



W

JOURNAL

# A WIDENED LENS

HOW AN IQP IN  
NAMIBIA INSPIRED  
**DONAL BOYD '13**  
TO PURSUE A  
CAREER BEHIND  
THE CAMERA



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CELEBRATING THE GRADUATING CLASS OF 2016

PRaise us or Pan us, or simply share by submitting your letter to Editor Doreen Manning at [dmanning@wpi.edu](mailto:dmanning@wpi.edu)



**APPROVAL**

Just a brief note to register my approval, indeed applause, for the handsome quality of the recent *WPI Journal*. I like the satin texture of the paper and the visual quality that it imparts to the images. It makes it more user attractive and this prompted me to sit down and actually walk my way through it page by page.

I was also intrigued to see my classmate Bob Behn on the cover. We both lived at Morgan Hall as freshmen and then at Theta Chi until graduation. I, too, still use my Sears and Zemanski physics textbook that he mentions.

I was sad to hear that Alumni Gymnasium will be torn down. I spent many hours in the pool there and for a time held the pool record in the freestyle relay event. We were coached by Frank Grant, an Olympic contender who lost to Johnny Weissmuller of *Tarzan* fame. Those were good days.

I had a great experience at WPI. I was taught electronics by William Grogan. I was taught mechanical design by Carlton Staples. I was taught strength of materials by Fred Anderson. I was coached by Frank Grant and Alan King. I was NOT taught physics by Heller, aka the “red vector,” unfortunately.

Congratulations on the *Journal*. Keep up the good work.

—Daniel Pender '63

**'68 STILL GREAT**

Having read the latest Class Notes without a contribution from the Class of 1968 – the 100th WPI graduating class (remember '68 IS GREAT! during freshman hazing?) – I figured I should maybe write in. We are the last of the “old WPI” before the Plan, and before women attended in the fall of 1968.

It was sad news to see that my WPI advisor, Carlton Staples, had died. I never had him for any of my ME courses, but he was always there if I needed some support. More sad news was the passing of fraternity brother Bill Grogan, and of Father Pete, who married my wife, Ruthanne, and me back in the fall of 1972 at the chapel at Tufts University, where she worked. We exchanged Christmas cards for over 40 years. I do keep up with a few former classmates, roommates, and Phi Kappa Theta brothers.

—Kenneth Gminski '68

*Editor's note – don't let your class go unrepresented next issue. Send your update, reminiscences, and historical notations (heck, maybe even a photo) to [classnotes@wpi.edu](mailto:classnotes@wpi.edu) today!*

**#LIKEAGIRL**

Regarding the interview with Linnea Palmer Paton '11 in the Spring issue, I have three words about Ms. Paton's activism...YOU GO, GIRL!

—V. C. Danos '76

**VAN A**

Dear Friends of van A,

Of all our WPI memories, I'm sure there are some indelible ones of a person who, for many of us, was equal parts teacher, guide, fan, and friend – Dean John van Alstyne. There was something magical and timeless about van A.

To honor his contribution and the special place he occupies in our hearts, the WPI Class of '86 Reunion Committee has begun a movement that spans all WPI communities to fund a lasting tribute to van A that will remember him, and introduce him to students for generations to come. For nearly three decades he was dedicated to the Institute and, most especially, to its students. He was a walking spirit of WPI and of the WPI Plan that he helped to envision and bring to life.

We'd like that spirit to continue.

As the Class of '86 celebrates its 30th reunion this summer, we ask that all WPI alumni join us in contributing whatever you feel compelled to offer in van A's memory.

- **Goal** Our intention is to create a physical remembrance of van A at WPI as well as an endowed scholarship in his name. The exact form and combination this takes will depend on the amount raised. Our hope is to achieve a minimum of \$100,000 (preferably, far more) to truly create a lasting legacy.

- **Duration** The campaign is running through June 2017. You have the option of making a pledge and spreading out the actual payments to WPI for up to five years. This will help us reach our goal faster while still recognizing that many in our class are working to put our own kids through college.

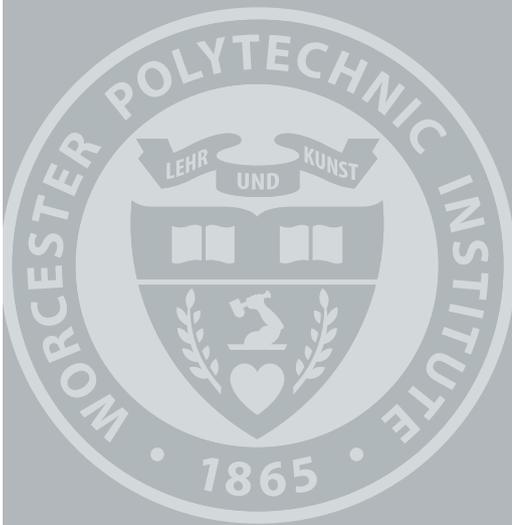
—Brian Murphy '86

*For more information about how to give to the Tribute to John van Alstyne, contact Brian Murphy at 508-831-6629, [bpmurphy@wpi.edu](mailto:bpmurphy@wpi.edu).*

*Letters may be edited for length and clarity.*



## THE VIEW FROM HERE



*Dear Friends,*

As you read this, a remarkable transformation is taking place on the WPI Quad. It is a transformation with an interesting history and a powerful lesson about the good that can come when people truly believe in the power of an educational institution to change lives.

Let's begin with the transformation. Early this summer, following the pomp and festivity of Commencement, workers began dismantling Alumni Gymnasium. Taking care to recover its treasured stonework (including its 34 grotesques), they are making room for the newest addition to our campus, the Robert A. Foisie Innovation Studio and Residence Hall.

When it is completed in summer 2018, the building will be a focal point for the collaborative, innovative, and entrepreneurial project work that forms the core of our unique undergraduate curriculum through the WPI Plan. The first two floors will house a maker space; state-of-the-art classrooms for the Great Problems Seminar, robotics, and other active-learning classes; a new Global Impact Lab, which will integrate our global activities for maximum impact; and space for entrepreneurship and innovation. Its top three floors will house 140 students in rooms that will feature some of the best views on campus.

The new building will displace a structure dedicated almost exactly 100 years ago. In fact, the construction of Alumni Gym was a highlight of the Institute's 50th anniversary celebration. The Foisie Studio will be the first major building to rise at WPI in the second half of our second century.

Though their purposes might seem to have little in common, both buildings were designed to meet pressing needs of our students. In the early 20th century, the lack of suitable facilities for sports and physical exercise was becoming a sore point for undergraduates. A century later, the need for a dedicated home for WPI projects seems equally clear.

Which brings me to the lesson behind these two converging streams of history. In 1913, newly inaugurated president Ira Hollis made it his mission to fill the long-felt need for athletic facilities. He appealed to WPI alumni to help him realize that vision. The Alumni Association had already been raising funds from its members for new athletic fields, and it gladly took up the task of gathering the additional funds needed for a gym.

Not long before I joined the WPI community in the summer of 2014, a plan for the Foisie Innovation Studio had begun to take shape. I quickly recognized the value this new facility would bring to our students, and the vital role it could play in realizing my own vision of elevating WPI's impact in the world. I also understood that if we were to open the doors of the Studio in this decade, our alumni would need to step up and help make it happen.

Fortunately, the George I. Alden Trust, one of the university's most generous benefactors, issued our alumni a challenge: give \$9 million for the new building, and the Trust would contribute the remaining \$3 million required to begin construction. As they did more than a century ago, our graduates came through admirably. This spring, the challenge was met and work on the Studio is under way.

It is gratifying to know that as we say goodbye to Alumni Gym, a building made possible by the generosity of our loyal alumni, we will soon see a new structure rise thanks to that same spirit of beneficence. And it is exciting to see that our alumni, inspired once again by the impact of their own student experience and a desire to assure that the experience of future students will be even more valuable, have made such a momentous and lasting investment in WPI's future.

Sincerely,



Laurie A. Leshin  
President



# TOUCH TOMORROW

A FESTIVAL OF SCIENCE, TECHNOLOGY, AND ROBOTS AT WPI

We were thrilled to welcome thousands of guests to WPI's beautiful campus for **TouchTomorrow 2016**. WPI put its best foot forward, and surely many of the kids who were with us for the day will be members of the classes of **2020-2030!**



# FINDING THE STORY BEHIND THE GAME

Lee Sheldon is a new professor of practice in WPI's Interactive Media and Game Development (IMGD) program. His vast experience in the entertainment industry brings the "practice" in his title to a whole new level. A former co-director of the Games and Simulation Arts & Sciences program at RPI, he now helps students blend art with technology in a more entertaining and substantive way.

## LEVEL ONE

I was a performer in grammar school – from reading books aloud in 4th grade to staging a classroom play in 7th grade. In college (BU), I directed theatre productions and wrote skits for my fellow students. I turned in poetry and plays instead of traditional papers for writing assignments.

At the same time, I discovered that movies could be a form of therapy. If my academic or romantic life was in crisis, I would go to Washington Street where movie theatres lined both sides of the street. I would start at the first show at ten in the morning, and go from one to the next, finishing with midnight shows.

In my junior year, I took a screenwriting independent study from a professor who handed me the script of *Bonnie and Clyde* and said, "This is how you write a screenplay." He sent me off. I wrote a screenplay – not as good as *Bonnie and Clyde*, but it got me into the CalArts film school.

## TRANSITIONS

Despite my degrees in directing, I have spent most of my life primarily writing. After many years in Hollywood, writing over two hundred scripts for everything from Hanna-Barbera cartoons to *Charlie's Angels* to *Star Trek: The Next Generation*, I found I was no longer watching much TV for relaxation, only in

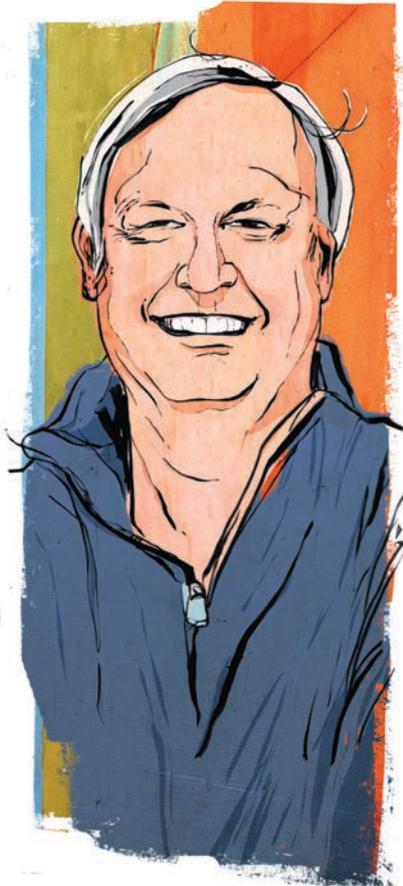


ILLUSTRATION PJ LOUGHRAN

prep for the next writing assignment. I wrote a pilot for a TV series that Atari was involved in about a family who could travel through their widescreen TV into video game worlds. The show was never made, but Atari gave me a console and a bunch of games, and my transition began.

Every time the Writers Guild went on strike, I would flirt with game companies like Cinemaware and Electronic Arts. I reviewed games for the CompuServe Gamers Forum, and complained about the writing in them.

Most of the members on the forum were content with the storytelling and loudly disagreed. When games on CDs arrived, I again complained about the writing. This time, in addition to more loud whining, I received three private messages from game companies. I took the offer in the most interesting geographical location – Victoria, British Columbia – and I've been writing and designing games ever since. I'm currently working on my 43rd game.

## RAISING THE BAR

Writing has been, for a long time, not much more than an afterthought in game development. Mainly, I think, because the strengths of games and stories have been seen, until recently, as in conflict with each other. Lazy game design practices have caused storytelling to be segregated in cinematics, or coagulated into long dreary speeches. Happily, that is changing.

## STUDENT EXPERIENCE

New students who arrive in a Writing for Games class still believe in some of these older storytelling tropes, like stopping the gameplay for mini-movies to advance story, or packing all the story into dialogue. There are dozens of other ways of advancing the story and revealing the characters. I teach three types of communication: written, verbal, and presentation. All are essential.

Coupled with storytelling, play speaks directly and deeply to who we are as human beings. Students must ask the right questions to create games that mean something more than an adrenaline rush. Games are one of the most powerful cultural, educational, and transformational forces on earth. The strongest lesson students can learn is to wield that power responsibly.

# WPI CENTER FOR PROJECT-BASED LEARNING

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## 2016 Institute



ADVANCING PROJECT-BASED  
LEARNING ACROSS HIGHER  
EDUCATION

**2<sup>nd</sup>** annual Institute on  
Project-Based Learning

**3** countries represented  
(US, Russia, Thailand)

**3** types of institutions  
(public, private, community)

**23** institutions accepted

**130+** participants

*"The most valuable thing I got out  
of participating in the 2016 Institute  
was concrete ideas about how to  
implement project-based learning  
into our classes and curriculum."*

— Sara Ruble  
Gustavus Adolphus College

**Learn more**

Center for Project-Based Learning  
[wpi.edu/+projectbasedlearning](http://wpi.edu/+projectbasedlearning)

In the lap of Northern India's Himalayas lies the state of Himachal Pradesh – there, tucked away in the Shivalik Range, sits the Indian Institute of Technology (IIT) at Mandi and one of the newest WPI project centers.

Established in 2013, the India Project Center works with IIT Mandi, in collaboration with local partners, on projects lasting roughly two months.

The teams of IIT and WPI students tackle projects such as urban and rural infrastructure, community resilience, public health, micro-economies, sustainable shelters, and regional communication technologies.

The WPI students prepare for their project work during the seven weeks before the project begins; their IIT counterparts, about a month before. Once onsite, both sets of students merge for seven weeks of fieldwork and report analysis.

As Professor Ingrid Shockey, an environmental sociologist and director of the India Project Center, explains, the WPI/IIT teammates not only tackle a problem collectively, but experience deep learning regarding expectations and collaboration – redefining their former understanding of what makes a team.

“Students at both universities learn that the stakeholders have to be seen as partners in this process,” explains Shockey. “Without experience in how other people live/work/learn, our students have no business making policy or design decisions as engineers or scientists working in the world today.”

Management information systems major Philippe Kelley '16 says his time was spent assessing local public health care infrastructure in some



of India's most rural areas. He worked with his team to find administrative and technological solutions for accessible health care – residents in remote areas needed help simply getting to a health facility due to poor conditions of local roads. “In our interviews with local residents, we learned the difficulty of getting the injured or sick to a hospital,” he recalls. “We'd heard stories about strapping the sick to chairs to make the rough journey to the local medical facility.” As a result,

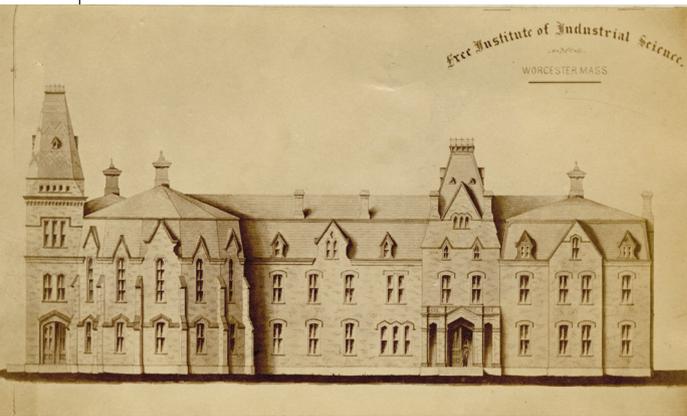
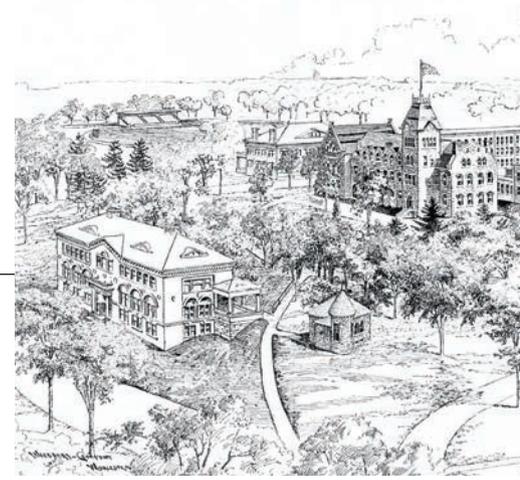
he and his team designed a mobile stretcher that could help make the journey to a local hospital safer and less distressing for the sick or injured.

“India was the highlight of my undergraduate education in so many ways. I not only had to tie information from my major to the project in a direct way, but had to work with a team in a completely new manner.”

Kelley is now working at Liberty Mutual as an IT analyst, which he credits directly to his work in

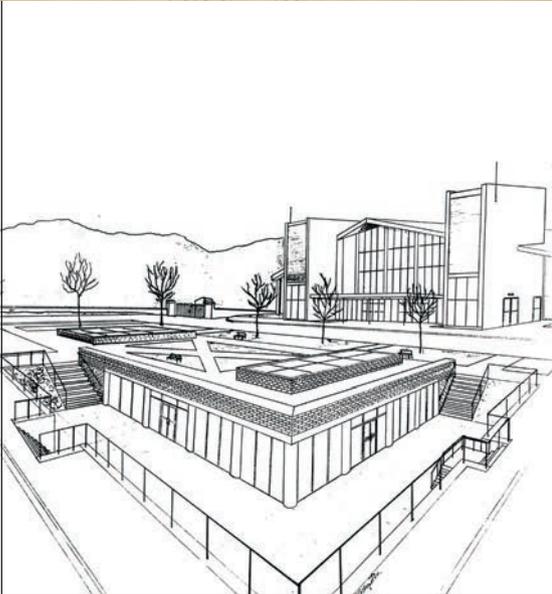
India. The team members had opportunities to interact with government officials while experiencing the richness of day-to-day life in small villages – all while bringing their classroom education into the field to help create viable, workable solutions within the community.

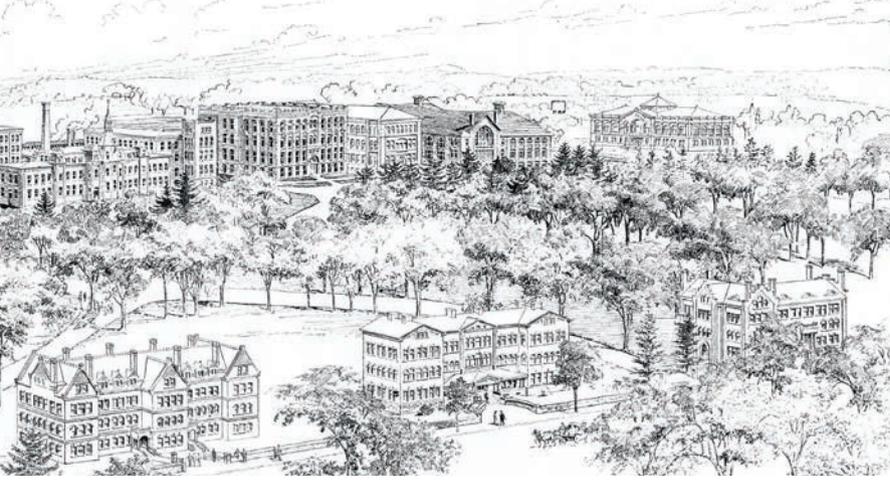
Shockey, who also serves as co-director of WPI's New Zealand Project Center, says, “The kinds of rewarding experiences we have here are almost beyond description.”



**IQP TEAM UNCOVERS AN  
ALTERNATE  
WPI**

In C-Term, a student team investigated the campus that never was, through an IQP called “Unbuilt WPI.” Advised by art and architectural history professor David Samson, the students dug through the Gordon Library Archives for proposed designs, asking, “What would these building have meant for WPI? Why don’t they exist today?” A sampling of the unrealized architectural plans were exhibited in existing buildings all over campus.





## IMAGINE:

### BOYNTON HALL

might have had three towers – and flying buttresses – if the founders had not selected Stephen Earle’s design.

A rectilinear concrete skyscraper in the “brutalist” style (think Southwest Towers at UMass Amherst) proposed in 1960 might have replaced stately Boynton Hall (WPI’s cradle of civilization) as the university’s main administration building.

### “WPI OF TOMORROW,”

an artful black-and-white sketch produced by Woodbury and Company in the early 1900s, speculated eight new buildings, labeled A–H. One even had a spiral staircase climbing to a domed observatory. None were built. In the late 1900s, a proposed academic building would have added “global networked classrooms” and a sweeping plaza between it and Gordon Library.

### THE RUBIN CAMPUS CENTER,

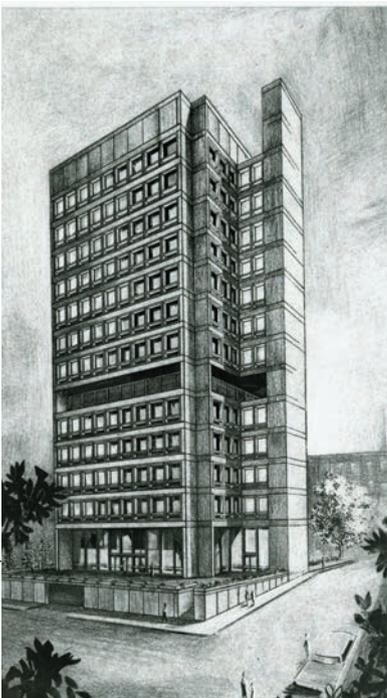
at the heart of today’s campus, was proposed in many locations and permutations. Ideas included elevating “the Wedge” between Morgan and Daniels, suspending a structure above West Street, and sinking the campus center beneath the quad, with grass and trees planted over the roof.

## ► QUOTABLE

“A TEST-OPTIONAL POLICY IS NOT ABOUT ATTRACTING WEAKER STUDENTS. IT IS ABOUT SENDING PROSPECTIVE STUDENTS A MESSAGE:

**WE SEE YOU AS MORE THAN A NUMBER.”**

— **Senior Vice President Kristin Tichenor**, in a *Washington Post* editorial on WPI’s decision, eight years ago, to stop requiring SAT or ACT scores. Surprisingly, she wrote, only five percent of applicants suppress their test scores. Applications from women have nearly doubled, and applications from underrepresented minority students have risen 241 percent.



# DIGITAL CLASSROOM

Computer science may have been elective (or nonexistent) when you went to WPI, but in January President Obama pronounced it a priority for the nation's schoolchildren: "In the new economy, computer science isn't an optional skill – it's a basic skill, right along with the three Rs." A new White House initiative, Computer Science for All, calls for billions of dollars from the federal budget to help school districts help students, especially girls and minorities.

Bootstrap, a program developed by WPI computer science professor Kathi Fisler and Brown University faculty, along with others, is part of the solution. Bootstrap guides students to employ algebraic concepts in a step-by-step process to build a videogame. Fisler calls the gaming element "the spoonful of sugar" that gets kids excited.

The beauty of embedding the Bootstrap curriculum in regular math classes, she says, is that every student takes math, and existing teachers are already positioned to teach it. She says it's "a gentle introduction" for teachers with no prior computing background, one that eases them into computing at their own pace while leveraging their deep experience as teachers. Bootstrap was introduced in New York City schools two years ago and has been adopted by hundreds of schools nationwide. Teachers from across the country will be trained at an intensive workshop in Colorado this summer, to enable them to reach a potential 10,000 students each year.

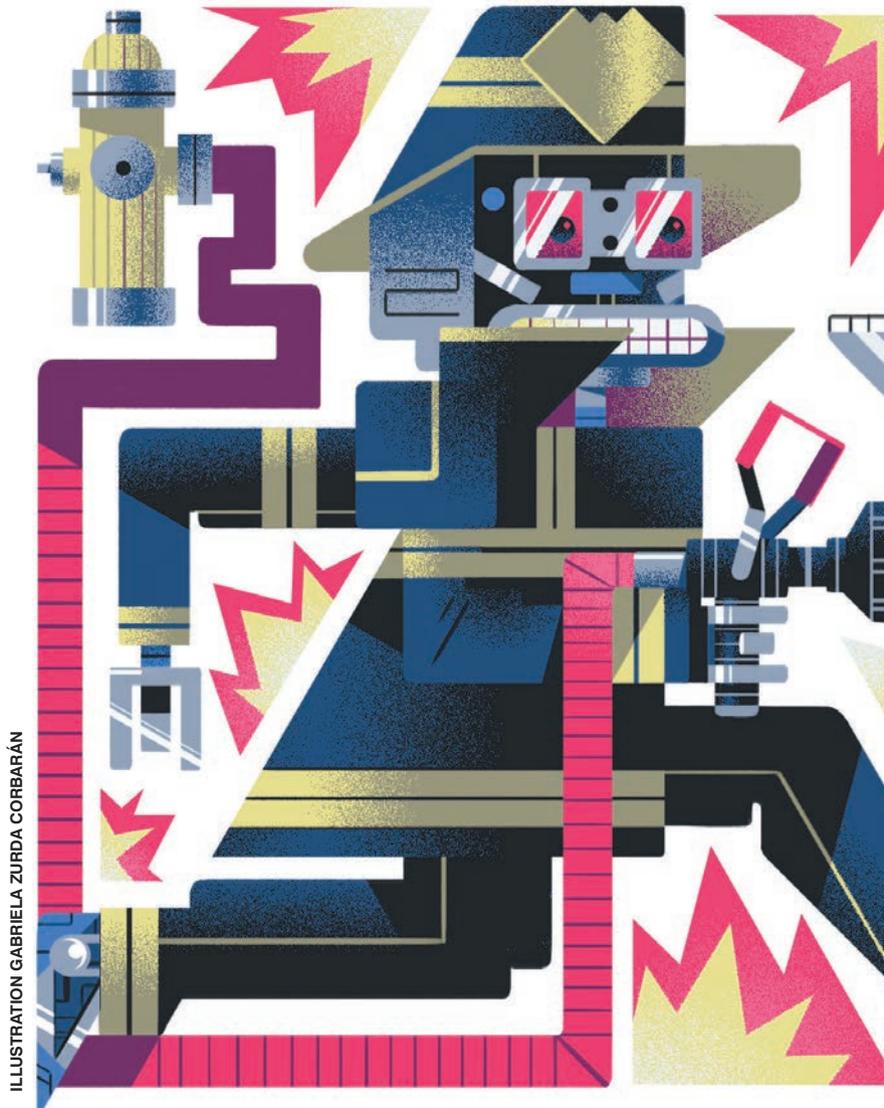


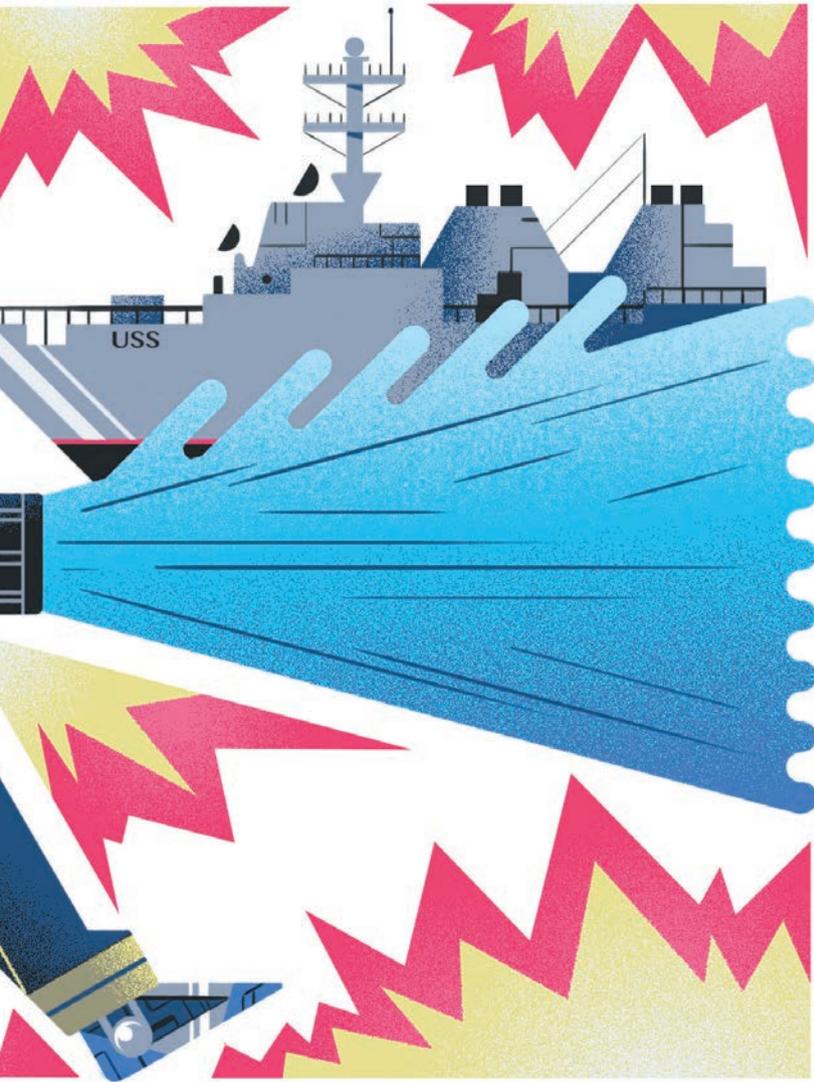
ILLUSTRATION GABRIELA ZURDA CORBARÁN

## SAFFiR

SAFFiR, a robot developed to fight fires on Navy ships, still needs to refine its moves. Working in the constrained quarters of a Navy submarine is not so easy for an autonomous humanoid robot like SAFFiR (short for Shipboard Autonomous Firefighting Robot), which is not controlled by teleoperation. Navigating tight corners, for example, or staying upright on rocking decks requires exceptional motion control. "These robots are not good at

locomotion in complex environments right now," says Dmitry Berenson, assistant professor of computer science and robotics engineering at WPI. Berenson recently received nearly \$600,000 from the Office of Naval Research to develop motion planning algorithms for the firefighting robot built by Virginia Tech engineering students. The project has also been supported by University of Pennsylvania and Carnegie Mellon University robotics teams.

SAFFiR stands 5 feet 10 inches tall, weighs about 140 pounds,



and is equipped with stereo camera, thermal imaging to see through smoke and detect heat, and laser rangefinder for accurate mapping. “By using autonomous humanoids, we’re hoping to reduce the need for Navy personnel who have to perform a whole host of tasks and to also help mitigate the risks to people in fire suppression scenarios,” says Berenson.

WPI is testing its algorithms with a virtual model of the SAFFiR robot. Later this year, the WPI team will test its algorithms in the actual robot in controlled

conditions within a ship environment mock-up at Virginia Tech. The robot will walk up stairs and perform other locomotion tasks to ensure the algorithms are generating the correct motion. In a later phase of the research, the robot’s capabilities will be tested again aboard the USS *Shadwell*, a decommissioned U.S. Navy landing ship docked in Mobile Bay, Ala. Joining Berenson on the WPI research team are Will Pryor ’16, grad student Yu-Chi Lin, and postdoc fellow Andreas Orthey.

## REDEFINING RISK

You have just finished saving for a “once-in-a-lifetime” vacation. Three weeks before you plan to leave, you lose your job. You would:

- Cancel the vacation
- Take a much more modest vacation
- Go as scheduled, reasoning that you would need the time to prepare for a job search
- Extend your vacation, because this might be your last chance to go first class

---

Your trusted friend and neighbor, an experienced geologist, is putting together a group of investors to fund an exploratory gold mining venture. The venture could pay back 50 to 100 times the investment if successful. If the mine is a bust, the entire investment is worthless. Your friend estimates the chance of success is only 20%. If you had the money, how much would you invest?

- Nothing
- One month’s salary
- Three months’ salary
- Six months’ salary

When you think of the word “risk,” which of the following comes to mind first: Loss? Uncertainty? Opportunity? Thrill? WPI social science and policy studies professors Michael Radzicki and Alexander Smith, along with PhD student Fred Kautz, are using questions like these to develop a survey instrument that would more accurately measure how much risk an investor is willing to tolerate in pursuit of higher financial return.

Radzicki calls current measurement methods “primitive” and wants to see financial advisors move away from relying on clients’ subjective assessments of themselves. “Our operating concept is ‘Don’t tell me, show me,’” he says. “Many of our survey questions ask people to do something (make a decision), rather than describe something.”

Using risk-adjusted performance measures, machine-learning techniques, and statistical process control tools, the team is working to develop an active feedback mechanism that will tie client preferences to portfolios and signal the financial advisor when market changes put them out of alignment.

# ASIMA SILVA

**ASIMA SILVA '01, '02 (MS CS)** is not afraid of questions. Through her organization, EnjoinGood ([enjoingood.org](http://enjoingood.org)), she promotes frank dialog with “everyday Muslims” on everything from “that goofy headscarf” to Islamophobia in America. Her mission began at WPI and this year took her all the way to the White House. In April she returned to campus to present a workshop for educators through WPI’s International House.

## WHAT WAS THE INSPIRATION FOR ENJOINGOOD?

My passion has always been dispelling misconceptions regarding Islam. I’m not a scholar, but the preconceived notions people have about Muslims and how they practice are typically very simple and easily dispelled by giving our neighbors a few moments of our time. The specific trigger for creating EnjoinGood was the bullying of my daughter at her school in Holden. After meeting many roadblocks, I engaged the ACLU, and we resolved the situation to some extent. But the core issue of Islamophobia was still there.

## HOW DID THE CLIMATE CHANGE DURING YOUR TIME AT WPI?

When I was an undergraduate, Islam and Muslims were an unknown, and thus a non-factor for most students. After 9/11, Muslims had trouble getting education visas, and others shied away from being associated with the Muslim Students Association due to an increase in hate crimes. The faculty was always open-minded, considerate, and supportive of spreading awareness, but with the climate of fear being portrayed in the media, it was easier



to stay out of the spotlight. When I began my graduate studies, I took an advisory role to help the MSA return to its previous state. As a representative of the MSA, I spoke out against the 9/11 attacks at a vigil at Worcester’s City Hall along with other area leaders.

## TELL US ABOUT MEET A MUSLIM DAY.

It was held at the Worcester Islamic Center in January. Over 1,000 neighbors attended, supported by about 50 volunteers, giving people a chance to meet “everyday” Muslims. I gave tours of the center, and we had booths for visitors to learn about the Prophet Muhammad, the hijab, women’s rights, Islamic art, Arabic calligraphy, and Sharia law—and to taste ethnic foods. It made people happy on all fronts.

## WHAT WAS IT LIKE VISITING WASHINGTON FOR THE STATE OF THE UNION ADDRESS?

I am honored to have been selected to be Rep. Jim McGovern’s guest, in response to the hate rhetoric by some presidential candidates. The experience was humbling. It made me realize how well our democracy works. Many Muslims feel that the United States is the closest form of government to the ideal Islamic Democracy outlined by scripture and by historical context. Ironically, most “Islamic” forms of government today are dictatorships and monarchies, which go against the preachings of Islam. This makes me proud to be an American Muslim and a Muslim American. The highlight was meeting President Obama. I thanked him for his speech because he focused on many of my passions.

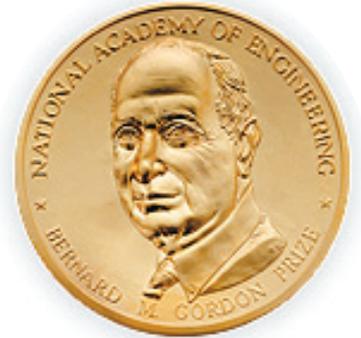


PHOTO MATT BURGOS

# GORDON PRIZE

In April the WPI community celebrated its prestigious 2016 Bernard M. Gordon Prize for Innovation in Engineering and Technology Education with a panel discussion and an award ceremony in which NAE president C. D. Mote Jr. introduced Bernard Gordon.

Accepting the award on behalf of the university and four faculty leaders recognized for advancing the WPI Plan to new levels of innovation and opportunity was Diran Apelian, Alcoa-Howmet Professor of Mechanical Engineering. The individual recipients are Apelian; Rick Vaz, dean of interdisciplinary and global studies; Art Heinricher, dean of undergraduate studies; and Kris Wobbe, associate dean of undergraduate studies. Apelian praised the courage and tenacity of those who pushed for the WPI Plan, including the late



Bill Grogan, often referred to as the father of the WPI Plan.

Vaz points out that more than 22,000 WPI alumni have experienced WPI's project-based curriculum, and survey results show its long-term impact on leadership, problem solving, teamwork, and communication. WPI will use the institutional portion of the Gordon Prize to support the launch of the WPI Center for Project-Based Learning, aimed at helping other colleges and universities advance project-based learning on their campuses.

## WHAT'S THE BIGGEST MISCONCEPTION ABOUT ISLAM THAT YOU ENCOUNTER? WHAT WILL IT TAKE TO CHANGE PEOPLE'S PERCEPTIONS?

The media and many politicians have created a culture of fear, and the newest bogeyman is what has been called Islamic Terrorism. It's very easy to think that all Muslims associate with the same misguided thinking that terrorists use to condone their actions. The vast majority of Muslims stand against these actions, but the community would never know it, because they don't know their Muslim neighbors. This is where Meet a Muslim Day comes in. Islam is inherently tolerant toward other cultures and we are encouraged to learn about other religions. Education and conversation are essential to changing people's perceptions.



## SCHOLARSHIP

Through its free Summer Immersion Programs and after-school clubs, Girls Who Code is leading the movement to close the gender gap by working to inspire, educate, and equip girls with the computing skills to pursue 21st century opportunities.

During WPI's 2016 undergraduate Commencement ceremony, which featured GWC founder and CEO Reshma Saujani as keynote speaker, President Leshin announced a pledge of \$100,000 per year to help make it possible for GWC graduates to attend WPI and continue their computer science-related studies.

The WPI/GWC Alumni Scholarship will provide five Girls Who Code graduates annual awards of \$20,000 during of their four-year undergraduate studies at WPI.

Learn more at [girlswhocode.com](http://girlswhocode.com)



PHOTO STEVEN KING

# IQP ON WHEELS

**“GOMPEI’S GEARS,”** a student-run initiative launched during Earth Week 2016, provides snappy white bikes that can be checked out 24/7, via smartphone. “It was gratifying and thrilling to put the result of our IQP, ‘A Bicycle Share Plan for WPI,’ into action,” says Kevin Ackerman ’16, co-author

with Jack Colfer ’16, of the project that paved the way by surveying campus needs and analyzing other university bike share models. “When I was searching for a project, I didn’t want to work on one that would only end in a big report or even a nice presentation. I wanted to work on a project with the

potential to have an impact.”

These bikes boast an internal gearing system that makes traversing the hills of Worcester easier than walking, according to WPI’s Green Team. “Whether it’s traveling to Gateway Park, Price Chopper, Union Station, or just riding for some exercise, the bike share will provide increased



access to the city through one of the most sustainable forms of transportation,” says Ackerman. Tests show that biking between the main and lower campus is 40 percent faster than driving – and that’s without factoring in time spent searching for a parking spot!

# ROAD TEST

**DRIVERLESS CARS POSE TECHNICAL CHALLENGES THAT ARE EXCITING—AND DIFFICULT**, says ECE associate professor Alex Wyglinski, who recently took office as president-elect of the IEEE Vehicular Technology Society, with 4,200 members worldwide. “Autonomy doesn’t happen in a day,” he says, noting that the subgroup has many critical questions on the table. “The community is on fire and solutions are coming up everywhere.” Here are three basic lessons for so-called “self-driving” or “driverless” cars.

## TALK IT OVER

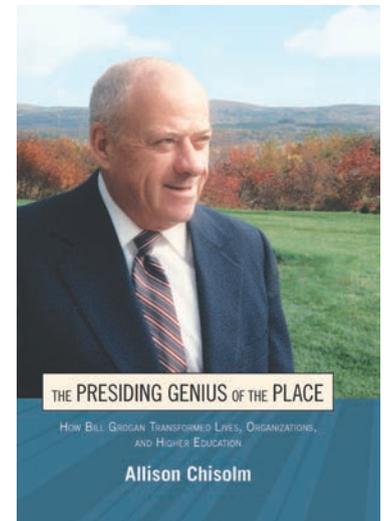
Driverless cars will still need to interface with humans and share information with the cars around them. They cannot – and should not – make decisions independently, Wyglinski says. “You can’t have autonomy without connectivity.” They’ll also need a “graceful failure option” to hand over control to the driver.

## THINK LIKE A BEE

WPI researchers received a three-year, \$300,000 NSF grant to study the foraging decisions made by bumblebees as a model to create better networking between connected vehicles. Wyglinski, along with biology professors Robert Gegear and Elizabeth Ryder, will look at how dynamic spectrum access (DSA)–based vehicular networks can use bumblebee logic for gathering the most nectar to program “cognitive radios” that can select the optimal frequency for communication in the car’s current location.

## KEEP IT PRIVATE

With vehicle-to-vehicle conversations will come increased security concerns, Wyglinski predicts. “The average car possesses 50 to 100 embedded computers, each controlling such systems as fuel injection, automatic transmission, and power locks and windows.” He and his team of undergraduate and graduate students have been investigating how today’s road vehicles can be electronically hacked, exposing potential vulnerabilities that can affect the safety of the human occupants, and devising techniques to counteract them.



# TRUE GENIUS

Visionary, intuitive, genuine: words used to describe Bill Grogan. WPI’s first dean of undergraduate studies was best known for his leadership in crafting and implementing the WPI Plan. *The Presiding Genius of the Place*, released on Alumni Weekend, chronicles his singular career and his lasting impact on WPI – and the future of technological education. The book can be purchased at the WPI bookstore or at [wpi.edu/+groganbook](http://wpi.edu/+groganbook).



PHOTO STEVEN KING

# DECADES OF DINNERS

In April the WPI community gathered at the Goat's Head Pub to congratulate Chartwells chef John Hayes on six decades of service. Just a few weeks after his retirement celebration, friends and coworkers were saddened to hear of his death on May 20. Hayes began his career in August 1956 cooking in the Morgan Dining Hall. When he moved to Founders Hall in 1987, he sealed his status as an invaluable culinarian on campus, preparing literally millions of meals for hungry students.

When we completed this interview, the 83-year-old was in high spirits, heading off to his home woodshop to complete a few long-awaited projects.

**WHAT'S THE MOST POPULAR DISH AT THE GOAT'S HEAD?** Most definitely chicken tenders and fries.

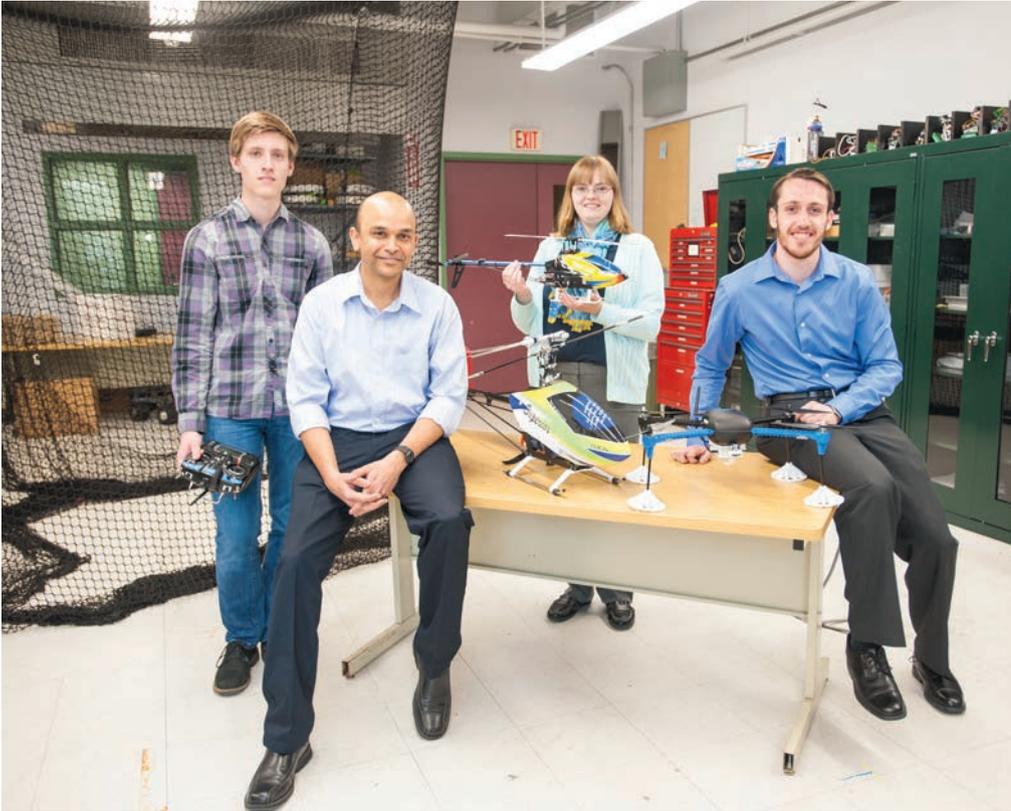
**WHAT HAVE YOU LEARNED ABOUT COLLEGE KIDS AND THEIR APPETITES?** In my earlier years, there weren't as many choices as there are now, but in my later years, expectations grew and students wanted more variety—and healthy choices that tasted great.

**WHAT CAN YOU SAY ABOUT THE "TYPICAL" KID AT WPI?** Students here have always been very well behaved and extremely polite. The university attracts the best of the best and

that has not changed in all the years I've been here.

**HAVE ANY PARTICULAR STUDENTS STOOD OUT DURING YOUR TIME AT WPI?** No, because I enjoyed all of them. That would be like picking a favorite child!

**HAVE YOU KEPT IN CONTACT WITH ANY OF THEM OVER THE YEARS?** No ... once Commencement comes, they leave to begin their lives, and then I look forward to the next year.

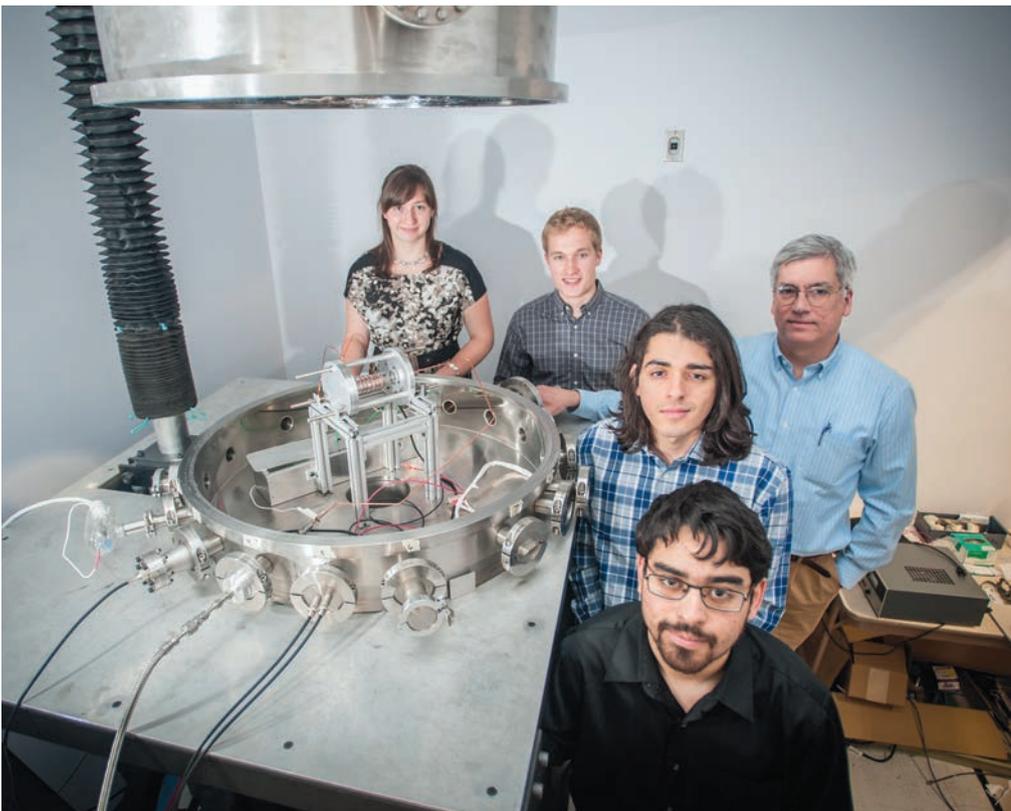


# AIAA AWARD

The 2016 American Institute of Aeronautics and Astronautics (AIAA) Student Papers Conference, an annual research competition designed to give students a chance to have their work reviewed and critiqued by practicing professionals, was held on campus April 22–23.

Attended by the likes of Penn State, RPI, Wentworth, Drexel, and many others, the conference awarded top prizes to two teams of seniors from WPI's Aerospace Engineering Program.

Bottom: "Design and Test of a Radio-Frequency Electrothermal Thruster" by Abigail Cervelloni, Jared Kepron, Ian Limon, and Christian Zelaya (advised by John Blandino) won 1st Prize in the Undergraduate Category; Top: "Autonomous Quadrotor Navigation and Guidance" by Jonathan Blythe, Krzysztof Borowicz, and Allysa Hollander (advised by Raghu Cowlagi) won 2nd Prize in the Team Category.



# BRINGING KNIGHTS TO LIFE

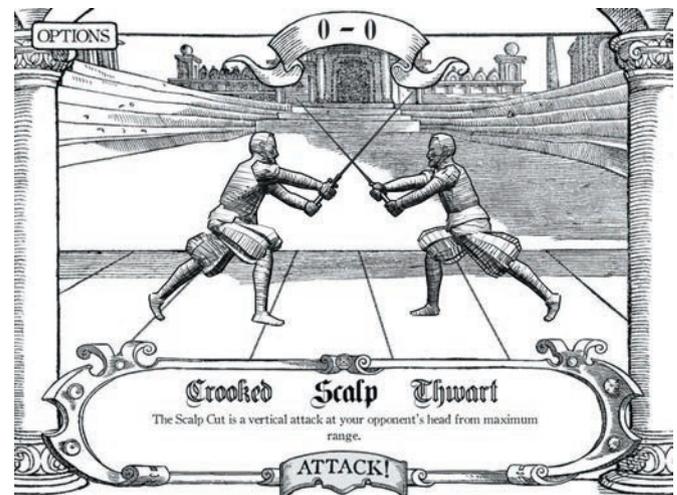
We grow up with fairy tales of knights and dragons in our heads, and the enchantment endures with the retelling of old tales and the creation of new ones – from superhero comics to *Star Wars* movies. “The icon of the knight in shining armor is deeply encoded in our awareness,” says adjunct professor of humanities and arts Jeffrey Forgeng. Fascinated by knights since he was a small boy, Forgeng forged a career as a scholar and curator, bringing the riches of a bygone age to a new generation of fans.

As curator of the Worcester Art Museum’s John Woodman Higgins Collection (acquired from the former Higgins Armory Museum), Forgeng works with WPI students on projects that use 21st century technology to showcase centuries-old artifacts in unique ways. “Arms and armor are not meant to sit there,” he points out. “They’re meant to move.” WPI projects have created a wealth of video games, film vignettes, and interactive iPad displays that give visitors a new perspective on these rare artifacts.

A digital version of a 400-year-old swordplay manual lets visitors flip through all the pages on screen, while standing before the glass case that contains the real thing. [Forgeng’s English translation of *Die Kunst des Fechens* (*The Art of Combat*) was recently published.] They can play a mini-game that uses woodcuts from the manual as graphics, and try out the techniques by fencing against an opponent. By downloading an interactive “audio experience,” they can stand within the limestone walls of an actual French monastery from the 12 century and share an adventure with the monks who lived there.

“The objects in this collection have a lot of depth and complexity, if you want to study them at an adult level,” says Forgeng. “But you don’t have to have a PhD to get excited. It’s not about learning facts. It’s about engaging the mind and firing the imagination. What a great thing for kids to cut their intellectual teeth on.”

Screenshots from *Art of Combat*, game created by Mi Tian '15, Christopher Ellen '16, Joshua O'Connor '16, and Caitlin “Charlie” Bickle '17, with code finalized by Patrick Long '17. The game debuted at the Worcester Art Museum exhibit this spring.



## [ TURNINGpoint ]

**GEORGE AGHJAYAN '88** says he fit right in at WPI with those comfortable around numbers. In retirement from a career in both insurance and structured finance, he turned his analytical tendencies toward his Armenian heritage, in a mission to ensure that his people's culture, history, and genocide will not be forgotten. He is co-founder of the Armenian Genealogy Conference.

My grandparents were survivors of the Armenian Genocide. So, I always had a strong sense of justice for the crimes committed against the Armenian people.

In 1996 I joined my aunts and uncles on a trip to western Armenia, what is today Turkey, and experienced firsthand the continued destruction of Armenian culture and the attempt to deny all evidence of the existence of a people. In 2011 I returned for the reopening of an Armenian church in the town where one of my grandmothers was born. After numerous trips, I couldn't remain on the sidelines any longer.

One component in denial of genocide is the pre-genocide demographics of the victims. This is where my professional background proved useful. I began researching and occasionally publishing on the pre-genocide demographics of the region. This is the core of my work: documenting the Armenian population and cultural sights in Western Armenia. I make use of the archives for Ottoman census records, do field research, and meet with Armenians who remain on the land.

I have seen the situation in Kurdish-populated areas become much worse since my initial visit. Since the Turkish elections last year in which I served as a monitor, the peace process with the Kurds has broken down and the government has initiated military operations. Any criticism of President Erdogan is met with imprisonment. That reopened church has been confiscated by the government; its future is unknown.

During the genocide, many young women and children were forced to convert to Islam. Attractive girls were also forced to marry, often into the very families that had murdered their parents. I, and others, try to expose their plight.

Just last year, through DNA testing, I was able to locate the family of my great-grandmother's sister. She had been taken during the genocide, and my parents did not even know my great-grandmother had a sister left behind.





# The Specialist

Alexia Rantala '09

CAN'T REMEMBER WHEN TRAVELING  
INTERNATIONALLY AND HELPING  
PEOPLE WEREN'T PART OF HER LIFE

BY CATE COULACOS PRATO | PHOTOGRAPHY ERIC HASON

I THINK VERY MUCH LIKE AN ENGINEER.

ENGINEERS ARE ALWAYS ASKING,

## What is the solution?

From the time she was little, Alexia Bililies Rantala helped out in the family business, Alternative Leisure Company, which provides travel and recreation for special needs children and adults. She helped however she could on the trips, from opening hotel doors, to cooking, to teaching clients how to ski.

“That was my life—helping people,” she says. “I wanted to help people, especially children in difficult situations.”

So it’s no surprise that the energetic 30-year-old, now a special education specialist at Harlem Village Academies in New York City, has built a career helping children around the world. What’s unusual for someone just seven years out of college, though, is how much she has accomplished. Rantala has worked for international educational organizations in emergency preparedness programs in South Sudan, Somalia, Uganda, Kenya, and East Africa (Ethiopia and Djibouti), as well as in Liberia during the Ebola crisis.

Her trajectory began with a gap year after high school. She applied to several colleges, including WPI, deferring without making a decision. But unlike some teens who choose lighter gap-year experiences, she headed to Costa Rica, where she worked for six months in two children’s homes.

These homes, similar to orphanages, took in children

whose parents were living but couldn’t take care of them. Rantala fell in love with the kids, but some days the experience broke her heart. The worst were visiting days, when she’d help the children get dressed up only to watch them wait for parents who never arrived.

“I thought, there must be something else for these kids. I wanted to make a difference for them,” she says.

As she prepared to return to the United States, Rantala considered colleges with programs—law, international studies, and Spanish—that would help her pursue her goal. Of all the schools that had accepted her the year before, only one had all three: WPI.

“It was a fluke,” she laughs. “But I believe that everything happens for a reason.”

Rantala says she feels she was not only destined to be at WPI, but to work with her advisor, Bland Addison, professor of history in the Humanities and Arts Department. At their first meeting she says, he quickly came to understand her and her goals, and advised her on how to use WPI’s resources as a stepping stone to the next phase of her life.

“I was very struck by her engagement with what needed to be done to improve the world, particularly for children,” says Addison. “She wanted a course of study that would be demanding and also put her in touch with the large issues that were sweeping



across the world.”

Rantala recalls, “I would come up with crazy ideas and he’d say, ‘Let’s do it!’ He helped me make my WPI experience what I wanted and needed it to be. He changed my life.”

Although she didn’t study engineering, “I think very much like an engineer. Engineers are always asking, ‘What is the solution?’ And you need that skill in emergency work. You don’t have time to belabor a point.

As Rantala approached

graduation, Addison encouraged her to apply for the Rotary Ambassadorial Scholarship to help pay for her postgraduate studies. The award provides recipients with \$24,000 toward a one-year master’s degree program anywhere in the world, so long as it involves helping people. A Google search led her to the Master of Disaster Management program at the University of Copenhagen.

While there, she attended a talk on education and emergencies by



RANTALA WITH HER CLASS AT THE HARLEM VILLAGE ACADEMIES IN NEW YORK CITY.



a representative of Save the Children. She eventually interned at Save the Children in Denmark.

Upon graduation she accepted a two-month internship in Washington, D.C., but it didn't last that long. After two weeks, the organization offered Rantala a job working on hurricane recovery programs with child care facilities in Texas.

She continued to work with Save the Children until she and the man who would later become her husband moved to Finland. She

took a job with Finn Church Aid, the second largest international provider of humanitarian aid. She served as a consultant on crisis preparation and response before she took a post as a regional education coordinator, developing and providing education and assistance to displaced, refugee, and emergency-affected groups in Nairobi and throughout East Africa.

When her fiancé landed a job at the United Nations, the couple moved to New York. With her

passion for emergency work and her knowledge and experience, Rantala returned to Save the Children U.S.

Her first assignment was in Liberia during the Ebola crisis. She was among the first international organization staff members on the ground from Save the Children. One of her responsibilities was to advise the Ministry of Education on protocols for reopening schools as the crisis subsided and what to do when children presented symptoms.

"It was scary there," she recalls. "Even the doctors and other professionals were scared, which put the rest of us even more on edge." But, she says, "I would absolutely do it again."

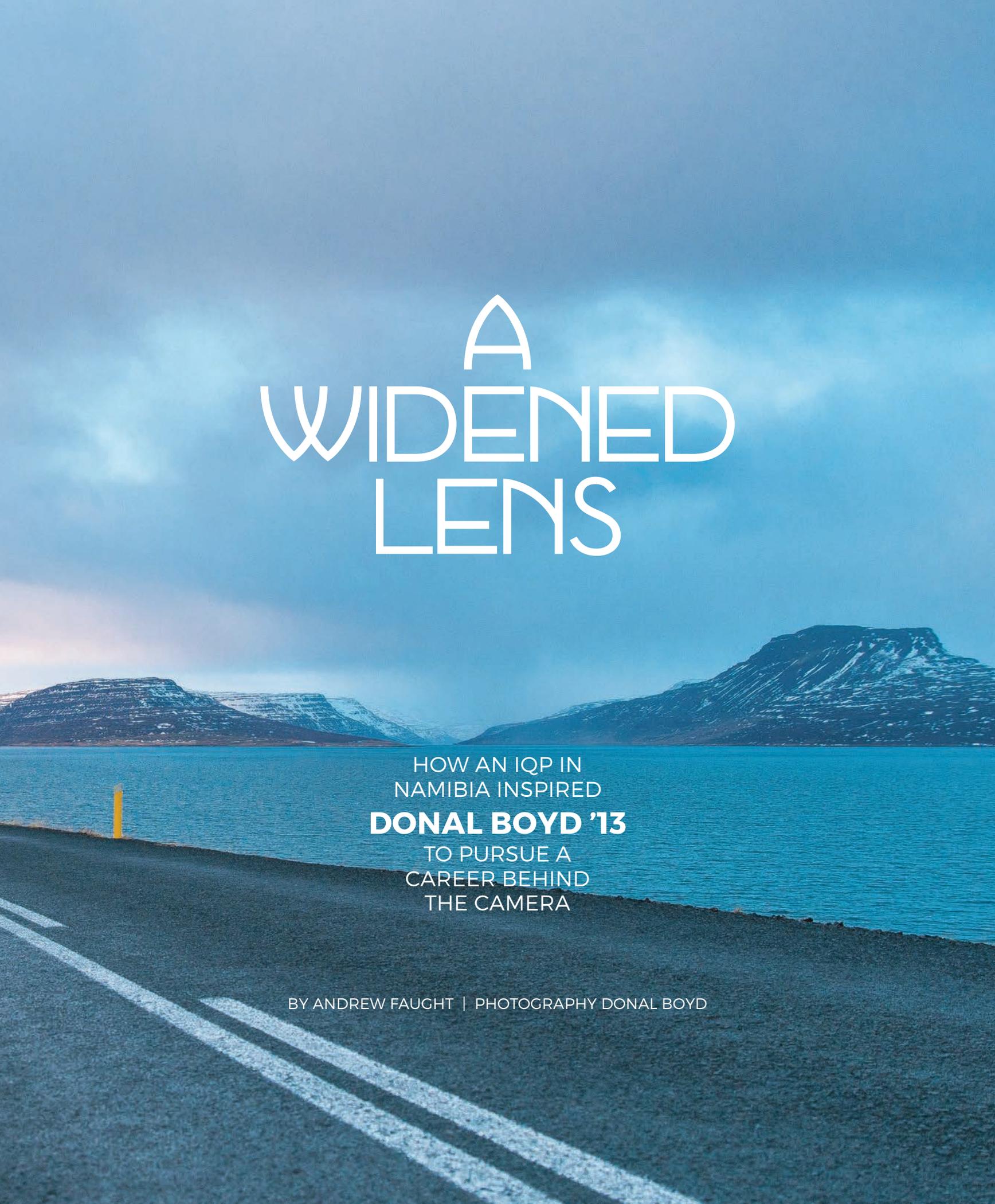
Addison says Rantala is an

example of the Arts and Humanities program's goal: to make students aware "that most of the world is not as technologically equipped as we are, nor do they have the comforts we have. But through their education, they can play a role in improving less fortunate people's lives," he says.

In her career, Rantala has also learned that "education is the key." Even during the Ebola crisis, she says that teaching people how to avoid disease and how to keep children learning during the time the schools were closed were just as important as medical help.

"Everyone deserves education," she says. "That's the cause I believe in, and that's the field I will stay in. It's the only way we will change the world." J





# A WIDENED LENS

HOW AN IQP IN  
NAMIBIA INSPIRED  
**DONAL BOYD '13**  
TO PURSUE A  
CAREER BEHIND  
THE CAMERA

BY ANDREW FAUGHT | PHOTOGRAPHY DONAL BOYD

**FOLKLORE** has it that trolls tried to dig a channel to separate the rest of Iceland from its northwest reaches, the flat-topped mountainous region known as the Westfjords. Trolls are a notoriously photosensitive lot, and the plan went awry when one of them couldn't get home before day-break. She turned to stone at first light, and Iceland remained intact.

That's good news for photographer Donal Boyd. Since last summer, he's chronicled the Westfjords' bounty of brooks, flowers, and Arctic foxes. Cheap airfare and a flight of fancy got him to Iceland. Now he can't see himself leaving.

"This is a place I was always meant to be," he says.

Boyd wasted little time making an imprint on his adopted home. He launched his own business, International Photography Adventures, through which he leads tourists on expeditions that range from half a day to 10 days. Based in the capital city Reykjavik, he is more often than not afield in the Icelandic countryside.

In August, Boyd will co-lead an Arctic fox photo workshop to the Hornstrandir Nature Reserve, where the cat-sized mammals traipse over a landscape bursting with nearly 260 species of flowering plants and ferns. Many of his clients learn about Boyd via Facebook and Instagram.

The nature reserve is only accessible by boat. Once he and the group arrive, he says, "we will stay in a custom-made cabin and spend three full days separated from the rest of the world." Other tours have ventured to east Iceland and

Jökulsárlón, a glacial lake dotted with glowing blue icebergs.

In another workshop he will host this summer, "Legends of the Icelandic Light," Boyd will lead 10 photographers on a cross-country tour and teach them to take landscape photos using the iPhone app PhotoPills. The program helps photographers determine the exact time the sun and moon rise and set – critical in Iceland, where the northern latitude makes for daily lighting variances.

For Boyd, it's all about getting the perfect shot.

That's not always an easy proposition. Iceland straddles the Arctic Circle, whose fickle climes are the stuff of weather forecaster nightmares.

"You'll have sun that spills onto the landscape for five minutes, and then it rains, and then it'll be sunny again," Boyd says. "So you have these in-between moments when you'll have super-intense light on rain-soaked grass and shores. I'm really inspired by those unique moments. You have to be patient, though. Those moments don't always come, and half the time it's too rainy to shoot."

Boyd's life is all about the moment. Friends say he exults in discovery and making connections, with both people and the natural world.

"Whenever we've traveled together, we always seem to come away with new friends, whether we've been there for five minutes or five days," says Patrick Ford '13, a self-described "shy kid" who gravitated to the gregarious Boyd when they shared a freshman chemistry class. "He's one of the most interesting people I've ever met, that's for sure."







For formative purposes, Boyd's journey started in Worcester. He credits his days at WPI, and particularly his IQP in Namibia, with infusing him with a desire to see and find inspiration in the world at large. He does it through the lenses of his Canon EOS 5D Mark III and Sony Alpha Mirrorless digital cameras.

Ford, who recently earned a master's degree in technology and policy from MIT, was with Boyd for the Namibia trip, during which the pair spent two months evaluating the efficacy of a solar/diesel off-grid power plant. The students and their project teammates then offered suggestions for managing and expanding the plant. In his free time, Boyd and his cameras took off in search of chromatic expression.

"That was one of the most profound events of my life," he says of the Africa trip. "Through WPI I was able to get to a place in the world that I knew absolutely nothing about—kind of like Iceland—and it totally changed my perspective on everything. It gave me a different understanding of what I was even thinking I should do in life."

Boyd first started taking photos as a high school freshman growing up in Raynham, Mass. "My parents always had cameras, and I played around with them," he says. "It was a way for me to be able to express myself."

His interest grew after meeting a professional photographer in Easton, Mass., who taught him the technical nuances of the craft. Boyd has never stopped clicking. Two of his images – one depicting WPI’s Earle Bridge on a foggy night – have been featured in *National Geographic’s* online “Your Shot,” which showcases the work of non-staff photographers.

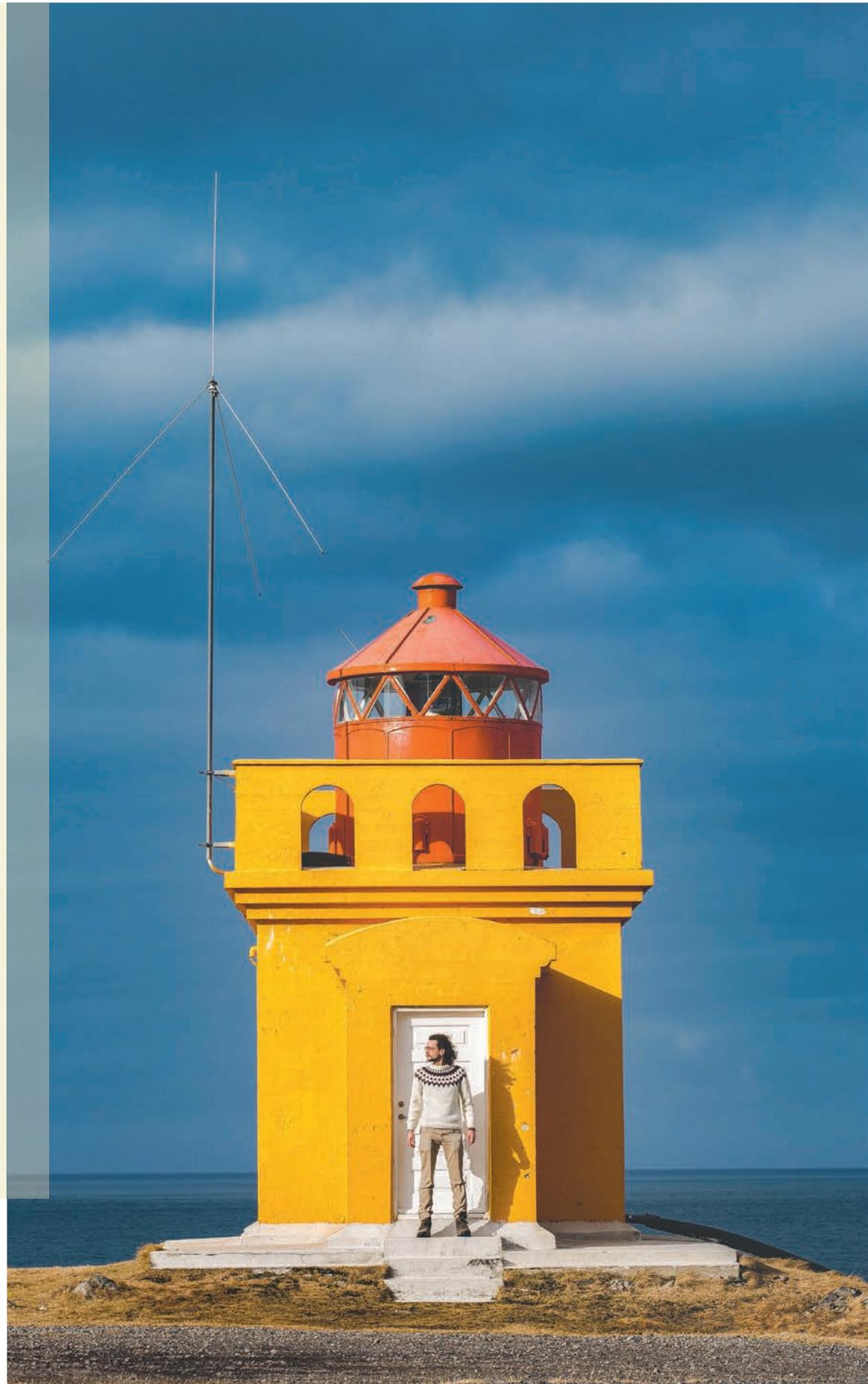
A print of the Earle Bridge image, which depicts a man in a trench coat and a fedora in mid-step over the span, hangs in the university’s admissions office. It also appeared on the inside front cover of the Spring 2014 issue of the *WPI Journal*.

One of Boyd’s most influential mentors is Diran Apelian, Alcoa-Howmet Professor of Mechanical Engineering at WPI. As he does with all his students, Apelian challenged Boyd to pursue his dreams, and do so with a critical global mindset.

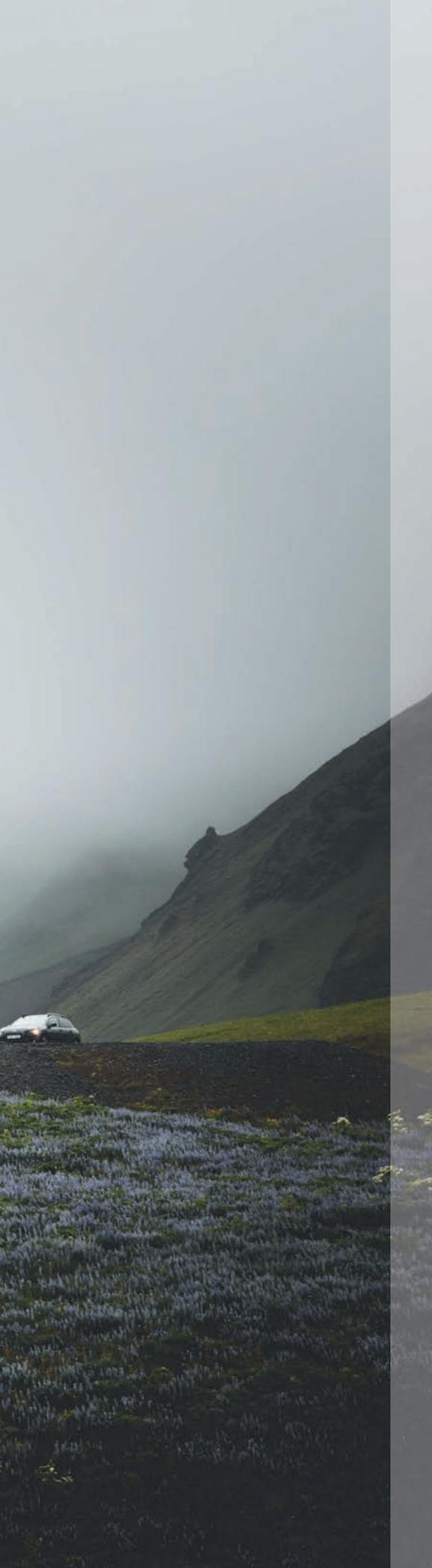
“Donal has a soul that is pure, kind, and very aware of the world in which we live,” Apelian says. “His role is to help mankind and the world be better. I know those sound like just words, but he actually walks the talk. That’s unusual in a young man.”

Part of Boyd’s efforts to make the world better is to leave a light footprint.

“It’s of the utmost importance to respect nature in Iceland – and in the rest of the world, of course – and there should be no exceptions made when trying to







photograph its beauty,” he says.

Apelian, too, has a passion for photography. He minored in the subject at MIT, and 36 of his photos, titled “A Life’s Journey,” were exhibited at the Gordon Library in 2008. Apelian has nothing but plaudits for Boyd’s aesthetic.

“His photographs are amazing, and they’re getting better and better,” he says. “Donal has a wonderful eye for composition. It’s balanced, it’s compelling, and it captivates you. He captures things with an eye that’s special.”

Like many a freshman on the path to self-discovery, Boyd enrolled at WPI with one half-serious notion.

“I’m embarrassed to say, but I went into chemical engineering with the mindset of wanting to brew beer,” he says.

Suds aside, “I liked the project-based learning at WPI,” he adds. “I wasn’t going to be learning about one thing for a very long time. I got to experience a lot of things in a short amount of time, and I got to work with a bunch of different people. That’s really why I decided on the school, because I knew that I could get that experience.”

Boyd says his STEM background, with its emphasis on planning and organization, has translated well to photography.

“Without WPI, I wouldn’t be the same photographer that I am today because I wouldn’t have an understanding of how all of the pieces fit together,” he says. “I am here in Iceland because a lot of things had to happen. I had to organize and adjust and meet people, and I don’t think I would have had the ability to do something like this had I not had that kind of technical background.”

While he holds dual American and Irish citizenship, Boyd has morphed

into something of a global citizen.

In the last 18 months, he’s voyaged to four continents, spending time in Brazil, South Africa, China, United Arab Emirates, and Turkey.

But it’s Iceland that has stuck with him.

In a nation of just 332,000 inhabitants (among whom live a scant 30 professional photographers), Boyd has come to look the part of a native son. He regularly dons a *lopapeysa*, a traditional sweater made from the wool of Icelandic sheep. He isn’t keen, however, on partaking in another national pastime: ingesting *hákarl*, or fermented shark meat. Doing so has come to be seen as an act of bravura, one widely documented on YouTube.

Instead, he enjoys feasting on gas station ice cream during his photographic explorations; it’s sometimes the only sustenance for miles around: “I always have to get the Dairy Queen–style chocolate dip or licorice dip. Icelanders love licorice.”

From there, it’s on to the Westfjords, his destination of choice in this home away from home.

“When I’m out there, I feel overwhelmed in a good way,” Boyd says. “Moments are happening in this absolutely enormous place of beauty, and I’m the only person there. I’m seeing something that no one else is seeing, and I’m able to capture it. It feels really cool.”

Relocating to Iceland was a leap of faith for Boyd, who didn’t think he was mature enough to make such an ambitious move. Now that he’s there—more mature and a bit more confident when it comes to Icelandic phrases and pleasantries—he says his life and photos have taken on crystalline purpose: “I really hope to inspire someone to try to create something new every single day.” J

[WPI*insider*]

# KATIE PICCHIONE '16

PHOTO STEVEN KING

**HONORABLE MENTIONS:** FOISIE SCHOLAR • ELLEN KNOTT AWARD RECIPIENT • CHARLES O. THOMPSON SCHOLAR • NEWMAN CLUB MEMBER • SALISBURY PRIZE RECIPIENT • ROTARACT CLUB FOUNDER • ENGINEERS WITHOUT BORDERS USA, WPI CHAPTER PRESIDENT • CRIMSON AND GRAY AWARD WINNER • OMICRON DELTA KAPPA EXECUTIVE BOARD MEMBER • WASH-BURN SHOPS PLA AND LAB MONITOR • CNC JOB TRAINING LAB INSTRUCTOR

**KATIE PICCHIONE '16** is a perfect example of a WPI Insider.

The creator of an MQP that bridged the disciplines of Mechanical Engineering and Society, Technology, and Policy, Picchione reached milestones of success throughout her four years on campus, including multiple honors.

She says she's surprised by some of the recognition she's received, because she's surrounded by equally deserving students.

"I think it comes down to the fact that I love finding connections between the various, often disparate, activities I participate in, and that is where I cultivate my passions," she says. Common themes she cites as interests are teaching, improved quality of life, critical thinking, and multifarious perspectives. "I consider myself a lifelong learner, and it's rare that I'm not excited by the prospect of learning, doing a project, or starting something new."

Her initial draw to WPI was its interdisciplinary approach to education. "I decided to pursue engineering in large part because technology and social impact are closely tied. The WPI Plan's emphasis on the humanities, arts, and social sciences helps students develop holistic approaches to technological development."

Picchione considers her IQP in Costa Rica one of the highlights of her undergraduate education. After two months of organic farming study with the Costa Rican Ministry of Agriculture and Livestock, she and her teammates evaluated a training program to teach farmers about organic pesticide and fertilizer techniques. "It was an incredibly immersive experience where we learned about and experienced the farmers' way of life," she says. "I developed a deep appreciation for organic agriculture—for attaining balance between the land, the animals, and soil nutrients—and people's livelihoods and communities."

She also traveled with WPI's Engineers Without Borders team to Guatemala four times, and considers her time with EWB an integral part of her education. "Not only have I been able to apply the problem solving and critical thinking skills learned in my classes in a real, meaningful way, but I have learned to overcome challenges, from gender bias to language barriers to logistical contingencies to technical errors," she explains. "EWB has fostered my passion to use technology and education to help people attain a better quality of life."

With the next step of a master's in MIT's Technology and Policy Program, Picchione represents the pinnacle of what one can achieve inside WPI.



**NABEEL TOKATLI '18**  
**Major: Aerospace Engineering**  
**Hometown: Worcester, Mass.**

**Involvement:**

- **Sigma Phi Epsilon, fraternity**
- **Football Team**
- **Student Government Association, senator**
- **Sound Logic, student a cappella group**

*"Thanks to the generosity of alumni and parents, my dream of becoming an aerospace engineer is coming true. One day, I hope to give back to WPI and support future students and their dreams."*

**WPI is built on a long and proud tradition of philanthropy. When you give to the WPI Annual Fund and become part of this tradition, you support students like Nabeel and Katie.**

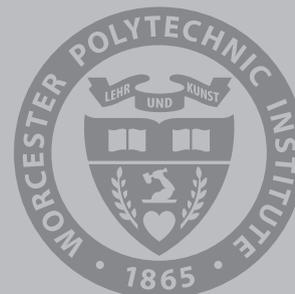
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# THE STATS BEHIND THE STORY





# Jeff Bennett '94

HOW A PASSION FOR NUMBERS TURNED INTO A NEW LANGUAGE OF SPORTS

BY TED FLANAGAN | PHOTOGRAPHY KATHLEEN DOOHER

The road to winning four Emmys and helping usher in a new billion-dollar sports analytics industry began with Jeff Bennett's part-time job in a tiny closet filled with orphaned sports highlight tapes at ESPN's Connecticut headquarters.

Bennett, now ESPN's vice president of stats and analytics, has led the best of professional lives as his personal and professional passions merged seamlessly into a kind of vacuum he was privileged to fill as he saw fit.

## BIRTH OF A NETWORK

Once upon a time, sports news on television was simple. There were three local channels and each broadcast the news at 11 p.m. for a half hour, devoting a few minutes to sports news toward the end.

Highlights were sparse and delivered by loud men in loud blazers who covered only the *important* stats: how far Yaz hit that last homerun, how many touchdowns Steve Grogan threw on Sunday and to whom, how many three-pointers Larry Bird drained in the last Celtics game.

But in the early 1980s, an upstart sports network improbably headquartered in Bristol, Conn., began changing how America—and, eventually, the world—*did* sports, altering forever the way fans experienced games on TV.

It was also the dawn of an era when an elite group of sports observers began chronicling a hidden game located beneath the veneer of who did what and when. It was a world where the stories were told with numbers.

Certain sports statistics—for example, RBIs and the ERA in baseball and yards thrown per game by a quarterback—had long been valued above others and adopted in the vernacular of the sports argument as self-evident truth worthy of *prima facie* acceptance. These highlights were the thrust of the story being told.

The arrival of ESPN brought the sports highlight to a heretofore unknown prominence, and led some on the fringes of sports—observers willing to question the status quo—to wonder if they'd been following the wrong stats all along.

Around the same time and not far from Bristol, in the small mill

city of Willimantic, Conn., Bennett—a young sports fanatic with a penchant for numbers and a near-obsessive need to memorialize Wiffle ball games in stacks of data—was unknowingly charting the course of his future career, in a field that barely existed at the time.

“My childhood was grounded in sports statistics,” Bennett remembers. “I learned from the backs of baseball cards. I kept the records of backyard Wiffle ball games and Strat-O-Matic games, then translated them all to my Commodore 64. Not long ago, we found reams of score sheets in my mother’s attic.”

That passion for numbers led him to pursue a degree in applied mathematics at WPI (“My high school calculus teacher would probably be surprised to know I majored in math,” he jokes).

Bennett was a member of the WPI wrestling team, something he remembers with immense pride. “I’m proud of my small role on some championship teams,” he says.

In 1994, while doing a post-graduation stint as a furniture mover, he heard about a job in the then-unhallowed halls of ESPN; he landed the part-time position as an archivist for the network’s iconic SportsCenter program. It was an auspicious time to join ESPN, which was just beginning a steep upward trajectory, as a corporation and as a cultural touchstone.

But while the network may have been leaping ahead, the technology Bennett found in his workplace was decidedly retro.

“It’s a job that doesn’t exist anymore,” Bennett says. “It was a three-person department, and we were in charge of the tapes used by SportsCenter. Everything was on

Betamax and was catalogued by barcode in this incredible library. Back then they would re-use the tapes, so we would have to decide which games were important to keep—which highlights we needed to hang onto.”

He says the job helped him build a reputation at the network as hard-working and knowledgeable within a wide variety of sports. Early on at ESPN, Bennett set a goal for himself.

“My dream job was researcher on *Baseball Tonight*,” he says, referring to ESPN’s tentpole nightly baseball program. It was a goal he achieved in 2000 after four years in a similar overnight role for *SportsCenter*.

Bennett’s work in that role was some of the most satisfying of his career; the satisfaction included four Emmys that he shared for his contributions to *SportsCenter*.

At the same time, the network’s growing roster of shows needed real-time statistics, trivia, and similar spontaneous bits of ephemera that sated the viewers’ new thirst for information.

It was a digital idea in a decidedly analog world. Researchers were expected to add depth and context to games and highlights via numbers and statistics, all without Google or the Web, which were both in their infancy.

The pace was unrelenting. The job of a researcher is, at least in part, to give the on-air talent interesting things to say. It’s about making connections on the fly, and then packaging those connections in visually interesting ways on the slimmest of deadlines, usually live and with no safety net.

“Every day you came in and had to be original,” he says. “Baseball is completely unpredictable, and you needed to think about interesting





things to say before people even realized they were interesting, while trying to be one hundred percent accurate.”

Bennett approached the job much like a jazz musician, riffing off the ebb and flow of the live broadcasts, and knowing that “pretty much anything I wanted to get on the air, I could get on the air.”

One of his proudest achievements was the popular and long-running *Did You Know?* segment on *SportsCenter*, a daily sports trivia question culled from Bennett’s vast trove of data and sports information.

“It was exciting because you’d hear people talking about something I’d gotten onto the show.”

On *Baseball Tonight*, he specialized in bringing perspective to the games by feeding stats to the various hosts while the broadcasts were live – no easy feat, considering the stats themselves are a kind of holy writ for ardent fans.

Bennett now works primarily in a management role, finding the people to do the creative things he once brought to live television. But he clearly relishes the memory of those bygone days. “In a lot of ways, I feel like I’ll never be better at anything than I was at that,” he says wistfully.

## DEEPER DATA

It probably isn’t too surprising that Bennett, whose family started and owns Willimantic radio station WILI (1400 AM), would find a way to combine his love of sports, numbers, and broadcasting into a career.

What he couldn’t have planned, though, was the congruence of his career search and the

transformation of sports statistics from just something to argue about at the bar or over Thanksgiving dinner into a narrative device, a new kind of lens through which athletics can be viewed.

And it all begins with numbers – statistics that, as Bennett says, go deeper.

“We’re always looking for deeper data,” he says. “Deeper data slices that tell you more about the *why*. We want to deliver more than what traditional box scores tell you, but in a truly deeper way. It should be more than just a meaningless slice of information.”

Ever since Michael Lewis’s book *Moneyball* (and the movie based on it starring Brad Pitt) brought the arcane world of sabermetrics to the mainstream, sports statistics have increasingly encroached on the viewing experience. They have been used to bring perspective to an endeavor – the sporting event – that traditionally has had little to offer.

Indeed, appreciating the modern sports broadcast requires learning a new language.

In baseball, sportscasters now toss around terms like OPS (on-base plus slugging) and WAR (wins above replacement). The former is a measurement of a player’s ability to get on base and also hit for power, while the latter (which has implications on more than one sport) represents a player’s value over a hypothetical average replacement; it’s meant to quantify a player’s contribution to the team. Hockey has begun tracking puck possession and unblocked shots.

Bennett and his team are responsible for two of the most important additions to sports



analytics in recent years: the Total Quarterback Rating (TQBR) in football, and the Basketball Power Index (BPI).

TQBR is a mathematical nod to the fact that not all quarterback plays are equal. A 50-yard completion in the last seconds of a lost game is not necessarily superior to a five-yard touch-down pass that wins the game at the end of regulation. TQBR is a means of offering

perspective, a way to illustrate that some plays are better than others. It's a tool for cutting through the hype of a QB who may have gaudy but largely irrelevant stats.

The BPI measures team strength. By integrating game-by-game efficiency, the difficulty of the schedule, pace, and day of rest—among other factors—it calibrates to what degree a particular team exceeds or lags the league average at any given point in the season.

Today's sports broadcasts, no matter the platform (television, tablet, online streaming), are wrapped in an analytical package of immense sophistication and responsiveness.

And Bennett says ESPN will continue to bring its analytics prowess to those broadcasts, wherever they migrate—a not-unimportant point, considering that ESPN's finances have taken a hit as part of the wider erosion of cable television's economic model.

"It's a tricky time," he concedes. "There's a lot of disruption right now. In the cable industry, there's some subscriber loss, but at the macro level, we're so much more than cable TV. We're looking to adapt, bring more value to the contract. Statistics offerings are a huge part of that."

So even as more and more consumers cut the cable, Bennett says ESPN will be able to meet them wherever they go.

"We're a platform-agnostic sports information service," he says. "Storytelling with insight and creativity. That's what my team does."

And why not?

A recent study by market research firm ReportsnReports.com found that sports analytics, of which Bennett's group is on the leading edge, was a \$125 million-per-year industry in 2014.

By 2021, that figure is expected to be \$4.7 billion.

It's a far cry from Bennett's days as a researcher, when he depended on printed media guides and reference books and his ability to quickly navigate them.

These days, the statistics that scroll during games, that are included in highlight packages, and that fuel the company's multitudinous fantasy sports offerings, are driven by algorithms, bringing a high level of automation to ESPN's offerings.

But the backbone of the enterprise is still the staff of full-time researchers (augmented by ad hoc help during especially hectic periods) who fill the group's computer terminals during live sportscasts and other shows. The team monitors online databases and analyzes statistics reported from outside services in real time, trying to anticipate the on-air talent's needs so they can seamlessly deliver the perfect factoid or just the right graphic. Moment by moment, they test the waters for a narrative hook that will add value and interest to the broadcast. It's an artistic blend of math, psychology, and high-wire act, all performed at high speed.

Bennett and his group are always on the lookout for new ways to collect the data they need to better tell the story.

Among the most promising innovations are wearable player-tracking devices that will help the researchers better understand how a player's actions away from the ball—or puck—contribute to his or her success, or failure.

"Among other things, this will help us recognize whether a player made the right play," he says. "Analyzing gets more toward fit, and spacing—that kind of thing. Did Bird make the right pass? Was Kobe making a harder shot than the other players?"

At the end of the day, Bennett knows his stats and information group needs to offer a kind of intelligence, no matter where the ESPN flag flies (cable, digital, online).

"People coming to us want us to be smart and different. That's what they expect." **J**

ESPN STATS & INFORMATION GROUP (SIG)  
EMPLOYEES: **135** FULL-TIME,  
**82** PART-TIME

MAIN SIG JOBS: **4** (RESEARCHER, STATS  
ANALYST, BOTTOMLINE EDITOR, SPORTS  
ANALYTICS SPECIALIST)

TWITTER FOLLOWERS:  
@ESPSTATSINFO **1.38M**  
@ESPNDATOS (SPANISH-LANGUAGE) **138K**

HOURS LIVE SPORTSCENTER STAFFED:  
**6,500** PER YEAR

STATISTICAL GRAPHICS CREATED FOR STUDIO  
SHOWS: **60,000** PER YEAR

NEWS ALERTS ON BOTTOMLINE:  
**3,500** PER YEAR

PUBLIC METRICS CREATED: **10**  
(EXAMPLE: TOTAL QBR, FPI, BPI)

CALCULATED DISTANCE (IN FEET) OF  
MLB HOME RUNS IN 2015: **1,969,159**  
(ABOUT **373** MILES)

SEASON SIMULATIONS OF THE REMAINING  
SCHEDULE FOR THE NFL, NBA, AND CFB:  
**10,000** TIMES A DAY

EVENTS SUPPORTED WITH LIVE DATA  
FOR ALL ESPN PLATFORMS: **15,000**  
PER YEAR

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[wpi.edu/+projectbasedlearning](http://wpi.edu/+projectbasedlearning).



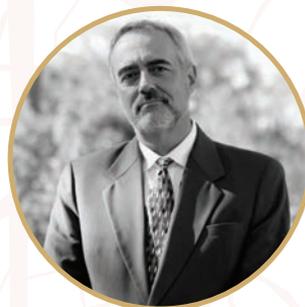
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**ARTHUR HEINRICHER**

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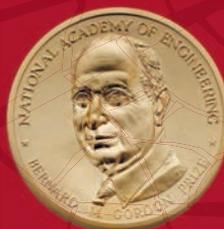
Associate Professor,  
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**GREAT MINDS. MULTIPLIED.**



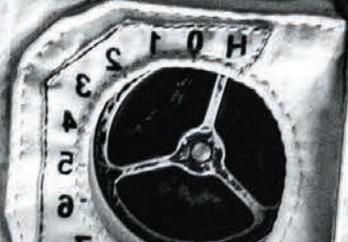
JINNY FERL '83  
HAS DESIGNS  
ON THE GALAXY

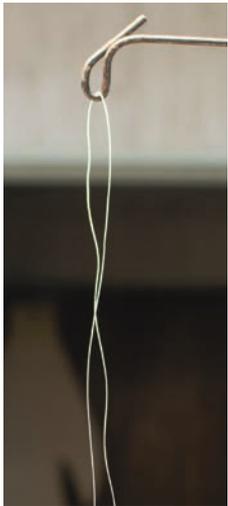
BY JOAN KILLOUGH-MILLER | PHOTOGRAPHY JOHN MOLLURA

*Sewing Space*



VI 110





**“I WOULDN’T GO INTO SPACE IN SOMETHING MADE ON A SEWING MACHINE!”**

Those are the words of the man who designed NASA’s AX line of rigid fiberglass spacesuits in the 1960s.\* In fact, the Apollo suits worn on NASA’s moon missions were made on sewing machines, by a company famous for stitching latex and Dacron into Playtex girdles and bras in the 1950s. Today that same firm is working on the latest generation of spacesuits being designed for exploring Mars – suits that combine hard and soft elements.

The perception that “softgoods” design is not hard engineering lives on, says Janet “Jinny” (Guerrin) Ferl. She has been designing space suit assemblies (SSA) at ILC Dover in Delaware (formerly International Latex Corp.) for almost three decades. Ferl leads the Dover team who, along with SSA engineers from ILC’s Houston location, supplied key components of the Z-2 planetary walking suit to NASA last year.

“The Z-2 is the most advanced suit that anyone’s delivered since the EMU (Extravehicular Mobility Unit) used on the Space Shuttle and now on the International Space Station (ISS). It has a lot of pedigree and testing behind it,” she says.

“Aw, you’re just sewin’ a rag,” Ferl draws, affecting contempt for softgoods work. “People think that because it’s fabric, it’s less of an engineering feat than pumps and batteries and wires and fans.”

Although she likes to unwind with quilting and needlepoint, clothing astronauts for the demands of today’s space missions is a rigorous business. “We inspect every stitch that we put in. And we put a lot of thought into that thread, and how to specify it, and how to test it to make sure it’s going to work every time. We look at how

to seam materials, how many stitches per inch, what machine to use, what webbing we attach, how much load it can carry, and how many times components can be cycled before they stretch out and don’t work anymore.” In fact, the SSA is part of a larger system, and must be designed to function flawlessly with the life support system.

Ferl joined the crew at ILC in 1988, as space work was picking up again after the hiatus that followed the *Challenger* disaster. With the job offer came a question: “So, do you want to work on gloves, or do you want to do everything else?” She chose “everything else,” but her work has come to include complex glove projects – as well as budgets, hiring, and approvals.

On-the-job training began on the plant’s production floor, where Ferl learned each process that goes into constructing a multilayer space suit, and progressed through final acceptance testing. “At that time we had a high production rate, and different floors for sewing, heat-sealing, dipping, and molding,” she says. “When I started, there was one computer for the whole engineering group, and it was basically used just for word processing.”

Back then, paper patterns were made by hand, with a pencil, rulers, and a set of curves. Some of those famous seamstresses from the Apollo era were still there, sewing away on specially adapted machines. “I heard all the stories from the Apollo engineers, and I got the benefit of all that experience,” says Ferl. “It was a heady time to learn.” Today the patterns are digital and most cutting – both laser and wheel – is automated. Ferl notes that a few materials still have to be cut and sewn by hand, such as the delicate nylon chiffon that lies against the astronaut’s skin to form the innermost layer of the liquid cooling garment.

\* Hubert “Vic” Vykukal, quoted in *Spacesuit: Fashioning Apollo*, by Nicholas de Monchaux, from a 2007 interview with the author



FERL IN THE PATTERN ROOM AT ILC DOVER, WHERE HER DESIGNS COME ALIVE.

## Size Matters

For Ferl, “everything else” runs the gamut from selecting materials that protect against heat, radiation, and MMOD (micrometeoroid orbital debris), to configuring a system of interchangeable parts to accommodate the many body sizes that work on the ISS. (It’s not feasible for NASA to send up a custom suit fitted for each astronaut.) Beyond the obvious considerations of safety and functionality lies a host of important, but less glamorous issues, such as cargo weight, cost, and durability.

“NASA keeps asking us, ‘Can’t we just keep that up there another year?’” Ferl says. “And we have to say, ‘This thing is 19 years old. Would you wear your coat after 19 years?’ We’re doing some pretty advanced engineering in terms of materials and structures.” When a

vendor ceases manufacturing a chosen fabric, it can be tough to come up with—and validate—a substitute. Some of Ferl’s critical publications have un-sexy titles, like “Minimizing the Effects of Material Obsolescence on Constellation Space Suit System Design” and “Considerations for Flight Certification of Space-suit Assemblies.”

Getting dressed in space is complicated, so a lot of thought goes into “don/doff” systems. With ILC’s earlier two-piece designs, Ferl explains, “First you shimmy up into the upper torso—then you put on your pants.” The Z-2 is an innovative rear-entry design with an integral life-support “backpack” that latches to the vehicle’s exit hatch. The components are made of multiple softgood layers and have to fit together with bearings and disconnects. When pressurized,

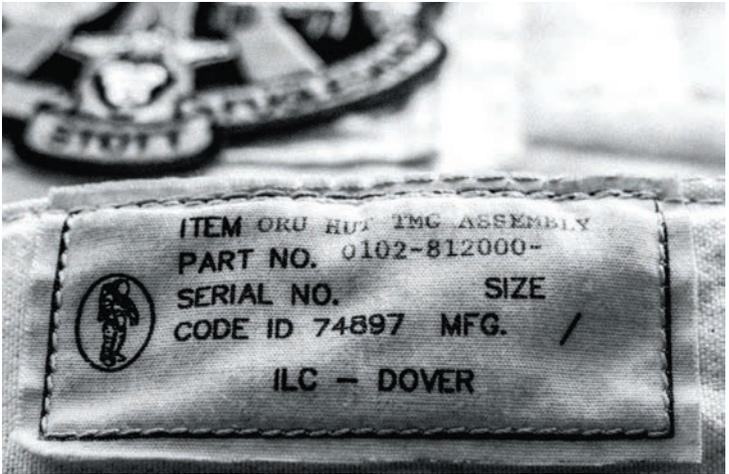
the softgoods become hard. The bearings and patterned softgoods are what provide pressurized mobility.

It takes talent to make spacesuits in sizes that work for everyone. “It’s always easier to make things bigger, but small is hard,” Ferl notes. Her work has enabled many female astronauts to take part in EVAs (extra vehicular activities). “NASA is very sensitive about this,” she says. “Nobody set out to exclude women, it’s just that when you try to get smaller, you run out of real estate. The life support system is huge. And gloves can be very challenging, because they need to incorporate a certain amount of hardware and fabric while still providing dexterity in the fingers and wrist.”

Ferl especially enjoys the custom glove projects, which bring her face-to-face with working astronauts. Engineers from ILC’s

Houston and Delaware teams work to fit rare individuals whose hand configurations don’t match an existing glove size (there are about 60 sizes). The process begins with interviews to identify the issues. Casts are made and scanned with 3-D software to build a digital model, layer by layer. The model is then “unwrapped” to create a flat pattern that can be cut from cloth.

Ferl recently worked with astronaut Peggy Whitson on customized gloves for her upcoming mission as part of Expedition 50/51 on the ISS. “As soon as she got the gloves, she loved them,” says Ferl, who traveled to NASA’s Johnson Space Center in Houston and witnessed underwater testing. She watched Whitson emerge triumphant from the Neutral Buoyancy Lab. “I’ve never seen anybody smile so brightly. It made all the difference in the world to her. She’s going to



be able to do an EVA without the challenges of poorly fitting gloves and the risk of hand damage. Our engineers did a great job of listening to her comments and responding with good choices. The work is very artistic; it's not just engineering."

### Shipping and Handling Not Included

Even when the suits are perfect for the astronauts, they need to survive transport in the commercial carriers that now supply the ISS. "A rocket is not a rocket is not a rocket," says Ferl. Verifying the right packing material to accommodate variations in temperature, vibration, and load can be difficult. In addition, "Every material that's sent to the station—from the astronauts' clothing to bathroom tissue—has to be tested for toxicity,

flammability, and off-gassing to make sure that when you put these things up there in that small closed environment, it's not going to smell like new carpeting and make people sick."

Not all choices that go into a suit are driven by science. Ferl was an advocate of NASA's move to let the public vote on the appearance of the Z-2 suit. Five years earlier, NASA chose a lime-green trim for ILC's Z-1 suit, which was quickly dubbed the Buzz Lightyear look. "People either loved it or hated it," she says. "Some people objected that it was bringing spacesuits down to the level of cartoon characters." For the Z-2 suit competition, Ferl pushed for a collaboration with design students at Philadelphia University. "They taught us a lot about style," she jokes. "Engineers are not known for their sense of fashion, right?"

Involving the public is important

because, over the decades, Ferl has observed less enthusiasm for space exploration. "My impression is that it's almost taken for granted. Our astronauts used to be American heroes, and now people don't even know who they are. Once, I would go into a classroom and ask, 'Who wants to be an astronaut?' and hands would shoot up all over the room." Today kids are more likely to dream of designing videogames or working in green energy, she notes.

Ferl wasn't shooting for the space industry when she studied BME at WPI, but her education was still on target. "WPI taught me about teamwork, project work, and experimentation. I couldn't imagine going to a school where you sit in a classroom and go through a whole semester of just reading a book and doing problems. The project work and the quick turnaround were absolutely right for me. It prepared me for the way this industry works, and the way products are designed and developed and tested.

"I'm a hands-on person," she adds. "I still like to get out to do the testing and get my hands on the

products we're making." On a few occasions, she's been able to get inside a suit herself and put it through its paces. "I don't have the kind of suit time some of our other engineers have. I've done some neat walking, crawling, and sidestepping when we were looking at lower torso mobility. It takes some training to get good at it."

The importance of testing never escapes her. "A crew member is going to get into that suit. People depend on it for their life and for the critical work they do. We've got to make sure that it functions flawlessly, over and over."

Ferl learned to stand behind her work in her first job, doing product approval at the FDA. "If I made a bad decision, a lot of people could suffer. It came with a lot of responsibility." Today, her expertise in "just sewing rags" surrounds astronauts in suits strong enough to protect the beating heart inside.

"You have to develop a certain confidence," she says. "That comes through knowing the product, and being able to communicate what you know. And once you get there, you can sleep better at night." **J**

# SAVE THE DATE



Saturday, November 12, 2016

The Women of WPI Annual Conference  
*Additional details coming summer 2016*

The mission of The Women of WPI is to connect, support and engage WPI alumnae. Its purpose is to...

- further the role of women as leaders and active participants in the university and within our extended communities.
- promote personal and professional growth.
- celebrate the achievements and successes while fostering future generations.
- provide opportunities for women to share ideas and be inspired by one other.

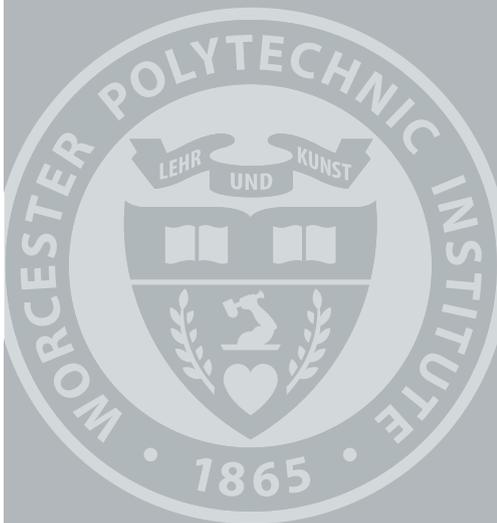
#### THE WOMEN OF WPI STEERING COMMITTEE

Laura Amodeo '06  
Emily Anesta '05  
Sarah Antolick '15  
Kara McCarty Chmielewski '91  
Paula Fragassi Delaney '75  
Rachel Delisle '96, '06  
Anne McPartland Dodd '75  
Joyce Kline '87  
Alison Leflore '09  
Brianna Sheldon '15  
Sue Giroux Sontgerath '88  
Victoria Valentine '00  
Kathy Kruczek Vignaly '84  
Jami Walsh '97  
Samantha Wentzell '11

Contact us: [alumni-office@wpi.edu](mailto:alumni-office@wpi.edu)  
Find us on Facebook and LinkedIn



## FROM THE ALUMNI PRESIDENT



*Dear Alumni:*

As I complete my first year as president, I've taken some time to reflect on the Alumni Association's fantastic year filled with firsts.

Our first global chapters have been formed in Hong Kong and Panama, with several more in the early stages of development. The Association has designated an alumni board member as an international liaison. Students are presenting their international IQPs to alumni where the projects were completed. It's a clear indicator of the global aspect of the Association, which now has alumni in more than 100 countries.

GOLD (Graduates of the Last Decade) has been so active with its social and professional development events that we've increased programming to better serve the group. With sell-out crowds at the winter social and "Cubicle to the Corner Office" events, a summer social and other programming are being planned.

The university has also seen many firsts – new accolades, rankings, and awards – all increasing the value of our degrees and our pride in our alma mater. For the first time, our graduate and undergraduate classes were large enough to hold two commencement ceremonies. Over 700 graduate degrees and 900 undergraduate degrees were conferred on May 12 and 14, respectively. I had the honor and pleasure of welcoming these new members to the WPI Alumni family. I am confident they will represent us incredibly well and make us proud to call them fellow alumni.

The Women of WPI has been officially recognized as an affinity group within the Association. The first event with WPI's first woman president, Laurie Leshin, as the keynote speaker was held in November. In March we were honored to host a networking evening with a special presentation by Helen Vassallo '82, professor of management in the Foisie School of Business. In the days leading up to Commencement, the women of the Class of 2016 were welcomed during a

special reception where they received their Women of WPI pins. I was thrilled to see many of them proudly wearing their pins on their commencement gowns. Another event is being planned for Saturday, Nov. 12. Save the date, alumnae!

Some new traditions are in the works: Efforts continue to establish the WPI Hall of Fame to promote WPI and its most successful alumni. The first Legacy Day was held in February, raising awareness with current students by sharing stories of how each of us has the opportunity to create a legacy through our contributions of time, talent, and treasure – and tagging our stories with #mywpilegacy.

Let's not forget Alumni Weekend, rich with activity and opportunity to reconnect with old friends and make new ones. The traditions of the Reunion Parade, 50-Year Associates celebration, Class Reunions, and Alumni Awards were all in play. A special shout-out goes to the Class of 1966 – winners of the coveted Class of '17 Attendance Cup with 21 percent of classmates here to celebrate.

How about this for a legacy? The great Class of 1956 was recognized for the largest class gift, of \$43.6 million. The competition was steep with a total of \$52.8 million in gifts from reunion classes. I am humbled by the generosity our alumni continue to display. You are amazing!

As always, I am thrilled to have you as part of the WPI family. As I told the new graduates: "You will always have a home on the Hill. You can always come Home." So, mark your calendars – Homecoming is just around the corner, Oct. 7–8. I hope to see you there. If you have feedback or ideas you want to share, feel free to reach out to me at [rmldelisle@alum.wpi.edu](mailto:rmldelisle@alum.wpi.edu).

All the best,

*Rachel '96 '06*

Rachel M. Delisle '96, '06 MBA



**WPI**

**HOMECOMING 2016**

**October 7 & 8**

**[wpi.edu/+homecoming](http://wpi.edu/+homecoming)**

# [ALUMNI*w*eekend]



With more alumni and friends participating in Alumni Weekend than ever before, the Hill was the place to be June 2-5, 2016. Whether roasting marshmallows at the fire pits on the Quad, enjoying some Building and Brews with Swivel-Snaps co-creator Brian Klauber '96, dancing the night away at Stroll, Shuffle and Shake, taking a chance at Wagers in the Wedge, or getting nostalgic with all the WPI traditions—the Reunion Parade, Alumni Luncheon and Awards Ceremony, 50-Year Associates Dinner, class dinners, and more—it was a weekend of friendship, fun, and all things WPI.



ALUMNI WEEKEND PHOTOS BY JOE DOLEN, HEATHER FULLER, AND CHARLES STERNAIMOLO



PHOTO KATHLEEN DOOHER

TRUSTEES OF THE GEORGE I. ALDEN TRUST: FROM LEFT, DOUGLAS MEYSTRE, CLERK; WARNER FLETCHER, CHAIR; GAIL RANDALL, VICE CHAIR; JAMES COLLINS, TREASURER

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## ALUMNI RAISE \$9 MILLION TO MEET THE CHALLENGE

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With the successful completion of the George I. Alden Trust Challenge, WPI alumni and donors recently showed loud and clear just how much WPI's distinctive approach to project-based learning means to them.

In a remarkable show of philanthropy and support for WPI's mission and vision, alumni met the Alden Trust Challenge to fund the Foisie Innovation Studio, guaranteeing future generations of students a physical home for

project-based learning where creativity, collaboration, and innovation will flourish.

When WPI alumni were invited by the Alden Trust to raise \$9 million in 18 months for the gift of an additional \$3 million from the Trust, they didn't hesitate. That \$12 million is now added to the \$6 million previously raised to support the building through *if...The Campaign to Advance WPI*, the university's most recent campaign that raised \$248 million against a \$200 million goal.

"We hope to see the lights on around the clock, so to speak,

with faculty and students hard at work, sharing knowledge, excitement, and new discoveries," says President Leshin. "We believe that this will truly be a hub of activity where any WPI community member, and especially our faculty and students, will find like-minded creative, smart, engaged, and energetic people working on ways to better our world."

WPI students live and breathe theory and practice, the foundations of project-based learning. No one knows better than alumni the life-changing impact of

projects, which for years have often been completed in less than ideal spaces (like kitchen tables or dorm floors).

“The Alden trustees were very pleased to see that alumni responded at all levels,” says Warner Fletcher, chair of the George I. Alden Trust, established by WPI’s first professor of mechanical engineering and now one of Worcester’s most venerable philanthropic institutions. “WPI certainly put the pedal to the metal to meet the terms of this challenge.”

Soon work for an Interactive Qualifying Project, a Major Qualifying Project, or a humanities and arts project will be done in a dedicated, common space. In addition, the Foisie Innovation Studio will house a center for innovation and entrepreneurship, classrooms for the Great Problems Seminar, a robotics lab, maker space, and a Global Impact Lab.

“The Foisie Innovation Studio will be the home for project-based learning,” says William McAvoy, vice president for university advancement, “but it isn’t the building itself, but what’s going to happen inside the building that really has motivated people.”

As a community, WPI presented a unified front. Prior to the challenge grant, \$6 million was raised from 250 donors. Since the challenge began, alumni stepped up and 1,300 donors – some first-time donors and some who hadn’t donated in years – brought in the necessary funds to ensure success.

“The Alden Trust Challenge gave us a unique opportunity to engage

donors in a new way, around a common goal for an exciting purpose,” says Leshin. “We held our first-ever Giving Day, which engaged not only alumni, but also faculty, staff, and students.”

The Alden trustees appreciated the Foisie Innovation Studio’s simultaneous connection to WPI’s history and future. “Of all the things within the larger ‘if...’ campaign, this facility was closest to the academic thrust of the institution from its founding and its reaffirmation when WPI adopted a project-based curriculum 40 years ago,” says Fletcher. “This facility is critical to fulfilling WPI’s mission.”

The Trust’s endorsement and confidence boosted the fundraising effort for the facility. “The Alden Trust has long been a generous and enthusiastic supporter of WPI,” says Leshin. “It brings a level of respect and authority around philanthropy that inspires others to give. Its leadership was a tremendous inspiration to many of our trustees, as well as other community members, to dig a little deeper. The Alden Trust’s support of the project gives it a certain ‘stamp of approval.’ That external validation of the project is very important.”

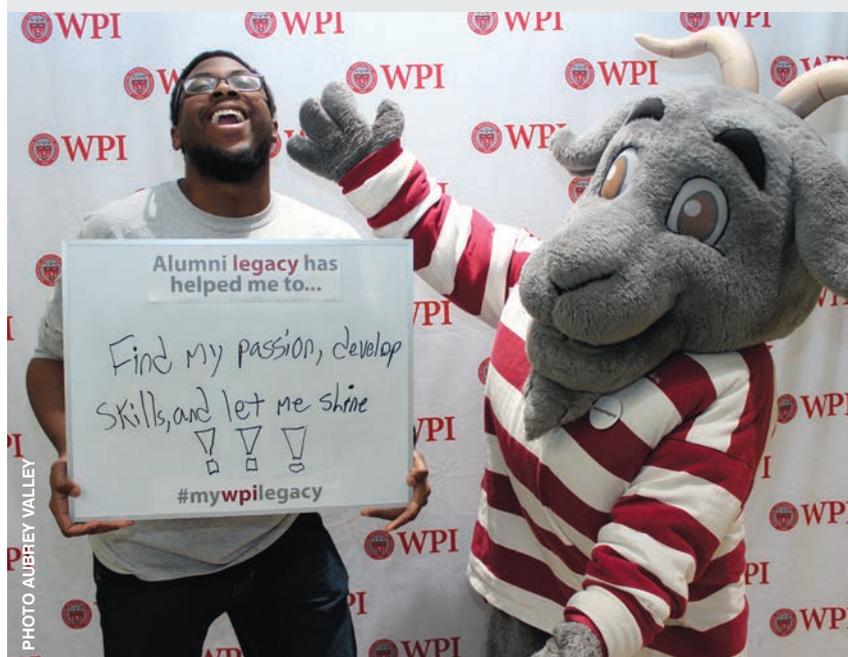
The potential is almost palpable. “It’s about the work our students do every day,” says McAvoy. “It’s about the impact that work has on students now, and then the impact WPI’s students will make when they go out into the world. It inspires great optimism for the future.”

## #MYWPILEGACY

### WHAT’S YOUR WPI LEGACY?

On Feb. 16, campus community members celebrated WPI’s long tradition of philanthropy, and reflected on what their own philanthropic legacies may be – now and in the future. The Rubin Campus Center – honoring the legacy of trustee emeritus and former Board chair, the late Steve

Rubin ’74 – was bustling with activity as students, faculty, and staff had their photos taken with Gompei, contributed to the Senior Class Gift, enjoyed grilled Gompei’s Goat Cheese sandwiches, and participated in the broader discussion about #mywpilegacy.





FROM LEFT, MCGEE, TERRAVECCHIA, LESHIN, AND RAMOS

## 2016 SCHOLARSHIP DINNER

Scholarship recipients Gianna Terravecchia '16 and Carolina Ramos '17, along with keynote speaker Thomas McGee '64, assured guests at this year's Scholarship Dinner that generous donor support enables WPI students and alumni to do great things ... greatly. "I will help stop air pollution and ensure clean air for generations to come," said Terravecchia, leaving no doubt in the room that is exactly what she will do. President Laurie Leshin welcomed the generous scholarship donors and their worthy recipients to the elegant and meaningful celebration. She offered deep gratitude to the donors, words of inspiration to the students, and an enthusiastic recap of the university's exciting current events.

PHOTO BY JOE DOLEN



PHOTO BY LEAH FASTEN

RETIRED CHEMICAL ENGINEERING PROFESSOR YI HUA (ED) MA

BY CHELSEA LOWE

Chue-San Yoo entered WPI in 1983 with little money and lots of anxiety. But a reassuring word from then-department head and chemical engineering professor Yi Hua (Ed) Ma helped forge the course of his academic—and, ultimately, professional—career.

Now Yoo '85 (MS), '88 (PhD), himself the recipient of a chemical engineering fellowship, is repaying his professor's kindness through a \$250,000 scholarship donation in Ma's honor.

"Although I graduated from the best technical institute in Taiwan (a five-year program after junior high, but no BS degree) and was a certified professional chemical engineer, WPI granted me a 'conditional' admission to graduate school—meaning that I would be placed on probation academically,"

## MA SCHOLARSHIP HONORS A LEGACY

Yoo explains. "If I couldn't make it in the first year, I would be forced back to undergraduate level."

Challenging for any student, the situation presented worse worries for Yoo, who had "made [his] way through school pretty much relying on various charity funds and scholarships," after illness rendered his hardworking father bedridden.

"I worked very hard earning barely enough to cover my flight expenses and tuition for

the first year at WPI. The money I had on my first day was not even enough to put me through sophomore year.”

On registration day, Yoo nervously entered Ma’s office for the department head’s signature (then needed for registration). Ma explained “conditional admission,” then added: “Don’t worry, I read your application file and am sure you can make it.”

“His words encouraged me immensely and got me through good and tough times at WPI,” Yoo said.

Unbeknown to Yoo, Ma knew his student’s former school, National Taipei Institute of Technology, “quite well, because my uncle was the head of [its] chemical engineering department for many years,” the longtime WPI professor says. Ma had even met some of his uncle’s students during his high school years in Taiwan, and “was very impressed with their accomplishments.”

Yoo ended up doing so well in his first year, Ma says, “that I got a three-year fellowship support for him from another WPI Chinese chemical engineering graduate. My recollection was that [Yoo] paid back his fellowship a few years later by donating a three-year fellowship.”

Yoo continued to fulfill his early promise. He now serves as senior director of the electron beam operation division and the 450mm program at Taiwan Semiconductor Manufacturing Company. He holds 65 U.S. patents, and has published more than 40 technical papers and a book; he received the National Management Excellence Award from Taiwan’s president in 2009.

Last October, when President Leshin and a WPI delegation, including Ed and his wife, Maria, traveled to Taiwan, several of Ma’s former students—aware that the professor was planning to retire after nearly 50 years—“expressed an interest in doing something at WPI that would honor his legacy,” says Karen Bean, executive director of advancement, strategies and special projects. It was decided that PhD support was most appropriate due to

Ma’s lifelong commitment to research and doctoral education.

Discussions are underway with other alumni donors, and Ed and Maria donated land to be sold for the fellowship’s benefit. Bean says total contributions to the Yi Hua (Ed) and Maria Ma Graduate PhD Fellowship Fund in Chemical Engineering are expected to reach \$1 million.

Susan Roberts ’92, department head of chemical engineering, says, “I think so many alums are enthusiastic about this fellowship because they understand the impact both Ed Ma and the broader doctoral community in chemical engineering have had on their successes.” The fellowship aligns directly with the WPI Strategic Plan and has the potential to significantly elevate the PhD program in chemical engineering and the broader WPI community.

“I was fortunate to have had Ed Ma for the chemical engineering mathematical analysis course,” Roberts recalls. “I remember distinctly his ability to relate mathematical analyses to real-world problems in chemical engineering.” She adds with a smile, “He also drilled into me the importance of boundary conditions.”

Ma, who has won numerous awards and made a name for himself developing metallic membranes designed to separate hydrogen natural gas and coal gas while obtaining carbon dioxide with sufficient purity for sequestration, says, “I had chances to go to other places, but chose to stay because I enjoyed the WPI environment,” especially “teaching and research. WPI provided a great place to do both.”

In an email to Bean, Ma said, “It is truly gratifying to hear from a student that I’ve made a difference [in] what he was able to accomplish.”

Yoo says, “I am thankful for Professor Ma’s encouragement and those great days at WPI. I am sure, with this funding, WPI can nurture more outstanding quality PhDs.”

## 2016’s TREMENDOUS TWELVE

### ALUMNI AWARD RECIPIENTS REFLECT ON THEIR ALMA MATER

**WE ALL KNOW THAT WPI HAS IMPRESSIVE ALUMNI. BUT A FEW STAND OUT**—often for their continued connection to the university, our students, and the Plan that they have set out to achieve after graduation. This year, when the 2016 Alumni Award recipients were announced, the *Journal* asked each recipient, “What makes you feel most connected to WPI?”

#### MATTHEW BEATON ’01

##### ICHABOD WASHBURN YOUNG ALUMNI AWARD FOR PROFESSIONAL ACHIEVEMENT

Many of my experiences and lessons learned at WPI have stayed with me throughout both my professional and personal life. The WPI culture promotes critical thinking and applications of logic that have been very useful throughout my life. I’ve stayed connected through the construction of the recent solar decathlon project, having regular interactions with WPI professors and staff through collaboration on topics relevant to priority initiatives of the Baker–Polito administration. [Beaton is Massachusetts Secretary of Energy and Environmental Affairs.]

#### RACHEL DELISLE ’96, ’06 MBA

##### JOHN BOYNTON YOUNG ALUMNI AWARD FOR SERVICE TO WPI

What makes me feel most connected to WPI is the family I’ve built there. From the moment I stepped on campus, my family started gaining new members—from friends, to professors, to the staff. Twenty years later, it’s still true. As I meet and connect with current students and new members of the WPI community, my family just keeps getting bigger.

(Continued on page 52)

## DONALD DOSSA '96 PHD

### ROBERT H. GODDARD AWARD FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT

My deepest connection to WPI is with my PhD thesis supervisor, Professor Ram-Mohan. He guided me through the process and gave insightful advice when I ran into problems with the research, but he also knew when to let me run my own course. We had a unique schedule of meeting at his house one evening each week to pursue difficult problems. It has been 20 years since I received my PhD but we stay in touch. After we discuss physics and computing problems, we talk about our families and children. It's more than about being peers; it's about friendship, as well.

## JOSEPH DZIALO '76

### ROBERT H. GODDARD AWARD FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT

My connections to WPI are principally with other alumni. For example, one of my roommates at WPI, Paul Varadian '75, became a business colleague of mine when I joined P&G after graduation. We are still friends today. Similarly, Dave LaPré '75 was one of my first bosses at P&G. We enjoyed success and had fun working together.

## MICHAEL GRILLI '66

### HERBERT F. TAYLOR ALUMNI AWARD FOR DISTINGUISHED SERVICE TO WPI

I am most connected to WPI when I am involved in events to enhance the school, such as alumni events at

the Panama Canal, as well as efforts to upgrade Kaven Hall.

## RICHARD HOOKER

### WPI AWARD FOR DISTINGUISHED SERVICE

I served as regional president of SAE from 1969 to 1992. I worked with all our chapters in New England; however, the one I became most involved with was the chapter at WPI. I felt a strong connection not just as an SAE, but as a civil/fire protection engineer involved professionally at an engineering school. This made a strong bond with our local chapter that has lasted over 40 years and continues to this day. I also had the good fortune to help start the WPI alumni IFC (interfraternity council), now known as the Greek Alumni Council. Because of my chapter at WPI and the various activities I have been a part of, I really feel connected to WPI. In fact, I have a certificate given to me by my fraternity Chapter at WPI which states that I graduated from WPI!

## STUART KAZIN '61

### HERBERT F. TAYLOR ALUMNI AWARD FOR DISTINGUISHED SERVICE TO WPI

I have been heavily involved with WPI for over 10 years—first with the Alumni Association as chair of the Annual Fund for four years and then as a WPI trustee for the past six years. It has been a wonderful experience, since I really enjoy the people. I am also very impressed with WPI's accomplishments and its future direction.

## WILLIAM KICZUK '81

### ROBERT H. GODDARD AWARD FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT

Upon graduation I moved to Texas and my connection back to WPI was through others I met who shared WPI's unique educational experience. When I moved back to New England, I became better connected through various education and research programs I participated in jointly with WPI. My connection has grown through the people I've worked with as part of WPI's diversity advocacy board.

## KATHY LOFTUS '86

### ROBERT H. GODDARD AWARD FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT

Through the years I've stayed connected through strong friendships and attending regional meetings, such as the New England Roundtable on Federal Renewable Energy Policy. I've also guest lectured during Earth Day, have worked with students on their freshman Great Problems (Big Ideas) projects, and have served as a judge. I've worked with the Mechanical Engineering External Advisory Group—faculty and staff to increase STEM and WPI awareness to young women. More recently, I've worked with the Sustainability Advisory Committee and the Board of Advisors of WPI's Center for Sustainability in Business. I enjoy seeing the development of the institution through the years, and I thoroughly enjoy watching the interaction of the students with their mentors, fellow students, and faculty and

staff. It's truly a special community, and I'm fortunate to continue to be a part of it.

## ERICA CURRAN MASON '96

### JOHN BOYNTON YOUNG ALUMNI AWARD FOR SERVICE TO WPI

I feel most connected to WPI through my relationships with the current staff, faculty, and students. Having a physical presence on campus has been important to me, and I feel much more connected now than during the early years after graduating when I didn't spend time at WPI. I've also had the opportunity to attend several alumni events in Boston, which have been a great way to meet other alums and keep current with what's happening at WPI.

## ZVI SZAFRAN '76

### ROBERT H. GODDARD AWARD FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT

As each year goes by, I realize more and more how the people who designed the WPI Plan really got it, and were ahead of their time. I've incorporated various ideas from the Plan everywhere I've been. I always knew I got a good education at WPI, but I've come to learn that it was even better than I thought.

## AHMED ALBAITI '96

### received the ICHABOD WASHBURN YOUNG ALUMNI AWARD FOR OUTSTANDING PROFESSIONAL ACHIEVEMENT.

## 1945

**Charles Morse** continues to happily exist at the BayWoods condominium senior residence in Annapolis, Md., he tells us. “Wonderful to hear from any remaining classmates at [chasmorse@aol.com](mailto:chasmorse@aol.com) or 410-268-6296.”

## 1946

After WPI, **Don Girard** started his career at Trane Company in La Crosse, Wisc. “From there I was assigned to the Syracuse, N.Y., office, and later became general manager for the Central New York District. Next I was reassigned to Trane’s Caribbean Office in San Juan, serving the developing pharmaceutical industry. After that I invested as a materials supplier to the pharmaceutical industry in Puerto Rico. Our Virgin Islands vacations began during life in Syracuse—we purchased a beachfront condominium at Cowpet Bay. I began scuba diving in the Virgin Islands, and have made over 75 ocean dives, never meeting a shark during underwater photography of fish, corals, and shipwrecks. Many dives with my wife and son, who often said, “We saw your sharks.” I have remained in Puerto Rico, and enjoyed golfing at Dorado Beach Resorts—but now the golf clubs are retired. I have been blessed by my wife, Betty, and son, Greg—and with four grandchildren, and now four great-grandsons. And health.”

## 1951

**Roger Wye** writes, “Recently celebrated the conclusion of two decades of delightful living on Hilton Head Island in South Carolina. Also found classmate, fraternity brother, and old friend **Ken Mayo** to still be charging full-speed ahead.”

## 1953

**Dave Hathaway** writes, “Our winter getaway this year was to the south for 17 days, with 3,500 miles of driving to see 31 people. With only two days of light rain in Florida, we missed the



blizzard that put two feet of snow from Richmond, Va., to NYC and beyond. Stopped in Southampton, Pa., to see classmate and fraternity brother **Bill Nagel** and his wife, Jeanne. It was one of the few times we have been able to get together.” While in Worcester, Dave had a chance to tour WPI’s Gateway Park facilities at 85 Prescott Street. “I was awed with the innovation in converting those old mill buildings into something so perfect as lab space for graduate students. You need to see them to realize the value in education WPI has given its students. Once you see this building you will be more impressed with what the college can do to raise the talents of WPI graduates.”

**Thomas Hollocher**, a retired Brandeis biochemistry professor, was profiled in the *Sudbury (Mass.) Town Crier’s* “Meet Your Neighbor” column. After almost four decades spent teaching he collaborated with his son, a geologist, on the fossilization of scat and dung from Mesozoic era. He has published more than 100 papers and traveled to the

badlands of the western United States and to Argentina on fossil expeditions.

## 1954

**William Schoenemann** writes, “Bonnie and I have been happily ensconced in an active S.F. Bay-area independent living facility for over two years. Kind of nice to have everything done for you and be near three of our daughters. Still playing duplicate bridge and traveling within this hemisphere. Collected countries for a while and now count 110 we’ve visited. It’s a great experience to communicate and share experiences with people who live their own dreams in their worlds.”

## 1955

**Robert Holdenvenson (né Holden)** writes, “I am applying as an at-large delegate for Bernie in July.”

## 1956

“Still living in Haverhill, Mass.,” writes **Howard Brown**.

## 1958

The Class of '58 was well represented at WPI Red Sox Day in Fort Myers.

**Pete Ottowitz, Bill O’Neil, Bob Jenkins, Stan Graveline, Don Abraham, and Roger Jolicoeur** reunited to watch the Red Sox play.

## 1959

**Moe Amin** writes, “As of the end of the first week of January 2016, I am fully retired from the firm of Sargent & Lundy Engineers, where I worked since 1979. I did consulting for them from 1966 through 1971, when Gloria and I were in Iran. We are now enjoying retirement, and are happy about it.”

**Bob Bober** reports, “I am working on an MQP involving bees with professors Holly Ault and Eben Cobb in WPI’s ME department. A beekeeper friend of

mine and I outlined a problem of lifting heavy beehive boxes. The students came to Jim's apiary and learned about bees. They undertook a design and presented it at a Worcester County Beekeepers Association meeting in January. They are now in the construction phase."

## 1960

**Richard Brewster** is living in Tianjin, China, working as project engineer on a new-build 37,000-ton hospital ship. He expects to be there, on and off, for about three years. He reports that he and his wife live in a pleasant fourth-floor apartment overlooking a golf course, with tall buildings in the distance. "This is a 'volunteer' position," he writes, "with only flights and lodging paid. We are enjoying getting used to living in a large Chinese city. We have a spare bedroom, so contact us if you want to visit!" The photo shows Richard with one of the 240 blocks that will eventually be part of the ship.

**Sang Lee** says he's "retired and enjoying life," after serving as advisor on global education for Handong Global University in Korea, where he promoted networking with universities in other countries. He now lives in the greater Chicago area.

## 1961

**David St. Onge** writes, "My wife, Ann, and I keep very busy in our community volunteering. I am active in Shriners, meeting weekly with a unit called Craftsmen that prepares our Shrine building for various activities from dinners to the Circus. Ann and I have been working the Circus concession stands for several years now. We enjoy traveling and are currently looking forward to a cruise to Bermuda with our Shrine Nobles in June.

"Our daughter, Jennifer, has a son, David, who graduated from Charleroi (Pa.) High School on June 2. He has been taking AP courses, building robots, and working on his Eagle rank. He has been



'60

## Richard Brewster is building a floating hospital.

on the golf, soccer, and math teams at his school. He will be a freshman at Purdue University this fall, majoring in aeronautical engineering. His sister, Anna, who participates in the school band and volleyball, will be a sophomore in high school this fall.

"Our son, Jeffrey, lives in Newport Beach, Calif., and has a daughter, Kate, who is 17 months old and learning something new every day. Thanks to modern technology, we get to share these happenings. Ann and I have been attending Tech Old Timers, where we have had some excellent programs in the Higgins mansion. I also am a director on the WPI alumni board."

## 1963

**Larry Escott** picked up on a full-page ad in the *New York Times* that lists WPI as one of the colleges featured in a new book—*Colleges That Create Futures: 50*

*Schools That Launch Careers by Going Beyond the Classroom*. "A selling point for prospective students," he notes.

**Daniel Pender** is an otolaryngologist (ear, nose, and throat) based in Manhattan, and has been operating at Columbia University's medical center for many years. "I currently serve as president of the New York Otological Society," he writes. "My wife is a psychiatrist and a trustee of the American Psychiatric Association. We have four children: Tassili has a PhD in political science and is just graduating from law school; Niamey is a general surgeon who trained at Penn; Malindi graduated from Bryn Mawr and the University of Geneva and is now a real estate entrepreneur in Paris; our son, Paris, holds a PhD from the Courant Institute for Mathematics and works in the financial industry. My current research interests center on the

material strength of the inner ear membranes. In certain individuals these membranes burst, causing disabling vertigo in a condition known as Meniere's disease. I recently lectured on the topic at the University of Vermont and am presenting a paper at Harvard in May." See Dan's Letter to the Editor on p. 2 for his memories of WPI and classmate **Bob Behn**.

## 1964

**George Spires** and his wife, Linda, returned from a nine-week Mediterranean cruise in time for Christmas last year. "God willing, an Alaskan cruise in June '16," he vows.

## 1965

Commencement 2016 included a tribute to **Phil Ryan**, who retires this summer after serving 17 years on the WPI Board of Trustees, including two years as chairman and a year as WPI's interim president. President Laurie Leshin thanked him for his support when she took office in 2014.

"I could not have asked for a better partner, mentor, and boss in my first two years at WPI," she said, "and WPI could not ask for a more devoted supporter."

## 1966

**Philip Blackman** writes, "I was happy to fly from Hawaii to join our class for Reunion #50 and the celebration of the life and legacy of Bill Grogan. In 2005 Bill and I, while together at a President's Circle event, pitched a change in focus for WPI robotics. We advocated that WPI step into the national cash prize competitions Congress had just authorized. Then-president Dennis Berkey backed the plan, conditional that I pay the entry fee, for WPI to take on "The DARPA Grand Challenge." I lobbied the majority of department heads, and also built an alliance between the long-established Society of Automotive Engineers and the newer Robotics Club under a student-led team. The students became activists for WPI to offer an undergraduate robotics degree-granting option and now there were many willing faculty listening.

"I built another DARPA contest team, not associated with a college, to complement and backstop WPI efforts as we pursued the only electric vehicle entry and experimented in a global information exchange from Hawaii. In 2008 my similar lobby effort and finance initiative accumulated laboratory space and faculty and student participation in the NASA Regolith Excavation Challenge. This was coupled with a push I generated to shift the NASA Centennial Challenge program to be college led, not

California State led. Of course, WPI took control and also officially launched the robotics degree-granting program. The future is bright. This year, again, WPI hosts the NASA national Sample Return (Mars) Challenge on campus. I'm proud to be part of the WPI family. Aloha."

## 1967

Sara and **Ron Jolicoeur** are enjoying retirement and their new year-round home in Brewster, Mass.

## 1968

**Ken Battle** writes, "I am still working full-time at Jacobs Engineering in New Jersey; I was born an engineer and I will pass on as one, too. My wife and I are planning to move from South Jersey to our lake house in the Finger Lakes (Cayuga) in the next year. That will cut my work hours a bit, but not much. Hair is 100 percent gray now, but the '84 Ferrari 400i is in better shape, due to my upkeep. Emails welcomed at ken@kenbattleservices.com."

**Kenneth Gminski** writes, "Having read the previous Class Notes section without a contribution from the Class of 1968 – the 100th WPI graduating class (Remember "'68 is Great!" during freshman hazing?), I figured I should contribute. Turned 70 in May; it's time to finally retire in N.H. after a 30-year career with Factory Mutual (now FM Global) and on my own as a consultant in the fire protection business for 15 years. My wife still has a full-time job watching our two grandsons, while our daughter teaches high school Spanish. For me, 2015 was a rough year, having been diagnosed with a very rare lymphoma (150 people a year in this country get the same news) and undergoing six rounds of double chemo after the initial type didn't succeed. This cancer is treatable but not yet curable. My condition is under control, so far.

"Saw classmate and fraternity brother

**Arnie Antak** (who was my grad school roommate at URI) at our son Stephen's, wedding. He has left his lake house in New Hampshire for Sarasota, Fla., so we don't see each other as often now. I do see fraternity brother **Brian Belanger '66** (who also went to URI), when we visit my wife's family in Arizona.

"At my 50th high school reunion back in 2014, I saw my freshman-year roommate **Neil Durkee**. He splits his time between upstate New York and Florida. I've known Neil since Duggan Junior High days. **Steve Stadnicki** traveled back from California to also attend this event." See Ken's Letter to the Editor (p.2) for his memories of Professor Carlton Staples, **Bill Grogan '46**, and Father Pete Scanlon, who married him and Ruthanne back in 1972.

**Ed O'Hara** writes, "Retired for two years. Debbie and I plan to split our time between Naples, Fla., and New Jersey."

## 1970

**Steve Johnson** writes, "I spent the first 25 years of my career helping to develop air pollution control technologies for coal-fired power plants. The next quarter-century was spent helping these plants adopt new technologies for more cost-effective emission controls. Now many of these coal-fired boilers are being retired (due to public pressure and the availability of cheap gas to burn), and so am I. So far the transition involves fun with grandkids and the possibility of helping to develop new technologies for a carbon-constrained world."

## 1971

**Joe Carter** notes, "Am stepping down as chair of ENT at MetroHealth Cleveland, now that the last child has graduated college. All three now employed! Plan to continue working part-time, but no more night call. Plan to spend more time with my lovely

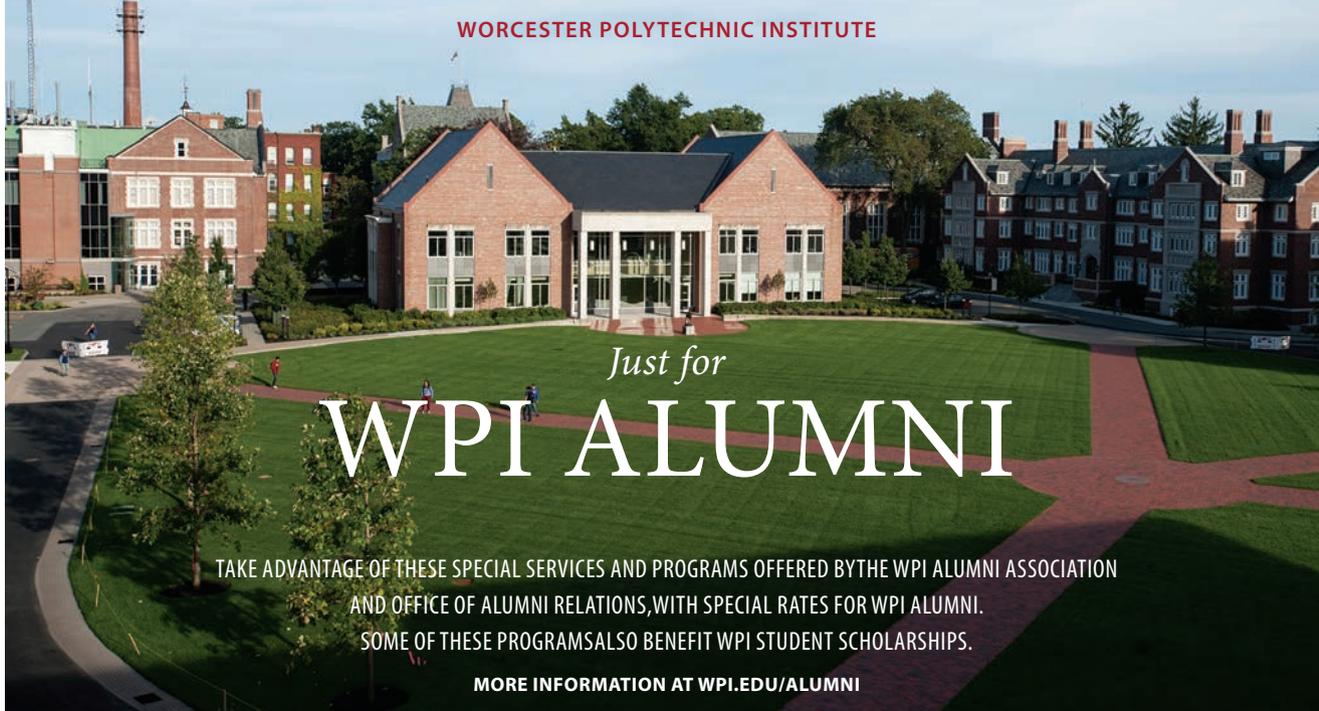
wife, Alison (married 40 years), and enjoying my hobbies (still a ham radio fan, thanks to w1yk). I still have my IHEE card!"

## 1972

**David Greenhalgh** writes, "Having worn the harness and pulled the cart for 43 years following graduation, I retired in 2015 and haven't looked back. My career covered military service, private industry, engineering and construction, and public service. Every career choice was an education. It's amazing how much knowledge the human brain absorbs. In retirement, it's about the motorcycles. I cover about 20,000 miles each year on a variety of long-distance and local trips and love all of them, although travel in the northeast can be a bit rambunctious. When I grow up (after age 70), I'll decide how to settle down. Right now, home is Dahlgren, Va. – when I'm here."

**Anthony Tim Longo** writes, "I have been giving private piano and music lessons in Fairfield County, Conn., since 2007, and have recently created a fundraising campaign based around my song "I Have Angels" to support the Innovative Advanced Cancer Research Foundation (iacrfoundation.org). This unique and wonderful organization passes on 100 percent of all donations to fund pediatric cancer research. My song has been recorded by one of its founders, Linda Adams, whose son survived a very rare form of bone marrow cancer and is now 19 years old and healthy. My song can be performed at events and the recording can be played and used by making a donation to the IACRF. Contact me at longo.tim@gmail.com or at 203-933-4462 to learn more."

**Brian Savilonis** writes, "Finishing my 35th year at WPI; received Board of Trustees' Award for Community Service this April. Still lacing up my running and race walking shoes; still getting slower!"



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**1973**

The genius of **Dean Kamen** is on display at the Museum of Science in Boston, in a permanent exhibit called "Innovative Engineers," designed to bring long-overdue attention to the engineering leaders who solve everyday challenges both large and small. Visitors can read about the inventors' backgrounds, learn about their various paths to success, then test their skills in the museum's Design Challenges program, which involves solving an engineering puzzle using provided materials.

**1974**

Grey Matter Systems posted a tribute to the late **Steve Rubin** on its blog, thanking Rubin for his support of the company. President and CEO James Gillespie posted a photo of his son in front of the Rubin Campus Center taken during their recent college tour, noting that the trip to Worcester caused him to flash back to a person important to the founders' lives and the company. "At

Gray Matter Systems we honor Steve's dedication to customers. ... We also honor his sense of adventure and fun. ... Most of all, we honor his incredible business values of fairness and honesty." The piece concluded, "We feel good about where we are and where we're going and that's all because someone believed in us. We wish we had said this sooner – thanks, Steve."

**1976**

**Mark Deutsch** writes, "I retired from T-Mobile late in 2015 and thought it time to catch up people from my class on my life. I worked mostly in several industries: manufacturing, retailing, and telecommunications. My longest stretch was with wireless service providers, where I was involved in creating new products and services, as well as launching them. I moved out to Seattle after business school and met my wife there. I have been blessed to be married to her for over 30 years now. Outside of the work I have done, I get the most joy in playing and singing music, being a community leader, and

doing a bit to reduce our impact on the climate. Betsy and I raised two wonderful daughters. One recently became a nurse practitioner, shortly after having married an oral surgeon. The other daughter says she works against 'survival of the fittest,' as she is outreach director for a harm-reduction/needle exchange program in NYC. My wife and I missed the 2015 Homecoming at WPI as we were at a wedding in Vermont, but we did stop by the campus last fall. I was amazed to see what remained the same, as well as the many changes since I went to college. I hope to be able to make it to an alumni gathering by our 50th reunion."

**Jean-Claude Masangu Mulongo** is a former governor of the Central Bank of the Democratic Republic of Congo, and has served as president of the G24 of the International Monetary Fund, deputy governor for the DRC at the World Bank, and president of the African Central Banks Association. His op-ed, "Hey, candidates: Don't forget about Africa," appeared on the Politico blog in February.

**1978**

**Christopher James** spoke at Western Washington University recently, in a lecture titled "How Can China Achieve Blue Skies and Prevent Further Rises in Greenhouse Gas Emissions When It Is Building New Coal Plants?" He advises on environmental issues as principal at RAP (Regulatory Assistance Project), a non-partisan team of energy experts who help energy and air regulators and NGOs navigate power-sector policy, regulation, and markets.

**David Morascini** of New London, Conn., has taken out papers to run in the 2016 presidential election, on the platform "World peace now. If not now, when?" In an interview with *The Day*, he acknowledged that while some people may call him crazy, "I speak from my heart and soul. How long have people been begging for world peace?"

**1979**

"My best times were at WPI," writes **Carlos Maltos**.

MORE INFORMATION, APPLICATIONS, AND ORDER FORMS AVAILABLE ONLINE AT [WPI.EDU/ALUMNI](http://WPI.EDU/ALUMNI). OR CONTACT THE OFFICE OF ALUMNI RELATIONS AT 508-831-5600, [ALUMNI-OFFICE@WPI.EDU](mailto:ALUMNI-OFFICE@WPI.EDU).

**Phil Rubin** has recently taken a leadership role in the private equity-held Icyne Inc., a supplier of spray foam insulation. Phil writes that he was considering retirement, but was so impressed with the Icyne product that he elected to join their team. He and his wife, Lynn, live in Park City, Utah, where they just completed the construction of their new home. Phil can be reached [rubinpj@yahoo.com](mailto:rubinpj@yahoo.com).

## 1980

Cox Automotive Inc. appointed **Mark O'Neil** to the newly created position of chief operating officer, overseeing its Software, Media, Inventory, and Financial Services groups. His mission is to change the way the world buys, sells, and owns cars through digital marketing and solutions for consumers, dealers, manufacturers, and the overall industry.

## 1982

**Scott Mathews** writes from Jet Propulsion Laboratory/Caltech, where he is group supervisor, Mechanical Integration Engineering, in the Spacecraft Mechanical Engineering Section. "Things are busy as ever in Pasadena, getting the next flotilla of robotic spacecraft built. Coming up: Mars2020, Europa Clipper, and Asteroid Rendezvous and Retrieval Mission (ARRM). In addition there are two instrument payloads: Surface Water and Ocean Topography (SWOT), and NASA/ISRO SAR (NISAR), and several payloads for the International Space Station that will observe Earth's climate and environment are also going full steam. Exciting times at JPL!"

## 1983

**Scott Behan** is senior marketing manager with Qorvo's High Power RF Systems group. He has more than 30 years of experience in high-power amplifier design and applications, holds several patents and pending patents in high-power microwave



'83

## Joel Kearns returns to NASA Space Flight Systems.

amplifier circuits, and possesses a broad knowledge of related systems and subsystem implementation. He has published several articles on microwave amplifiers and associated applications.

The Timken Company appointed **Michael Connors** as vice president of global marketing. He joined the company as a manufacturing engineer in 1983. Timken produces bearings, transmissions, gearboxes, belts, chain, and related products, and offers powertrain rebuild and repair services.

**Patricia (Hester) Holden** writes, "After a stint of 10+ years at EMC, I have now started contracting and really enjoy it. Learning new things, meeting new people is all good stuff!"

**Joel Kearns** writes, "After managing the Orion Multi-Purpose Vehicle Program's European Service Module Integration office for more than 18 months, I have returned to my permanent job as deputy director of the Space Flight Systems Directorate at NASA Glenn Research Center."

## Brian Klaubert and his wife, Nola, run Christian Brothers Automotive.

They have owned and operated three full service repair shops in metro Atlanta since 2002. They were recently recognized by media outlet CNBC as America's Star Franchisees 2016 for the state of Georgia. They were selected from more than 28,500 individual franchisees, representing 364 franchise brands, and recognized as one of 50 entrepreneurs across the country.

'83



## 1984

**Karen Brock Amoah** is VP of sales and marketing at SEKISUI SPI. In a recent profile on the "Runway Girl Network" aviation industry news blog, she praised her project-based education at WPI for teaching her about teamwork, deadlines, and decision making. Noting that she's always been "the minority in the room" in the plastics business, she says she's learned to respect her emotional intelligence—and to trust data—thus employing both sides of her nature to advantage.

Just after St. Patrick's Day, **Joan (Marter) Morra ('87 MS MTE)** shared a fabulous photo of a double rainbow arching over the Quad. "My daughter Emily (Class of 2019) took it from her window in Morgan Hall on March 18," she wrote. "One day past the leprechaun's pot of gold, but clearly a very positive sign for Worcester and WPI!"

## 1985

Cantor Colburn attorney **William Cass** spoke at the Inside 3D Printing Conference & Expo in Seoul, South Korea, in June 2016. His practice includes IP and product liability litigation. An avid aviator, he blogs on aviation law and technology at [cassreport.com](http://cassreport.com).

**Ken Chenis** is chief architect at ACI Worldwide, developing electronic banking and payment software. He has worked with WPI MQP students in the areas of fraud detection, scalable feature computation, and multidimensional threat analysis. In a story in WPI's Arts & Sciences newsletter, Ken reported that ACI also benefited from the work and has seen a significant increase in student interest in the company during WPI career fairs.

**Jon Kaplan** writes, "I have been working in the field of bicycle and pedestrian planning and design for over 20 years now. I got my start in that field with the Oregon DOT, and now I am the Bicycle and Pedestrian Program

manager for the Vermont Agency of Transportation. I live in Randolph, Vt., with my wife and three kids. Our oldest will be starting at UMass Amherst in the fall. The two projects I am most excited about currently are Complete Streets, a planning and design concept where roads are meant to work for all transportation modes, and Road Diets, where overly built roads are reconfigured to calm traffic and make space for bicycles.”

## 1986

**Marge (Motyka) Shinkle** was on the winning Blue Sox team with manager Butch Hobson and coach Rico Petrocelli at the inaugural Red Sox Women’s Fantasy Camp at JetBlue Park in January 2016, hitting over .500 and nominated for a Gold Glove award.

## At Red Sox Women’s Fantasy Camp



## 1989

WPI’s Office of Sustainability invited **Jeffrey Goldmeier** to speak on alternative fuel solutions to the challenges of power generation. His presentation examined the many options for generating electricity and the factors that add complexity to choices, including local geographic and weather conditions, grid stability, back-up fuel requirements, environmental regulations, as well as capital and operating costs. Jeff is manager of gas turbine combustion and fuel solutions at GE Gas Power Systems, responsible for strategic development of gas turbine products and combustion technologies for emerging fuel applications around the globe. He holds 11 patents related to power generation, combustion technology, and advanced instrumentation, and has written over 50 conference papers.

**Debora Jackson** won an Illumination Book Silver Award for *Spiritual Practices for Effective Leadership: 7Rs of Sanctuary*

for *Pastors*, her self-help guide to surviving the demands of the ministry. She was inspired to write it after seeing so many leaders – including herself – seeking balance in their lives. “I wanted to demonstrate that self-care wasn’t just a nice-to-do endeavor, but was truly a critical strategy for greater effectiveness in leadership,” she says, explaining that all leaders, not just spiritual ones, need to take time apart. “We need times of dormancy in order to be restored and renewed.” Having served as a senior, solo pastor for eight years, Jackson knows firsthand the challenges of pastoral ministry. She currently serves on the WPI Board of Trustees and is the executive director of the American Baptist Ministers Council.

## 1990

The Sixth Flag Inc., founded by CEO **Pete Kofod**, was included in the “Cool Vendors in Endpoint Computing, 2016” report by Gartner. “We are honored to be selected by Gartner,” says Kofod. “We believe it validates our vision of delivering a true cloud orchestrated and delivered Desktop-as-a-Service, and we will continue to raise the bar by adding groundbreaking capabilities, extending a solution that is simple, secure, easy to manage, and that won’t break the bank.” He notes that the ability to securely deliver Windows-based applications to a distributed and dynamic work force continues to challenge technology leaders, and says that from its inception, The Sixth Flag has recognized this need.

The *Washington Post* turned to infectious disease expert **Kyle Petersen** for advice on traveling to Rio for Carnival or the Olympics. In the article, Kyle cautioned pregnant women, and advised insect repellent for others as protection against *Aedes* mosquitos, which spreads the Zika virus. Kyle’s medical service in Peru was the subject of a cover story in the Fall 2015 issue of the *WPI Journal*. A captain in the U.S. Navy Medical Corps, he now serves as associate professor of

medicine at Uniformed Services University of the Health Sciences in Bethesda, Md.

**Matthew Ronn** writes, “I am now director of infrastructure services at Harvard T. H. Chan School of Public Health.”

**Tim Root (MS EE)** is chief technology officer and executive vice president of new business development for Revolabs®, a provider of audio solutions for unified communications, enterprise collaboration, and professional audio applications. He recently participated in a panel titled “Audio Networking – Protocols, Standards, and Next Steps” at BVE 2016 in London to discuss the latest developments in audio networking. Tim has more than 13 years of executive-level experience in media and telepresence for the video communications and security markets.

## 1991

**Burritt Haag** is a specialist in bariatric surgery, practicing with Pioneer Valley Surgical Associates in Springfield, Mass. He offers a variety of weight loss procedures, including the ORBERA non-surgical intragastric balloon. He received his medical degree from Thomas Jefferson Medical College in Philadelphia, and completed his surgical training at St. Lukes–Roosevelt Hospital in New York City, followed by an advanced laparoscopy fellowship at Hackensack University Medical Center.

## 1992

**Jennifer (Wiley) Marrs** wrote a chapter on Fluid Power that was included in *Machinery’s Handbook*, 30th Edition, published in March 2016.

**Donald Peterson**, dean of the College of Science, Technology, Engineering, and Mathematics at Texas A&M University–Texarkana, was inducted into the American Institute for Medical and Biological Engineering’s College of

## Donald Peterson is a dean at Texas A&M.

'92



Fellows. “There is probably no greater honor for a scholar than to be recognized by peers in this way,” says Texas A&M president Emily Cutrer. “It is an honor for our university and our community that we have such an outstanding and internationally recognized scientist to lead our STEM programs.”

**Daniel Sabin** was recently elevated to fellow by the Institute of Electrical and Electronics Engineers (IEEE). He was recognized for leadership in power quality database management and analysis software. Dan works as a principal engineer and software architect with Electrotek Concepts in Beverly, Mass.

## 1993

**Shira McWaters** is the new public works director for Oak Ridge, Tenn.

## 1994

**Sandor Becz** was named vice president of engineering for Hydroid Inc. in June 2015. “Hydroid is the market leader in autonomous marine robotic systems, including underwater vehicles and launch and recovery systems,” he writes. He lives in Pocasset, Mass., with his wife, Michelle, and sons, Connor and Spencer.

After earning an MBA from Bentley College, **Anthony Padula** turned back to his first love – oil painting. He began studying with a teacher in 2008 and had his first solo show in 2011. His work includes still lifes, portraits, and figures, focusing on light and shadow. His recent solo exhibit, “Quietly,” was shown in the Parlor gallery at the

Marblehead (Mass.) Arts Association during the winter holiday season. He held several oil painting demos that filled the gallery with interested artists and art lovers alike, the Association’s website reports. “A majority of his works from the exhibit were sold, including a couple of his unfinished pieces from the informal demonstrations.”

## 1995

**Chris Pistel** ran into longtime WPI librarian Erika Majmudar while captaining the *Cap’n Kids* on an educational fishing cruise on Nantucket Bay. Erica, now retired, was out for the day with three generations of her family. Chris recognized her and greeted her with a hearty “Welcome to my boat.” The two shared memories of late nights in Gordon Library, where Chris used to study until midnight. He also reminisced about learning to operate a ham radio on a set that belonged to Erica’s husband, ECE professor Harit Majmudar, who passed

away in 1989. “I didn’t know your husband,” Chris told her, “but using his radio and seeing his photo on the wall of the Ham Radio Club room, I feel like I know him a little.” Erica donated the radio after her husband’s death, and Chris noted that that it helped get his license and gain an important skill for his job as a captain. “Small world,” says Erica. “WPI pops up everywhere, with warm memories of time spent there.”

## 1996

**Justin Carter** writes, “Got married to Amy on Oct. 3, in San Antonio. Will be in Alaska in June and unable to make the Reunion. My best to everyone.”

## 1996

**Rachel (Butland) Delisle ('06 MBA)** completed the rigorous process to be named an ASQ (American Society for Quality) fellow. She was recognized at ASQ’s World Conference on Quality and Improvement in May. Members must

achieve requirements across six professional categories and earn endorsement by their ASQ section. Rachel, who works for KARL STORZ Endovision in Charlton, Mass., was recognized for outstanding professional contributions in practicing Lean Six Sigma and quality management; for training and mentoring; and for being an active leader of the Six Sigma Forum and currently serving as president of the WPI Alumni Association.

## 1998

**Mic Kearns** is project executive and regional director for Shawmut Design and Construction, the company managing the demolition of Alumni Gym and the construction of the Foisie Innovation Studio and Residence Hall. As a WPI alum – and as someone who has taught graduate-level courses and supervised MQP teams – Kearns sees potential opportunities to involve students in the project, and says that Shawmut plans to work with WPI’s Department of Civil and Environmental Engineering. “The rare opportunity to create a building on the Quad is a once-in-a-lifetime thing,” he told the *Daily Herd* online newsletter for the WPI community. “It’s a personal privilege... a personal point of pride.”

## 2000

After numerous layoffs, **Susan McNeill Spuhler (MS OIT)** founded Westford Pilot House to help other professionals deal with long-term unemployment. In addition to assistance with job searches, she has rallied volunteers to provide her clients with everything from haircuts and dry cleaning, to advice on resume writing, foreclosure prevention, and how to obtain state benefits. “This is absolutely necessary for people out there that are professionals,” Spuhler told the *Lowell Sun*. “People are so embarrassed and depressed.” In the article she referred to her work as love, compassion, and caring, saying, “It’s just helping your fellow man.”

## 2002

**Rachel (Bowers) LeBlanc ('08 MS, '13 MBA)** is executive director of Corporate and Professional Education at WPI. She is currently serving a three-year term with the International Council on Systems Engineering (INCOSE), as director of marketing and communications. She says her WPI experience will serve her well at INCOSE. "In my various roles at WPI, I gained experience that has helped me understand marketing, the importance of good communication, and how all of the functions interact. I believe INCOSE will continue to grow and provide thought leadership to a variety of industries, improving their effectiveness and allowing them to achieve more; and for WPI, the future is bright. I have seen this university move from a best-kept secret to a recognized leader in higher education. It is amazing to see the progress. Every day, I am impressed with the work being done by our students, faculty, and staff. And, I know that the momentum we have built will continue to propel WPI down a path of creating more value and impacting more lives."

## 2003

**Anne Francis** writes, "On April 23, 2016, I married Thomas Hickey, a 1995 graduate of Massachusetts Maritime Academy in Boston. We celebrated the day with many of my WPI friends, including **Kurt '02** and **Shauna (Malone) Onofrey '02**, **Colin Matthias '03**, **Elizabeth (Zabe) Premo '03**, **Katrina (Salamon) '04**, **Ben Privett '04**, and **Jon Abad '05**. Tom and I reside in Boston's South End with our dogs. In other news, in May 2015 I graduated from Boston University with my MBA with a dual concentration in Leadership and Organizational Transformation and Strategy and Innovation. I currently work at Care.com as the director of business systems and applications."



'08

## 2004

**Frank Gerratana ('05 MS CS)**, principal at Fish & Richardson, has been named a 2016 "Up & Coming Lawyer." His practice focuses on computer software and hardware, electronics, and medical devices. He helps start-ups and established companies develop and manage their patent portfolios, and does pro bono work for the American Civil Liberties Union of Massachusetts and many other organizations. Gerratana received his JD from American University Washington College of Law in 2008.

**Erik Ross** shares, "Scraped the GPA requirement at Notre Dame by the skin of my teeth. First time being a successful underdog. There are a couple other WPI alums in the PhD program. We are all getting a little long in the tooth, and I am so glad I sharpened these fangs at WPI."

## 2005

**Pamela (Giasson) Lynch** was elected Junior League of Boston's president, effective July 1, 2016. The 1,000-member, women-led, nonprofit organization builds the skills of girls through mentoring and development programs, growing a pipeline of confident strong women leaders. Pamela and her husband, Tom Lynch IV, traveled to Morocco on a service trip through Junior League in March. Professionally, she is the director of engineering at Pellion Technologies, a next-generation battery startup company.

## 2006

**Tyrone "TJ" Mellon ('16 MBA)** finished up his master of business administration in May. He and his fiancée, Tasleem Samji, are engaged to be married in August.

**Chris Werner** writes, "After five years at Apple as a product design engineer (iPod and Apple Watch), I am looking forward to what lies ahead in my new role as manager of Apple Watch product design."

## 2007

**Sam Feller (@Awkward Engineer)** is promoting his latest product, the "epically nerdy" Voltmeter Clock, by appealing for product placement from some of his idols: Jamie and Adam from *Mythbusters*, Mike Rowe from *Dirty Jobs*, Bill Nye the Science Guy, *Star Trek's* George Takei, and Neil deGrasse Tyson. "Their shows and what they stand for have always appealed to the nerdy engineer in me," he writes. "Likewise, I think the clock hits on a bunch of points that will resonate with them." Support the campaign by sending a tweet from his website, awkwardengineer.com.

**Bert LaValley** has taken on a new role as co-owner and CFO of Deadhorse Hill, a new restaurant and café on Worcester's Main Street. The name comes from the steep incline on Stafford Street, where early settlers' horses would collapse trying to scale the hill. The location is the former Bay State House hotel, where the Worcester Automobile Club held the Dead Horse Hill Climb in the early 1900s. Bert left his sustainable home

## Lynn Worobey married Ben Schmidt in May.

engineering business, Sustainable Comfort, to join two friends in the endeavor. Their goal was to preserve the integrity of the 160-year-old space and utilize its unique elements, including original brick walls and an aged parquet ceiling. They see the restaurant as a combined representation of historic Worcester and the revitalization and growth of the city.

**Kui Ren (PhD ECE)** was named a fellow of IEEE. He was recognized for his contributions to security and privacy in cloud computing and wireless networks. At 37, Kui is among the youngest IEEE fellows to be elected in years. He is director of the Ubiquitous Security and Privacy Research Laboratory (UbiSec Lab) at the University of Buffalo, conducting research in cloud and outsourcing security, wireless and wearable system security, and human-centered computing. His work has been supported by the NSF, U.S. Department of Energy, U.S. Air Force Research Laboratory, and Amazon Web Service, among others.

## 2008

**Brian Duncan** was promoted to associate director of operations engineering for Starwood Hotels and Resorts. He is based at the company's corporate headquarters in Stamford, Conn.

**Jeremy Lebowitz ('09 MS FPE)** is an associate engineer at the Boston office of Rolf Jensen & Assoc. His experience includes projects in industrial and laboratory facility design, code consulting, and explosion protection.

**Mary Kate Toomey** writes, "2015 was a big year! I finished my MBA at UMass Amherst's Isenberg School of Management, bought a house in Dedham, Mass., adopted a second dog, and became engaged to my now fiancé Tom Daly Jr. (UMass Amherst '07 BS, WSU '15 MS). In January I started a new position as manager, redevelopment and asset management, with AvalonBay Communities in the Boston office."

**Lynn Worobey** married Ben Schmidt May 7; the couple honeymooned in Italy. WPI guests flanking the newlyweds (p. 60): Deb Dexter, **Teri Hannon Caputo '06**, **Tiffany Holmes '07**, **Meg Holmes '05**, **Tim Buck '07**, **Cassie Buck '07**, **Jill Goldstein '08**, **Amanda Olore '08**, **Michael Richard '08**, **Dericc Orso '09**, **Elizabeth Stewart '08**, **Vincent Kan '08**, **Justine Roberts '08**, **Liza Tuttle '08**, **TJ Liguori '13**, **Tom Page '09**, **Mary Kate Toomey '08**, **Amanda Young '09**, **Sergiou Cherenzia '04**, **Sabrina Carmichael '09**, and **Nicole DeCampo '08**.

## 2009

Numerous media outlets, including the *Denver Post*, carried an AP article quoting **Marco Kaltofen ('15 PhD CE)** on the EPA's announcement that traces of two compounds once used in nonstick cookware coatings, firefighting foam, and other products have been detected in three Colorado water systems. Marco remains at WPI as an affiliate research engineer in the physics department.

## 2010

Visikol Inc., co-founded by chief science officer **Tom Villani** and chief operating officer **Nick Crider**, has received a \$500,000 commitment from Foundation Venture Capital Group. They are developing a versatile clearing agent that renders tissues transparent,

allowing researchers to effectively visualize biological tissues in 3-D, as opposed to the traditional slicing-based 2-D visualization approach. They founded the company with one of Tom's fellow doctoral students at Rutgers, Michael Johnson, who serves as CEO.

**Subaiou Zhang** performed on campus in January with her Boston-based string ensemble, The Loki Quartet. She is currently pursuing a PhD in musical arts at Boston University. "My experience at WPI is at the foundation of what I am doing now. There was something special in the education we received there," she told WPI's *Daily Herd*. Subaiou is married to **Brant Carter '10**.

## 2011

On Jan. 16, 2016, **Katie King** married Ian French in a ceremony officiated by her brother. Following the ceremony, the couple and their close friends enjoyed a night of karaoke, dancing, and cake. "Love," she notes, "is going to your husband's track meet the day after your wedding."

## 2013

Living Art LLC is a growing venture started by **Omri Flaisher**, **Anthony Hassan**, **David Liston**, and **Andrew Turgeon '14** to green up your digs. The foursome has created the living "Wall Garden" – a fully automated, vertically growing, aeroponics unit that resembles a picture frame," according to their press materials. The idea germinated when Liston was suffering from seasonal affective disorder (SAD), and wanted to multi-task the light from his therapy lamps. The Wall Garden nurtures the soul while providing fresh herbs, vegetables, and flowers. There's also an integrated "Internet of Things" app to remotely monitor water level and adjust lighting levels, plus tutorials and recipes for all the stuff you grow.

**Jill Sauer** writes, "I'm delighted to share that **Patrick Knight '12** and I got engaged this past Christmas. We are

both graduates of WPI's IMGD program. Our wedding will be in August 2017 – seven years after we met as Greek society members helping move boxes on Freshman Move-in Day!"

## 2014

**Keith Bacon (MBA)** is co-founder of SOAJS (soajs.org), an enterprise open source APaaS (Application Platform as a Service). He says, "SOAJS is a coherently horizontally integrated solution that empowers enterprises with the ability to digitize their technology ecosystem to improve internal and external product delivery and achieve greater ROI, quality, standardization, and speed. I'm also founder and CEO of RedPepper.io. We focus on innovative research design specializing in technology for environmental and aerospace applications and services." He adds, "WPI was a great experience. I keep in touch with most of our class and have been brainstorming on a few other projects with them."

**Kelsi Callahan** began working after graduation as a lab assistant at Precision Bioservices in Frederick, Md. In June 2015, she accepted another position with Thermo Fisher Scientific in the same town, and now has the title of Scientist 1. In her spare time, Kelsi enjoys playing trombone in the Montgomery Village Community Band.

**Marissa Capua** spent 10 days working with Habitat for Humanity in Anchorage this spring. "I know I've helped to make an impact on the community here in Anchorage, but I never could have imagined how much of an impact it has had on me," she says.

**Morgan Stanton (PhD CH)** is a postdoctoral researcher at the Max Planck Institute for Intelligent Systems in Stuttgart, Germany. She recently published "Complex polymer nanostructures with solvent annealing" on the Soft Matter Blog. Read more about her research on Google Scholar, or follow her on Twitter: @morg368.

## 2015

**Ahmed Abojaradeh** was part of a panel discussion on "Linking Communities of Faith: Building Love and Compassion in an Age of Mistrust," held at the Unitarian Universalist Church of Worcester. He fielded questions about Islam and about growing up as a mistrusted minority in Arizona. "Islam has been in the United States for centuries," he told the audience, pointing out that the first Muslims here were slaves. "Islamophobia was there before 9/11. It just didn't have a name."

**Pat "Rowan" Roughan**, founder of Starcap Games, was interviewed by *GameSkinny* on the release of the company's tabletop card game, "Now Everyone Get the F%\$# Out." In the interview, he traced the game's origins back to four years of partying experiences at WPI. "I was the jerk housemate who threw a house party while my roommate had a final to study for," and the roommate's outraged outburst sparked an idea, he said. Rowan claims that almost every item and image in the game relates to a real story from his college years.

## Kelsi Callahan is Scientist 1.

'15



**"I had chances to go to other places, but chose to stay because I enjoyed the WPI environment, especially teaching and research. WPI provided a great place to do both. It is truly gratifying to hear from a student that I've made a difference in what he was able to accomplish."**

**Ed Ma**

Retired professor of chemical engineering,  
Director of WPI's Center for Inorganic Membrane Studies

Professor Ma and his wife, Maria, recently made a wonderful gift of real estate to WPI. By doing so, they were able take advantage of the applicable charitable tax deduction and meet their philanthropic goals of supporting WPI students through the Yi Hua (Ed) Ma and Maria Ma Graduate PhD Fellowship Fund in Chemical Engineering.



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**DOROTHY MARTIN SIMON**, WPI's first female trustee, died March 25, 2016. She was 96. A distinguished research chemist and an early advocate of performance-based fire safety, she furthered the academic discipline with her gifts to the Dorothy M. Simon Endowed Fund for Fire Safety Studies at WPI. She received an honorary doctor of science degree from WPI in 1971, was appointed a trustee in 1973, and served for 12 years.

Simon's career began at DuPont, where she helped develop the polymer that became Orlon. Later, at the Oak Ridge National Laboratory in Tennessee, she conducted research on triple fission and isolated a new isotope of calcium. Her interest in fire safety was kindled during her work at the National Advisory Committee for Aeronautics (NACA, the precursor of NASA), where she advanced the field of combustion theory with research on the properties and propagation of flames. Her honors include The Society of Women Engineers Achievement Award and inclusion on *Businessweek's* list of 100 Top Corporate Women for 1976.

In 1956 Simon joined AVCO Corp., where she rose to vice president for research and development, becoming the company's first female corporate officer. She retired in 1984 to found her own consulting firm, Simon Associates, which she operated from her home in Chapel Hill, N.C., until 1993. She was predeceased by her husband, Sidney L. Simon.

**WARREN SMALE '94**

of Montclair, Calif., died Feb. 23, 2016, at the age of 43. A sales consultant for CarMax, he was fatally injured as a passenger in a car crash that occurred while taking a customer for test drive. He is survived by his partner, Shengjie (Titus) Jiang; his father, Dennis Smale; his stepmother, Shirley Smale; his mother, Karen Lewis; and his brother, John Smale.

A former SGA president and member of the Student Alumni Society, Smale left his mark on WPI as a founding father of the WPI chapter of Lambda Chi Alpha fraternity. He aided in fundraising and construction of the house at 30 Dean Street, and remained involved as an advisor. He served his alma mater as an admissions volunteer, chair of his Class Board of Directors, and a member the Alumni Council. In 2009 the university honored his devotion with the John Boynton Young Alumni Award for Service.

"He was a great advocate for WPI, says Alumni Association president Rachel Delisle '96. "His engagement could easily be seen in the breadth of class years represented in his social media following and in the attendance



at the celebration of life that was held at the LCA house in April. It was decades deep."

"Warren brought people together like no one I have ever known," Delisle notes. "Always the life of the party, and brought people into the party, so outsiders were drawn in. He was the single biggest influence on me becoming a student leader, which led the way for me becoming an alumni leader. If it weren't for him I would not be where I am today."

A scholarship has been established in Smale's honor through his fraternity. Contributions may be sent to The Pi Zeta Fund, c/o WDS Scholarship, 2885 Sanford Ave. SW #35874, Grandville, MI 49418.

- MILT ROSS '40 CE
- RUSS PARKS '41 CE, PHI GAMMA DELTA
- MICHAEL HUTNIK '44 ME, PHI KAPPA THETA
- LAG LAGERHOLM '44 CE, PHI SIGMA KAPPA
- MAL GORDON '48 CHE, ALPHA EPSILON PI
- CHARLES LOVERIDGE '48 CE, PHI GAMMA DELTA
- AL RIGGS '48 ME, PHI SIGMA KAPPA
- ED WILCOX '49 ME, PHI SIGMA KAPPA
- ROBERT BUDD '50 CH
- KEN BAKER '52 CHE, SIGMA ALPHA EPSILON
- ROBERT HOWELL '52 ME, SIGMA ALPHA EPSILON
- FRANCIS REYNOLDS '52 ME, PHI KAPPA THETA
- PETER TOLMAN '55

- KENNETH WAKEEN '55 EE, PHI KAPPA THETA
- LANNY REMILLARD '56, PHI SIGMA KAPPA
- JOE WAHL '56 CHE, PHI SIGMA KAPPA
- DAVE HOSKINSON '57 ME, LAMBDA CHI ALPHA
- WAYNE PENDLETON '57 EE, SIGMA ALPHA EPSILON
- ROBERT WEIS '57 CE, MS CE
- ROBERT KELLEY '59
- ALFRED WANDREI '60 MNS
- MIKE ANDERSON '64 ME, SIGMA PHI EPSILON
- RICK DOWNE '64 EE, SIGMA PHI EPSILON
- PETER SHANLEY '67 ME, THETA CHI
- GEORGE GAMACHE '68 CE, MS CE, PHI KAPPA THETA
- BOB GILLIES '68 MNS

- LEE SOLAROLI '68 ME, SIGMA ALPHA EPSILON
- ALAN ZABARSKY '70 EE
- PAT LAFAYETTE '72 CE, THETA CHI
- ROBERT MACNUTT '72 SIM
- GERRY PETIT '74 ME, SIGMA PI
- EDWARD WYSOCKI '81 ME, TAU KAPPA EPSILON
- NOYES BLAKE '87 SIM
- SHIRLEY DIPASQUALE '90 MM
- THOMAS KING '93 CE, ALPHA TAU OMEGA
- JIM MCGINLEY '06, ECE, MA ECE
- TAHIR KUCUKEL '09 CE

The WPI community also notes the passing of former staff members **Scott Allen**, **Peggy Bahn**, **Linda Lewandowski**, and **David Deck**; and friends of WPI **Charlotte Backlund**, **Frances Smith**, and **Joan McQuillan**.



**FOR THE FIRST TIME, GRADUATE STUDENTS HAD A CEREMONY OF THEIR OWN THIS YEAR,**

with 740 master's and doctoral degrees awarded on May 12, two days before undergraduates received their diplomas. "This is a critical and important moment in our history," President Leshin said, commending the growth of the university's graduate programs—in size, diversity, and international recognition. An honorary doctorate in science was conferred upon commencement speaker France Córdova, director of the National Science Foundation (NSF).

"Although I loved physics since I was a young girl, I was discouraged from it by teachers and parents," Córdova told graduates. She went on to earn a PhD in the field and became NASA's chief scientist and, later, head of the NSF, the largest federal agency supporting research



and education across all fields of science and engineering. An admirer of one of WPI's most famous alumni—Robert Goddard, Class of 1908—she concluded, "Goddard did not believe that anything was impossible. He had a big dream. That dream took us to

the moon, and one day it will take us farther. And your dream, too, graduates, will take you far, and it will be fueled by your imagination."

**ON MAY 14, MORE THAN 900 BACHELOR'S DEGREES WERE AWARDED,** with honorary degrees

conferred on (from left, with President Leshin) David Schwaber '65 retired president of Monarch Rubber Company; Warner Fletcher, WPI trustee emeritus and officer of Fletcher, Tilton, Attorneys at Law; and the speaker, Reshma Saujani, founder and CEO of Girls Who Code, a national nonprofit organization that teaches computing skills to girls in grades 6 through 12 to encourage more young women to pursue computer science-related studies and careers. "You're building incredible things that make a difference in this world," she told the Class of 2016. "When we teach teenage girls to code, they become change agents, determined to make their communities a better place. It's this combination of social conscience and technical skills that we need in today's college graduates. It's this combination that I see in you."

# TOGETHER—WE MET THE CHALLENGE!



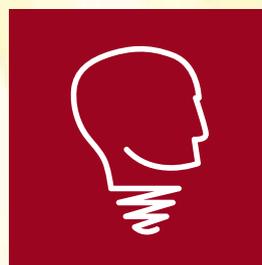
## GIVE

what you can



## MAKE

a difference



## INNOVATE

the future

We raised **\$9 million**, and the **Alden Trust** has given another **\$3 million** to the Foisie Innovation Studio.

The **\$12 million** contributed through you and the Alden Trust is now added to **\$6 million** previously raised to make **The Foisie Innovation Studio** a vibrant center for collaborative learning and transformative projects.

## THANK YOU

FOR THE IMPACT YOU MADE WITH YOUR GIFTS TO THE ALDEN TRUST CHALLENGE.



[wpi.alumnifund.me](http://wpi.alumnifund.me)



**WPI**

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