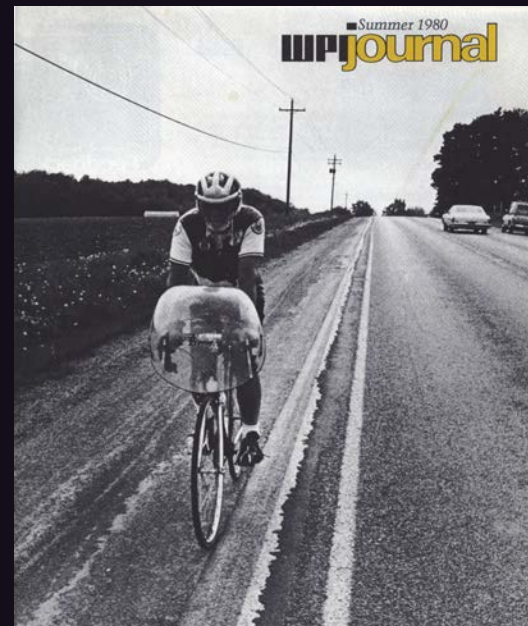
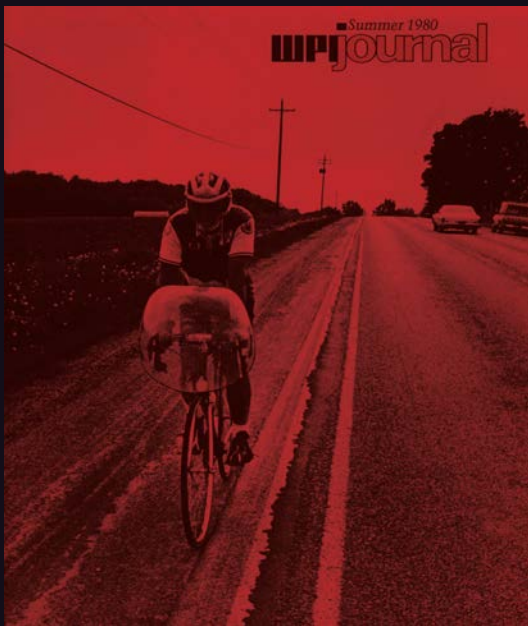
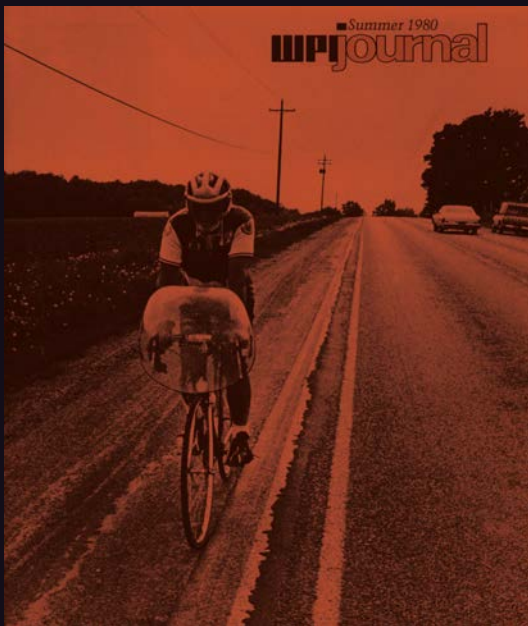
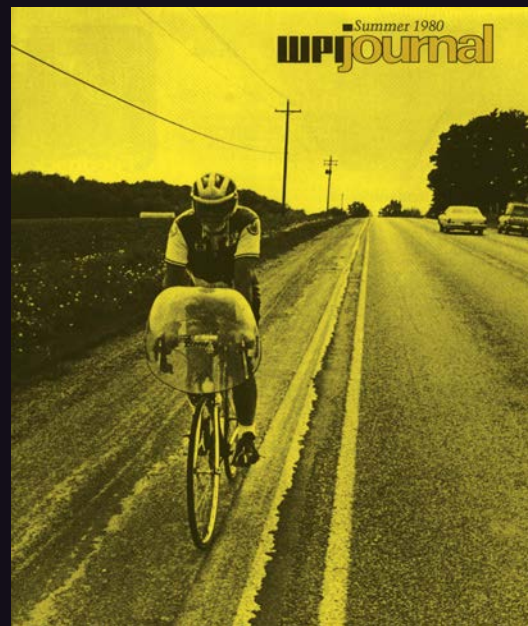
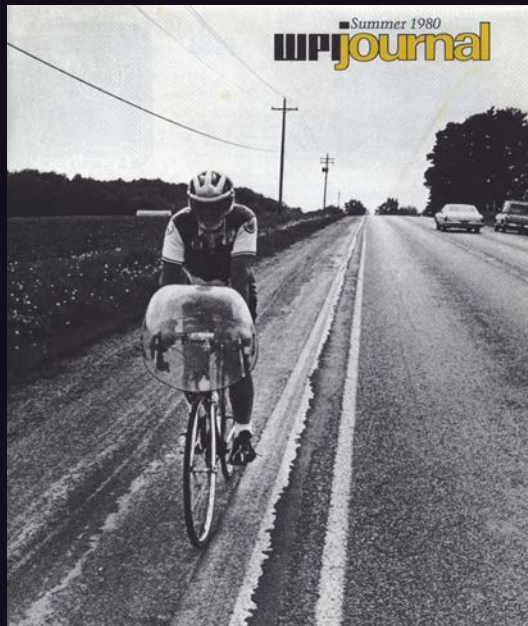
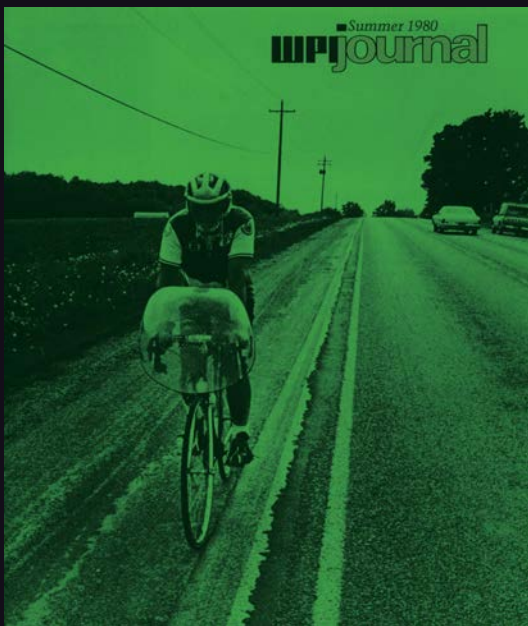
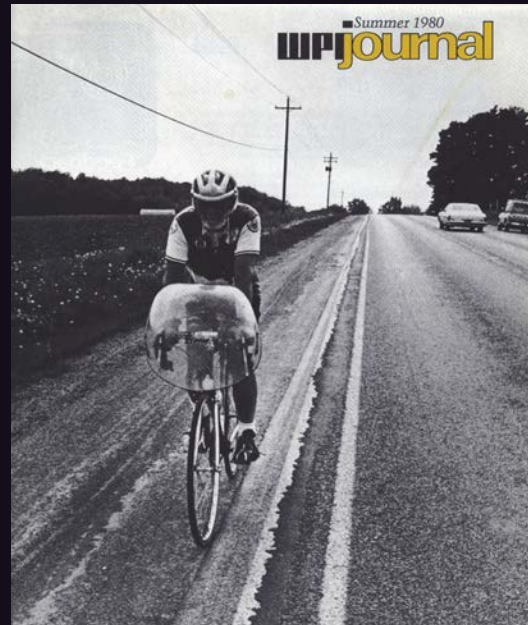
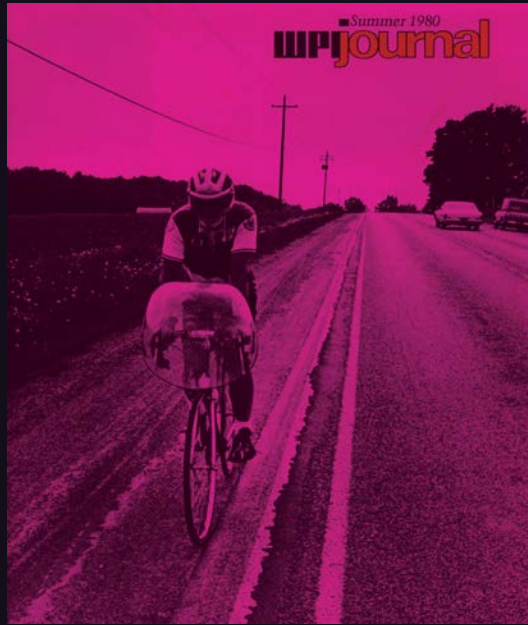
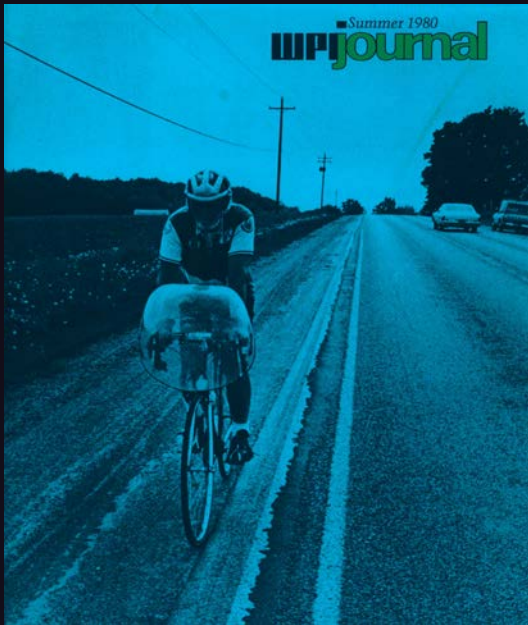
Part-time MBA
in the Northeast

—*Businessweek*



WPI

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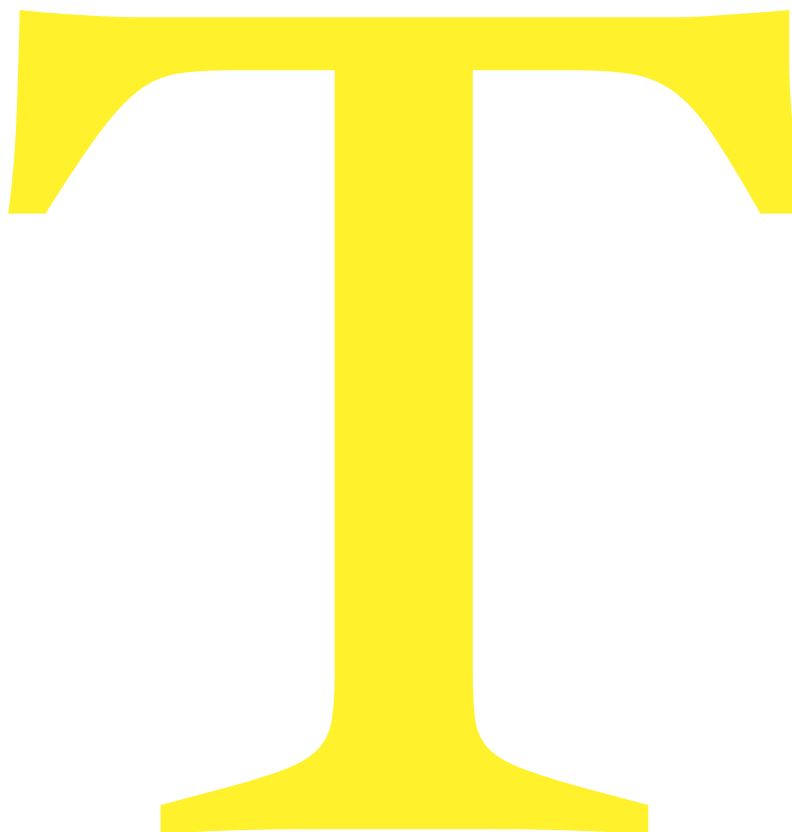
To preserve
and renew
is almost as
noble as
to create.

– VOLTAIRE

Transforming Transformations:

THE
RESTORATION
OF
THE
WPI
JOURNAL

BY CLAIRE ROBINSON



This issue marks a return

to the former name of this alumni magazine. Since 2002, when the *Journal* and the alumni tabloid *The Wire* merged, this publication has been known as *Transformations*. With the university's 150th anniversary around the corner, in 2015, and a few recent alterations to the magazine, the current editorial staff deemed this a good time to review past choices.

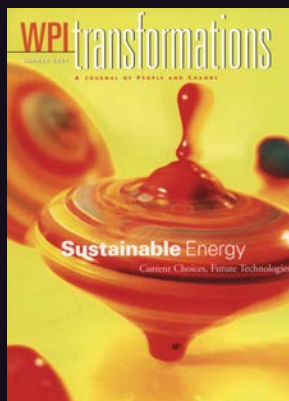
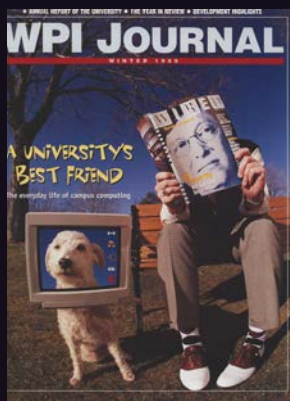
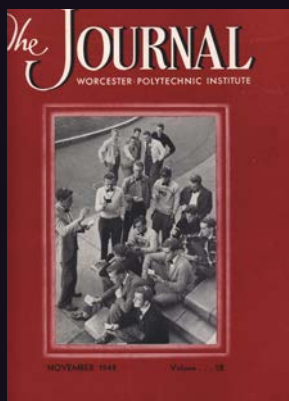
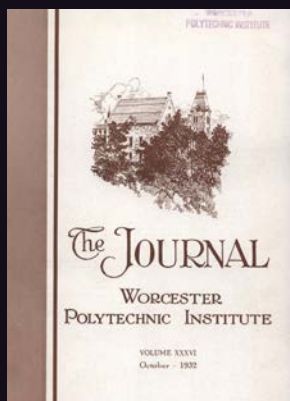
"Many alumni still refer to the magazine as the *Journal*," says current editor Jim Wolken. "And there's just not that many magazines that thrive for more than 100 years. So it's a real honor to be part of publication with such a distinguished history."

WPI is a place where reverence for such history runs deep. Peter Thomas, executive director of alumni relations, remarks, "At a school that's so rich in tradition, there's really no tradition for *Transformations*. If the name of the magazine was *The Plan*, or *The Two Towers* you could not change it, but it's not instilled into the psyche of the institution. With the sesquicentennial coming up, there's a strong case for change."

In its infancy, the *Journal* functioned in large part as a technical journal, publishing articles by both alumni and faculty, including a few papers authored by 1908 graduate Robert Goddard. But as WPI changed and grew, so did the *Journal*. "In fairly short order it became much more about the people of WPI," notes university archivist Margaret Anderson. "And as you go back through the years, you find much history in these *Journals*...the Goddard papers, and an article that Arthur Krumholz, Class of 1893, wrote about the history of the goat. That was the year the tradition of Gompei as mascot began."

One of most important roles the *Journal* has served is as amanuensis, recording the birth and subsequent history of some of WPI's most revered traditions. Primary among these is the *Plan*.

"In the years leading up to the *Plan*, there were some key faculty members involved with the Faculty Planning Committee...writing about their vision for education," says director of research communications (and former editor-



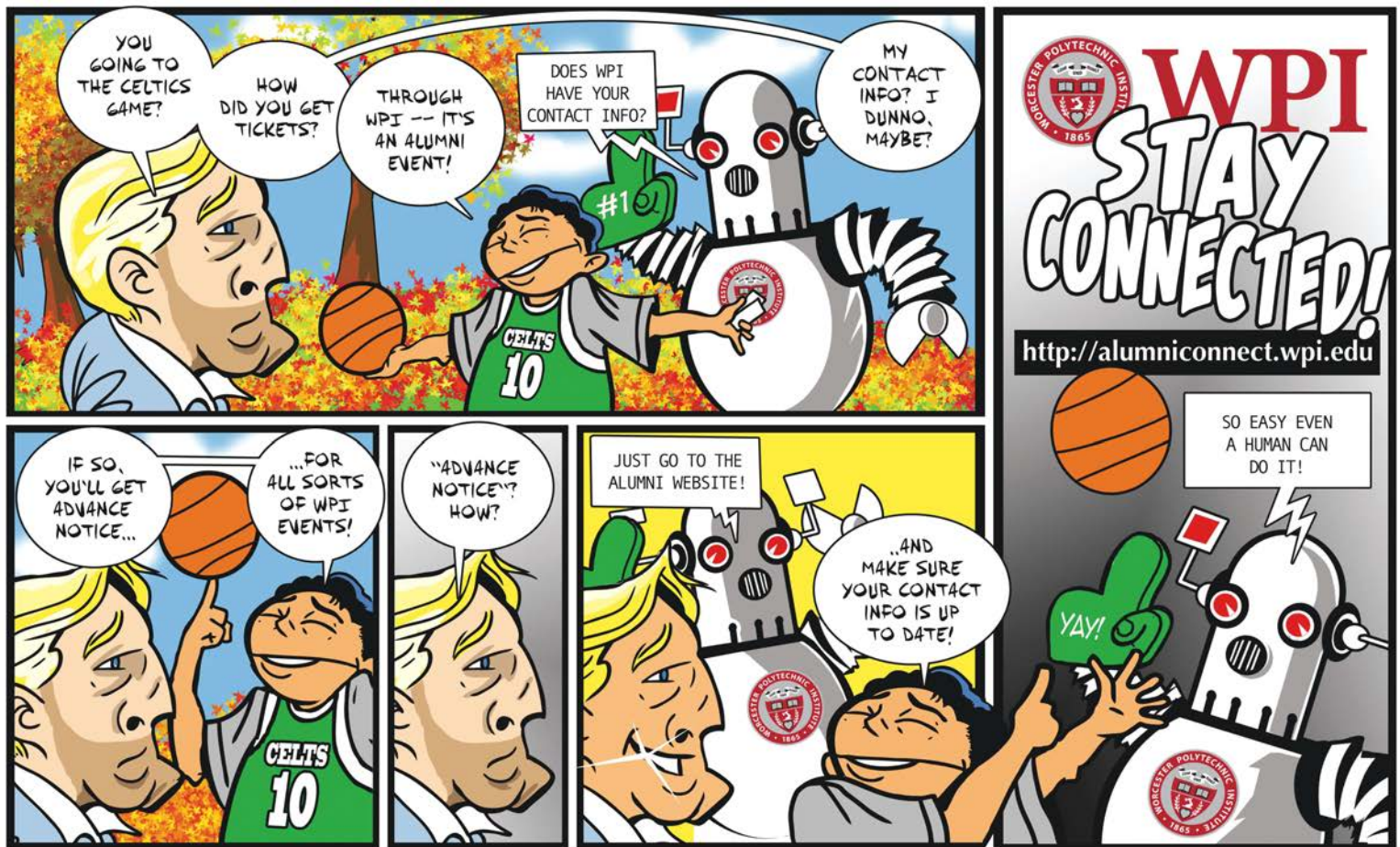
THE MANY FACES OF THE *JOURNAL*—FROM ITS BEGINNINGS IN 1897 TO ITS MOST RECENT INCARNATION AS *TRANSFORMATIONS*—SHOWS A DESIGN THAT HAS COME FULL CIRCLE.

in-chief of the *Journal* and *Transformations*) Michael Dorsey. Yet while preparing an issue on the 20th anniversary of the Plan, Dorsey realized, “people really did not know the details,” and he was lucky enough to interview some key participants. “It was incredible meeting those people, talking to them over the phone, just hearing their passion and how articulate they were...it was an honor to tell their story.”

The *Journal* has told the stories of many members of the WPI community whom Dorsey describes as “embodying the spirit and ideas behind the university” over the years. Associate editor Joan Killough-Miller says the stories “have taken her to Nantucket in a snowstorm (to interview an innkeeper), underground on the Big Dig (where an alumna was in charge of the complicated tunnel project), and on a hard-hat tour of the Ben & Jerry’s production facility (where an alumna is director of engineering).” She says these people have been transformed by their WPI learning experience. “I don’t have to ask them how they use their education, it just comes out.” She finds a common thread in their “willingness to engage with and change the world.” Dorsey continues, “the education prepares people to do almost anything.”

Covering and connecting those who do create, while preserving in perpetuity WPI’s long history, has been the great pleasure and privilege of this publication. As Dorsey says, “For many alumni, the alumni magazine is their primary connection with the university, so it’s a way for them to stay engaged, to learn about what’s happening...and give them reasons they can feel proud of their alma mater. It’s a huge labor of love.” ■

You can read articles from the WPI Journal between 1996 and 2000 at wpi.edu/News/Journal/oldarchive.html and find recently digitized copies of the *Journal* from 1971 to 1998 (along with more current issues) online at archive.org/details/worcesterpolytechnicinstitute.



news from HIGGINS HOUSE



Alumni & Reunion Weekend 2012

Hundreds of alumni and friends returned to campus for Alumni & Reunion Weekend, May 31—June 3. Among the many events and activities was a celebration of the public launch of If...The Campaign to Advance WPI in the new Sports & Recreation Center.





▶ 6



▶ 7



▶ 8



▶ 9



▶ 10

Hundreds of alumni and friends returned to the Hill for Alumni & Reunion Weekend, May 31-June 3. The weekend included a full program of alumni college sessions, tours, exhibits, the annual golf tournament, the Reunion Parade, and class banquets, along with plenty of opportunities to enjoy good food, good friends, and good memories. This year the weekend also featured the public launch of If...The Campaign to Advance WPI (see page 32), the university's \$200 million fundraising endeavor. The event was held in the new Sports & Recreation Center, giving alumni, friends, faculty, staff, and students a sneak peek at this stunning addition to the campus.

- ▶ 1 **ALLEN LEVESQUE '59** and his wife, Barbara, co-chairs of the Alden Society, present Ruth Taylor, honorary co-chair and wife of the late **DON TAYLOR '49**, with flowers in recognition of her and her husband's dedication to WPI, at the Alden Society Luncheon.
- ▶ 2 President Berkey presents the 50-Year Associates Medallion to **DAVE NORTON '62**, internationally recognized as co-developer of the Balanced Scorecard and recipient of a 2012 Robert H. Goddard Award for Outstanding Professional Achievement.
- ▶ 3 **BOB BECKETT '57** (right), WPI trustee emeritus, National Campaign volunteer for If...The Campaign to Advance WPI, and loyal supporter of WPI, talks with Professor Diran Apelian.
- ▶ 4 **BOB CAHILL '65**, president of the WPI Alumni Association, with Professor Diran Apelian.
- ▶ 5 Some 500 alumni and friends gathered in the new Sports & Recreation Center for the official launch of If...The Campaign to Advance WPI.
- ▶ 6 President Berkey inspires alumni and friends with a talk about his vision for WPI today.
- ▶ 7 President Berkey welcomes members of the Class of 1962 to his home.
- ▶ 8 **MORT FINE '37**, representing the 75-Year Reunion Class leads the Reunion Parade.
- ▶ 9 WPI musicians perform in the Schwaber Dance Studios, named in recognition of Alena and David Schwaber '65 and their generous gift to the new facility.
- ▶ 10 **DOROTHEA WONG '92**, WPI Trustee, with **JOHN WILSON '65**, chair of the Annual Fund Board and National Campaign volunteer.

THE VIEW FROM THE HILL

From the Alumni Association President

DEAR ALUMNI AND FRIENDS,

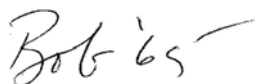
These are exciting times at WPI! The hundreds of alumni and friends who returned to the Hill for Homecoming 2012, Oct. 5 and 6, saw it all firsthand—the new Sports & Recreation Center in all its grandeur, the impressive construction of the parking garage with rooftop playing fields along Park Avenue, the new residence hall going up at 10 Faraday St., the new building at Gateway Park. And those are just the physical changes. The heart of our alma mater—the teaching and research, faculty and students—has never been stronger. Faculty members are earning grants from prestigious foundations to pursue important research, and WPI students are among the very best in the country.

Our fellow alumni are also among the very best in their fields, as we saw at the awards ceremonies during Alumni & Reunion Weekend back in June and at Homecoming this fall. The Alumni Association Citations Committee did another excellent job of identifying women and men who have made lasting contributions to industry, risen to the top of their fields, and have shown remarkable commitment to WPI through their volunteer activities. On pages 30–31 you can see highlights of the many other activities during Alumni & Reunion Weekend and Homecoming.

The Alumni Association and Office of Alumni Relations have a full calendar of events and activities for the rest of the year to help you stay connected to WPI. Consider joining us for a Project Center event featuring students and faculty, a corporate alumni event, or chapter and club activities near you. Plans are already under way for our annual Community Service Day in the spring, as well as Alumni & Reunion Weekend 2013, May 30–June 2, two excellent reasons to plan a trip back to campus.

Alas, I get ahead of myself once again. Thanksgiving is just around the corner, a time to reflect on and count our blessings. WPI is certainly among mine. If it's among yours, I hope you will consider ways to become involved with and support this remarkable university. With the public launch of If...The Campaign to Advance WPI, the university's \$200 million fundraising endeavor, we have more opportunities to help this critically relevant institution become even stronger.

All the best,



Bob Cahill '65

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CAREER CORNER

Minor Powers That Be

By Connie Horwitz,
Associate Director, Career Development Center

Jimmy Stewart, seen every holiday season in *It's a Wonderful Life*, became a film star when he realized that his Princeton degree in architecture (his true passion) would not yield a job during the Great Depression, despite his full scholarship for graduate school. "Nobody was putting up any buildings at the time," he said, "yet the theatre was exploding." And Stewart had merely dabbled in acting as a student.

In the 1940s, a student at the University of Havana was such a gifted pitcher—with his curve ball and passion for baseball—that the Pittsburgh Pirates scouted him. He actually struck out Hank Greenberg, who was eventually admitted to the Baseball Hall of Fame. In 1949 the New York Giants offered him a major league contract and \$5,000 bonus to come on board, but after much thought, he turned them down to pursue a different career path. Ten years later, Fidel Castro overthrew Cuba.

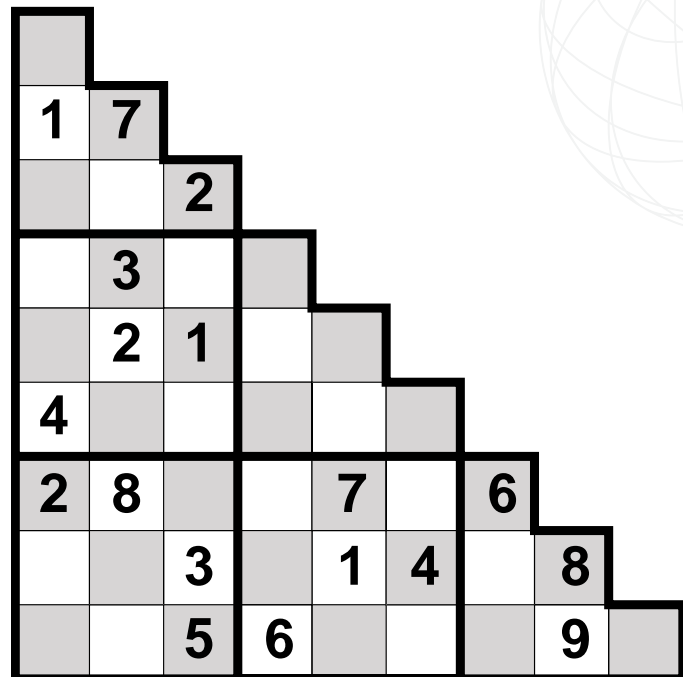
In the Class Notes section of the *Journal*, you'll read about many alumni who, despite the clear aptitude and skills with which they embraced their majors, found that an underlying, seemingly subordinate passion and skill set ended up dominating their destiny.

When alumni (and even students) feel discontent and are compelled to explore a different career path other than that for which their major directed them, I often ask what they thought, as teens, what they might pursue, and I'm always amazed at how spontaneous they are in recalling their original intentions. Together, we explore what their minor area of study was in college and why. Typically, we find out that the passions of the pre-college teenager are abandoned for more practical passions and new discoveries about ourselves once we experience other subjects and aptitudes in college. Yet, those minor interests and loves remain within us. Over the course of time, men and women alike wonder if it's not too late to "do something" with that deeply rooted interest. And if not, how would they begin to bring these thoughts into reality? Could they be the substance of a career change or renewal?

If this resonates with you, then arranging an appointment to talk about your ideas is part of what we provide alumni at the Career Development Center. Just call 508-831-5260 and perhaps you'll find that, in the near future, your long-held "minor" interests are integrated into your life as major powers.

Sujiken

By George Heineman



Place digits from 1 to 9 in the triangular grid such that:

1. No digit repeats in any row, column, or diagonal
2. No digit repeats in any of the outlined boxes and triangles

PUZZLE ANSWER ON PAGE 96

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WPI Index Sources

#1, 2, 3, 4 Centers for Disease Control; #5 EPA Statistics on End-of-Life Elections; #6, 7 Earth911.com; #8, 9 Satellite Industry Association; #10, 11 Wikipedia; #12, 13 Union of Concern Scientists Satellite Database; #14, 15, 16, 17 NEASC Accreditation Report 2012; #18, 19 Manual of English Meters, J. Malof; #20, 21 Alexa.com; #22, 23 Chronicle of Higher Ed; #24 WPI 2005 President's Commission Report; #25 NEASC Accreditation Report 2012; #26, 27 Goats4H.com; #28 DairyGoatJournal.com; #29, 31 WPI Annual Fund Office; #30 WPI Admissions Office.

2012 Alumni Award Recipients

The WPI Alumni Association honored 20 of its members at Alumni & Reunion Weekend, May 31—June 3, and at Homecoming, Oct. 5–6. Congratulations to these accomplished folks.

Robert H. Goddard Award for Outstanding Professional Achievement

▶1 **SCOTT S. HARRIS '82**, co-founder of Solid Works, a leader in the computer-aided design industry.

▶2 **RENE B. LAPIERRE '67** (posthumously), leader and visionary during his 23 years at Mobil Research Corporation.

J. WAYNE MILLER '67, former senior research engineer at Unocal, former vice president for technology and development at Sunoco, and currently an adjunct professor at the University of California Riverside, where he serves as associate director of the College of Engineering—Center for Environmental Research Technology.

▶3 **DAVID P. NORTON '62**, internationally recognized authority on strategic performance management who is best known for his work on The Balanced Scorecard, which he co-developed with Robert Kaplan.

▶4 **GEORGE R. OLIVER '82**, former GE executive; former president of Tyco Safety Products, Tyco Electrical and Metal Products, and Tyco Fire Protection, and current CEO for the new Tyco Fire & Security.

THOMAS L. PAJONAS '77, senior vice president and chief operating officer of Flowserve Corporation, a world leader in supplying pumps, valves, seals, automation, and



services to the power, oil, gas, chemical, and other industries.

RAYMOND P. ROBERGE '72, senior vice president and chief technology officer at Praxair, Inc., the largest industrial gases company in North and South America.

Ichabod Washburn Young Alumni Award for Professional Achievement

▶5 **BRIAN W. CHU '92**, former vice president and general manager at the Boston Beer Company and current executive vice president at Bain Capital.

R. WILLIAM LAPP JR. '02, senior systems engineering manager for Cisco's US Enterprise Collaboration Engineering, which includes Tele-

phony, Telepresence Video, Webex, Jabber, Contact Center, Quad, and other products and services.

▶6 **KIMBERLEY BLOCH SULLIVAN '92**, executive vice president and general manager of the Engine Alliance.

▶7 **DOROTHEA CARRAWAY WONG '92**, former director of Global Strategic Chain Management at United Technologies Corporation (UTC) and currently director of Supply Chain Integration for United Technologies Aerospace Systems.

Herbert F. Taylor Award for Distinguished Service to WPI

▶4 **WILLIAM F. GASKO '65**, former Grant Chair of Entrepreneurship at WPI,





co-founder of the WPI Venture Forum, and member of the WPI Alumni Association Citations Committee.

▶8 **JOYCE S. KLINE '87**, immediate-past president of the WPI Alumni Association who has also served as a reunion and planning fundraising volunteer and was a member of the Annual Fund Board and many other alumni volunteer groups.

▶9 **WILLIAM A. KREIN '62**, former president of the WPI Alumni Association, who spearheaded such efforts as providing WPI alumni with career services and transition support, stewarding a change in association structure, rewriting the association by-laws, and restructuring the association's financial management.

DOUGLAS E. SIEBER '82, who chaired his class's highly successful 10th Reunion Campaign, served on the WPI Alumni Association Citations Committee and the WPI Alumni Funds Board, and volunteered for Admissions.

▶10 **JAMES P. DUNN '67**, co-founder of the WPI Venture Forum and longtime entrepreneur and inventor who has mentored many WPI students over the years.

John Boynton Young Alumni Award for Service to WPI

ELLEN MADIGAN NEWMAN '92, Involved in the Alumni Association Board of Directors, PolyClub, the former President's Advisory Council, and a multitude of alumni events. Served on the Alumni Association Nominating Committee, which honored and recognized WPI's most accomplished graduates.

MICHAEL J. SHORR '92, who has

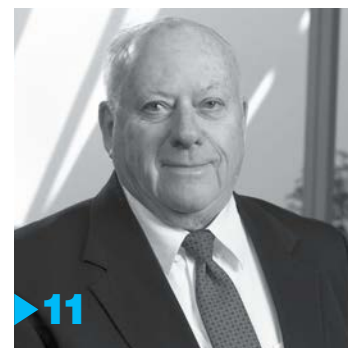


been involved in the WPI Alumni Association Board of Directors, career mentoring, alumni admissions, and reunion planning and fundraising.

MYLES A. WALTON '97, current vice president and president-elect of the WPI Alumni Association who has also been involved in alumni admissions, Community Service Day, reunion planning, and many other activities as an alumni leader.

Goat's Head Award for Lifetime Commitment to WPI

▶11 Dean Emeritus **WILLIAM R. GROGAN '46**, one of the key driving forces behind the creation of the WPI Plan, the distinctive project-based curriculum that has become a model for engineering, science, and technology higher education.



Engineers Can Dance

Alena and David Schwaber '65 provide leadership support for the Sports & Recreation Center

WHAT WAS ONCE A SLOPING HILL at the end of the Quadrangle has been transformed into a hub of fitness and recreational activity for the WPI community. The new Sports & Recreation Center, dedicated with a special event on Sept. 5, represents WPI's commitment to educating the whole student by creating an environment that fosters the development of team and communication skills while emphasizing the importance of life balance and personal fulfillment in a high-achieving academic community.

Perhaps no space in the Rec Center better symbolizes WPI's commitment to educating well-rounded graduates than the Schwaber Dance Studios, where future engineers, scientists, and leaders gather with eminent faculty and dedicated staff to share their passion for tango, salsa, and quick-step. Funded through a generous gift of \$750,000 from David Schwaber '65 and his wife, Alena, the Schwaber Dance Studios honor the memory of David's parents, Florence and Joseph, and his uncle, Sol.

"David and Alena are among WPI's most dedicated supporters," says President Dennis Berkey. "We are deeply grateful to the Schwabers for their leadership contribution to the Sports and Recreation Center, which will have a broad impact on the entire WPI community. The Schwaber Dance Studios are a fitting tribute to their legacy at WPI and to the memory of David's family."

The Sports & Recreation Center also houses a four-court, 29,000-square-foot gymnasium circled by an elevated three-lane jogging track; a 25-meter pool for swimming and diving with seating for 250 spectators; a 14,000-square-foot fitness center with separate areas for physical education classes; three convertible squash and racquetball courts; an eight-person rowing tank; multipurpose meeting rooms; well-equipped locker rooms; a training and rehabilitation suite; and offices for coaches, staff members, and students. In addition, the center provides attractive space for large-scale events, including admissions open houses, career fairs, and national academic conferences.

The Schwaber Dance Studios are certain to be among the most sought-after venues on campus for recreational and event space. A wall



Alena and David Schwaber '65 (Inset) are avid ballroom dancers, and regularly take classes for fitness and fun. As David explains, "As you get older...they say learning to dance is excellent for your mind."



of windows provides a spectacular view of the Quadrangle. Natural light floods the interior and reflects off the maple dance floor, creating a bright and inviting atmosphere. Like many areas of the new center, the studios are multipurpose and can be configured as one large space or multiple smaller spaces. The Schwaber Dance Studios are appropriate for not only dance, but also yoga, Pilates, aerobics, Tai Chi, and other fitness activities.

Schwaber recalls touring the Rec Center with President Berkey during its construction. While impressed with the size and scope of the facility, he wasn't immediately inspired to contribute to the project.

"Athleticism is not in my nature," Schwaber says. However, he and Alena enjoy ballroom dance and regularly take classes for fitness and social interaction. "As you get older, they say learning a language or learning to dance is excellent for your mind. We thought learning the tango would be more fun than learning a new language."

When they heard the facility would feature a dance studio, the Schwabers found the perfect opportunity to support the Center. The gift not



If...The Campaign to Advance WPI

The Sports & Recreation Center represents one pillar of If...The Campaign to Advance WPI— campus facility development. The campaign has a \$200 million goal, \$55 million of which is aimed at campus facilities. The other pillars are student financial aid (\$75 million), faculty and academic program support (\$50 million), and unrestricted annual support (\$20 million).

Learn more about the campaign and how you can help advance WPI at if.wpi.edu.

If we imagine a bright future, together we can make it happen.

environment and environmental engineering and inspired the couple's gift in 2008 to establish the Alena and David M. Schwaber '65 Professorship in Environmental Engineering, currently held by Jeanine Plummer.

"A lot of my life was influenced by a family business established by those who came before

me," Schwaber says. Yet he credits his WPI education with giving him the ability to solve problems and make decisions. Schwaber also credits WPI with fueling his interest in chemical engineering. As a result of his undergraduate experience, he was inspired to pursue a technical graduate degree, rather than a business degree. He earned a master's at Cornell and a PhD at Akron University.

only represents their interest in dance, but is a testament to David's WPI experience. Schwaber says he chose WPI because he wanted an engineering education away from his hometown in Maryland. The first year was a challenge, he remembers. "I wasn't used to the academic rigor required at WPI." But he found a supportive community of teachers and learners— an environment that continues to flourish today.

"There was a very strong feeling of cooperation at WPI. As students, you worked as a group. Faculty were there to help you. This experience has made me want to give back—to help an institution that really helped me."

After graduating from WPI with a degree in chemical engineering, Schwaber joined the family business, Monarch Rubber Company; he spent most of his career there and rose to become president. He developed the revolutionary EVA cushioning for athletic shoes, and, later, when business began to wane as manufacturing moved from America to Asia, he helped Monarch emerge as a manufacturer of polymeric gasketing material.

As Monarch's president, he continually faced the challenge of recycling manufacturing waste. The experience led to his passion for the

me," Schwaber says. Yet he credits his WPI education with giving him the ability to solve problems and make decisions. Schwaber also credits WPI with fueling his interest in chemical engineering. As a result of his undergraduate experience, he was inspired to pursue a technical graduate degree, rather than a business degree. He earned a master's at Cornell and a PhD at Akron University.

"Even though I was not an academic star, I still ended up being a darn good chemical engineer," Schwaber says.

Ever mindful of those who made his WPI education possible, as well as the life that came after WPI, Schwaber has dedicated the dance studios that bear his family name to his parents, who provided his WPI education, and his uncle, who established Monarch Rubber Company.

"With my parents providing the brush and my uncle providing the canvas for my life," he says, "I felt I owed them something." He has fond memories of his parents gliding across a dance floor together, and he recently discovered that his namesake was not only a dancer, but a dance instructor, as well.

Schwaber is grateful to be able to make this gift to WPI now, while he and Alena can enjoy a tango or two overlooking the Quad.

Eye on the Web

Alumni-founded company supports eye-tracking research laboratory

WHAT MAKES A GREAT WEBSITE or app, one that looks great and—more important—is easy to use?

The User Experience and Decision Making (UXDM) Research Laboratory seeks answers to that very question. Open since March 2012, thanks to a generous contribution from Dyn, a New Hampshire-based company co-founded and led by Jeremy Hitchcock '04 and Tom Daly '04, the UXDM Lab features state-of-the-art eye-tracking technology that records a person's gaze when using a computer or hand-held device such as a smart phone or tablet.

"We are excited about the new facility and we are grateful for this generous gift from Dyn," says Provost Eric Overström. "This new lab and the work of Professor Djamasbi and her students have far-reaching implications for today's global innovation economy."

Soussan Djamasbi, associate professor of management information systems and director of the UDXM Lab, explains that the eye tracker is a valuable tool in investigating user experience. "It literally allows us to see what the user sees when he or she works with a system," she says.

The eye-tracking system consists of cameras that observe how a person's eyes move about a computer or hand-held screen as he or she uses a website, app, or similar technology. The data from these sessions can be presented as a gaze plot, showing where the user looks, the order in which various elements on a screen are viewed, and where a user's eyes fixate for longer periods of time. The data can also be presented as a heat map, colored spots that show where a user's eyes are fixating the most and least. This data is critical to any organization or endeavor that seeks to communicate



From left, Mark Rice, dean of the School of Business, Dyn executives Tom Daly '04 and Corey Wallenstein, and Soussan Djamasbi, associate professor and director of the lab, officially open the User Experience and Decision Making Research Laboratory at WPI.

key information to individuals and can help inform decisions about how that information is presented.

Fidelity Investments, for example, was interested in learning how people of different generations interact with Web pages. Tom Tullis, vice president of Fidelity's User Insight Group, sponsored an MQP (major qualifying project) that charged a WPI student team with conducting an extensive eye-tracking study that examined possible differences between Gen Y and Baby Boomer preferences in Web page design. A resulting paper co-authored by Djamasbi, Tullis, and Marisa Siegel '08, "Generation Y & Web Design: Usability Testing through Eye Tracking," won the Best Paper award in

the human-computer interaction track at the 14th Americas Conference on Information Systems in Toronto in 2008. The three have co-authored a number of other conference papers and journal articles since then.

Current graduate and undergraduate students are conducting eye-tracking studies focused on the effect of various cognitive factors on user experience, mobile devices, and the use of eye-tracking technology in various industries.

Hitchcock became interested in Djamasbi's eye-tracking research as it related to Dyn. He describes Dyn as a developer of "Internet plumbing," the behind-the-scenes programming that makes e-transactions possible. When Dyn wanted to evaluate the usability of

its website for potential customers, Hitchcock turned to Djamasbi and WPI.

“There aren’t too many places that look at how people use the Web in this way,” Hitchcock says. “And there isn’t a good way to determine if something is effective and usable on the Web.”

In 2011 a student team completed an MQP that specifically investigated the process of requesting services through Dyn’s website. The students used eye-tracking technology to examine ways to make Dyn’s services easier to access, use, and understand, and then provided recommendations to improve the usability of the website and the processes of signing up for services. According to Hitchcock, the data and recommendations provided by the WPI student team have proven very useful to the company.

“When people talk about educational private partnerships, this is a textbook case,” he says. “It was easier and more efficient for us to work with WPI on this research.”

Dyn’s contribution to the UXDM Research Laboratory, which supports a key component of *If...The Campaign to Advance WPI*—enhancing faculty support—was prompted by the success of this project, along with Hitchcock and Daly’s dedication to their alma mater.

Hitchcock incubated Dyn between his freshman and sophomore years at WPI. By his junior year, he worked nearly full-time on the company. Since then, he and Daly have built Dyn into a leader in the Internet infrastructure-as-a-service industry. Hitchcock is currently the company’s chief executive officer, and Daly serves as chief scientist. Both have been recognized for their achievements as innovators and entrepreneurs. They were named 2012 Entrepreneurs of the Year by the New Hampshire High Technology Council, and Hitchcock was named a finalist for the 2012 Ernst & Young Entrepreneur of the Year Award.

Hitchcock credits the positive experiences he had at WPI with influencing the culture he and Daly have fostered at Dyn. “We enjoyed our college experience,” he says, “and wanted our work experience to be equally enjoyable.”

Pratt & Whitney Teams Up with WPI Students to Make a Difference

STUDENTS COME TO WPI TO LEARN how they can make an impact on the world through engineering and science. And once they start, they can’t stop. The WPI Chapter of Engineers Without Borders (EWB), a student-led organization, is a natural extension of the impressive work WPI students pursue in their Interactive Qualifying and Major Qualifying projects. This year the EWB chapter received a generous grant from Pratt & Whitney to support the group’s work in Guachthu’uq, a rural community in the highlands of Central Guatemala, where people have limited access to clean water.

EWB is a national organization, with more than 12,000 students, faculty, and professionals in chapters working throughout the world. Each chapter makes a five-year commitment to a partnering community to design and implement low-cost, small-scale replicable and sustainable engineering solutions to societal problems. WPI’s chapter is designing and implementing a water catchment system that will create a clean water source for families. It estimates the project will directly impact 39 families (207 people) and will have an indirect effect on approximately 25 more families in a neighboring community. The Pratt & Whitney grant will support the students’ future travel to Guatemala to implement their water catchment system design in two pilot homes and to educate the community about the system.

“This trip will be vital to the success of our project because it will allow us to test our design, with the aim of implementing a water catchment system in every home,” says Caryn MacDonald ’14, the chapter’s fundraising chair.

The implementation trip will follow two assessment trips by the group. The students’ efforts are also supported by their mentors, Matthew Gamache ’99 and Patricia Austin of the Massachusetts Department of Conservation and Recreation, and their faculty advisor, Creighton Peet.



Representatives of Pratt & Whitney present a grant to members of the WPI Chapter of Engineers Without Borders.

Educating the Next Generation of Engineering Leaders

A recent grant supports WPI K-12 STEM initiative

SCIENCE, TECHNOLOGY, engineering, and mathematics (STEM) education is at the heart of today's high-tech, high-skill, global innovation economy. The next generation of leaders—the students of today—must develop the critical reasoning and problem-solving skills necessary to address the challenges and opportunities posed by a society driven by science and technology. To address this vital educational need, a private, family foundation has awarded a grant to the STEM Education Center at WPI to more broadly implement a nationally acclaimed pre-engineering curriculum in Massachusetts middle- and high schools.

The curriculum, called Project Lead The Way (PLTW), promotes math, science, and technology skills for middle- and high school students using engineering problem solving as a framework. Hands-on learning engages students on multiple levels, exposing them to areas of study they may not otherwise pursue, and provides them with a foundation and proven path to postsecondary training and career success in STEM-related fields.

PLTW has been implemented in more than 4,200 schools since 1997 when the late Richard Liebich '66 co-founded the nonprofit organization to address the national



Martha Cyr, executive director of the STEM Education Center at WPI, works with a teacher during a Project Lead The Way Summer Training Institute at WPI.

shortage of engineers. WPI is one of 41 affiliate universities for the PLTW engineering program. WPI's initiatives include a two-week annual Summer Training Institute for teachers before they teach any of the PLTW courses, certifying PLTW high schools, hosting guidance counselor conferences, marketing PLTW to Massachusetts schools, and supporting the 36 PLTW schools in the Commonwealth. In 2011, after a rigorous review process, WPI's PLTW was one of six statewide STEM initia-

tives to receive @Scale endorsements as part of the Massachusetts Statewide STEM Education, Jobs, and Workforce Initiative.

"WPI welcomes its responsibility to educate the next generation of engineering, science, and technology leaders," says Dennis Berkey, president and CEO of WPI. "Project Lead The Way inspires educators and students to greater curiosity and achievement in STEM."

The generous support from this private, family foundation will enable WPI to make an even

greater impact on middle- and high school students. In partnership with PLTW and the Reading Public School District, WPI will establish the first public school district in Massachusetts to have the PLTW curriculum implemented at both the middle- and high school levels, creating a continuous STEM pathway in grades 6–12. The grant supports the implementation of PLTW at two Reading middle schools and two of four planned courses at Reading Memorial High School. The Reading Public School District was selected because it is prepared and eager to move forward with implementing PLTW and its high school ranked in the top 50 statewide for percentage of SAT takers who are near-interested or not-interested in STEM careers, according to data analyzed by the Donahue Institute.

"Project Lead The Way's programs emphasize critical thinking, creativity, innovation and real-world problem solving—the same elements at the heart of WPI's project-based curriculum," says Martha Cyr, executive director of the STEM Education Center at WPI. "Our work with Project Lead The Way is a natural extension of WPI's long tradition of cutting-edge engineering education. We are thrilled by this opportunity to expand upon our work with the Reading Public Schools and its dedicated administrators, teachers, students, and parents."



Left, dedication of the reflecting pool behind Higgins House, Senior Class Gift, 2011; below, Proud Goat statue, Senior Class Gift, 2009.



edge of their historical origins.

The original electronic scoreboard in Alumni Gym (1935), the mural in Morgan Hall (1957), and a trophy case on Salisbury Street (1975) were among the items funded during the 20th century.

But after the 1983 gift to upgrade the carillon in Alden Memorial was financed, the program went silent. By the turn of the new century, it had become a forgotten tradition.

That's when longtime WPI trustee Win Priem '59 took notice.

"I had learned that another area school's senior class gift was more than \$10,000 in 2002, and at WPI it was \$800," recalls Priem, now trustee emeritus. "Here we had 700 students who would be going on to successful careers because of their WPI education, and I thought it was important to get them in the giving philosophy before they graduated."

The former president and CEO of the world's largest executive placement firm, Korn/Ferry International, Priem declared in 2002 that he would match up to \$15,000 raised for the Senior Class Gift. But there was a catch: at least 40 percent of graduating students would need to participate to trigger the match.

Students have risen to the challenge, as all but one of the past 10 classes has successfully reached the goal, including the past two years in which the maximum match has been achieved.

Priem says he hopes this renewed philanthropy spurs alumni giving to the school's largest capital fundraising campaign in its history. If... The Campaign to Advance WPI is expected to generate \$200 million by 2015, the school's sesquicentennial year.

Recent senior class gifts include a new barbecue area behind the Campus Center in 2010; the restoration of a reflecting pool in a Higgins House garden in 2011, in memory of student Jonathan Rowell '11 who passed away during his senior year; and last year's patio renovation in front of Gordon Library. The gift that has resonated most is the 2009 Proud Goat statue on the Quad side of Bartlett Center—it quickly became a popular campus icon.

Such an impressive list doesn't faze Nick Teceno '13. A member of the Senior Class Gift organizing committee. He says the group already is considering ideas that incorporate an element of the school's engineering prowess into something that can be used regularly.

"Ultimately, we want to leave our mark on WPI because, while the school will change over the years, the senior gift is always going to be there," Teceno says. "When we come back to WPI with our families, we want to be able to say, 'This is the legacy my class left.' And that will be a great feeling!"

A Mission of Giving Back

With the resurgence of the annual Senior Class Gift, philanthropy continues to thrive at WPI

WHEN GREGORY MOORE '13 arrived at WPI in 2009, he already had an extensive history of community service.

While he acknowledges the initial goal was to boost his resume for college admissions, once at WPI he saw myriad volunteer opportunities that would allow him to make a real difference.

"I realized I wanted to help kids who need a little push to go to college," says Moore, who won the 2012 Edwin B. Coghlin '23 Award for tutoring high school students. "Everyone can find something that they can get involved with at WPI."

Whether it's volunteering with students like Moore, or donating to the Senior Class Gift, WPI students embrace the notion that becoming involved is an integral ingredient of their undergraduate experience.

To director of student activities Emily Perlow, it's not an accident.

"The type of student who decides to attend WPI is attracted to our mission of giving back," Perlow notes, "so in many ways, they already have a community service mindset before they set foot on campus."

Each year, WPI students report volunteering between 3,200 and 4,000 times on their own—and this doesn't count their participation in the school's Community Service Work Study program. During the 2011–12 academic year, students worked almost 32,000 hours—including 19,000 by fraternity and sorority members—a 60 percent increase from 2006–07.

It's not just time that's donated. Last year, students raised more than \$73,000 participating in such events as the Central Massachusetts Arthritis Walk, Step Out Walk to Fight Diabetes, and Relay For Life, WPI's signature community service event to benefit cancer research and awareness. That brought to more than \$500,000 monies raised over the past six years.

The WPI community has benefitted from the resurgence of the annual Senior Class Gift. Begun in 1901 when a flight of 12 stairs was created in front of Boynton Hall and dedicated to Dean Zelotes Coombs, graduating classes for decades have raised funds to help fund or create projects that most students walk past on a daily basis with no knowl-

"Ninety-three and a half and still gardening, cutting and splitting wood, and reading extensively," writes **Russell Lovell '40**.

Allan Anderson '42 just had his 92nd birthday. "Enjoying good health in Vero Beach, Fla.," he says.

► **Bill Walsh '43** shares, "I am still chasing the rainbow that has occupied me for the past 40 years, namely, developing applications based on my patent USP 4,317,670, "Variable Gas Atomization." I have recently obtained three additional patents: USP 7,731,100, on flue gas cleaning, USP 7,832,341, on biomass combustion, and USP 8,176,676, on algae bio-fuel production, and am actively seeking licensees. Between conferences and marketing efforts, I have spent the past two winters in Florida and summers in Connecticut. As a widower, I am now with a widowed high school classmate. My email is vgasystems@comcast.net."

Irving "Buzz" Gerber '44 says, "After 35 years as a tech rep in the electronic components field, I retired and went back to school for two years learning to design and build classic furniture. I opened a commercial shop and built furniture for another 23 years, then finally retired for real and do some volunteer teaching at a local boys school. I've lost touch with those of my classmates still living and would love to hear from them. My email is invbg@aol.com."

Ernie Kretzmer '45 says, "I sure miss attending the annual Reunion festivities! My wife's health condition unfortunately precludes our making the trip to Worcester; other than that I'm hanging in there—still enjoying the many things life has to offer in sunny, culture-rich Sarasota. I send hearty greetings to all my contemporaries! I haven't joined those ubiquitous social networks, because the computer is already taking up too much time."

Walter Bank '46 writes, "Retired way back in 1996 and now living at the Asbury Methodist Village in Gaithersburg, Md. It's a great place and you should not come here if your aim is to meditate. I live in the Trott Residence, also known as the "Fun House." We have very current movies, sing-alongs once a month, Trivial Pursuit, spelling bees, What's My Line, piano recitals, jazz concerts—you name it, we have it. Asbury supplies a campus bus that circulates every 20 minutes and also has shopping trips off campus to the surrounding Gaithersburg-Rockville suburbs. Besides all that, the food is outstanding (multiple choices: 9 or 10 entrees)—excellent quality and

an imaginative chef. What is there not to like? My only regret is that I did not retire sooner to enjoy this community."

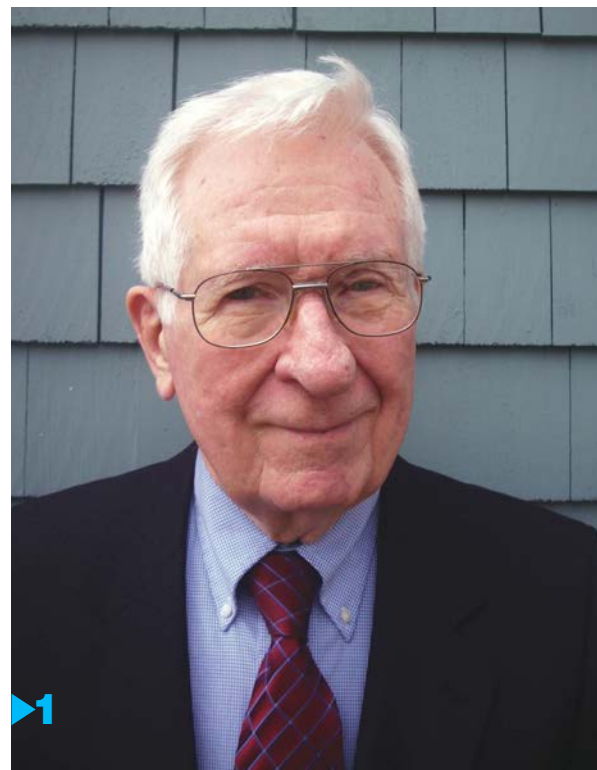
George Comstock '46 writes, "As I think back over the 67 years since I first received a degree from WPI, I can say I've enjoyed a very satisfying life—thanks in large measure to WPI, which educated me for \$400 in cash for the freshman tuition, and the rest on scholarship grants. I started out at Grumman Aircraft and soon moved to Norton Co., which led to a 10-year tenure that included a one-year sabbatical to complete an MS in physics at Cal Tech. In 1955 I succumbed to the lure of the nascent computer industry and worked for a small start-up, Potter Instrument Co., where I developed the first Random Access Memory systems and headed up the development of a line of digital magnetic tape drives for computers. In 1969 I started Diablo Systems, which developed an interchangeable single-platter disk drive for mini-computers and the Daisy Wheel printer. In all, I worked for four large companies and four start-ups. Of the start-ups, three were very successful. May I claim a batting average of 750? My years since retirement have been a time of expansion of boundaries. For instance, starting in the early '90s, I served the government of our town, Portola Valley, Calif., including a four-year term on the town council, and one year as mayor."

William Striker '46 lives in West Melbourne, Fla. A veteran of the Navy V-12 program at WPI, he graduated from Dartmouth in 1946 and Lafayette College in 1952, and earned an MS in physics from Tufts in 1956.

Paul Evans '48 reports he is living on Cape Cod with one of his five daughters. "I am enjoying the activities of my eight grandchildren and participation in various activities with family and grandchildren. I hope to attend our 65th Reunion next June!"

Ron Moltenbrey '48 writes, "Recently moved to an Erickson retirement community in Glen Mills, Pa. My health has remained good enough to still participate in both bowling and golf. Did not make our 60th Reunion, but have hopes to make the 65th next year. Continue to be amazed and pleased with what has happened to WPI since I left."

Les Reynolds '50 writes, "From a 62-year vantage point, I simply want to congratulate the staff and alumni of WPI for the remarkable increase in quality of education, world impact, and accomplishments achieved over the years. The school and its graduates have really increased their contri-



butions to the USA and to the world. I truly believe that we are more highly involved and respected, relative to most other American institutions, than back in 1950 when I walked out of Worcester! On many levels, and in many respects, this school has risen to new levels. We were a small regional highly technical male institution, and look at us now. My uncle, Herbert Ferris (Class of 1899), wouldn't believe it, but I think the evidence is out there. I can't provide proof of this, but I do expect that many alumni will agree with me."

Andreas Devletoglou '51, '53 (MS EE) writes, "My main concern, for the last three years, has been on whether my country (Greece) will make it out of the current crisis. Gone are the days of the Marshall Plan and the Truman Doctrine that rescued Greece after the war, during my years at Worcester Tech, wonderful days they were! I wish I could somehow turn the clock back. Anyway, I still have with me my Worcester-born wife, Joyce Andreopoulos, of 25 Ormond Street. Love to all of Worcester Tech."

Adrian Horovitz '54 reports, "I retired 13 years ago. I'm enjoying my retirement by playing golf and having fun with my grandchildren. I've also been very active in SCORE here in Rhode Island, helping individuals who want to start their own business as well as those currently in business who want to grow their business, or those who are currently in business and are having problems. It has been and continues to be very rewarding."

John Calhoun '55 writes, "On a recent visit to WPI, we were very pleased with the new facilities. Good work!"

Larry Dennis '55 says "Come visit us in beautiful sunny Sarasota, Fla."

Robert Holden Venzon '55, '59 (MS ME) writes, "I have driven my own car in every country in Europe except Albania, and had many adventures abroad. I was detained by the Soviet police for being off the approved tourist route and photographed in Novgorod with three young Russian ladies wearing bikini bathing suits (students from Moscow University on an archeological dig). I was wearing a V. I. Lenin T-shirt. That picture hung in my office for many years. I have taken numerous cruises with *The Nation* magazine (mostly in the Caribbean, as well as Alaska, around Cape Horn, the Panama Canal, the Rhine River) and trips to Peru, the Amazon, and Bolivia. On a safari to Tanzania I was checked into the Hotel Boulevard by President Obama's niece. In the Serengeti we met a 10,000-lb. traffic cop with a long trunk and floppy ears: It was an elephant crossing, and a young male lion and eight females in heat ambled over to our vehicle. I closed the window; my brother **Phil '59** snapped a picture of me with the male close enough to pat his head and looking into the eyes one of the females; they made a cub in the next picture!"

Ted Coghlin '56 writes that he is still heavily involved in youth education as president of the Skyline Technical Fund at Worcester Technical High School. "I recently interviewed with *National Geographic* and NBC a new WTHS program, "Tufts at Tech," which offers hands-on veterinary experience for vocational high students working with Tufts Veterinary students. WPI also contributes to WTHS programs, especially in STEM fields." Ted is also a trustee the Treasure Valley Boy Scout reservation, in Rutland, Mass. "This fall we will install 20,600 solar panels on 35 acres to generate 6 megawatts of electricity. WPI students are doing an MQP on this, and it will provide educational opportunities for scouts, elementary and vocational students, and the public. I think the Red Vector [physics professor Ralph Heller] would be surprised at these accomplishments. So, keep active!"

George Crosby '57 writes, "Having recently moved to Utah, we could not make Reunion this year. We are getting used to the West and love being near our children and grandchildren."

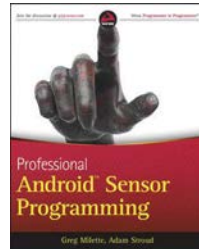
► Bookshelf



Discrete-Time Systems: Fundamentals and Applications

DON KIRK '59 | National Technology and Science Press

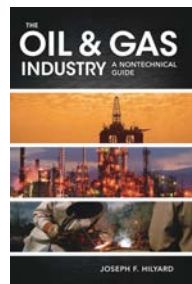
Kirk, an emeritus professor at San Jose State University, has written a student navigable presentation of contemporary linear systems, with co-author Robert D. Strum. Their goal was to enable students to develop competence in applying techniques of linear systems analysis, and the emphasis is on the properties and analysis techniques for models that represent discrete-time and continuous-time linear systems.



Professional Android Sensor Programming

GREG MILETTE '02 | John Wiley & Sons

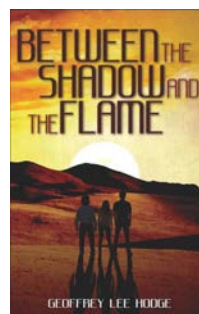
Milette is a professional Android developer and founder of the app development company GradisonTechnologies. With co-author Adam Stroud, he's written a guide that shows how to exploit the device's rich set of sensors to build fully human-interactive Android applications for real-world use. The book offers in-depth, runnable code examples that can be adapted for the user's applications. It also describes how to use supporting Android OS components to build complete systems and provides solutions to common problems.



The Oil & Gas Industry: A Nontechnical Guide

JOE HILYARD '68 | PennWell Books

Hilyard offers a guided tour of the technology and processes used to find, extract, and transport and use oil and natural gas, with primary focus on the United States. Additional chapters describe the evolution of the petroleum industry, oil and gas trading, and emerging challenges. A longtime executive in the industry, he now serves as managing partner at JFH Communications LLC.



Between the Shadow and the Flame

GEOFFREY HODGE '94 | Penumbra Invictus

A sudden nuclear war throws armchair philosopher Sophia Xiao together with Newman, a former theology student, and Hyle, a snarky young science writer. Together they investigate a possible conspiracy involving the charismatic cult leader who has prophesied Sophia's role in the coming battle at the end of days. Using the ideas of great philosophers, theologians, and scientists, they debate age-old questions about religion, free will, and the existence of God, which leads them to a much greater truth.

Eric Friberg '57 writes, "To all the Class of 1957, it was great to see all our classmates who attended the Reunion. WPI looks better than when we were there and I, for one, would like to spend another four years at our university. Hope you all feel the same. Keep up the good work, WPI. Thanks again to all my classmates and the other returnees for a wonderful time. Best to you all. Keep safe and healthy and I'll see you in 2017."

Al Papiou '57 says, "The world-famous Class of '57 had a great 55th Reunion. We had 28 classmates return from as far away as California, Missouri, and Florida. The Class Gift of over \$2,750,000 added to the many millions we have already given or pledged. We challenge upcoming classes to match our efforts." He adds, "As a side note, we have lost track of **Richie Stevens**. Does anyone have his address, phone number, or email?"

Mike Stephens '57 says, "There are more than 25 retirees on Cape Cod who golf and enjoy each other's company every three weeks from spring to fall. Contact me (ms@alum.wpi.edu) to join the fun. Everyone is welcome."

Arthur Sullivan '57 writes, "Since I was a returning GI (three years older than most students and entering as a third-year ME), I knew few others than my actual classmates. Upon graduation I joined Arthur D. Little in Cambridge, and two years later I found myself manning the Atlas missile propellant loading system at Vandenberg AFB for its first flight. In the late '60s I was director of Litton Space Sciences Laboratories in Beverly Hills, responsible for development of a "hard" space suit for the lunar landing. (It never flew—too heavy.) In the early '70s I was a director in Booz Allen's office in Los Angeles (mostly computer simulations for the DoD), where I got my instrument ticket (essential, complex single-engine aircraft). In the late '70s, I was director of ocean mining at International Nickel Co., Seattle and Honolulu. We were the first to recover 1,000-ton quantities of manganese nodules from 17,000-foot depths in the Pacific. Next, I was vice president of engineering for INCO ElectroEnergy Corp. in Philadelphia—my instrument ticket there was a single-engine land (essential in the Seattle weather) and I flew all over the western U.S. I served as president of Lohrer GMBH USA until a major equity holder resumed control, and then I became a private consultant—mostly to public utilities in the area of energy conservation, specializing in computer simulations and auditing proposals. By 2000 it was time to slow down, so we moved to Oro Valley, Ariz. (near Tucson). I was diagnosed as an early Alzheimer's case three years ago, so some of the preceding info may be a bit off; if anybody would like to call and chat, my phone number is 520-742-6671."

Spike Vrusho '57 says, "It was good to see a bunch of old guys from the Class of 1957 at the June Reunion. There were 28 of us at the Saturday reunion dinner. It was especially nice seeing my fraternity brothers **Kurt France, Eric Friberg,**

Bill Rogler, and Dick Wright. I bet we five Sig Eps were the majority group in attendance at the dinner. By the way, my wife, Marion, and I are members of the Alden Society because WPI is mentioned in our estate plan. As a result we got a free lunch (big deal!) at the Saturday luncheon and listened to great speakers. Please do likewise and help out our alma mater. Hope to see more of you in 2017, when I'll be 82. May bad luck always follow you and never overtake you."

Michael Hertzberg '59 recently received PE licenses from Georgia and South Carolina. Through his consulting firm, he provides litigation support and expert witness services to plaintiffs and defense attorneys in construction, architectural, and engineering cases. "If you know anyone in Vermont, Massachusetts, New Hampshire, Georgia, or South Carolina who needs help, have them give me a call," he writes. "Della and I are loving life in Aiken, S.C. Our two daughters are doing well. Call me anytime—we love having guests. Bring your clubs!"

Don Kirk '59 is a coauthor with Robert D. Strum of the recently published textbook *Discrete-Time Systems: Fundamentals and Applications*, National Technology and Science Press, 2013 (see p.71).

Roger Kuenzel '59 writes, "I started a part-time job at the reception desk with the Charles T. Adams Wilkes Barre Senior Center. We recently hosted 17 senior centers at a dinner dance attended by 400, with music from the '50s, '60s, and '70s. June 23 marked the 40th anniversary of the worst disaster in U.S. history as of 1972—40,000 homes were flooded, causing \$2 billion damage in the Wilkes Barre area of the Susquehanna River, and \$1 billion damage on the west branch. I came to Kingston for seven years of flood recovery work. Our football coaches, Bob Pritchard and Merl Norcross, who also coached track, were born and raised in flooded-out Kingston, where I live now. I still play banjo with Irem Shriners, featuring tunes that were popular in the '20s and '30s."

Edwin Tenney '59 writes, "In April, Bonnie and I returned from a four-month cruise around the world. Forty stops in 34 countries!"

Ray Abraham '60 shares, "Spending the summer here in Willimantic, Conn. Retired from the TV and appliance business. Playing golf and enjoying life (except for the doctor visits). Looking forward to spending the winter in Cape Coral, Fla., with my brother, **Don Abraham '58**."

Richard Brewer '60 built a working replica of the original 1919 Eccles-Jordan flip-flop, a trigger-relay thermionic amplifying apparatus for wireless telegraphic or telephonic signaling. "It is the basis of all computer-driven equipment that fills our world," he writes.

Ron Letteney '60 reports, "Since leaving WPI, I have never checked in and I would like to assure those who assumed I had met a premature end that I am still alive and doing. Upon graduation, I spent five years in the Army, two with the Airborne and three in France. I went on to earn a master's from the University of Hawaii and a PhD from Johns Hopkins School of Advanced International Studies in Washington, where my WPI physics degree played a large part in obtaining a full-cost fellowship. My first and only real job was with Communications Satellite Corp., where I took part in the creation of the INTEL-SAT system (traveled a lot and got to hang a now-gone INTEL-SAT III satellite in the Smithsonian). For the last 20 years I have been involved with residential real estate in the Washington area. I'm still active with real estate and still travel—India, China, Egypt, Africa, and visiting my son in London. While most of what I was taught at WPI has become obsolete, I left with an ability to analyze and solve problems, which has never let me down and is still in full use today."

Ed Sappet '60 offers this from Palm Coast, Fla.: "Emily Dickinson wrote, 'Not knowing when the dawn will come, I open every door.' WPI provided me with the key. Keep trucking."

Bernie Tetreault '60 writes, "Karen and I moved to the Outer Banks of North Carolina in 2000. (We've had a rental property here since 1981 and always wondered if the charm of this remote area would wear off if we lived here full time.) In 1998 we bought an oceanfront "beachbox." After a full year of planning and designing, we moved the beachbox to an interior lot on the sound and built our retirement home oceanfront. We then changed our permanent residence and haven't regretted our move from the DC suburbs where we'd lived for the previous 29 years. I continued to work part-time for the District of Columbia Housing Authority traveling there every other week, but in 2010 I retired for the umpty-umpty time and devoted considerable volunteer efforts here. My low-income housing background put me in a position to help form a nonprofit housing development corporation, Outer Banks CDC, which is producing much-needed affordable housing for moderate- and low-income workers. Of late my volunteer efforts have helped form another nonprofit organization, called Coastal Harvesters Inc. (CHI), which operates a weekly farmers market during the high-rental season. Another CHI effort that takes a lot of my time is the development and operation of a community garden, which provides produce to the market and has a educational component for elementary and high school students."

Jim Dunn '61 reports, "My wife, Joyce, and I have been retired in Oro Valley, Ariz., for nine years. We're 135 miles south of our daughter and her family. So we see the grandchildren about once a month. We're so retired that work is an unknown. We do volunteer at our church, St. Andrew's Presbytere-

rian. We love the dry heat even if it's over 100. My snow shovel and snow blower also retired 10 years ago. We follow the Red Sox and Patriots on TV. We'd love to see friends here anytime. Send email to jjdunn45@yahoo.com."

Bill Murdock '61 shares, "While enjoying retirement, I'm continuing to volunteer on a couple of fronts in the Savannah, Ga., area. Most of the time is spent at the 8th Air Force Museum as a docent and tour guide, and also conducting 'Science of Flight' classes for school groups on how airplanes fly and how engines work. My other volunteer 'job' is with the Red Cross, seeing troops off to the war zones from nearby Army and Air National Guard airfields, and, more happily, welcoming them back. There's a lot of military in and around Savannah, and it's really gratifying that everyone is very supportive of the troops."

Tom Pantages '61 says, "I have been volunteering in the Marlboro (Mass.) Medical Reserve Corps, and occasionally as a FISH (Friends in Service Here) driver."

Bill Krein '62 writes, "The class of '62 celebrated our 50th Reunion in June. It was a bit rainy; however, it was wonderful to catch up on news with old friends and to establish the Class of '62 Scholarship Fund. The arrangements were excellent, thanks to the Alumni Office and Development staff, who did most of the planning and were always available to assist during the weekend. They also explained the many arrangements and devices an alum can use for financial gifts. It was gratifying to me to see the progress at Sig Ep with the house restoration project. For most of us, the campus was relatively familiar, although all the great advances in programs were totally beyond our experience. We were all proud to be WPI alums! I am still busy as an adjunct professor at WPI, teaching four courses this summer. I'm looking forward to a WPI Alumni event in SW Florida later this year or early 2013."

Benjamin Low '62 retired from the City of New York as assistant deputy commissioner of MIS.

Frank Maher '62 writes, "I retired from United Illuminating (the local electric power company) in 1997, and consulted for them on and off until 2010. I have been tutoring high school students in math for the last eight years—not sure if calculators are a good thing for the understanding of math. Am now enjoying retirement—playing tennis several times a week. My wife, Penny, and I attend 8 or 9 performances at the Metropolitan Opera each year. The oldest of my four children just turned 50 (good grief!) and the oldest of my three grandchildren is 15."

Andy Terwilliger '62 writes, "At our 35th, 40th, and 45th Reunions, my wife and I noted how old the 50th-year Classes

appeared, but our Class of '62 broke that tradition. The 38 members of our class were the youngest 50th-Year Class members we have seen!"

Peter Chutoransky '63 retired and left big-city life for small-town New England. He is living in Hudson, Mass.

Jim Daily '63 shares, "Have been retired from Verizon and Lucent Technologies the last 10 years. Spent most of my career abroad in the Middle East and Asia in senior management positions, accompanied by my wife, the former Jeanne Baker of Auburn, Mass., whom I met and married in Worcester 49 years ago. We have two children and five grandkids, and have resided in Tucson for 10 years. Golf, traveling, and board work take up most of our time. Hope to see my classmates at our 50th next year."

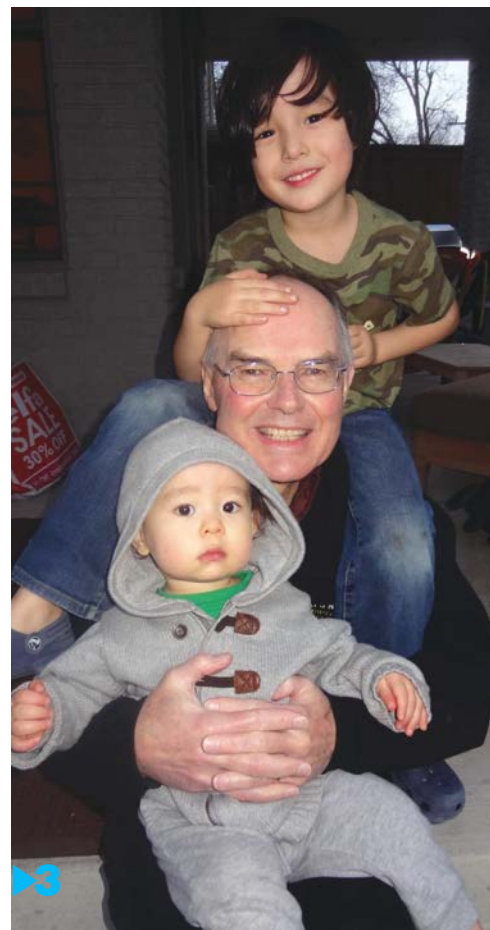
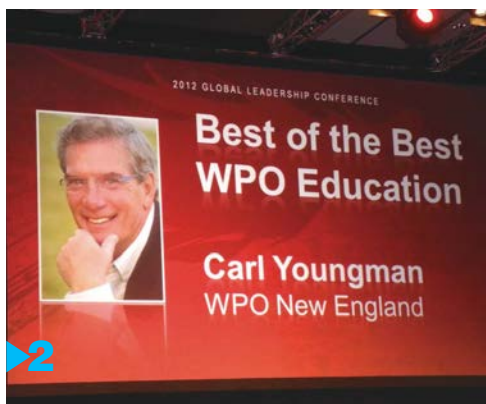
Cap Chenoweth '64 writes, "Still running my company, Sunworks Inc., in Stowe, Vt. I've enjoyed gatherings on the Cape with **Duke Gale, Mario Tama, and Jake Jacobson '65**."

Marshall Cross '64 continues as chairman of MegaWave Corporation, at Ft. Devens, Mass. He recently authored a study for the town of Needham, Mass., that showed how wind turbines could co-exist with a nearby high-power AM broadcast station; presented a paper about radio propagation around soldiers' bodies at the WPI Body Area Network conference; and with **Richard Formato '68** co-authored a study of High-Performance Indoor VHF-UHF Antennas for the National Association of Broadcasters (nabfastroad.org). Marshall also serves as a member of the University of Massachusetts at Dartmouth ECE Industrial Advisory Board and is writing a textbook on the surface-wave mode of radio propagation along the earth.

Peter Dornemann '64 has moved to Cummaquid on Cape Cod. He is now semiretired from his health insurance broker business that focuses on the senior, self-employed, and micro-company markets.

John Schmidt '64 notes that it's been 50 years since the founding of Lens and Lights, the student-run organization at WPI that provides professional quality lighting, sound, and projection services for on- and off-campus events. John was LnL's first technical director.

▶ **Carl Youngman '64** received the Best of the Best Education Award from YPO (Young Presidents' Organization) International. Working with its New England chapter, and with members of its parent organization WPO (World Presidents' Organization), Carl led a year-long educational program with the theme "Invest, Inspire & Invigorate." The events included a behind-the-scenes experience with the Boston Celtics, a preview of the next decade at the Museum of Fine Arts, and visits to the Boston Public Library, the MIT Media Lab, and the *Boston Globe*. He also arranged for members to board the USS *Enterprise* before its last deployment to Afghanistan, where they experienced a full tailhook landing and catapult off the carrier, as well a fleet exercise complete with heavy cruisers, destroyers, nuclear submarines, and helicopters.



Gerry Kaplan '65 writes from Philadelphia, "One of my favorite retirement activities is tutoring inner city schoolchildren and teaching them Tae Kwan Do."

▶3 **Pat Moran '65** spends much of his time with his grandsons Henry (top) and Truman Sun. Pat's daughter, Meg, snapped this photo on his recent visit to their home in Dallas.

James Gibson '66 retired with 38+ years of civil service with the U.S. Air Force.

Pete Kudless '66 and his wife, Karen, continue to reside in southern New Jersey, surrounded by their 11 grandchildren. (Their 12th was due in August.)

▶4 **John Lauterbach '66** writes, "June 2012 was a very busy month, and July has been even busier. Most important was my son Sebastian's 14th birthday on June 23. Tell the WPI Admissions Office to reserve a spot for him in the Class of 2020. Also, are there any precollege programs such Technquest of 1961? Also in June, Sebastian and I traveled to Columbus for the Ohio State University Chemistry Department reunion and the groundbreaking ceremonies for the new Chemical and Biomolecular Engineering and Chemistry Complex. While I did not bring enough cash with me to join the other VIPs who got a chance with the shovels, Sebastian and I did have dinner at the OSU Faculty Club with Dr. Joseph Steinmetz, Executive Dean of the College of Arts and Sciences, with the dinner discussion focusing on joint chemistry—materials science research programs. Ohio State appears to be getting increased private funding by improving the integration of chemistry and engineering research efforts, something that WPI should have done decades ago. Our research program at Lauterbach and Associates continues to get recognition at international scientific meetings. We have seven presentations scheduled for meetings in the U.S. and Japan in August and September."



Joe Wright '66 says, "I retired 3.5 years ago after 41 years with the company originally known as Jamesbury. My retirement took place on my 65th birthday, which was a Thursday—I went to work the next morning as a consultant for that company. My wife, Hilary, and I set up a corporation for this consulting work. I'm hoping this will continue for some years yet. Best to all of you."

Greg Blackburn '67 moved to Hilton Head, S.C., in 2009, with the intention of retiring. "Someday I may," he writes, "but right now I'm still working full time as vice president and director of strategic planning for SAIC. My wife, Sue, is retired from teaching, and my son, Ryan, is about to start an MBA program."

Dick Court '67 was elected president of the Lemon Bay Barbershop Chorus. He plans to retire from the Englewood (Fla.) Water District Laboratory in October 2012.

Robert Kennedy '67 retired from MIT Draper & Lincoln Labs and is now a professor of computer technology at Massasoit Community College in Brockton, Mass., where he can walk to work.

Frank Manter '67 has begun transitioning into retirement. He says this year's warm winter was advantageous for getting out and about.



Paul McDonagh '67 writes, "Just wandered back into the desert after attending our 45th Reunion. It was great to reconnect with classmates, roommates, chem eng majors, fraternity brothers, and teammates. In the spirit of class unity, '67 members of two fraternities united to play and win the Alumni Golf Tournament. It was a beautiful thing to behold."

Joe Hilyard '68 reports that his book *The Oil & Gas Industry: A Nontechnical Guide* (see p.71) was slated for release July 26 by publisher PennWell Books (Tulsa). It's a guided tour of the technology and processes used to find, extract, and transport oil and natural gas and to convert these resources into various products. Additional chapters describe the evolution of the petroleum industry, oil and gas trading, and emerging challenges.

Richard Kung '68 writes, "Since my retirement this year, I am spending much of my time restoring old violins and building new ones, as well as playing in community orchestras." He lives in Westborough, Mass., with his wife, Anna.

Germán Pérez-Mera '68 writes, "During these 44 years I have done many interesting things. I obtained a master's in structural engineering from UMass. In 1970 I married a beautiful girl from Connecticut named Donna, returned to my native Dominican Republic, where I worked in construction of homes and multistory buildings while Donna, a Spanish PhD candidate at UMass, taught Spanish and English at the Universidad Madre y Maestra. In 1974 we moved to La Romana in the eastern part of the island to manage a concrete construction project for Central Romana Corporation, a sugar mill and cattle operation industry, then a subsidiary of Gulf and Western, where I directed the construction of more than 4,000 homes for sugar cane cutters. In 1979 we moved to Houston, Texas, where, while working for Furlow-Philbeck, I designed the steel structures for petroleum rigs/towers on the Gulf, the Pacific Ocean, and the North Sea, for ARCO, Chevron, Mobil, Exxon, and Texaco. Then I went to work for Lodge Cottrell, a subsidiary of Dresser Industries, as system analyst for the design and construction of the electrostatic precipitators for the Limestone Coal Power Plant owned and operated by NRG Energy. In 1986 we returned to the Dominican Republic, where I went into private business (fish farming and meat retailing) and as a consultant in static and dynamic structural design. At present Donna and I are retired, and working in our home as interpreters and translators in the Spanish/English/Portuguese languages. We do work for large corporation like Phillip Morris, City Bank, ZPMC of China, and many others. Our home address is at Paseo Asturias #10, Urbanización Puerta de Hierro, Santo Domingo, Dominican Republic, and my email is gperezmera@gmail.com."

Richard Perreault '68 says he is enjoying his retirement in Chandler, Ariz.



Roger Pryor '68 was named president and CEO of Pryor Knowledge Systems, a consulting firm specializing in physics, materials science, and mathematical modeling, in May 2012. He ran his own technical consulting firm, R. W. Pryor and Associates, before merging with Pryor Knowledge Systems in 2003. As a professor at Wayne State University for 14 years, he led research teams in the development and characterization of semiconductor materials and devices. He also has led advanced research teams at Energy Conversion Devices in Troy, Mich., and at Pitney Bowes in Norwalk, Conn., and has served as a member of the technical staff at Bell Laboratories in Whippany, N.J. He earned an MS and a PhD in physics from Penn State. He holds 23 patents, primarily in semiconductor devices, and he has recently written two college textbooks on COMSOL Multiphysics Modeling. Roger is active in the Southeast Michigan chapter of IEEE and Education/Workforce Committee at Automation Alley, a regional business development organization. "It's too soon to retire," he says.

Craig Barrows '69 (MS PH) tells us, "After graduating from WPI, I began teaching physics—12 years at Shrewsbury Senior High School and 13 years at Head-Royce School in Oakland, Calif. During that time I also served as an AP Physics grader. In 1994 I became head of school at Berkeley Hall School in Los Angeles, retiring in June 2011, when I moved to



Manhattan, Kans., where I teach physics part-time at Cloud County Community College."

► **Joel Cehn '69** reports, "My wife, Joan, and I just returned from a trip to Croatia. This country is little visited by Americans, but Europeans have certainly discovered its amazing coastline on the Adriatic, with beautiful islands just off shore (we stayed on Brač). The Balkan wars are well past and the country is vibrant. We met a young man who's working, remotely, for a Chicago software company—the other side of outsourcing. In the ancient town of Trogir, the custom for kids on the last day of school is to run the short distance from the school to the harbor, and jump in. Food and wine were terrific everywhere, especially Istria and Dalmatia. Look for chef Anthony Bourdain's TV show on Croatian cuisine; he raved about it. So did we."

Brian Chace '69 was ordained a transitional deacon in the Episcopal Diocese of Eastern Michigan in April 2012. He lives in Frederic with his wife, Elizabeth.

Pete Heins '69, an amateur radio operator for 49 years, participated in the annual Field Day: Ham Radio Emergency Communications Exercise in June. As a member of the Ventura County Amateur Radio Society (VCARS), Pete spearheaded SSB communications efforts on the 7-Mhz (40-meter) Amateur Radio Band. The exercise was held on the grounds of the Ronald Reagan Presidential Library and Museum, Simi Valley. This is the 12th year he has been associated with this event. "Coffee drinking and travel are also features of my retirement," he says.

► **Tony Leketa '69** was inducted as president of the Society of American Military Engineers (SAME)—a worldwide professional society made up of 30,000 members and 108 local

posts—at its annual Joint Engineer Training Conference and Expo in Saint Louis. A fellow and member of the organization for more than 40 years, Tony was a charter member of the WPI student chapter, which he served as president.

► **John Paolillo '69** writes, "After 14 years in Endicott, N.Y., as a software developer and technical writer for IBM, in 1983 I came to work for Digital Equipment Corp in Nashua, N.H. (now Hewlett-Packard Corp.). I've been employed there as an information developer for the past 28 years, now working out of my home office since HP's Nashua lab was closed four years ago (the building now houses the likes of Intel and Dell EquaLogic employees, among others). I've been married 23 years to Judy, and we have a teenage son and 22 year-old daughter. The apples haven't fallen far from the tree—our daughter graduated from RPI this year with a biomedical engineering degree, and has already secured a job with Epic Systems in Wisconsin. Our high school senior son was recently accepted to his first-choice college (WPI!) and will be attending in the fall. I plan to take the HP early retirement package currently being offered, soon to live a life of leisure and continuing college payments."

Paul Himottu '70 reports, "In September, I will be starting my ninth year of teaching upper school math at Worcester Academy. I am also adviser to the Robotics Club and director for their summer Robotics Camp."

► **Frank Catanzaro '71** says, "We've been stumbling our way into a collective intelligence system for global foresight for the last year or two. Once we decided to give it a go, we had an early adopter in the city of Gimcheon, South Korea, who wanted a Global Climate Change Situation Room. The photo shows us on opening day."

Paul Cleary '71 has served for 10 years as U.S. magistrate judge for the federal court in Tulsa, Okla. His son, Conor, practices law in Tulsa; daughter Caitlin was recently awarded a Fulbright Scholarship to teach and study in Turkey this year (she holds a master's degree in international studies from Oklahoma State University); and daughter Dylan is a forestry major at Oklahoma State.

Ted Fredericks '72 is president and COO of Mohr Partners Commercial Real Estate, with 20 offices in the United States. He lives in Garland, Texas.

Ken Kolkebeck '72 writes, "While many of my classmates are retiring, I find myself in the middle of another start-up. Two years ago we founded FirstFuel software, a Lexington, Mass.-based software firm that has developed an SAS-based customer engagement platform utilities use to market energy efficiency programs to owners of large buildings. Working with a talented, energetic, and young team is keeping me young. I am commuting three days a week so that Shirley and I can continue to live in Northern New Jersey and be near our five grandchildren. We recently enjoyed the 40th Reunion and we enjoy traveling."

Mark Samek '72 has worked the past six years as a patent attorney at Cantor Colburn LLP in Hartford, Conn.

Pat Tamborra '72, '81 (MNS) has retired from the Norwich Free Academy after teaching chemistry for 38 years.

Dick Belmonte '73 says, "LuAnne and I are hitting the road often this summer—going to Williamsburg to take in the colonial sites, to Seattle just to see that part of the country, and to Worcester twice for family visits and a little golf. I hope to see my classmates at our 40th Reunion next year."

Philip Brodeur '73 reports, "Our oldest (daughter Sharon) considered WPI but decided she wasn't geeky enough and went to Mount Holyoke. But our two boys are convinced that WPI provides "the best" education: James '08 is using his CS degree working for a West Coast defense contractor and plans to celebrate his 5th Reunion next spring when his brother, Patrick (ECE), graduates. Sharon and her husband are already planning to send their boys, Aidan, 3, and Fintan, 1, to WPI. As for me, I'm still married to Rosemary after 38 years and I continue working as the North American IT Lead for Solutia's Advanced Interlayers division; I'm based in Springfield, Mass."

Maryann (Bagdis) Goebel '73 writes, "After 39 years in the world of IT, I have decided to retire! I've had some wonderful opportunities working as a CIO at such places as PepsiCo/FritoLay, Fiserv, DHL Express, and General Motors (Europe and North America), to name a few. I've lived in several states, and also in London and Cologne, Germany. In my retirement, I'm settling down in Fort Lauderdale, where I live in a high-rise



with a beautiful view of the New River, intercoastal waterways, ocean, and cruise port. I've started to do a little consulting and, of course, I'm looking forward to tackling my bucket list!"

Mark Whitley '73 says, "I continue to work on one of the most exciting energy issues that exists in the United States, the development of clean-burning, job-creating, abundant natural gas. I have had the opportunity to work on this new world of natural gas beginning 15 years ago while working for the pioneer of shale gas production, George Mitchell. I have had the front row seat in the development of the Barnett Shale in North Texas and the Marcellus Shale in Pennsylvania while here at Range Resources. The shale gas revolution has allowed the country to displace coal fired electric generating capacity with more natural gas and will begin to displace gasoline and diesel as transportation fuels as vehicles are made available to use compressed or liquefied natural gas and the infrastructure will be built to fuel these vehicles. I spend a considerable amount of time educating people about the safe and well-regulated practice of hydraulic fracturing, which is the key to this energy breakthrough. This is a very exciting and challenging time in the oil and gas business and I am very proud to say that I have been a part of it for 37 years."

Bob Milk '74 writes, "My wife and I completed our move from the Richmond, Va., area to the East Valley area of Phoenix. We are now just a few minutes away from our grandsons. I continue to consult to many states in the area of Medicaid and the directions provided by the Center for Medicare and Medicare Services."

Robert Trotter '74 reports that he just turned 60 and is doing well. "Traveled to China eight times in the past 18 months! I'm still at Stanadyne Corp., where I've worked for 32 years."

Glenn Yee '74 writes, "This year, the Yee family picked Vancouver to do our annual family bonding. Amy and I came in from Hong Kong, where we have lived for many years; Nick (34) flew in from Palo Alto, where he is a research scientist; and Curtis (32) from LA, where he is a college professor. Great time, indeed. Our company, Pacific Can, is celebrating its 20th year in business and we opened our fifth can plant in the Chinese city of Qingdao in July. I am not thinking of retirement and I try to get in a few more golf games whenever possible. A big hello to all my friends and classmates at WPI, and wishing you good health."

Norton Bonaparte Jr. '75 was appointed city manager for Sanford, Fla., in September 2011. He served as city manager of Topeka, Kans., for five years before moving to Sanford.

► **George Breece '75** writes, "In June, Cyprian Keyes Golf Club in Boylston was the site of a warm reunion for 11 ATO brothers from the Class of 1975—we had traveled from Connecticut, Massachusetts, New Hampshire, New Jersey, and Colorado. After a short warm-up, the brothers teed off in three groups on a glorious 'Chamber of Commerce day.' With a wide range of golfing skills in play, the Best Ball format was used and everyone enjoyed the camaraderie on a difficult course. The plan was hatched back in March when Steve Caggiano emailed a group photo from a previous event in 1989 with almost the exact same participants. (Many changes have taken place since that previous outing!) Various photographs of past events, old ATO group shots, and other memorabilia were on display, and we vowed not to wait another 23 years—in fact, we're planning another outing for next year. Those in attendance were, from left, **Bob Horner, Paul O'Brien, Todd Whitaker, Rich Gallagher, George Klug, Bob Klimm, Steve Caggiano, Larry Jones, Bob Morin, George Breece,** and **Bill Johnson.** We are missing contact info on numerous ATO '75 members—please respond to me or another brother after reading this note."

Bob Cummings '75 says, "I have been working for the North American Electric Reliability Corp. for almost 16 years, mostly in the Princeton, N.J., area. But because I travel extensively for the company, I became a remote employee in 2010, and my wife and I moved back to Albuquerque. My current position is director of reliability initiatives and system analysis, directing initiatives in system protection, frequency response, system modeling improvements, and the implementation and use of high-speed synchro-phasor (30+ samples per second) measurement technologies in the power industry. The system analysis part of the work includes deep-dive technical analysis of blackouts like the one in San Diego in September 2011. I've been doing power system forensic analysis since the 2003 Northeast Blackout, earning the nickname 'Blackout Bob.'"

Ginny Giordano FitzPatrick '75 writes, "Still traveling both locally and internationally teaching IBM Websphere technical training classes. Best assignments are either overseas or in locations close to my five grandchildren, who are spread across the U.S. John joined me on an assignment for the first time when I had to teach in Scotland—he enjoyed golf and local pubs (!) while I worked. If I have a spare hour, I knit to keep those grandchildren in custom-made sweaters."

John FitzPatrick '75 recently completed his 25th year as a financial planner and tax advisor to individuals and small businesses. He writes, "I've also completed 25 years of working with youth in the local community through scouting and, more recently, youth ministry outreach with my church community."

Bob Desourdis '77, '79 (MS EE) reports, "I have been working in public safety and emergency planning/response for the last 15 years. My last of five technical books, *Achieving Interoperability in Critical IT and Communications Systems* (2009, Artech House of Norwood), used quotes from the 2004 9-11 Report, and the 2006 Katrina Report to demonstrate examples of each of the planning deficiencies identified in the 1946 congressional investigative report of the 1941 attack on Pearl Harbor. I have an invited chapter in a forthcoming McGraw-Hill book in which I add the mass shootings at Virginia Tech as compared to Columbine planning failures, and Deepwater Horizon as compared to Exxon Valdez, to show that 20-20 hindsight does not help much. The rest of the book and the chapter addresses how to fix these planning deficiencies. My next book will also include some examples (if I can find them) of how to 'do things right.' That involves using proactive information-sharing technologies to mitigate or avoid these Pearl Harbor-type planning deficiencies that have historically turned disaster into tragedy. I am also working to develop a new Alumni Gym concept that would turn it into an all-department solution integration and entrepreneurial center with a Class A demonstration facility to represent—in exciting multimedia scenario-based presentations that progress with script to show solutions—not just 'things on a podium.'"



Richard Wheeler '77 completed the executive development program in May 2012 at the Wharton School of Business, University of Pennsylvania. He is currently president of Capewell Components LLC, with facilities in Cromwell and South Windsor, Conn., the United Kingdom, and Shanghai, China.

Ian Cannon '78 is leading Extreme Engineering business development, working to address unplanned downtime in the offshore drilling and exploration market. He recently met with the U. S. Department of the Interior to discuss how systems engineering practices can improve performance and reliability of deepwater well control systems. Ian and his team have been challenged with generating \$40M in orders in 2012. He is in his 34th year with Pratt & Whitney Rocketdyne, headquartered in Canoga Park, Calif. He recently relocated from Ventura, to Beverly, Mass., and was married to Patricia McShay on Feb. 27, 2012.

Steve Mezak '78 writes, "My wife, Paula (Fraraccio) passed away July 5, 2012, at the age of 55. I met Paula when we sang the *Hallelujah Chorus* from Handel's *Messiah* together at a concert in St. Paul's Cathedral in Worcester. That evening, the WPI Men's Glee Club served dinner in Alden Hall, and we entertained the girls with several songs sung by the smaller Baker's Dozen a cappella group that I also belonged to. Our closing number was a song called "Goodnight, Little Girl, Goodnight." To spice it up further, we each picked out a girl in the audience to look at when we sang. I picked Paula. Later, I saw her standing alone and I worked up my courage and went over and spoke to her. Not only was she from New Jersey and not only was she from my hometown, but her grandfather, Charlie, worked part-time at my parents' bakery after he retired from owning his own bakery. We had so much in common it seemed like destiny finally put us together." Steve and Paula's son Charlie graduated from WPI in 2002. Donations in memory of Paula may be made to Hepatitis Foundation International and Cancer Support Program at Sutter Lakeside Hospital.

Marcia (Huber) Berg '79 (MS CHE) retired from DuPont in August 2011.

Steve Blanchette '79 celebrated his 10th anniversary at EMC and is now a senior director in the Global Alliances organization. He previously spent 20 years at DEC in product management, with time at NEC in between. Steve and his wife live in New Hampshire and frequently visit North Carolina, where they enjoy seeing their grandson. Most important, he says, "I remain determined to work at companies with names that are three-letter acronyms."

John Bourassa '79 accepted a position with Lockheed Martin Global Training and Logistics in Belcamp, Md., leaving Lockheed Martin IS&GS. He writes, "I was with Lockheed

Martin for 27 years, 20 of which were with the Hanover Team. I'm looking forward to the much shorter commute as well as the interesting work being done by the GTL team."

► **10 Andy Davidson '79** writes, "I recently became a grandfather two more times. Abigail Stella Hayslip was born Jan. 16, followed by Isaac Anthony Davidson on April 25."

Mary Farren McDonald '79 says, "My son, Brendan, has graduated from high school and will be going to St. Andrews in Scotland to study astrophysics—so I'm looking for consulting work in the UK now!"

Laurel (Wiljanen) Holland Hajek '79 writes, "What a journey! WPI seems so many lives ago. I have a private practice as a holistic life coach. During my adult life I have focused on being mother to three fantastic individuals, earned a graduate degree in counseling psychology, studied energy medicine, and worked in various part-time jobs that helped groom me for what I do now—and I love what I do! I have written two manuscripts and am exploring the human experience in a depth that brings me true fulfillment. I have a website (laurelhh.com) and a blog (laurelhh.wordpress.com), where anyone can learn more about my work and connect with me."

► **11 Steve Rusckowski '79** was named president and CEO of Quest Diagnostics in Madison, N.J.

Chuck Dyke '80 works for WorleyParsons in Bellaire, Texas. His employer's name was misspelled in the previous issue.

Tom Horgan '80 is senior director of licensing at Digimarc Corp. His son, Chad, graduated from Lincoln High School in Portland, Ore., and will attend the University of Denver this fall.

Gareth Kucinkas '80 says, "I am living in Villars sur Ollon, Switzerland, and teaching at the College Alpine Beau Soleil. I am also college counselor and RoundSquare representative. Unfortunately, I have made little progress in my skiing. Both my son and my wife ski much faster than I do."

Richard Welch '80 writes, "Continuing as VP and COO at Unirac/Hilti in Albuquerque. My entire career has been in technology companies (nuclear, aerospace, semiconductors, etc.); at Unirac we design and manufacture aluminum and steel mounting structures for photovoltaic solar panels. Our product offerings range from small systems (a few kilowatts and up) for residential rooftops thru multi-megawatt utility-scale projects occupying hundreds of acres of ground space. I travel frequently between our homes in Albuquerque and Mt. Laurel, N.J., and between the U.S. and the rest of the world. I have attended WPI's past two annual student project presentations in Santa Fe (great projects stemming from the training provided by the Plan). Unirac will be contributing the solar racking to WPI's Solar Decathlon effort in

Datong, China, in 2013; the design effort is just now getting under way with the WPI/Unirac team selecting the solar panel/racking combination for the house to be constructed for the project."

► **12 Bruce MacLeod '81** says, "Still working and living in Gorham, Maine. I have my own consulting practice and work with my wife, Lynne. We celebrated our 30th anniversary in 2011. Recently met up with **Jocelyn Kent Smyth '81**, as our daughters are dating boys from the same family (small world). I just started working with **George Thorng '81** to expand services into Southern New England."

Rick Rykosky '81 reports, "I'm working for Valero Refining Corp. in New Orleans as facility superintendent. Orlene and I have four children—Luc, Arlie, Breane, and Dylan. I received an MBA from Loyola University New Orleans in the mid-'80s. I spent 17 years at GATX Corp. and then worked for Valero for 13 years. Our main focus now is getting the kids out of college!"

Dennis Wysocki '81 shares, "The thought of winning a baseball hat caused me to reflect on my baseball days at WPI. Led by the fearless Charlie McNulty ("the Dean of College Baseball"), our squad was very competitive, although

we never really managed to have a special season. We did have many special moments, however. One of the most memorable for me was the time we had to play an away game at Brandeis (a perennial powerhouse that was riding a record 26-game winning streak) on Spree Day. I don't think Spree Day is still around, but at the time (1979) it was a day that all the students looked forward to: no classes, live bands on the Quad, free beer everywhere. And here we were, heading off on a bus to face a likely defeat. But rather than feel sorry for ourselves, we found a way to salvage the day. **Don Maki '81** pitched a wonderful game, we scored a few early runs, and then held on to win a very exciting ballgame, snapping the Brandeis winning streak! Though we didn't have a chance to enjoy that Spree Day, we found an alternative celebration."

Philip Guerin '82, selected as a Champion of Change by the Obama Administration, was honored in a White House ceremony for his work in bringing solar power to Worcester's water treatment plant. He is director of engineering for the Worcester Department of Public Works and Parks.

John Kemp '82 is now president and CEO at Barry Controls ("market leader in developing solutions for noise, vibration, and shock," he notes) in Hopkinton, Mass., and Ithaca, Mich. John and his wife, Barbara, live in Millbury, Mass.

Jay Koven '82 says, "I have just completed my master's degree in computer science and will be starting a CS PhD program at NYU-Poly in the fall. My daughter Belle completed her MS in systems engineering at USC, son Robert completed his BS in electrical engineering at the University of Arizona, and son William completed his BS in engineering with a concentration in computer engineering at Harvey Mudd this year. That leaves one to go: daughter Rose is in general studies at Drexel with a concentration in STEM. Oh, yeah, and my wife, Margery, and I are celebrating our 10th anniversary. One heck of a year!"

Arne Salonen '82 completed the MBA program in design strategy (DMBA) at California College of the Arts. He says, "The DMBA program seeks to create leaders who integrate design innovation and business thinking with environmental, ethical, and social responsibility principles to manage in today's complex business environment. The program is built on real-world collaborative engagements with partner and client organizations to create innovative business strategies."

Patrick Guida '83 shares, "After nearly 30 years of practicing mechanical engineering in industry, I have recently accepted the position of senior program development manager with WPI's Corporate and Professional Education group. I am excited by the new and different prospects of this position, and this dynamic group of people is great to work with. If you are on campus, give me a shout and we can catch up. And if



you haven't been on campus for a while, I urge you to come and see the changes. You will be impressed. In addition, I continue to assist Jason Steele in coaching our most excellent WPI Women's Crew teams. They get better every year. The work these men and women do to be competitive in D-III is phenomenal. Back in the day, we worked hard and were competitive, but crews are just plain faster now. Come and watch some races—we want to see all our Crew alumni! Homecoming is October 6... be there and we'll put you in a boat! Best to all!"

Jonathan Olson '84 has moved back to Massachusetts after four years in Maine to become the general manager of the P. J. Keating Co. in Lunenburg.

Bill Astore '85 sends this update: "I'm still teaching at Pennsylvania College of Technology. Perhaps my favorite class is on the history of technology and society, in which I can combine my interest in science and technology with my interest in history. It's heartening to know that WPI is committed to the humanities at a time when there's relentless pressure being put on 'practical,' job-related knowledge. To a certain extent, we are what we make; our technologies are a reflection of ourselves. And we want that reflection to be a humane and compassionate one. I hope WPI always remembers this."

Karl Fischer '85 shares, "I'm very proud to say that my daughter Laura just graduated with the WPI Class of 2012 and is starting her career at BAE Systems in Nashua, N.H."

Amaro Goncalves '85 has joined Sig Sauer Inc., in Exeter, N.H., as vice president of global defense sales. His daughter, Brianna, will be attending WPI this fall as a member of the Class of 2016.

Frederick Moseley '85 is a vice president with Fay, Spoford & Thorndike. "I will be managing the highway elements for the Burns Bridge Project (Route 9 over Lake Quinsigamond)," he writes. "Part of MassDOT's Accelerated Bridge Program, this \$90 million design-build project will replace the existing four-lane concrete arch bridge with a signature seven-lane steel arch bridge."

Frank Statkus '85 says, "Spent the whole day June 16 visiting Touch Tomorrow at WPI with my daughter and two granddaughters. The interesting day kept us busy and focused on robotics. Madison (10) and Ashley (8) were impressed with the campus, wondering, 'How much does it cost?' and 'Can I stay here?' Ashley suggested that Madison start saving now! The day was a benefit to the local community and possibly opened the doors to new applicants. WPI did a great service to Worcester and central Massachusetts communities."

Bruce MacWilliams '86, '88 (MS ME), '92 (PhD ME) reports, "I live in Salt Lake City, where I am employed by Shri-



ners Hospitals for Children as director of the Movement Analysis Laboratory. I am also a faculty member in the Department of Orthopaedics at the University of Utah and teach in the biomedical engineering program. I am married with two daughters, ages 7 and 9. We enjoy hiking and skiing in the nearby mountains and spending part of our summers at a cabin in Maine."

▶ **13 Elisabeth BenDaniel Schwartz '86** writes, "I am living in Englewood, N.J., with my husband, Peter, and children,

Alexandra (13), Brooke (11), and Andrew (10). I am happily working at Amarin Pharma as director of IT. Would love to hear from WPIers: eschwart@verizon.net."

Patrick Tormey '86 shares, "After the acquisition of my company, CambridgeSoft, by PerkinElmer, I am now into my 10th year here. In addition to my professional duties of leading a high-tech software sales team throughout the Americas, I am also on the board of a wonderful 501(c)(3) organization. The Ryan Epps Home for Children in Haiti serves over 100

children. Just after the earthquake, my wife and I were called to lead the development and construction of a school and orphanage, which has led us on a life-changing journey. Please learn more about us at ryanepshome.com. I returned this summer with two of my three daughters on a mission trip that will hopefully change their lives, too."

John Carney '87 says, "Enjoying the sunny winter months in Sydney but still miss the fun Worcester area. Sydney is a great place to visit and can always use more WPI influence."

Paul Lubas '87 is a senior marketing manager at 3M Purification Inc., in the Life Sciences Process Technology Business Unit. He and his wife, Paula, reside in Glastonbury, Conn., with their 8-year-old son, Christopher, who looks forward to lacing them up for the WPI basketball team in 2022!

Mitch Sanders '88 (MS BBI), '92 (PhD BE), CEO of ECI Biotech, is principal investigator on an NIH grant for rapid detection of periprosthetic joint infection. ECI is testing the accuracy of a rapid in vitro diagnostic that could reduce unwarranted revision surgeries after joint replacement. "Infection can be a very serious complication for people with knee and hip replacements," Sanders says. "With an accurate diagnostic, clinicians will be able to determine whether the knee or hip requires a revision. Without a sensitive and rapid diagnostic for infection, patients will continue to be put through painful, time-consuming, and possibly unnecessary revision surgeries." Currently, knee or hip replacement systems have about a 15 percent chance of surgical revision

Bryan Shepbeck '88 just returned from the 8th annual ATO Alumni Red Sox road trip. This year he was joined at Wrigley Field in Chicago by fellow alums **Steve Gale, Dave Welch, Greg Duplessie, Chris Winalski, Brian Pothier, Dave Hall, Al Hall, Jack Gale, Gregg Speer, Dan Hoaglund, Mike Fitzpatrick, John Roughneen, Tony Mastromatteo, Steve Farr, John Walsh, Dave Rega, and Mark Gunville.**

▶14 Jeffrey Goldmeer '89, '91 (MS ME) continues in his dual roles of F-class gas turbine fuel flexibility manager, and Frame 9F gas turbine marketing manager for GE Power and Water. He supports customers and projects across the globe, on every continent except Antarctica. One of his new products, a hydrogen fuel blending system for GE 7FA gas turbines, was highlighted in the Jan/Feb 2012 issue of *Turbomachinery International*. In his free time, Jeffrey and his sons, Ezra, Eitan, and Amitai, continue to train in Tae Kwon Do—recently he and his oldest sons earned their 3rd degree black belts.

▶15 Bill Mahoney '89 retired from the U.S. Navy in June 2012 after 23 years as a Navy SEAL and is completing a tour as commanding officer of a small boat team in the New Or-



leans area. Bill, Steph, and their two young sons, Kale and Gavin, are now living in BackCountry, Highlands Ranch, Colo., and can be reached at billmahoney@gmail.com.

Adam Pease '89, '90 (MS CS) continues with his consulting company, Articulate Software, most recently consulting for eBay, and organizing a seminar on ontology (based on his book *Ontology: A Practical Guide*), which he will teach for the Association for Computing Machinery in August in San Jose, Calif.

Rosemary Vassallo Nelson '89, '90 (MS BBT) is enjoying her development and assay automation work for Ipsen/Biomeasure in Milford, Mass.

▶16 Jonathan Bird '90's "Blue World" program took four more Emmys this year, from the National Academy of Televi-

sion Arts and Sciences' Boston/New England Chapter. The underwater exploration series, which has been airing since 2008 on PBS, won awards for Outstanding Children/Youth Program, Outstanding Musical Composition/Arrangement, Outstanding Editor-Program, and Outstanding Magazine Feature/Segment. This is the third consecutive Emmy-winning year for the show, which features Bird as host and moderator. He is the author of seven books and has produced films for National Geographic, PBS, ABC, USA Network, and the SciFi Channel. Watch for Season 4 of "Jonathan Bird's Blue World," scheduled for release in 2013.

Jeffrey Gilbertson '90 writes, "My family business, The Gilbertson Group (TGG), has recently moved into our newly constructed 25,000-square-foot office/warehouse complex. I am the chief technology officer for TGG, now in our 21st year of operation. TGG provides systems integration, physical equipment, and retail delivery solutions to the financial and commercial sectors. Visit us at gilbertsongroup.com."

Brian Gross '90, '91 (MS BME) is currently principal scientist and clinical systems architect in the Patient Care and Clinical Informatics business group at Philips Healthcare, in Andover, Mass. He has worked for the patient monitoring and informatics businesses for over 20 years. His responsibilities include directing business-funded research and ad-

vanced development for time-critical decision support applications, as well as driving interoperability and end-user delight across the products. Brian is a licensed respiratory care practitioner, and was formally a paramedic. He was recently recognized as a senior member of the IEEE, and an active member of the AARC and SCCM. He has over two dozen patents published and issued worldwide, and has been published in many clinical peer reviewed journals. He is on the AAMI alarms standards committee, and was recently awarded the "Research Paper of the Year" by the editorial board of Biomedical Instrumentation & Technology (BI&T) and AAMI. He is a research affiliate at MIT and an investigator on NIH and CMS funded research. Outside of work, Brian enjoys ocean sailing with his family, and teaching and studying Kenpo Karate (he earned a black belt). He has been elected to serve on the school board in the town of North Andover.

Moses Lam '91 is director of consulting practice for the health science global business unit at Oracle.

Shawn (Harrington) Markham '91 holds the posts of senior engineering associate at Corning Inc. She is the first female employee in Corning's history to receive the honor, putting her in the top 1 percent of active employees. An authority on applied fusion forming technology, Shawn supports the company's glass facility in Sakai City, Japan.

Dylan Michael Monaghan '91 will retire from the USAF this year to take on greater challenges. He resides with his wife



▶17

and three children in Tokyo, where he is commissioner of his own Youth American Football League.

▶17 **Pamela Peterson '91** received the L. Jonathan Ross Award for Outstanding Commitment to Legal Services for the Poor from the New Hampshire Bar Association. She is a shareholder at Devine Millmet in Manchester, representing individuals in divorce, domestic relation issues, and Hague Convention cases.

David Andrade '92 writes, "I teach high school physics and AP physics; I'm also an EMS instructor, teaching paramedic classes part-time. I write for *Tech & Learning* magazine (techlearning.com/index). My educational technology blog, educationaltechnologyguy.blogspot.com, has been honored with multiple awards and is read worldwide by thousands. I also present at educational conferences and facilitate professional development sessions for teachers in my district. I am a Discovery Education STAR Educator and member of the Connecticut Leadership Council. I was recently honored by Discovery Education with a DENny award for the PL-DEN category, which identifies members of the community who share freely and willingly with the community. I won a Blogging DENny in 2011. I've recently been featured in two magazine articles. I live in Stratford, Conn., with my wife, Cori, who is a high school biology teacher and EMS instructor, our two cats, and a hamster."

Jeff Rembold '93 writes, "As an applications engineer with PTC, I help both commercial and aerospace and defense companies gain a product and service advantage in today's global economy. My biggest accomplishment and joy so far continues to be raising my five children with my wife, Cristine. Our oldest is a sophomore at a Catholic boarding school, and what a change that has been! We (well, mostly Cristine) are also partnered with an international wellness company, helping people build healthier lives and gain financial freedom. Ask me about it or visit all4my5kids.com."

Tania Wolanski '93 says, "I joined MKS Instruments in Boulder, Colo., in April of this year as a senior quality engineer. MKS corporate headquarters is in Andover, Mass., and while going back east for semiconductor process training, I made a trip to campus for the first time since graduation. I was impressed by all the changes and upgrades."

Kevin Cahill '94 joined PostiveEnergy Practice LCC in Chicago as a director.

▶18 "I'm **MegaZone '94**," he says. "And, yes, my full legal name is really MegaZone. I have a mononym. I joined F5 Networks in February 2010 as an enterprise network engineer. In February I married Nancy Shaffer at the Canada Pavilion in Epcot at Walt Disney World in a small ceremony



with a number of friends and family—including several other WPI alums.”

►19 **Matt Thibodeau '94** is staying quite busy and greatly enjoying working on renewable energy projects at Sargent & Lundy LLC in Chicago. Matt presented at the American Wind Energy Association Windpower Conference in June 2012 on the integration of renewable energy, and has recently traveled to power plant project sites in United Arab Emirates, St. Kitts, South Africa, and Peru.

Gustavo Blaschitz '95 and Michelle Monté celebrated the first birthday of their son, Maximilian.

Lt. Col. **Denise (Minerva) Hamilton '95** has just completed her three years at Air Force Materiel Command and Aeronautical Systems Center at Wright-Patterson Air Force Base and will return to South Korea at Osan Air Base with her husband as deputy of the intelligence, surveillance, and reconnaissance (ISR) division at the 607th Air and Space Operations Center (AOC).

Tim Zimmer '95 writes, “My wife and I created a business—tummytemple.com. By going paperless and establishing online client scheduling and filing, we have built what we believe to be the largest digital repository of naturopathic clinical data in the U.S. My hope is to leverage the data we have gathered in support of improving natural health care (perhaps therein lie some student projects). Since remotely managing the business, our efforts allowed us to leave Seattle and live in North Carolina for two months while running the business effectively. We fuse high-tech with tummy-centric holistic medicine in a sacred environment. We have the largest colon hydrotherapy clinic in the U.S., and were the only detoxification business ever invited to the Starbucks health fair. I know that my education at WPI was instrumental in helping me develop the thinking patterns and comfort with computers and software to achieve what we have in our business. I enjoyed reading the Whole Foods article in the recent issue. A good portion of our customers, including ourselves, shop at Whole Foods on a weekly basis. It's nice to see the efforts of alumni in support of a healthier world.”

Karen (Scheurer) Lrhazi '97 returned to the tech support field at Wave Systems Corp. in Lee, Mass., after several years as a stay-at-home parent. “Assisting customers with their self-encrypting drives and security management is a piece of cake after assisting kids with their self-absorbing diapers and temper management,” she writes.

Luis Menezes '97 writes, “I want to thank all the fire fighters and volunteers helping control the fire here in Colorado!”

Sunny Walsh '97 reports, “I don't think I'll be able to make it back to WPI for my reunion this year. I do hope to visit the campus sometime soon.”

Theo Van Dinter '98 writes, “I just ran the San Diego Half Marathon (my second) with a personal record of 2:07:24.”

Gregory Zelfond '98 recently moved to Toronto, where he works as a management consultant in the IT industry.

Ethan Deneault '99 writes, “I was recently granted tenure and promotion to associate professor of physics at the University of Tampa. Along with my academic promotion, I was elected to chair the physics half of my department.”

Jennifer (Brown) Gardner '99 welcomed twin boys, Jack Laurence and Greyson John, in August 2011. In March 2012 she and her family relocated from Massachusetts to sunny Southern California.

Ray Halpin '99 writes, “I started out in a non-engineering field after earning a BS in ECE; now I'm in finance. I used to feel guilty not “using” my engineering degree, but then I started enjoying what I was doing—helping people. Leading. Making important, well-informed decisions. Then I realized I wouldn't be where I am without my WPI education.”

Samuel Jillson, son of **Melanie and Carleton Jillson '99, '01 (MS EE)**, turned / recently. His dad explains, “Sam was

born May 4, 2009. This made him 3.1415926535 years on June 24, 2012—and to be specific, sidereal years, if one uses 365 days instead of 365.256.”

Major Matthew Poisson '99 reports, “After four years working as a test pilot at Edwards AFB, I moved to Knoxville this summer as an Air Force Fellow at the Oak Ridge National Laboratory in Tennessee. It's a one-year tour where I get to learn about the intricacies of the Department of Energy. Though non-flying, it should provide plenty of time with my family. I can be reached most easily at my home email: F16Vip3r@yahoo.com.”

Michael Lee '00 writes, “I graduated in February 2001 but really was class of 2000 in terms of friends. I was at Palm & HP as a webOS software development manager from December '09 through December '11. I'm now a software development manager at Amazon's A2Z Digital Music subsidiary in San Francisco, building Amazon's Mobile Music Store. See my full work history at linkedin.com/in/mikeleepro. Re the W/ hat—I'm hoping the W[pi] brand catches on. It's clever and cool.”

Kirsten (Decoteau) Markowski '00 says, “My husband, Andy, and I celebrated the birth of our son on Feb. 14 this year. Andrew James is our first—what a great way to celebrate Valentine's Day going forward! We live in Connecticut; I'm currently on leave from teaching physics at a public high school.”



Amit Bobby Nandi '00 is now director of operations for a medical device start-up in Orange County, Calif.

Ben Nawrath '00 reports, "I recently started a new job at CVD Equipment in Ronkonkoma, N.Y., as a mechanical project engineer designing chemical vapor deposition machines. I continue to play my baritone sax in the Smithtown Summer Band and the Atlantic Community Band, and I'm an active member in the Long Island Woodworkers Club. I live in Medford, N.Y., with my girlfriend, Jessica, and our dog, Evie, and we are kept busy by Jess's three nephews and brand new niece! We visit my parents and sister, **Molly '05**, in my home town in Vermont often, and I plan on taking Jess to WPI this summer to show her around, and so I can see the new sports complex!"

Nathan Smith '00 says, "I took my daughter, Inez (WPI Class of 2032?), to Elm Park to see Mass Academy's FIRST robot in action. She loved the robot!"

Matthew '00 and **Johanna (Tenczar) Shaw '01** welcomed their second son, Riley Benjamin, on April 4, 2012, weighing in at 9 lbs., 9oz! They say two-year-old Brechin is being a great big brother.

On May 29 at 4:12 a.m. **Jonathan Tripp '00** and **Maiko Ezawa '02 (MS CH)** welcomed their beautiful baby daughter, Aya Elissa, into the world.

Kristin Blitsch '01 shares, "On June 23, 2012, I graduated from the Rady School of Management at the University of California, San Diego, with an MBA (with a strategy and marketing focus). The advanced degree was obtained over two years while working full-time as a manager of quality engineering for Gen-Probe Inc. Tugay Inal and I are excited to announce that we're expecting our first child! Our little girl is anticipated to arrive Oct. 9. She's already full of energy and spending lots of time practicing her martial arts skills—to the dismay of her mom."

Aimee Kazlowski '01 and her husband Eric Kellstrand welcomed their third child, Kaitlyn, to their family Nov. 18, 2011. "Abigail (3) and Joshua (2) are being great helpers," she says. "She is a happy, happy baby girl!"

Thomas Pfeiffer '01, '04 (MS BB) received his MD degree from SUNY Buffalo School of Medicine and Biomedical Sciences on June 1. He has moved to Cambridge and has begun his internal medicine residency at St. Elizabeth's Medical Center in Brighton.

▶20 **Luke Woods '01, '03 (MS FPE)** is currently principal engineer of the fire resistance and containment group at Underwriters Laboratories. He lives in Whitinsville, Mass., with his wife, Lesley, (they married in May 2010) and their son, Sawyer, (born in November 2011).



Amanda Beaudoin '02 has completed a PhD in veterinary epidemiology at the University of Minnesota. She also holds a doctor of veterinary medicine degree from Cornell University (2006). She began work as an epidemiologist with the Centers for Disease Control and Prevention in July.

Meghan (Fraizer) Cryan '02 was recently a featured author on instructables.com. See what she's been making at instructables.com/id/Featured-Author-domesticengineer. Meghan and **Marc Cryan '02** and their four children live in Maynard, Mass.

Bassam Esa '02 reports, "My daughter Katia is 16 months old and is walking!"

Carlos Goller '02 writes, "The CGs are staying in Durham, N.C., to continue teaching, doing fun science, and participating in additional crazy biking rides, Challenge Walks, and muddy events with the National Multiple Sclerosis Society! I look forward to a new shady place for my hammock and some fresh air, but most important, the heartbreaking team of staggering genius continues to...bounce around and mix it up! Arriba y adelante. – HATS!!!"

Greg Milette '02 has published *Professional Android Sensor Programming* (Wiley) (see p.71). He is a professional Android developer and founder of Gradison Technologies, an app development company.

Erin Sullivan '02 writes, "I'm living in Houston with my husband, Sean Jones. Taking some time off from work to enjoy two new additions to our family (twin girls Sophia Lynn and Casey Danielle, born Feb. 28). I'll be returning to the grind in the fall as a member of ExxonMobil Development Co.'s engineering department."

Janelle (Emar) and **Tim Sutherland '02** welcomed their first child, Drew Douglas, on March 28. Tim is a principal software engineer at Raytheon.

Melissa (Morgan) Topp '02 is proud to announce the birth of her second son, Nathan Robert, on April 4, 2012. He arrived almost four weeks early but was happy and healthy, weighing in at 5lbs., 14oz. His brother Seth turned 3 in June, and has been a big helper to both mom and dad with the new addition!

Abiche Dewilde '03 and **Berk Akinci '02** write to correct a misspelling in the last issue. Their twins, born in December 2011, are Kaan and Lara, not Laura. [The editors regret their error.]

Anthony Forester '03 was married on June 23 in Chicago to Kellie Donnelly. Members of the wedding party included **Jeremy Allen '03** and **Craig Perkins '03**; many other alumni were also in attendance. After returning from their honeymoon in Bali, the couple relocated from Chicago to Los Angeles.

Edward Quinlan '03 recently received his PhD from UMass Medical School in Worcester for his work characterizing the regulation of papillomavirus gene expression.

Tiffany (Tam) '04 and **John Paul Bubriski '06** are proud parents of a baby girl, Jasmine Aeris Bubriski, born May 7, 2012. She weighed in at 7 lbs., 12 oz.

Justen Garrity '04 recently celebrated the second anniversary of his company, Veteran Compost. The company turns restaurant food scraps into soil products that can be used to grow new crops. An eight-year Army veteran, Justen is committed to hiring military veterans to staff his company. Visit From Combat to Compost at veterancompost.com.

Hilary Hayes '04 and **Adam Fuller '04** have been reminiscing about the good old days on Daniels 4th and gossiping about their classmates over *bieren* in Dam Square. They are working in the Netherlands for Sensata Technologies and ING, respectively, and can finally translate Lehr und Kunst.

Greg Kronenberger '04 writes, "On June 30, I married my lovely fiancée, Ahra, in Wiesbaden, Germany."

Jessica McAlear '04 finished her first year of collegiate teaching at St. Lawrence University: The Meaning of Life in the fall and Bioethics of Medicalization for Enhancement in the spring. This summer she began taking classes for the MBA program at Clarkson University, where she is also coaching the rowing club.

Stephanie Morin '04 married Daniel Tiso on May 12, 2012, with her sister **Kimberly Morin Ferguson '02** as her matron of honor. Stephanie recently graduated from her pediatric residency at Connecticut Children's Medical Center in Hartford and has joined Candlewood Valley Pediatrics group in New Milford.

▶21 Nicole (McMahon) and Mike Orrell '04 recently welcomed their second son, Brayden Thomas, to the family. Big brother Jack, 3, is very excited to teach him how to water ski!

Katrina (Hildebrand) '05 and **Benoit Adamo '03** welcomed their first child, Oliver, on Dec. 28, 2011. They were married the previous year on July 3, in an outdoor ceremony at the home of Katrina's parents in New Sweden, Maine, with several WPI alumni in attendance. The family currently resides in Mount Kisco, N.Y.

▶22 Taras Bouzakine '05, '06 (MEng) says, "My wife, Amanda, and I are traveling the U.S. for six months, visiting all 50 states. Here is a snapshot of us with mountain goats (Gompei's cousins?) in Glacier National Park. You can follow our adventures at facebook.com/tagabonds.

▶23 Greg Krane '05 moved in June to Westerly, R.I., to become medical director of VCA Turco Animal Hospital. Between that and his August wedding to Farleigh Layfield in Newport, he is very excited about the summer. He is also looking forward to this fall's homecoming, when his Sigma Pi classmates will be celebrating the 10th anniversary of their pledge year.

Nathan Meryash '05 just completed an accelerated International MBA and Six Sigma Green Belt at Boston University after completing one third of the program in China. He will be seeking international product and business development opportunities in the electronics industry this fall after studying Mandarin in Beijing over the summer. Connect with him at linkedin.com/in/nmeryash.

Laura Baldassari '06 graduated in May from Georgetown University as a doctor of medicine and began her residency in neurology at Barnes-Jewish Hospital/Washington University in St. Louis in June.

Helen Hanson '06 earned a PhD in physics from Brown University. She accepted a position with Intel Corp. in Hillsboro, Ore.

▶24 Tyler Longmire '06 recently received his PhD in molecular medicine from the Cell and Molecular Biology Program at Boston University School of Medicine. His thesis project, "Derivation of purified lung and thyroid progenitors from pluripotent stem cells," culminated in a cover article in the journal *Cell Stem Cell*. He has begun his postdoctoral fellowship at Millennium Pharmaceuticals in the Molecular and Cellular Oncology unit, where he is focusing on non-small cell lung cancer.

Matthew '06 and Erin (Ringer) Regan '06, '07 (MS EV) recently relocated to Baton Rouge, La. Matt is the Lean Six Sigma Black Belt for Air Products' Louisiana hydrogen facilities. Erin is an environmental engineer with URS Corp., conducting site remediation for petrochemical industry clients.

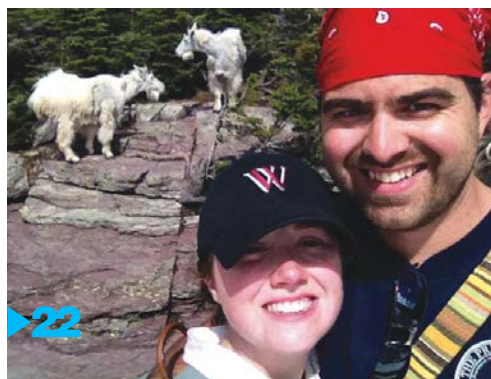
Dan Filipe '07, '12 (MS BE) and Erika Hall '07, '08 (MEng) will celebrate their third wedding anniversary this October with a month-long trip to South Africa. Dan currently works as an R&D engineer for Organogenesis in Canton, Mass. Erika is a realtor at Keller Williams in Worcester, and 2012 president of the Women's Council of Realtors Greater Worcester chapter. Dan and Erika reside in central Massachusetts with their cat, Kipling.

Marc Schultz '07 (MS MTI) participated in the Juvenile Diabetes Research Foundation's Ride-to-Cure in Burlington, Vt., July 12-15. He rode in honor of his daughter, Amy Schultz, raising funds to support the great research and advocacy work done by JDRF.

▶25 Scott Sideleau '07 works for the U.S. Naval Undersea Warfare Center in Newport, R.I. Last year he traveled to Queensland to participate in combined training exercises with Australian forces at the Shoalwater Bay Training Area. Exercise Talisman Sabre 2011 (TS11) involved three OceanServer Iver2 Autonomous Undersea Vehicles (AUVs), which provide undersea reconnaissance for amphibious military operations. The AUVs were used to map bathymetric contours of interest and to collect SONAR imagery and environmental data.

Chris Luppino '08 says, "I graduated in May from WPI (again), this time with an MS in environmental engineering. I have been working at The Louis Berger Group, in Providence, R.I., since June 2008 as an environmental engineer."

Rachel Pennellatore '08 writes, "I was recently promoted to regional quality assurance specialist and research analyst for both Greater Lynn (Mass.) Senior Services and North Shore Elder Services in Danvers. Both are nonprofit area



agencies on Aging and Aging Service Access Points that provide an array of human services to elders and adults with disabilities throughout 10 cities on the North Shore. In this new role I am working to develop a quality assurance review process and calendar that meets all identified standards of care. Along with ensuring compliance with state and federal regulations, I will also maintain a research role in conducting community needs assessments, root cause analyses, and outcomes evaluations to improve and create new programs and services. I recently met with Massachusetts Senator Scott Brown when he visited Lynn to discuss healthcare reform."

▶26 Michael Richard '08 writes, "I am currently in the last year of study for my PhD in civil engineering at the University of Pittsburgh. My doctoral work focuses on the structural engineering and mechanics of sustainable and non-conventional building materials, specifically bamboo. This past spring, I spent 4½ months conducting a research rotation in Brazil at the Pontifical Catholic University of Rio de Janeiro. While there I advised a group of six undergraduate students from the University of Pittsburgh for two weeks on a bamboo research project. Last September I became engaged to my longtime girlfriend, Danielle, and we are planning a June 2013 wedding."

Leia Houle Scoppetuolo '08 lives in Spring Lake, N.C., with her husband, Joseph. She works in the Global Regulatory Submissions division of GlaxoSmithKline. "Love the job and look forward to many years there," she writes.

▶27 Jo-Ellen (Sullivan) Duval '09 sent in this lovely wedding photo, which was inadvertently omitted in the last issue. She and her husband, **Derek Duval '08, '11 (MS FPE)** were married Aug. 27, 2011.

Scott Gary '09 reports that he and his wife, Whitney Lynn, now have a daughter, born April 18, 2012. Scott is in his third semester at Auburn University, where he is pursuing a master's in aerospace engineering.

Alex Laferriere '09 is revolutionizing the way the deaf consume their media with "Dine and Sign," a weekly video series he created, featuring conversations with his deaf dad, over a bite to eat. In spirited episodes, they debate everything from long hair to technology and the future. Check it out on YouTube. "I am also involved in a plethora of start-ups," Alex says.

Shreelekha Mandal '09 says, "After seven years of life in America, I'm about to pursue a full-time MBA in Barcelona! I'm so thankful to WPI's rigorous education that taught me to work hard and explore opportunities around the world. WPI is wonderful when it comes to teaching about engineering and science, and I am indebted to those professors and colleagues who encouraged me to pursue a business career, seeing my potential to merge science and business. For anyone who wants to connect, I am on LinkedIn. Here's to the trip to Eu-



rope and a new beginning!"

▶28 Mitchell Riley '09 completed a 12-month deployment in support of Operation Enduring Freedom with the 95th Engineer Company in Helmand Province, Afghanistan. "I'm looking forward to visiting with my 2009 classmates,"

he says, "and broadening my engineering foundation as I pursue an MBA."

Francis Song '09 writes, "Since graduation I have joined the Air Force as an air battle manager. After my undergraduate training course was completed in 2010 at Tyndall AFB in Flor-

ida, I received an assignment to the NATO AWACS Airborne Early Warning Component as an Air Weapons Officer in Geilenkirchen, Germany. I have finished one year and still have two years in Germany before I am expected to switch assignments. I am currently deployed to Afghanistan in support of Operation Afghan Assist through the International Security Assistance Force (ISAF)."

Matthew Zagaja '09 writes, "In May I graduated from the University of Connecticut School of Law and am studying for the Massachusetts and Connecticut bar exams at the end of July."

Emmanuel Akese '10, '11 (MBA) is an operations leadership associate with United Technologies in Acton, Mass. "WPI has prepared me to solve real problems in the real world. With my WPI education, the sky's the limit. I am proud to be an alum."

Kate Ratcheva '10 and **Jason Hilario '08** tied the knot on Aug. 5, 2011, in Boston. They were happy to celebrate this special day with many WPI alumni, including **Mannhi Dao '10** (bridesmaid), **Luis Manuel Rodriguez '08** (best man), **Ani Rankova '12**, **Lydia Bakalova '10**, **Boris Mandadjiev '08**, **Bogi Tselkov '08**, **Cosmin Tudor '08**, and **Jola Myrta '10**. The couple lives in Stamford, Conn. Kate is a trading desk analyst Bank of America–Merrill Lynch in NYC and Jason is lead business analyst for GE Capital in Norwalk.

Alejandro Solà '10 (MS SD) writes, "I am happy to inform that I have purchased a house in Chatham Township, N.J. I am currently working in Novartis's Decision Analysis area."

Jyotsna Vinayak '10 married Karthik Sundaresan and relocated to Toronto where she is currently pursuing her master's degree in molecular biology.

Elyse Bailey '11 has been working in Lowell, Mass., as a core member of a start-up company for just over a year. At Flow Forward Medical, she works side-by-side with the VP of R&D on prototype design and development of a blood pump that will improve the lives of end-stage renal disease patients who need hemodialysis. "I have used knowledge and skills from literally EVERY class I took at WPI!" she says. "The start-up world involves long hours and sleepless nights, but that's like every day of C-Term, right?!" Elyse recently presented at the American Society for Artificial Internal Organs conference in San Francisco, where her team celebrated a 2nd place victory in a New Venture Forum competition at the conference.

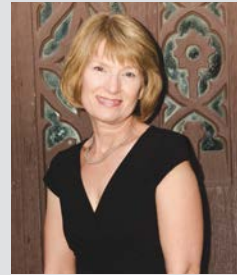
Chris Daley '11 updates, "I've been developing 2D and 3D simulations for a successful international company called Simudyne since March—and I just graduated, so, thank you, WPI Job Finder and Career Development Center!"

Jared Drake '11 says, "I took a weeklong trip to London to visit a great friend I met at WPI, who was a humanities major. Our trips through the city and different perspectives on the



Lesley Small Zorabedian

'72, WPI's first female undergraduate, celebrated her class's 40th Reunion in June, with a mixture of nostalgia and pride in WPI's advances. "The late '60s and early '70s were a very turbulent time in the history of our country," she



said. "We witnessed a lot of tragic and frightening events during our years at WPI. But it was also very exciting to be part of the social changes that were taking place. I was happy to be able to enroll at one of the top engineering schools in the country. Many doors have been opened to me, and many opportunities have been made available because of that degree. Even in my current work at a law firm, I have drawn greatly on my WPI education."

"My cousin's granddaughter, a bright little middle-school girl, attended Camp Reach. Her eyes sparkled as she told me about the program! My advice to young girls who dream of a career in science and engineering is to take as much math and science as they can in middle school and high school, to believe in themselves, and to follow their dreams."

sights showed me that not only do theory and practice pair beautifully, but art and science do, too. I had an absolute blast!"

Adam Pastorello '11 works for Great Studios in Canton, Mass., as a videogame programmer.



Donald W. Haskins '33 (Lambda Chi Alpha)
 J. Headen Thompson '36
 William F. Hall '37
 Murray C. Wilson '38 (Alpha Tau Omega)
 Harold W. Humphrey '39 (Phi Sigma Kappa)
 Walter H. Sodano '40 (Phi Sigma Kappa)
 Carl W. Bettcher '41 (Lambda Chi Alpha)
 George A. Cowan '41 (Alpha Epsilon Pi)
 George H. Birchall '42
 Alfred E. Bakanowski '43
 Arnold R. Jones '43 (Phi Sigma Kappa)
 Calvin M. Davis '44 (Theta Chi)
 Leonard Israel '44
 Harold Fleit '45 (Alpha Epsilon Pi)
 William C. Grant '45 (Theta Chi)
 Richard H. Ackley '46 (Alpha Tau Omega)
 Frank E. Mueller '46 (Sigma Phi Epsilon)
 James L. Sullivan '46
 Frank R. Whiting '46
 Robert B. Handyside '47 (Alpha Tau Omega)
 William A. Beers '48
 Howard J. Dember '48 (Alpha Epsilon Pi)
 John W. Ebbs '48 (Phi Sigma Kappa)
 Lynwood W. Lentell '48 (Theta Chi)
 Wellen G. Davison '49 (Sigma Phi Epsilon)
 Claude F. Veraa '49 (Theta Chi)
 Robert P. Hayward '50 (Phi Gamma Delta)
 Richard N. Jones '50 (Alpha Tau Omega)
 Karl O. Olson '50 (Lambda Chi Alpha)
 Paul F. Seibold '50 (Phi Kappa Theta)
 Frank J. Sherman '50 (Sigma Alpha Epsilon)
 Alan M. Hansen '51 (Sigma Phi Epsilon)
 Donald C. Lewis '51 (Phi Kappa Theta)
 Paul E. Thomas '51
 Richard C. Boutiette '52 (Phi Kappa Theta)

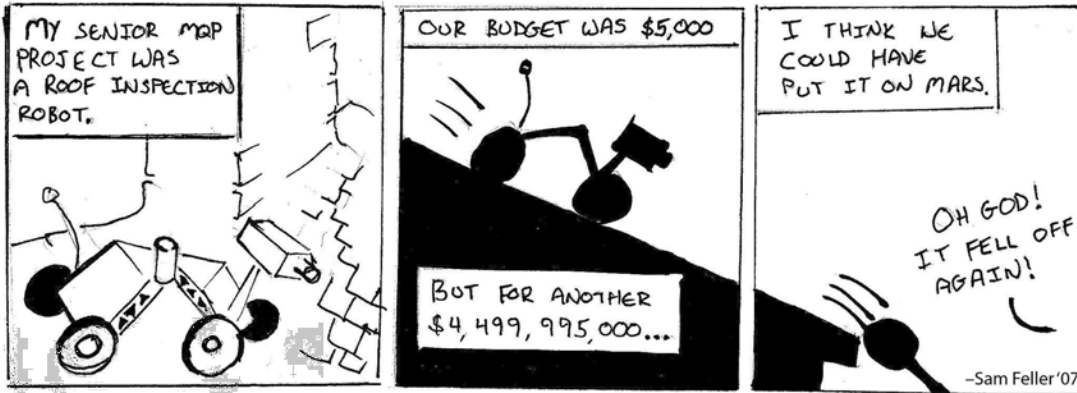
Philip R. Scott '52
 David M. Elovitz '53 (Alpha Epsilon Pi)
 George G. Hill '53
 Tul R. Frederickson '54
 William H. Hills '54
 Dexter E. Sanford '54
 Joseph J. Alekshun '56
 Robert R. Baer '56 (Phi Gamma Delta)
 Donald L. Mattes '56 (Phi Gamma Delta)
 Norman C. Ristaino '57 (Sigma Phi Epsilon)
 Oscar St. Thomas '57
 Bradley J. McKenzie '58 (Phi Gamma Delta)
 Alan A. Miller '58 (Alpha Epsilon Pi)
 Herbert S. Hebel '59
 Andrew R. Mills '60 (Phi Sigma Kappa)
 John S. Vale '60 (Alpha Epsilon Pi)
 Thomas L. Maloney '61 (Phi Kappa Theta)
 Wayne L. Taylor '61
 Alan F. Taubert '63
 William E. Christensen '64
 James L. Hammett '65 (Theta Chi)
 Donald G. Munson '65 (Sigma Phi Epsilon)
 Paul W. Flynn '66
 Richard C. Liebich '66
 Donald W. Morse '66
 Alan C. Bouley '67
 John T. Turick '67
 Paul G. Bernard '68
 Peter H. Anderson '68
 Brian T. Abraham Sr. '69 (Phi Kappa Theta)
 Alfred G. Freeberg '69 (Sigma Phi Epsilon)
 John L. Walkup '69
 Donald A. Murray '70
 George F. Riley '70
 Stephen J. Barlow '71 (Phi Kappa Theta)

Joseph P. Bellino '71
 Harry E. Lockery '71
 Elaine S. Tepper '71
 Thomas J. McInerney '73
 David P. Demers '74 (Phi Gamma Delta)
 Mary M. Hardell '74
 Stephen J. Powlishen '74
 Edwin O. Wiles '74
 Nancy A. Cox '76
 Charles Avedikian '78
 Donald G. St. Martin '78
 Susan (Titherington) Martin '79
 Joseph P. Gianetti Jr. '81
 Mark E. Walters '84
 Paul E. Engstrom '85 (Tau Kappa Theta)
 Walter C. McConaghy '85
 Paul B. Flaherty '87
 Paul S. Coggin '88 (Alpha Tau Omega)
 Stephen R. Bohne '97
 Adriano Palombizio '99
 Robert M. Eber '01
 Loutfallah G. Chedid-Georges '02
 Mark E. Vandette '02 (Sigma Alpha Epsilon)
 Ari J. Magder '03

Other members of the WPI community who have passed away include John. E. Brooks, former president of the College of the Holy Cross who received an honorary degree from WPI; J. Anthony Magliozzi, long-time WPI supporter and husband of WPI Trustee Emerita Judy Nitsch '75; and Paul Morgan, former chair of the WPI Board of Trustees (see page 38).

Complete obituaries can usually be found through newspapers, websites, legacy.com, and similar indexes. WPI will share details on the "completed careers" of friends and classmates, if available. To request further information, contact alumni-editor@wpi.edu or call 508-831-5998.

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— Sandra and David Van Covern '53



TO FIND OUT MORE ABOUT HOW YOU CAN MAKE A LASTING IMPACT FOR WPI AND ACHIEVE YOUR FAMILY'S FINANCIAL GOALS, CONTACT AUDREY KLEIN-LEACH AT 508-831-5076. OR VISIT US ONLINE AT LEGACY.VG/WPI



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