WEATHER, BEATEN
Stevens Steps Up With Resilience Research

IN THIS ISSUE: SOLAR DECATHLON SEND-OFF | ALUMNI PROFILES | EXPANDING INTERNATIONAL PROGRAMS
Are You INFORMED?

Members of the Stevens community reach out regularly to keep you in the know about the most important news and information from Castle Point.

- Update your contact information at stevens.edu/alumni/infoupdate

Are You INVOLVED?

With more than 75 events held annually, there’s plenty of networking to do. There are also many ways to engage with current students, faculty and alumni through a myriad of volunteer opportunities:

- Register for an event: stevens.edu/alumni/community/events/calendar
- Volunteer to keep your class connected: alumni@stevens.edu

Are You INVESTED?

Alumni participation is a key indicator used in national university rankings and in securing major grants to support new initiatives. When measuring participation, every gift counts equally no matter the size.

- Make a gift: stevens.edu/makeagift
- Email to learn more about the Ad Astra Task Force: melissa.fuest@stevens.edu

Office of Development

stevens.edu/development
WORDS OF WISDOM FOR THE CLASS OF ’19

We’ve recently asked Stevens alumni to share one piece of advice they’d give to our incoming freshmen using the hashtag #MyStevens. Here’s what they had to say.

› Be open to new experiences. Go to all the events Stevens has to offer and try to meet as many people you can! — Katie Moschel ’12

› Work hard but make sure you allow time to create new relationships and friendships. These will make your college experiences unforgettable and impact the rest of your life. — Brianne Lavin ’10

› Remember that you are pretty darned smart if you were accepted to Stevens Institute of Technology, and that even though it may get tough along the way, you can make it and even excel here. Best of luck! — Gary Greenberg ’85

› When I was applying to Stevens, I was completely unaware of the co-op program. By chance, I happened to attend an info session; it was the highlight of my Stevens career and helped immensely with my job search. — Kevin Crowley ’07

› Study hard, hang in there, have fun, and a great life will await you! — Martha Connolly ’75

› Step out of your comfort zone and make as many new friends as possible! Sit with someone you’ve never talked to before at the cafeteria. Join a new club or sport. Enjoy this exciting time — it will fly by! — Rachel Staigar ’14

CONNECT WITH STEVENS INSTITUTE OF TECHNOLOGY ON SOCIAL MEDIA:

Please continue to share your advice to the Class of 2019 on Stevens social media channels or email your words of wisdom to socialmedia@stevens.edu. We’ll share your thoughtful tips with our new freshman class!
ARE YOU A ‘1’ OR ‘6’ CLASS? YOUR REUNION NEEDS YOU!

One of the most significant ways you can become involved with Stevens is to volunteer to be a member of your class’ reunion committee.

Class reunions are a wonderful way for you to reconnect with former classmates and Stevens, as well as make new connections with people who share an important bond with you — your alma mater. Class reunions are celebrated on a five-year cycle and require the energy and enthusiasm of many volunteers leading up to your milestone anniversary to ensure that it is a true success. Become a part of the team and volunteer to help with your class reunion!

For those of you who graduated in a year ending in a “1” or a “6,” this is your year! Committees are currently being formed for your class’ celebration at Red and Gray Days during Alumni Weekend, taking place June 3, 4 and 5, 2016. Be a part of the process!

If you are interested in helping out, email the Alumni Office at alumni@stevens.edu. Please remember to include your full name, class year and a phone number where you can be reached. A member of the Alumni Office team will be in touch shortly to connect you with your classmates.

Follow us on social media
Visit www.stevens.edu/alumni/social to see a full list of our presence on Facebook, LinkedIn and Twitter. From class reunions to regional clubs, Stevens alumni are more connected than ever before.

The Stevens Indicator
The Stevens Indicator has been the Institute’s primary source for alumni news for more than 130 years. It is also a good way to catch up on the latest news from Castle Point. Submit a class log, suggest an alumni profile or send in a letter to the editor at www.stevens.edu/alumni/submitnews.

QUICK FACTS
For nearly 45 years, the Alumni Association has been providing scholarships to qualified students with legacy relations to Stevens. More than 130 alumni have benefited from the generosity of the association and the many individual donors who have made this scholarship possible. To make a gift to this fund, visit stevens.edu/makeagift/

MEETING MINUTES
Read minutes of the SAA meetings at stevens.edu/alumni/meeting-minutes.

BENEFITS SPOTLIGHT
Being an alumnus/a of Stevens entitles you to a lifetime email account with the Stevens Alumni Association. To request a lifetime alumni e-mail call (201) 216-5163 or contact alumni@stevens.edu.

LINKEDIN ALUMNI NETWORK
Join more than 30,000 Stevens alumni on LinkedIn to build your network, expand your professional knowledge and benefit from the incredible success of fellow alumni.

Visit stevens.edu/alumni/linkedin to join today!
Road to Resilience
Stevens has become a “go-to” source for innovative ideas about helping coastal communities become resilient and ready for future natural disasters.

16-23 SURE HOUSE Dreams
Stevens students and professors have built a sustainable, storm-resilient house for the U.S. Department of Energy’s Solar Decathlon this fall. See the house, meet the students and learn what makes this project so important for coastal communities.

24-25 Engaged with Stevens
Hear from your fellow alumni on why you should become more involved with Stevens and the Alumni Association, and how.

26-27 Going Green
Mary Anne Cannon ’86 is leading the charge for Pratt & Whitney’s ambitious environmental innovations.

28 Shining Bright
Tom Conroy ’79, president of Array Technologies, steers the solar tracking systems company’s global push.

29 For Africa
David Gillett ’10’s recent service work in Kenya has blossomed into a mission to promote investment in the continent.

30 A Disney Dream
Lauren Harpst ’15 has landed her dream job — at Disney’s Magic Kingdom.

30 Safety in the Skies
John O’Donnell ’84 was recently named CEO of Zodiac Aerosafety.

32-33 Global Students
As Stevens looks to increase international study experiences, read about several trips abroad that gave students a chance to learn and to serve others.
It was with tremendous pride and enthusiasm that I assumed the role of president of the Stevens Alumni Association in July 2015. I am deeply grateful to the many alumni who took the time to cast a ballot and express their commitment to the Stevens alumni community. Your willingness to participate in the election — as well as in the many other activities and programs of the association and the university throughout the year — is not just exemplary. It is, in fact, critical to the future growth and prosperity of our treasured alma mater. Thank you!

In this leadership position, I am also excited to be working alongside President Farvardin, my fellow officers and trustees of the association, the members of the Board of Trustees, the university staff and faculty, and, of course, all of the energetic alumni volunteers. I am confident that, together, we will continue to enhance Stevens’ reputation as a truly world-class, student-centric research university. There has been a lot of change at Stevens and within the association over the past five years: We welcomed a new university president; we are close to hiring our first-ever assistant vice president for alumni relations and executive director of the Stevens Alumni Association and annual giving; a new Memorandum of Understanding between the university and the association was adopted; Stevens’ financial health has improved dramatically; and the university has achieved unprecedented recognition for the quality of its education and the impressive outcomes of its alumni. It is my hope that these and other positive developments will inspire you to join the ranks of our robust network of alumni and friends who are working diligently to make Stevens shine. This is a watershed moment in Stevens’ history, and we want you to be a part of it.

I would be remiss if I did not acknowledge the outstanding leadership and service of my predecessor, Tom Moschello ’63. Through his vision and hard work, we now have a new Memorandum of Understanding that will ensure seamless interaction and partnership between Stevens and the SAA. It also was a terrific move toward creating a state-of-the-art alumni program to better serve our community. I am anxious to work with the framework that Tom has put in place and move forward. Over the course of my tenure, together with the alumni leadership, we plan to examine the governance, policies, procedures and volunteer opportunities in an effort to modernize, align with industry best-practices and, most important, serve the needs and aspirations of the entire Stevens alumni body. We will seek new and innovative avenues to allow for broad-based alumni interaction, taking into consideration the time constraints many of us feel in the modern world. We will examine the current benefits we offer to alumni and explore new programs and opportunities that will support all alumni, no matter how recently or long ago they left Castle Point. We are going to align the association’s strategic plan and vision with that of the university to make certain that we are truly moving forward as one.

All of us have a stake in this, and all of us can play a role in increasing the ranking and reputation of our school — and, by extension, the value of our degrees. I strongly encourage you to step up to the challenge in whatever way is meaningful to you. Remember to stay informed and share the latest Stevens news with fellow alumni and prospective students. Become involved by signing up for volunteer opportunities and events around the country. Share your thoughts and ideas for improved programming with the alumni office and members of the association.

Please do not hesitate to contact me directly. I look forward to making the journey with you. ✤

Per aspera ad astra,

Joseph G. DiPompeo ’98
President, Stevens Alumni Association
jdipompeo@alumni.stevens.edu
OUR GREAT MOMENTUM — AND GREAT RESPONSIBILITY AHEAD

Over the last several months, I have had many conversations with alumni, corporate leaders, elected officials and other “movers and shakers” to share the tremendous momentum that Stevens is experiencing. As they listen to the Stevens story, I hear some common themes in response. First, they are incredibly impressed that an institution can be making progress on so many fronts simultaneously — from the academic profile and growth in applications of our undergraduate and graduate student populations, to research awards, to national rankings and more. Second, they appreciate the tremendous impact that Stevens has on economic vitality in New Jersey, throughout the metropolitan region, and even worldwide.

When I think about the real mission of Stevens, I think of these dual objectives: providing the educational experience necessary to unleash the potential of our students to achieve their greatest ambitions; and contributing to society by strengthening our economy, advancing the frontiers of research to improve the human condition and pursuing solutions to many of the complex problems we face in the 21st century.

I see evidence that our alumni are also energized by Stevens’ impact and the bigger role their alma mater is playing on the national and world stage. This summer, for example, Stevens reached a major milestone with an 18 percent alumni participation in giving, up 3 percentage points over two years ago. This important metric is a tangible symbol of the pride alumni feel in their alma mater, and the investment our community is making to help Stevens realize its potential as a premier, student-centric research university.

There is much more in which we can all take pride at Stevens today. Researchers in fields as diverse as coastal and urban infrastructure resilience, financial systems, personalized cancer treatment, national defense, and many others, are becoming recognized as experts in these areas of significant national need. Programs such as visual arts and technology, music and technology and quantitative finance are forging new, distinctive niches for Stevens. And a whole host of other exciting initiatives, accomplishments and collaborations, from our 2015 entry into the U.S. Department of Energy Solar Decathlon (the SU+RE HOUSE) to our first national team championship, in men’s volleyball, are simultaneously raising our profile and raising the bar for the future.

With this increased momentum also comes increased responsibility: We must use these new heights as the benchmark for our future achievements.

On July 1, 2015, I started my fifth year as president, and I am more convinced than ever before that Stevens is poised to realize its goal to become a world-class, student-centric research university. I am honored that the Board of Trustees has invited me to continue for a second five-year term, and I have gladly accepted. My goals for the next few years remain focused on our strategic plan — enhancing the academic profile of our student body, growing in areas that will broaden our reach and impact, continuing to strengthen the faculty to become internationally recognized in research pursuits of societal significance, and continuing to improve the financial health and operations, as well as the prestige and name recognition, of Stevens. I am most enthusiastic about continuing to serve our students and faculty, our 40,000 alumni and the entire Stevens community as president. And I am committed to dedicating myself to Stevens, to enable it to realize its fullest potential.

Per aspera ad astra,

Nariman Farvardin
President, Stevens Institute of Technology
president@stevens.edu
201-216-5213
From the Mill

GEIST

STEVENS HOSTS GLOBAL BACTERIA-MATERIAL CONFERENCE

The 3rd Stevens Conference on Bacteria-Material Interactions, which investigates and raises awareness about the latest research concerning a prevalent and costly medical problem, implant-associated infection, was held on campus in June. Approximately 80 students, scientists, engineers and clinicians from seven nations gathered to identify and address the scientific, technical and regulatory challenges facing the development of infection-resistant tissue-contacting biomaterials.

EPA HONORS ALUMNUS-LED COMPANY

A chemical distribution company led by a Texas-based alumnus has been honored by the U.S. Environmental Protection Agency (EPA) for inventing a process that eliminates the use of water and reduces the use of hazardous chemicals in petroleum products. Synthetic Oils and Lubricants of Texas (Soltex), with Anthony Massoud ’79 as founder, owner and CEO, received the 2015 Greener Reaction Conditions Award this past July at the 20th Presidential Green Chemistry Challenge Awards ceremony at the National Academy of Sciences in Washington, D.C. Soltex, based in Houston, produces chemical products and provides custom blending, sourcing, special packaging and other services. Its products are used in a wide variety of applications including additives/components, sealants and coatings, agriculture and batteries. Soltex’s invention, if widely used, has the potential to eliminate millions of gallons of wastewater per year and reduce the use of a hazardous chemical by 50 percent, according to the EPA. Soltex was one of six winners chosen by the EPA, which received recommendations from an independent panel of technical experts convened by the American Chemical Society Green Chemistry Institute.

MONEY RANKS STEVENS AS TOP VALUE

MONEY recently examined 1,500 U.S. four-year colleges and universities to determine which deliver the most value — and Stevens ranked among the top 50 in the nation. Stevens tied for 48th place with Lehigh University, Worcester Polytechnic Institute, Virginia Military Institute and Virginia Polytechnic Institute and State University. The ranking was based upon 21 factors in three equally weighted categories: educational quality, affordability and alumni earnings (the latter sourced from the salary consultancy PayScale.com). And in other good news, Stevens ranked 10th among colleges and universities nationwide for the mid-career salary of its graduates, according to PayScale’s 2015-2016 College Salary Report. At mid-career, the average salary of Stevens graduates who receive their bachelor’s degree is $120,000. PayScale ranked more than 1,000 schools based on the median salary of graduates who are full-time employees with at least 10 years of experience who hold only a bachelor’s degree.

RECENT GRADS LAUNCH HEALTHCARE STARTUP

Three members of the Class of 2015 have taken their senior design project and launched a company, Data Minded Solutions, defining their post-graduation careers. Justin Williams, Brian Bonnet and Nishant Panchal conceived and designed a decision-management platform for diabetic patients. Their software application, Embrace, collects an array of metrics from patients, including glucometer readings, allowing doctors to provide better health outcomes to those patients. The technology was displayed at this spring’s annual Innovation Expo at Stevens. The trio has moved to Spartanburg, South Carolina, to be mentored and guided in launching the startup by the leading digital health accelerator The Iron Yard. — YoungSoo Yang
SURE HOUSE GARNERS MEDIA ATTENTION

SURE HOUSE, Stevens’ entry in the U.S. Department of Energy’s 2015 Solar Decathlon competition, has earned plenty of recent media attention as the home rises on the Hoboken waterfront. In the months leading up to the competition, which will be held Oct. 8-18 in Irvine, California, media outlets such as WCBS Radio, CBS New York, NJTV News, News12 NJ and FiOS1 News all aired coverage of the house and spoke to students and professors involved in its construction. The team has also received raves on social media and is the most liked/followed team on Facebook, Twitter and Instagram, with 2,160 Facebook followers. To read more about SURE HOUSE, turn to our story on page 16. (Also visit surehouse.org.)

STUDENT PROJECTS IMPRESS AT LIBERTY SCIENCE CENTER

Stevens' WebCampus was again honored by the U.S. Distance Learning Association (USDLA) for Best Practices in Distance Learning at the association’s recent national conference in St. Louis. It is the sixth time WebCampus has earned recognition from USDLA, which represents educators involved in online and remote learning and training. WebCampus was previously honored in 2013, 2011, 2010, 2008 and 2006. “Each year these recognized leaders raise the bar and exceed best practice expectations for the industry as a whole and we are truly honored by their contributions within all distance learning constituencies,” said John G. Flores, executive director of USDLA.

CALHOUN OFFERS ANSWERS ON NYSE STOPPAGE

July 8, 2015, was a tough day for technology as the New York Stock Exchange was forced to halt trading for several hours due to a technical glitch, and a computer failure at United Airlines also caused flights to be delayed and cancelled for hours. With both events occurring on the same day, some wondered if a high-profile cyberattack had been carried out on the U.S. New York City-area, and media turned to Dr. George Calhoun, director of Stevens’ Financial Systems Center, for answers about the stock market stoppage. “What we hear from big banks, the financial industry, is they are almost in a 24/7 state of siege from cyberattacks from the outside,” Calhoun told NJTV. “It’s become a very pervasive problem for them.” — Joe Arney

SURE HOUSE HONORED FOR SIXTH TIME

Stevens’ WebCampus was again honored by the U.S. Distance Learning Association (USDLA) for Best Practices in Distance Learning at the association’s recent national conference in St. Louis. It is the sixth time WebCampus has earned recognition from USDLA, which represents educators involved in online and remote learning and training. WebCampus was previously honored in 2013, 2011, 2010, 2008 and 2006. “Each year these recognized leaders raise the bar and exceed best practice expectations for the industry as a whole and we are truly honored by their contributions within all distance learning constituencies,” said John G. Flores, executive director of USDLA.

WEBINAR:

Sustainability in Practice: Creating a Culture of Sustainability with a Sustainable Building Design

Stevens’ webinar on sustainability in practice took place on August 19, 2015. The webinar focused on creating a culture of sustainability with a sustainable building design. Attendees learned about the importance of sustainable design in creating a healthier, more efficient, and more productive environment for occupants. The webinar featured presentations from industry experts and case studies of successful sustainable building projects. To learn more about the webinar and access the presentation materials, visit the Stevens website.
Stevens is conducting leading resilience engineering research to help coastal communities prepare for and survive future natural disasters. Leading the effort, from left, are professors Alexandros Washburn and Alan Blumberg, and Michael Bruno, dean of the Schaefer School of Engineering and Science. Photo: Jeff Vock
As Hurricane Sandy barreled up the East Coast of the U.S. during late October 2012, its strength and resulting damage shocked many. At nearly $70 billion, it was the second-most costly storm in U.S. history, trailing only Katrina; nationwide, some 650,000 houses were destroyed. Locally, more than 40 New York-area residents perished, while at least six local hospitals were forced to shutter and relocate patients during the height of the worst weather. Coastal towns were submerged, boardwalks splintered; homes, businesses and a five-story-tall roller coaster floated off the Jersey Shore, while some residents waited up to several weeks for gasoline, electricity or running water.

In Hoboken, where most of the city flooded, downed power lines poked into rising water mixed with overflowing sewage. The PATH train station was completely submerged.

“Frankly as a nation and as a region, we were unprepared,” said New York U.S. Senator Charles Schumer later.

But with 40 to 50 percent of the world’s population — more than 3 billion residents — living in or very near coastal areas, it’s not the last time a storm will score a direct strike on a major urban area. In fact, it’s only a matter of time before more weather-related emergencies occur; if not here, somewhere.

That’s why Stevens is determined to help prepare cities and citizens worldwide.

WEATHER, BEATEN

As seas rise, new Stevens research bolsters storm, flood and natural disaster protection for the world’s coastal cities, towns and beaches — including Hoboken.

BY PAUL KARR, STEVENS DIVISION OF COMMUNICATIONS & MARKETING
Already world-renowned for maritime research, the university is working to increase and consolidate its technical resources, perform new research and planning, and otherwise address the tricky challenges posed by extreme weather in densely populated urban areas. It’s all part of a coordinated effort to understand, prepare for and bulwark against the next coastal natural disasters.

Because, both locally and worldwide, it’s clear that extreme weather events and other natural disasters are on the rise.

The Tohoku earthquake, tsunami and nuclear disaster; the Indian Ocean earthquake and tsunami; floods in the United Kingdom; Hurricane Sandy: each has drawn a sharp focus on the critical importance of better engineering coastal communities large and small to become more resilient to the growing power of extreme events. Researchers and agencies including NASA and the Environmental Protection Agency have already concluded that damaging storms are becoming worse and more frequent, and that the increased threat to life, property and the environment must be addressed immediately.

Stevens will play a major role in that conversation, led by Michael Bruno, dean of Stevens’ Schaefer School of Engineering and Science.

“One thing we are realizing, as this new field we call ‘resilience engineering’ emerges,” says Bruno, “is that these systems — software, the subway, power, water and food supplies — are not just engineered systems. They are socio-technical systems. You can’t take the people out of them. People design them, operate them, keep them running and get them back up and running, and this is not something that is always taught or accounted for in traditional engineering curricula.”

To begin rethinking the discipline, the university has joined forces with a powerful agent for change.

The Lloyd’s Register Foundation, a London-based charitable foundation that supports engineering education, public engagement and research, has made resilience a top funding priority and recently selected Stevens to consolidate and share leading research in the field. The collaboration builds upon an existing relationship: The Foundation has already sponsored a scholarship at the university.
In April, Stevens hosted the Lloyd’s Register Foundation International Workshop on Resilience Engineering, a workshop to explore the gaps in resilience and planning in a range of areas including engineering, informatics, urban planning, emergency preparedness and policy. Experts from 12 nations and five continents converged on Hoboken for the event; participants included Google, the U.S. Department of Homeland Security, Sandia National Laboratories, the New York City Mayor’s Office of Recovery and Resiliency and universities from Japan, Australia, Brazil, Singapore, the Netherlands and England.

“We could not have found a better partner to help us,” commented Ruth Boumphrey, head of research grants for the Foundation.

“This workshop was a truly one-of-its-kind event,” added Bruno. “We assembled many of the leading resiliency and sustainability researchers from around the world, along with key industry and government stakeholders and decision-makers.”

Among other collaborations, the conference produced a foresight report — authored by Bruno and released in August 2015 — detailing the concept of resilience engineering (see box) as well as the complex financial, managerial, policy, planning, engineering and other challenges to building resiliency and organizing better risk response.

Bruno’s report then outlines a host of proposed short- and longer-term solutions, spanning a surprising range of fields, including:

- Better antibiotics to treat weather-related disease outbreaks
- Carbon-smart vehicles and industries
- More intelligent energy and communications systems
- “Blue” and “green” architecture that can better absorb weather through a blend of natural landscaping and smarter materials and surfaces
- Resilience incentives as a component of both development loans and property insurance policies

- Data-driven management of emergency services, shipping operations and other relevant activities
- Immediate “triage” of aging urban infrastructures in coastal communities to pinpoint the most urgent needs from a resiliency standpoint.

The foresight report also recommends development of new shared resources for engineers and planners, as well as comprehensive professional development coursework, based on actual disaster case studies, for government officials. In the near future, a newly created center or virtual repository of data, models and ideas is likely to follow.

“The only way to do this is to not only get different people together to talk about it, but to get different people from different places,” Bruno points out. “We need to hear many voices, including those from regions more sharply affected by climate change and those less able to afford to address it.”

PREPARING REGIONAL COMMUTERS, RESIDENTS FOR EXTREME WEATHER

Locally and regionally, Stevens’ Center for Coastal Resilience and Urban eXcellence (CRUX) — headed by former New York City chief urban designer Alexandros Washburn — will lead the charge to create tools and models, collect data and test new solutions. CRUX integrates existing Stevens work in hydrodynamics, ocean engineering and other fields with new research from Stevens’ own School of Systems & Enterprises, the National University of Singapore, Technical University Delft in the Netherlands, University College London in England and the University of São Paulo in Brazil.

And students will play an important role. “Students at CRUX work on real-world projects that solve technical problems and also improve the quality of life and the function of critical infrastructure,” notes Washburn.

WHAT IS RESILIENCE, ANYWAY?

So what does coastal resilience mean, anyway?

As it turns out, many things: newer and better drains, pipes, levees and seawalls... but also smarter buoys in the harbor, smarter advance weather forecasts, smarter emergency planning, smarter stockpiling of medicines and supplies, smarter development of waterfronts. And that’s just scratching the surface.

Stevens’ 2015 foresight report on resilience engineering for the Lloyd’s Register Foundation, authored by School of Engineering & Science Dean Michael Bruno, discusses various definitions and uses of the term, including this useful one provided by the Rockefeller Foundation’s 100 Resilient Cities initiative:

“Resilience is the capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt and grow no matter what kinds of chronic stresses and acute shocks they experience.”

— Paul Karr
In New York, Washburn’s design team carried out projects ranging from individual park benches to skyscrapers, urban plazas and shorelines with the stated purpose of improving the quality of public life through better design. Now he is applying the same blend of art, science and skill at navigating political, financial and design issues to Hoboken’s waterfront.

Working closely with the city, CRUX will use the community as a live resilience and urban design laboratory:

- The SMART Hoboken project, a collaboration with city officials, will manage a network of sensors placed around Hoboken, sampling temperature, carbon dioxide and a host of other variables, then feeding them back to a central Stevens lab for analysis.
- The VIRTUAL Hoboken project will create a software model of the city that blends Stevens’ proprietary NYHOPS (the New York Harbor Observing and Prediction System) data on climate, tides and storm surges with SMART Hoboken’s measurements of the city environment to enable better planning and prediction.
- Student teams will also assist the city. One student group, for instance, will prototype, build and operate “sewer-bots” that could prowl Hoboken’s antiquated sewage system to map and identify trouble spots in the system.
- A new test facility in the Griffith Building, on Sinatra Drive, will be designed to re-bound within three days of a Sandy-sized event. Innovations will include special walls that allow water to flow around the structure, island-like; wing-shaped doors that open gently outward during floods, rather than resisting and pushing water higher (or buckling); green landscaping that can absorb some of the force of rising waters; and a sophisticated system of sensors to measure the forces of surge impacts.

PROTECTING THE BIG APPLE FROM A SEA CHANGE

In addition to its work locally, Stevens will also contribute significantly to New York City’s new efforts to plan for and cope with climate change and the associated sea level and weather changes it will bring.

Davidson Laboratory director Alan Blumberg and Davidson researcher Philip Orton were both named to Mayor Bill de Blasio’s Third New York City Panel on Climate Change (NPCC3) this past June. The panel, an independent body of 19 regional experts in climate change, geography, engineering and modeling, will advise the city on climate risks and resiliency in an effort to inform policy, prediction, preparation and adaptation.

Blumberg, Orton and former Stevens Maritime Security Center director Julie Pullen previously served as technical contributors to an eye-opening report released earlier this year by the mayor’s previous climate change panel. That report, Building the Knowledge Base for Climate Resiliency, concluded the rivers and bays surrounding Manhattan are likely to rise two to four feet — and possibly as much as six feet — by 2100 thanks to a combination of increasing temperatures, melting polar ice caps, more frequent and stronger rain and snow storms falling on the metro region and higher tides.

NPCC3 will drill down to target flood-prone city neighborhoods of special concern, such as the South Bronx, which is low-lying and houses a concentration of toxic and hazardous materials; Queens, which could experience almost daily flooding, under some scenarios, at high tide within less than a century; and Brooklyn, also at risk for frequent flooding. The group will also study ways to improve coordination of mitigation and resiliency across the metropolitan region.

The panel’s report is due in early 2016. — Paul Karr

Professor Alan Blumberg, in white cap, helps install a water level sensor in Bergen Basin in Jamaica Bay, New York. The water level data is part of a Stevens storm surge forecast project funded by the Port Authority of New York/New Jersey.
DEFENDING NEW JERSEY’S SECOND CITY FROM THE SEA

Davidson Laboratory researcher Philip Orton has been part of nearby Jersey City’s efforts to plan and prepare for future Sandy-sized storms. Jersey City is the second-largest city in New Jersey, and 43 percent of its land area falls within the FEMA 100-year-flood zone.

Orton and Jersey City planners wrote a successful grant proposal to the National Oceanic and Atmospheric Association (NOAA), receiving more than $100,000 in support to conduct groundbreaking research on flood risks and mitigation strategies. A second award from Together North Jersey, a regional planning initiative, supplemented the work with an additional $110,000.

Then Orton produced sophisticated models, maps and animations of potential future storm surges and used those models to test combinations of more than three dozen storm-defense strategies such as permanent walls and berms, temporary barriers and buffer wetlands.

A final report was released this past April, indicating a specific combination of strategies as the most effective for controlling floods for extreme storms in Jersey City: the raising of Washington Street and Route 440 on the east and west sides of the city; a new surge barrier at Tidewater Basin; new levees in Liberty State Park; a surge barrier and levee built in partnership with the City of Hoboken; and requirements for higher ground floors for new development.

“This work will help city leaders make informed decisions about how to address future coastal flooding and sea level rise,” says Orton. — Paul Karr

And CRUX will manage a new 12-credit Stevens graduate certificate program built on a three-pronged strategy: teaching the hydrodynamics of the oceans and rivers in the metro area; advancing intelligent, yet elegant, urban design; and modeling complex systems such as weather and emergency services in order to better assess weaknesses and prepare for extreme weather. Graduate coursework unveiled this fall includes Stevens’ first-ever academic offerings in urban oceanography and community and resilience.

“Nobody else can do this,” explains Washburn. “Stevens is uniquely positioned: We are literally right here, at the joining of these bodies of water and the nexus of these issues, and we possess the deep, objective scientific expertise in everything from civil engineering to materials to computation to hydrodynamics to pull it all together. Harvard can’t do it; Princeton can’t do it.

“We can.”

Outside agencies have taken notice.

In the fall of 2014, the Port Authority of New York/New Jersey awarded a five-year, $6.6 million contract to Stevens for resilience research. Under that award, Davidson Laboratory researchers are building new models providing street-by-street forecasts to help predict and plan for storm surges and other extreme weather events in the

— Paul Karr
city. The contract supported purchase of a dedicated Stevens supercomputer (code name: Pharos), as well as the development of public resources including an online storm-information system that will be updated in real time.

"Decisions whether to shelter in place or evacuate, or even where to move your car, should be made with confidence, and we are hoping that this system, once fully deployed, will provide that confidence," said Stevens professor of ocean engineering Alan Blumberg, director of the university’s Davidson Laboratory and a lead investigator in the project along with professors Nickitas Georgas Ph.D. ’10 and Thomas Herrington ’89 M.Eng. ’92 Ph.D. ’97.

The Port Authority-sponsored project will also support purchase and installation of 26 new sensors that will be deployed in New York Harbor to measure water levels, temperature and salinity every six minutes and transmit that data in real time to the Stevens supercomputer.

“The data,” says Herrington, “is a key ingredient to making better and better forecasts.”

New Jersey Transit followed suit this past spring, awarding additional support to CRUX — this time to create a system providing both real-time warning and forecast information on the potential magnitude of flooding during surge events in the Garden State. That work will draw on Stevens’ previous development of both NYHOPS and the Stevens Storm Surge Warning System. Those two online prediction and visualization tools for storm forecasting and planning proved prescient in 2012, accurately raising warnings about Sandy’s surge levels in the tri-state area in advance of the storm’s arrival.

The NJ TRANSIT-funded system will adapt Stevens’ existing warning-system technology, focusing on the Hoboken Rail Terminal (New Jersey’s second-largest rail passenger facility).
and the Meadows Maintenance Complex in Kearny, the state’s largest rail equipment repair, parts and vehicle storage and fueling facility. New models developed by the Stevens researchers will be used to inform, for example, the relocation of transit equipment from potential flood areas in an effort to avoid a repeat of Sandy.

“The new science coming out of this program will greatly benefit the research community, as well,” notes Georgas.

THE FUTURE OF CITIES:
STRONGER, YET MORE ELEGANT

As the concept of resilience engineering edges into the mainstream, Bruno predicts it will greatly influence the future design and adaptation of communities worldwide, as well as the future of engineering education.

“It’s clear that cities will lead this effort, and many of us believe you can have it both ways: a more resilient city that is also a better, more attractive city,” he concludes. “We’ve seen this in the Netherlands, for example, where a beautiful park also doubles as a flood control system.

“Maybe building a huge wall isn’t the best way anymore, from either standpoint — the design or the science — and that’s what Stevens is here to help explore.”

Additional Stevens initiatives in the area of resiliency include professor Alan Blumberg’s and researcher Philip Orton’s contributions to New York City’s new efforts to cope with climate change (page 12), Orton’s work to model and plan for surges and floods in New Jersey’s second-largest city (page 13), new research by professor Elizabeth Fassman-Beck in “green roofs” (page 15), professor Jon Miller’s research on Jersey Shore beach erosion and replenishment (page 23), and research and education in more resilient construction strategies and practices — including student construction of a more resilient and flood-proof solar-powered home (see story, starting on page 16). ❖

For more on Stevens resilience research, see stevens.edu/ses/LRF-international-workshop

GREENER BUILDINGS
FOR CLEANER WATER

Stevens professor is one of the world’s leading experts on ‘green roofs’

She was just 16 or 17 at the time, but Elizabeth Fassman-Beck still vividly recalls a canal trip she and her family took along the Chao Phraya River in Bangkok. People lived in huts lining the river, dumping toilets and washing their hair right in the Chao Phraya.

“It really sunk in,” she says. “I made a connection to clean water and quality of life. If we can provide clean water, everyone’s life improves.”

Ever since, Fassman-Beck’s work has been devoted to this mission, from New Zealand to Hoboken. An associate professor with the Department of Civil, Environmental and Ocean Engineering, Fassman-Beck is an expert in water resources management who joined Stevens in 2013 after 10 years with the University of Auckland (New Zealand). In Auckland, she built five “green roofs” and wrote the first-of-its-kind manual for green roof design for the city; her work helped spark an entire green roof industry in the country.

The co-author of Living Roofs in Integrated Urban Water Systems, published this past March, she won the Wesley W. Horner award in 2014 from the American Society of Civil Engineers, which recognized her work with green roof design. Now, the Westport, Connecticut, native is making an impact in America.

Green roofs are engineered systems that include plants, layers of non-soil media and a drainage system — all used to capture rainwater and avoid combined sewer overflow, a major problem in New Jersey and cities across the U.S., Fassman-Beck says. Combined sewer overflow happens when excessive storm water from heavy rains combines with sewage into one sewer pipe, discharging polluted water into rivers and streams. Treatment plants simply can’t handle the overflow.

Green technology like green roofs — and similar structures such as rain gardens and planters — act as a sponge to absorb excess storm water and also as a filter to minimize pollutants.

“Keeping storm water out of the sewers is much more cost efficient than building bigger treatment plants, Fassman-Beck says. She’s working with New Jersey’s North Hudson Sewage Authority, which serves Hoboken, Union City, Weehawken and West New York, to update and rewrite their manual on green roof design. She’s also collecting data on the Authority’s rain garden and discussing other possible projects, from building a green roof to installing planters.

Fassman-Beck is an active member of the American Society of Civil Engineers Urban Water Resources Research Council and sits on the Joint Committee on Urban Drainage — the only U.S. representative for this organization.

“I feel like what we do does make a difference,” she says. “Think globally, act locally — I feel that these are things that I do.” ❖ — Beth Kissinger
A vision for a sustainable and resilient home for coastal communities has finally been realized by a multi-disciplinary team of students at Stevens Institute of Technology. After nearly two years of design, construction and testing, SURE HOUSE is ready for its debut as the Stevens 2015 competition house in the U.S. Department of Energy (DOE) Solar Decathlon, which will take place in Irvine, California, Oct. 8-18.

Like its predecessors of the past two Solar Decathlons (Ecohabit in 2013 and Empowerhouse in 2011), the SURE HOUSE is a stunning showcase of solar energy and green building. The 1,000-square-foot home — featuring two bedrooms, one bathroom, a kitchen, dining area and living area — has no battery or diesel backup.

By YoungSoo Yang – Stevens Division of Communications & Marketing
Smart design elements that reduce energy consumption — super insulation of walls, roof and floors, an energy-recovery ventilation system and an intelligent shading strategy for solar control — have created an exceptionally efficient envelope that requires minimal energy to heat or cool the space.

“It’s 100 percent solar-powered and uses 90 percent less energy for heating and cooling because we’re air-sealing and insulating it so well,” explained team member A.J. Elliott, a first-year graduate student in the Stevens product architecture and engineering program.

This year’s house, however, is especially noteworthy for its emphasis on storm resiliency. As communities struggle to rebuild nearly three years after Hurricane Sandy ravaged the New York-New Jersey coastline, the Stevens Solar Decathlon team responded to the challenge of designing a house for the post-Sandy world, one that could potentially create a new paradigm for living along the water.

“The SURE HOUSE is a very unique project for the Solar Decathlon competition as a whole. The 10 decathlon contests challenge students to build an attractive energy-efficient solar home. But we’ve taken that even further by responding with a flood-and-storm-resilient home,” said Elliott.
**FULLY SOLAR POWERED**

**STORM SHUTTERS**

A significant component of SURE HOUSE's resilience is its storm shutter system, with shutters designed to protect the home from 130-mile-per-hour hurricane winds and 100-year floods. For everyday use, the shutters, when raised, help provide shade for the house. The upper half of the shutters house thin photovoltaic panels that help the house generate power, when the shutters are raised. Indeed, ¾ of the hot water demand for the house is powered by the shutters. Significantly, these panels resist damage from debris in the event of a storm and work off the grid, feeding power into the hot water tank to help power the house. When a storm does hit, the shutters lower into a well and are locked into place using a series of latches attached to the shutters. The shutters rest against weather-resistant EPDM seals, and the latches will compress the shutters against the rubber. This creates a uniform water resistant seal that will block away any storm surge and debris.

Among the innovations used in constructing a house that can withstand hurricane-force conditions is a dynamic, bi-folding storm shutter system. When in the open position, shutters provide optimized shading, while built-in solar panels collect sunlight to help heat hot water for the home. Those same shutters can be lowered and locked into place when a storm hits, guarding the house against 130-mph winds.

The team approached the challenge of designing a storm-proof home much like they would a boat. The SURE HOUSE's structure, wrapped in ABS plastic and durable glass fiber composite panels, can withstand as much as six feet of water and is 10 times more air tight than the average coastal house, which typically uses plywood sheathing or exterior siding. This super flood–proofing allows the SURE HOUSE to sit low to the ground, countering the need to build homes above projected flood heights to satisfy FEMA's post-Sandy regulations. For many shore residents who find the new FEMA guidelines for raising structures severely onerous, the SURE HOUSE is a welcome prototype that preserves the appeal of living along the coast.

Designed to perform not only during a storm, the SURE HOUSE is capable of providing 3,000 watts of standby power during power outages after a storm, thanks to a solar inverter system that can isolate itself from the power grid.

“We've actually designed a few charging...
Juan Paolo Alicante ’15 has spent his summer, and really every spare moment since April 2014, thinking and working on the SURE HOUSE project. A mechanical engineering major, his area of expertise for the SURE HOUSE is the heating and cooling units. He’s also a Measured Contest Captain, responsible for the team meeting the five areas of the decathlon that are measured (Appliances, Home Life, Commuting, Energy Balance and Comfort Zone).

“I love it,” he said. “I’ve always been interested in sustainability and this seemed like such an opportunity for me. It’s great to be a part of the Solar Decathlon competition.”

Alicante is able to stay with the project through the competition in October, and his anticipated employer, Edwards & Zuck, a New York City consulting firm that works with other companies to develop their mechanical, electrical and plumbing systems, has agreed to hold the start date for his new job until November, well after the competition ends. A resident of North Plainfield, New Jersey, he’s excited for the competition, adding that he can’t wait to meet the decathletes from the other universities.

— Lisa Torbic
As the team researched the effects of Hurricane Sandy in preparation for building SURE HOUSE, they heard the stories of neighbors helping neighbors — including those lucky enough to have power putting out power strips so their neighbors could charge their cell phones. So the team decided that they wanted to design a system to help out neighbors in need, in the event of a storm and resulting blackout. SURE HOUSE is designed to be tied to the power grid during normal weather but has the ability to “island” itself from the power grid and produce power on its own, as long as the sun is shining. This unique “islanding” ability makes it different from most solar homes, which are not able to isolate themselves from the power grid. When a disabling storm does hit, a transformerless inverter switches over to solar backup power that’s entirely isolated from the grid. This resilient feature allows a waterproof charging hub, with USB chargers — located on the house’s exterior — to power on after a blackout.

The hot water system has also been designed to survive powerful storms, using a unique, three-part system that the SURE HOUSE team expects to be the first of its kind. The three-part system includes the house’s storm shutters, which contain solar modules used to produce electricity; a heat pump hot water heater; and a standalone, electric heating coil. The system can “island” itself in the event of a storm and continue to produce power — including hot water for showers and laundry — even when disconnected from the grid. Its heat pump also acts as a secondary backup system triggered only when the sun cannot provide enough energy to keep water temperature above a certain point.

A.J. Elliott was already a veteran project manager with Habitat for Humanity when he joined Team Boston, his first Solar Decathlon team — in the 12th grade. Building a solar home alongside college kids from Tufts University and Boston Architectural College, traveling to the National Mall in Washington, DC, for the 2009 contest, he felt “incredibly inspired.” He passionately followed later “SolarD” contests, but couldn’t get the support he needed to start a team at his own school, Drexel University. Then, he met the Stevens team at the 2013 competition in Irvine, California. He liked how undergraduate and graduate students worked together and what Stevens’ product architecture and engineering graduate program had to offer.

This meeting inspired Elliott to come to Stevens for this graduate program and for the chance to work on SURE HOUSE. A.J. Elliott was already a veteran project manager with Habitat for Humanity when he joined Team Boston, his first Solar Decathlon team — in the 12th grade. Building a solar home alongside college kids from Tufts University and Boston Architectural College, traveling to the National Mall in Washington, DC, for the 2009 contest, he felt “incredibly inspired.” He passionately followed later “SolarD” contests, but couldn’t get the support he needed to start a team at his own school, Drexel University. Then, he met the Stevens team at the 2013 competition in Irvine, California. He liked how undergraduate and graduate students worked together and what Stevens’ product architecture and engineering graduate program had to offer.

This meeting inspired Elliott to come to Stevens for this graduate program and for the chance to work on SURE HOUSE.
administration, and the generous contributions of donors, both large and small.

According to Dr. Keith Sheppard, associate dean of the Schaefer School of Engineering & Science at Stevens, the university’s participation in the Solar Decathlon is an investment that pays dividends for students and the community alike, one that provides a unique learning opportunity and a significant community service after the competition.

“The role the project has played in evolving the students’ skills and providing rich experiences cannot be obtained in a classroom. Those skills and experiences will have a lasting impact on the students’ careers and lives long after the competition is done. And through the SURE HOUSE, we will educate the public about the role of sustainable design and engineering solutions to both energy and climate challenges for housing, especially in coastal communities.”

---

**SARAH ZAHRAN, ARTIST IN RESIDENCE**

Whether she’s designing storm shutters to protect a home from flooding and storm debris or making art inspired by her unique vision of the world, Sarah Zahran is SURE HOUSE’s multi-talented, restless artist.

“I’m always busy,” she says. “If I didn’t find ways to challenge myself, I’d be bored.”

Zahran – along with graduate student Tom King – designed the storm-proof shutters that are a hallmark of SURE HOUSE’s resilience. The shutters were born out of a senior design project that she and fellow students Paul Turrisi-Chung and Andrew Mason, with King’s help, pursued this past year. Zahran herself is only a junior.

This mechanical engineering major from Southbury, Connecticut, has somehow found time to also pursue a master’s degree in product architecture and engineering and run cross country and track and field at Stevens.

Then, there’s her art.

Zahran’s portraits of team members are sprinkled throughout the Griffith Building, the SURE HOUSE waterfront workshop. She’s exhibited work at the Bruce Museum in Greenwich, Connecticut, and at the Brooklyn Art Library. The chance to use the right side of her brain — the creative side — with its left-brain technical side attracted her to SURE HOUSE and is inspiring her on her next move post-Stevens: an MFA in visual arts or industrial design and a possible career in product design. SURE HOUSE, she says, has taught her lessons of design and redesign, the relationship between building and design, commitment.

“We hung up the first shutter yesterday. I was ready to cry,” she says in mid-July. “You see the illustrations for so long.” Now, her design has become real. 

— Beth Kissinger

Meet more team members at surehouse.org/stevens-team
A FIRM FOUNDATION, THANKS TO SUPPORTERS

Two extraordinary years of designing, constructing and testing SURE HOUSE would not have been possible without the support of many, including a number of dedicated Stevens alumni.

Supporters helped in many ways — from offering donations of materials, tools and professional time and donating consulting or training to giving financial support. Some 55 alumni and friends have donated to the SURE HOUSE team’s efforts, with eight partners and 37 sponsors joining the cause. Corporations, including ExxonMobil, the PNC Foundation and Langan Engineering, as well as national organizations such as the IEEE, the U.S. Green Building Council and the Vinyl Institute, are among the project’s sponsors.

And in July the PSEG Foundation announced a grant of $250,000 toward the completion of SURE HOUSE.

The Solar Decathlon team also greatly benefited from individual donors. Significant alumni supporters include Gina Addeo ’86, chairman and CEO of Scholes Electric and Communications in
BEACH HEADS: Stevens Research Helps Preserve The Jersey Shore

Stevens professor of coastal engineering Jon Miller ’99, a national expert in beach erosion and replenishment processes, spent part of the summer of 2015 on a small patch of sand in Sea Bright, New Jersey with four freshmen students, three graduate students, a former graduate student — and a specially modified jet ski.

Cushy summer assignment? Not exactly.

Miller’s student team was there to exhaustively survey the beach, part of which has been mysteriously disappearing during the two years since Sandy, and to cart small bags of its sand back to a Stevens lab for analysis. The goal: figure out where the beach went, how and why it vanished... and whether it will ever come back. The jet ski, equipped with a GPS transponder, depth-sounder and high-tech software package, helps measure the shape of the sandy shallows beneath it; the results will be compared to historical and future surveys to inform the analysis. Meanwhile, the collected sand will be weighed and inspected for grain size, which can be (but isn’t necessarily) a factor in erosion.

In addition to the Sea Bright survey, Miller also supervised a summer student project to measure boat and vessel wakes on the Hudson, which may contribute as significantly to erosion along that river’s banks as small storms do; another in Deal to measure the effects of a newly notched set of stone jetties protruding into the Atlantic on local beach sands; and one analyzing data from two buoys, one off Sandy Hook and one off Cape May, to determine whether the sea waves smacking into the Jersey Shore are becoming higher and stronger in recent years.

In Sea Bright, his student researchers praised this chance to gain real-world experience.

“As a New Jersey resident, I grew up spending my summers at the shore and have seen the effects of hurricane and shoreline damage first-hand, so the Sea Bright erosion project stuck out to me,” says Christian Marsala ’18. “Through the resources available at Stevens, I’m able to collect site data which is used, with historical data, to draw conclusions and trends about the state of the beach. Solving a real-world issue is vastly different from the work done inside of a classroom and is something that I am glad I am a part of.”

Miller has equal praise for his young team of researchers.

“Our students have been fantastic,” he notes. “It is truly remarkable what they bring to the table when they get here. Nearly all my summer scholars are freshmen, and it says something that they can immediately step in and conduct important coastal research.”

To see the full list of SURE HOUSE supporters, visit surehouse.org.

Stevens students working with Stevens Professor Jon Miller ’99 conducted research this summer at Sea Bright, New Jersey.
Engaging with Stevens

ALUMNI, IN THEIR OWN WORDS

It’s never too early to start planning for Alumni Weekend 2016 (June 3-5), and the Stevens Alumni Association is working hard to ensure that class reunions are truly unforgettable.

Classes ending in “1” or “6” will celebrate reunions next year, and one important step in making these events successful is recent class officers elections. The SAA Classes Committee worked with the 12 most recent 2016 reunion classes (1956-2011) to hold elections, spark their reunion preparations, and to also fulfill requirements of the new SAA Class Constitutions.

And this fall, the committee looks to 2017, as it helps classes ending in a “2” or “7” develop a slate of officers and prepare for their class elections and 2017 reunions.

Class elections must now be held every five years. To learn more about the new Class Constitutions, which were approved by the SAA’s Executive Committee, and to meet the new class officers, visit stevens.edu/alumni.

“Strong class leadership is essential to increasing alumni engagement, maintaining class spirit and encouraging support for Stevens,” said SAA Classes Committee Chairmen Dick Magee ’63 and George Johnston ’72, who are leading the elections effort. “We congratulate the recently elected class officers; some were newly elected but many have faithfully served their classes for decades. Their willingness to serve is a demonstration of their dedication to Stevens.”

Many alumni who come back to Stevens are truly excited about the university’s progress (see page 25), and class officers play a vital role in nurturing this engagement among their classmates.

For more information about the elections and about ways to get involved — from being a class officer to serving on a reunion committee — contact SAA Interim Executive Director Melissa Fuest at Melissa.Fuest@stevens.edu — Dick Magee ’63 and George Johnston ’72
I was very excited to go to Alumni Weekend this year. There were so many events that I wanted to attend: President Farvardin’s State of Stevens talk, the WCPR reunion, presentation of student research in the health sciences and a SURE HOUSE tour. What I didn’t expect was to be so deeply moved by the president’s talk concerning the future of Stevens. Some highlights of the past year the president presented in his talk that were news to me:

- The Innovation Expo included a Shark Tank-like event where students competed, and the event actually attracted news crews to Stevens;
- The university has brought industry leaders such as the director of the National Cancer Institute and the former CEO of ADP to Stevens to speak to students and the community;
- Stevens’ 2015 ranking by Kiplinger’s Personal Finance, for the 100 top values among private universities, went from 85th to 30th in one year and from 31st to 3rd in ROI in recent years according to the PayScale’s College ROI Report.

The most moving part of his talk was when President Farvardin presented the Strategic Plan for Stevens’ future: “Stevens will become a premier, student-centric technological research university.” He then explained that this goal will be accomplished by strengthening ten key strategic priorities, such as student recruitment, student success, faculty recruitment and research and entrepreneurship. Seeing the graphs of those metrics showing the improvements Stevens has made since President Farvardin’s arrival brought tears of joy to my eyes.

I believe if more alumni had a chance to see this presentation, they would be more willing to contribute to Stevens’ development efforts. I know it did so for me. Stevens has gone through some rough patches of leadership in the past, but President Farvardin made me believe that he is truly righting the ship. I hope Stevens puts these presentations online for all alumni to watch — or, better yet, that alumni see one of them in person. President Farvardin tries to visit the various alumni clubs around the country to give these presentations, so get to one of those events!

I guarantee that the more alumni who see what is happening at Stevens today, the more they will be inspired to help a future student attend Stevens by giving to one of the university’s many scholarship funds. I know it moved me to donate for the first time in many years to both the Class of 1983 Scholarship and to the WCPR Endowed Scholarship. I want my future, and that of my children, to be shaped by the students whom I help to attend Stevens. ⚫ — John Pinto ’83
Mary Anne Cannon ’86 says that she always liked math, and when she was a high school student growing up in Belmar, New Jersey, her parents really wanted her to go to Stevens. It was where her father Thomas earned his master’s degree in 1963, and they thought it would be a good fit for her, the oldest of the five Cannon children. She recalls how encouraging her parents were with her studies and so she applied to Stevens – only Stevens – for college.

“I was always good in math and science, and I really loved biology classes,” she recalls one summer day. “But math is the language of engineers. When you really ‘get’ math, things make so much sense.”

It looks like things have been making a lot of sense for Cannon lately. She recently marked her 26th year with Pratt & Whitney, the jet engine division of UTC (United Technologies Corp.). Today, she serves as vice president, Environment, Health & Safety, working in East Hartford, Connecticut. She has held the title since September 2011.

So what does a VP of EHS do?

“Basically, I am responsible for all safety programs and OSHA (Occupational Safety and Health Administration) compliance across the board for all of Pratt & Whitney’s employees, about 30,000 people,” Cannon says. “For the environment part, I make sure that all environmental regulations are met, from proper air permitting to water and waste treatment; for the health part, I focus on wellness programs, such as making sure all facilities are tobacco-free and that there are on-site gyms for the employees; and for the safety part, well, that’s about making sure people are safe.”

Now her job is becoming busier as Pratt & Whitney prepares to mark its centennial anniversary in 2025. The company is setting some big environmental goals to mark the centennial, such as aiming to cut greenhouse gas emissions by 80 percent from year 2000 levels; reduce water use by 80 percent from year 2000
levels; and recycle 100 percent of its industrial process waste at all its facilities. Some progress has already begun. Since 2000, Pratt & Whitney has reduced greenhouse gas emissions by to 75 percent less greenhouse gases compared to current jet engine models.

“It’s all about reducing our carbon footprint in the supply chain operations and in the facto-
ries,” Cannon says. “Sustainability is the goal.”

In some ways, Cannon has come full circle back to sustainable innovation; for her Senior Design project in 1986, she worked with three fellow mechanical engineering majors on a project with PSE&G, the New Jersey utility powerhouse. The quartet developed a way to generate electricity from garbage.

Having her hand in so many initiatives at Pratt & Whitney keeps her busy, especially the frequent travel to factories and job sites in places such as Singapore, Israel, Poland and many areas domestically.

“I’m a boots-on-the-ground kind of person, so I love to be out there and meet with the people,” she says. “To be out in the operations is exciting, and I love to see how we are executing the plans that are in place.”

Cannon is quick to point out that she had a huge support team behind her while a Stevens student and as a new engineer, everyone from her parents to Stevens Professor Richard Magee ’63 to the staff at Pratt & Whitney.

“The curriculum at Stevens was hard, but I had an ’I know I can do it’ attitude and that’s because so many people were in my corner,” she recalls.

And she’s more than happy to pay it forward with the next generation of young engineers, serving as a mentor to her co-workers.

“One of the best parts of my job is the people piece of it. I get to help encourage people to grow professionally. And I’m going to be making sure our 2025 sustainability initiative deliverables are all met. That’s really exciting,” she says.

“Engineering really broadens you professionally. With that degree, you can work in operations, EHS, quality assurance – there’s really no limit. It will set you up for so many things career-wise. There’s a real need for engineers, and they have this solid foundation of know-how for anything.” — Lisa Torbic

“It’s all about reducing our carbon footprint in the supply chain operations and in the factories. Sustainability is the goal.”

— Mary Anne Cannon ’86
The journey of Thomas Conroy ’79 — from lead startup engineer of the first coal-fired plant in the Dominican Republic to provider of wind and solar power in the U.S. and beyond — may seem as remarkable as his migration from Westfield, New Jersey, to the high arid plains of New Mexico.

The new president of Array Technologies, a solar tracking systems company based in Albuquerque, Conroy has spent much of his career bringing energy to the world, often to places that have had little access to it. He looks back with satisfaction on his early years, as well as his more recent work with wind and solar power. Energy access is, he says, “a critical underpinning of human development.” Without electricity, he says, not only do citizens lack basic health requirements, such as refrigeration for food and medicines, but they have no light by which to read, write or educate themselves.

That’s why the opportunity to bring solar energy to the 1.4 billion people without current access to electricity is so exciting. “Being able to contribute to the rapid deployment of clean energy into the world — it’s tremendously rewarding to me personally,” he says. “I think that it’s an important contribution, and I’m really pleased to be able to continue building on my power generation knowledge which all started at Stevens.”

Array Technologies provides the mounting infrastructure for solar panels. Its solar trackers rotate throughout the day to keep the panels oriented directly at the sun, and the benefits, according to Conroy, include 20 percent additional power output for 10 percent incremental project cost.

The 150-employee company counts large domestic and international utility companies among its major clients, as well as Engineering, Procurement and Construction (EPCs) companies and large and small developers. As president, Conroy’s job is to lead Array as it introduces new products to maintain its leading domestic market share and to expand into international markets as they develop. Renewable energy sources like solar have been on a steep downward price trajectory over the past five years, with the cost declining 10 percent per year during this period, Conroy says. The U.S. has seen a big push for renewables, including solar, although not a growing demand for electricity, he says. The lack of demand growth, coupled with expected decreases in tax incentives for solar installations, has prompted Array to look internationally for its next big expansion opportunities. Array has an office in Chile, and Conroy sees Latin America as a big emerging market along with the Middle East and Australia.

The Westfield native brings domestic and international energy experience to the job. Joining Foster Wheeler after graduation, he started up coal-fired plants in Spain and the U.S.; among his proudest achievements was the commissioning of the first successful low-NOx coal burners in the U.S. With the power industry “dead” through the late 1980s and 1990s, Conroy, who also holds an MBA from Columbia University, worked for Digital Equipment Corp. and Compaq. He rejoined the energy sector in the mid-2000s when clean, accessible and no-water-usage power generation re-emerged as one of the world’s top challenges.

Conroy joined Wind Tower Systems in Utah as president and CEO in 2005 and led commercialization efforts for a utility scale wind turbine tower system that reduces the cost of wind energy by 10 percent or more, Conroy says. The innovative tower allows developers to build turbines to greater heights, where the wind is typically stronger. The space-frame structure is also simpler and more economical to transport than existing tubular tower designs. GE purchased the technologies in 2011.

Like so many alumni, Conroy praises Stevens for its rigor and broad curriculum. But one of this mechanical engineering major’s most important memories is signing the Honor Code pledge — a pledge he still embraces in business and in life.

“It was dead clear what the expectations were,” Conroy says. “At the top of every paper, you wrote the pledge. You thought a lot about it. I found it reassuring that Stevens placed such a high and consistent priority on ethical behavior, and I still find that one of the most valuable elements of my Stevens education.”

— Beth Kissinger
A DREAM BLOSSOMS IN AFRICA

David Gillett ’10 needed just a short time in Kenya – in the slums of Nairobi and in the famine-scarred desert of the country’s north – to grasp the meaning of “Kanju.”

The Yoruba word means “a specific creativity born out of African difficulty,” and Gillett experienced it again and again as a volunteer service worker from Kansas City, Missouri. He saw it in the famine survivors who grew a bumper watermelon crop in the desert; in the angry residents who agreed to sit down with the company that was polluting their Nairobi neighborhood; in Shabu, a Nairobi artist who painted murals with positive messages to inspire children in need and created an arts academy.

Gillett, a former Wall Street analyst-turned-divinity-student at Nazarene Theological Seminary in Missouri, played a role in all these projects, teaming up with the school; Strategic Applications International, a Washington, D.C., based non-governmental organization (NGO); and the Church of the Nazarene for his trip, which lasted from February to December 2014. The Kenyans he met made such an impact that he undertook a two-and-a-half-week return trip this August to Kenya and Rwanda to expand on the work he helped begin.

“I was just amazed at how entrepreneurial they are and, despite many difficult circumstances, people are doing amazing things,” Gillett recalled, in July in Kansas City.

“I learned that people in Africa, particularly in Kenya, are working with an asset-based approach, versus a deficit-based approach: ‘What do we have in our backyard?’ ”

Gillett’s projects focused on gender-based violence and waste management, and his duties were wide-ranging, from organizing meetings to helping secure funding from the U.S. government and donors.

When an industrial company began dumping solid waste in a poor residential neighborhood in Nairobi, tensions rose. The community sought out Gillett and his organization, which brought everyone together and hammered out an agreement that made the company responsible for the cleanup, employing local residents to perform the cleanup and creating an internship for locals.

“Once people saw the turnaround, that there was more responsibility shown by the company, other companies saw this and tried to follow,” he says. “It’s not perfect. [But] it’s definitely a change for the better.”

Another memorable assignment took him to the town of Lodwar, in northwest Kenya. The area suffered a devastating drought five years ago that resulted in famine and, as living conditions deteriorated, a greater incidence of abuse of women and children, Gillett says.

Local residents traditionally raised cattle, but approached the local church for assistance in creating a farm in the desert that would give them more economic stability. They raised funds, while Gillett helped secure additional funding, and the community was able to purchase land. This past year, a bumper crop of watermelons and vegetables both fed families and was sold for profit.

“We’re seeing a reduction in gender-based violence in the area,” Gillett says. “The dynamics of the environment are changing.”

All of this, in 10 months. This Stevens Technical Enrichment Program alumnus and business and technology major says that his experience on Wall Street, and at Stevens, helped him along his path. His Stevens education secured him an analyst position at the financial services company AIG, and the experience fostered a keen business sense he’s carried along with his passion for making a “healthy, sustainable impact on people.”

Now the Brooklyn, New York, native is considering lining up partners to invest in water projects in Kenya. He may choose the ministry, but Gillett sees Africa in his future no matter what. He dreams of creating an organization that helps nations invest in Africa and supports the development of young people. His experience, he says, has been transformative.

“It’s not my project, it’s not my goal, it’s not my dream,” Gillett says. “It’s ours.” — Beth Kissinger
**ALUMNI PROFILE:**

**DREAMS REALLY DO COME TRUE FOR ALUMNA WITH DISNEY JOB**

A recent alumna has begun putting her Stevens degree to work at The Happiest Place on Earth, the Magic Kingdom Disney Theme Park in Orlando, Florida.

Lauren Harpst ’15, a Pittsburgh, Pennsylvania, native, began working soon after graduation as a stage technician with a specialty in audio engineering for the many shows on display at the Magic Kingdom. Getting the call from Disney was exciting.

“I almost cried in that moment because I knew all the blood, sweat, tears, bruises, hard work and long nights had finally paid off,” Harpst said. “I never expected to get this kind of job right out of college.”

Harpst recently graduated with a degree in music and technology and a secondary concentration in theater and technology, both of which are housed within Stevens’ College of Arts & Letters.

“When I entered the music and technology major, I immediately wanted to do sound for theater,” she said. “I saw the major as a road to getting into the professional theater circuit, but I didn’t have the skillset required for stage or production managing until my sophomore year.”

To gain experience, Harpst completed a variety of internships during her undergraduate career, most notably as an audio intern with Shakespeare in the Park, The Public Theater’s annual season of free plays at the Delacorte Theater in New York City’s Central Park. As an intern, she helped to install all of the outdoor audio equipment before performances.

“Each show had different things that were needed, so our team had to take out what was special from the last show and install what was needed for new shows. The productions do not have rain days, so as long as it was safe, we worked,” Harpst said.

Besides internships, Harpst was busy on campus as well, participating in a number of activities such as production manager for DeBaun Auditorium, interning with David Zimmerman ’90, the executive director of University Events at Stevens, and being a part of Theta Alpha Phi, a national theatrical honor society. She also freelanced around New York City as a stage manager, production manager and audio engineer. Each experience taught her something.

“I gained most of my experience through freelancing and interning, which helped me grow as a technician,” she said. “Being thrown

**MAKING SAFETY A NO. 1 PRIORITY**

Professional engineer John O’Donnell ’84 M. Eng. ’00 knew when he was just a boy that he wanted to go to Stevens.

“I knew I wanted to be an engineer when I was in the 7th grade,” recalls O’Donnell, son of William J. O’Donnell ’56. “I always looked up to my dad and when I asked him what he did and where he went to school, he told me that he was an engineer and he went to Stevens. So that was it for me; the smartest man I knew went to Stevens, so that’s where I was going.”

O’Donnell has spent his career in the aero-safety field and just recently added a new role to his resume. In May 2015, he was named CEO of Zodiac Aerosafety, a segment of Zodiac Aerospace that is a worldwide leader in equipment for commercial aircraft and military operations. Zodiac Aerosafety manufactures commercial aircraft components such as emergency slides, life rafts, life vests and helicopter emergency flotation equipment as well as aircraft arresting systems, parachutes, fuel cells and electrical harnesses. O’Donnell is based in the Wall, New Jersey, facility and he
Lauren Harpst ’15 has landed her first job in the Magic Kingdom Disney Theme Park in Orlando, Florida, where she’s a stage technician specializing in audio engineering.

“These experiences better prepared me for the real world and gave me confidence to be able to work for any production.”

Harpst is only one of a few students who has completed both the music and technology and theater and technology sequence for her undergraduate degree. She believes that the unique combination of artistic and technical courses taught at Stevens has prepared her for life within the Disney Company. “My theater classes have helped me better understand how to interpret works and how much work each technical position must do in order to design a show... When you compose a new piece of music, you are obviously creating something completely new and that’s what designers do every day for their shows.”

A few weeks after she joined the Disney team, she expressed how happy she is to see things from the other side of the Disney magic curtain.

“I have an over-appreciation now for how much planning and work goes into the parks to make everyone’s visit magical,” she said. “The best part of my job is watching the kids interact and react to the show I work on. Their smiles and squeals of joy are why I love doing what I do.” — By Julie Farrell, Office of Academic Communications & Marketing; Lisa Torbic contributed to this report.

oversees 15 additional factories located elsewhere in the United States and also in Mexico, France, England and South Africa.

He began his career as a professional engineer with Powerfect, then joined Air Cruisers Company in 1987 shortly after it was taken over by Zodiac, a French company. In 1990, he was tapped to lead their manufacturing engineering department and in 1994 become vice president of engineering responsible for product development. In 2008 he continued his ascent up the Zodiac ladder to become president of Zodiac’s Aero Evacuation Systems and was named CEO this past spring.

O’Donnell, born in Bayonne, New Jersey, moved to the Jersey Shore area when he was 10. He still calls the Jersey Shore home when he’s not traveling weeks at a time for work. It can be a tough life, he says, but the constant travel and long hours managing facilities far from his office are a part of the job.

In addition to his Stevens degrees, he earned his MBA at Monmouth University.

He proudly mentions that his engineering background is the basis for his success. “With an engineering degree, you have the tools for career flexibility.”

After 28 years in the aerosafety business, he still loves it now as much as he did in the beginning.

“As an engineer, I love being able to see something develop from the beginning as a basic design to the very end,” O’Donnell says.

This owner of seven patents, six of which are related to evaluation systems for aircraft, says that in the next five years, he’s looking to grow Zodiac’s business even more.

“I strive for operational excellence in everything in all segments of the business,” he says. “I’m pleased with the progress we have made, but we need to continually improve to the next level; the competition is not sleeping.” — Lisa Torbic
S
tevens students continue to make their mark globally by leaving campus and doing research, taking classes and performing acts of service in many areas of the world.

The number of students who spend their summers abroad earning college credits or performing acts of service has increased from 56 in 2014 to 79 in the summer of 2015, according to the Stevens Office of International Programs (OIP).

Eleven students recently spent an impactful week in the Caribbean, not on break or vacation but instead participating in the inaugural Stevens Global Service Initiative trip to Jamaica. In May, 20 students—in finance, engineering, engineering management and music and technology—traveled to Greece as part of a study abroad trip organized by the Stevens School of Business. And in June, four Stevens students—joining students from the University of Illinois and Michigan State University—studied sustainable energy under Stevens professor Ron Besser at the Pontifical University Comillas in Madrid. The Madrid program, under Besser, has been offered for the past four summers. Previously, Besser offered the program in Guayaquil, Ecuador.

This fall, 10 students are participating in Stevens’ study abroad program, traveling to and learning in places such as Hungary, Ireland, The Netherlands, France, England and Germany.

“The most thrilling aspect of my work is having a student come back from an experience abroad and hearing how much the experience has transformed their outlook on life,” says Susi Rachouh, director of Stevens’ international programs.

And Rachouh said the buzz on campus about opportunities to study or serve abroad is growing, as evidenced by the large number of incoming freshmen who spoke to her about the subject during Accepted Students Day in April.

FROM EUROPE TO THE CARIBBEAN, EYE-OPENING STUDIES AND SERVICE

Recent journeys abroad provided a range of studies, work experiences and cultural experiences for Stevens students.

Project Jamaica, which was organized by Delta Upsilon, is part of the fraternity’s international philanthropy Global Service Initiative. the goal is that students leave the experience with a greater understanding of global issues, a commitment to be community servants and to be more aware of the world around them.

Thea Rachel Zunick, associate director of student life at Stevens, noted that the trip was a unique opportunity, open to all Stevens undergraduates, to perform community service on a global scale.

“Many of the students on the trip have had opportunities to serve in Hoboken and in surrounding areas in New Jersey, but this trip broadened that perspective with a once-in-a-lifetime experience to serve the people and children of Jamaica,” Zunick said.

Olivia Schreiber ’18 described her Jamaica experiences as an important step in her evolution toward becoming a global citizen. “I want to continue to nurture this maturation throughout my time here at Stevens and throughout my adult life,” she said.

The School of Business has been offering a study abroad experience for several years, but the eight-day trip to Greece last May was particularly memorable and timely, as students had a front-row seat to events surrounding that nation’s economic crisis.

The trip, which included lectures at Athens University of Economics and Business (AUEB) and visits to the seaport town of Nafplio, Aegina island, and the iconic antiquity sites of Delphi and the Acropolis, is the culmination of a business and technology course, “Global Business Seminar.” At AUEB, students attended lectures that focused on the Greek economy. They also visited three companies in Athens: a cosmetics firm, an aluminum manufacturer and a designer clothing store.

“Students were especially interested in understanding the country’s unfolding economic crisis and its consequences for European and global markets,” said Ann Mooney, associate dean in the School of Business. “So many students have told me that it was a trip of a lifetime and that they can’t wait to have more international experiences.”

Previous study abroad trips sponsored by the business school have also seen students travel to London, Germany and Ireland.

“Our trip to Greece was the perfect combination of educational, professional and cultural experiences, which made it possible for us to gain multiple perspectives on the Greek lifestyle and how current economic circumstances have impacted that lifestyle,” said quantitative finance major Jessica Smith ’17. “It was truly a once-in-a–lifetime opportunity.”

More Stevens Students Experiencing The World

—from YoungSoo Yang, Lisa Torbic & Beth Kissinger
Studying in Athens this past spring, students learned about the Greek economy but also took time to savor the country’s cuisine and iconic antiquities sites.

“The most thrilling aspect of my work is having a student come back from an experience abroad and hearing how much the experience has transformed their outlook on life.”
— Susi Rachouh, director, Office of International Programs

Students take a break this spring outside a café in Madrid while taking a sustainable energy course at Universidad Pontificia Comillas, taught by Stevens professor Ron Besser.

Stevens students traveled to Jamaica on a service trip this spring to help with repair and construction work at two primary schools — and made some new friends along the way.
Valuable Ideas Deserve Invaluable Protection.
CARTER, DELUCA, FARRELL & SCHMIDT, LLP

Your expertise creates new ideas, inventions and processes. Our expertise assures that your innovations get the protection they deserve. Let our team of experienced professionals safeguard your intellectual property assets. Put us to work for you and your ideas today.

Carter DeLuca Farrell Schmidt, LLP
443 Broad Hollow Road • Suite 420, Melville, New York 11747
• Francesco Sardone ’96 •
fsardone@cdfslaw.com • t: 631.501.5700 • E: 631.501.3526
www.cdfslaw.com

Since 1951
BEARDSLEE TRANSMISSION EQUIPMENT COMPANY, INC.

27-22 Jackson Avenue
LONG ISLAND CITY, NY 11101
(718) 784-4100 Fax: (718) 784-4106
Store Hours: 7:00 am – 4:30 pm

V BELT DRIVES
ROLLER CHAIN
SPROCKETS
BALL & ROLLER BEARINGS

290 E. Jericho Turnpike
MINEOLA, L.I., NY 11501
(516) 747-5557 Fax: (516) 747-9307
Store Hours: 7:30 am – 5:00 pm

SHAFTING & MACHINING
PILLLOW BLOCKS
FLANGE BEARINGS
U.S. ELECTRIC MOTORS

680 Old Willets Path
HAUPPAUGE, L.I., NY 11788
(631) 582-4900 Fax: (631) 582-4940
Store Hours: 7:30 am – 5:00 pm

GEARS
BRONZE BUSHINGS
MATERIAL HANDLING
& CONVEYER PARTS

EUGENE B. BEARDSLEE ’48
For more information on Stevens alumni clubs, alumni benefits and upcoming events, visit stevens.edu/alumni
A Fulbright Scholar from Afghanistan, Bahadur Hellali M.S. ’12 had one of the world’s great cities — New York — within his sight and grasp while at Castle Point. Opportunities lay literally outside his window.

But whether the future computer scientist was speaking with his professors after class, or contemplating in his quieter moments, his thoughts always returned to Afghanistan.

“It always gives me a lot of motivation (that) my work would have an impact on the country where I live,” he says. “The whole motivation is to make a change. We are moved to be a part of that change.”

In Kabul, Hellali is a full partner with JS Consultancy Services, where he is a program development director working with clients such as the American University of Afghanistan (overhauling their website) and with the government’s education and energy ministries, doing data analysis and enterprise research planning.

But as he helps to advance the economy and governance of his war-torn nation, Hellali is also fulfilling the promise of his Fulbright — to find solutions to international problems. Hellali has decided to tackle the country’s low literacy rate, among the lowest in the world, and confront what may seem like a national problem that actually has much broader impact.

He’s seeking a solution through technology.

Afghanistan’s national literacy rate is 31 percent, according to UNESCO, and significantly lower than that among women. Working with a four-person team — an education expert, a researcher, an assistant researcher/tech support person, with himself as the technology expert—Hellali plans to launch a pilot literacy program that will use an Android smart tablet to bring a mobile literacy program to those who otherwise wouldn’t have access to it.

The project, supported by the team’s own private fundraising, will recruit 20 Afghans of different backgrounds who can neither read nor write. Using literacy materials developed by the country’s education ministry, the team will customize a series of reading exercises that students complete each week over an eight-week period. Much of the material would be customized to include words that apply to each student’s line of work. The advantage of using a mobile device: Students can hold down jobs to support their families while developing their literacy skills during their free time, since literacy classes in the country tend to be offered only during daytime work hours.

The goal: Students will learn to read basic words by the end of eight weeks, and the U.S. Agency for International Development (USAID) and other partners will provide funding.

“We are hoping, sure, that we’ll get good results, donors will be interested, and that we’ll have an impact on our society,” Hellali says during a phone interview from his apartment in Kabul.

He also mentions another project — a system to help improve maternal and infant health and reduce death and disease in the country’s remote villages. Women and newborns in these areas often lack proper medical care, and mortality rates are high. Currently, community health workers use pen and paper to record data on these deceased patients, and it can take months for the data to be collected and analyzed. Hellali has helped develop an automated verbal autopsy tool through which workers would report the data by dialing a number on their phones and the system would automatically collect the data and make it ready for analysis. Timely data analysis will not only improve maternal and infant health but will also help in lowering the mortality and morbidity rate among this population, Hellali says. A high-level prototype has been developed to shop to donors.

Hellali, with a B.S. in computer science from Kabul University, brings long technical experience to these challenges. He founded LEMA Network, which offers in-house web and desktop data base services, in 2007 and also worked as a software developer in Kabul with the Afghanistan Reconstruction Trust Fund/International Relief and Development, under a World Bank Monitoring Program.

Hellali, who left Afghanistan in 1997 for Pakistan, fleeing civil war, returned to his country in late 2002. He lives in Kabul with his wife and seven-month-old daughter. — Beth Kissinger
Championships are typically tough to come by, but for Stevens Institute of Technology men’s tennis star Matthew Heinrich, they seem to be a normal facet of the season.

After taking both the singles and doubles crowns last fall at the Intercollege Tennis Association Northeast Regional Championships, Heinrich will take the court this September in defense of his titles in Poughkeepsie, New York.

The wins advanced Heinrich to nationals, where he made it to the finals at singles after falling along with teammate Ben Foran at doubles in the semifinals. Both earned ITA All-American status as a result.

The hard work was nothing new for the Tennessee native, whose ever-growing trophy case is comprised of three First Team All-Empire 8 (E8) Conference nods in singles and doubles, three E8 Player of the Year awards, three E8 championship MVP awards, a 2013 E8 Rookie of the Year award, an ITA Northeast and National Rookie of the Year award in 2013, and an ITA National Player to Watch award in 2014.

Heinrich’s resume also includes two NCAA Individual Championship selections, a first for Stevens tennis, both of which resulted in second-round appearances and a pair of NCAA All-American nods.

His play has been instrumental in the Ducks’ rise toward being a regional and national power.

“Matthew’s been an integral part of our team’s rise on the national stage,” head coach Steve Gachko said. “Even with all of his individual accomplishments both on and off the court, I’m confident he will lead our team to new heights in his senior year. His leadership, work ethic, and class push everyone around him to be better, and he’s certainly set the bar high.”

As the team leader, Heinrich, now a senior, has led the Ducks to three consecutive E8 Championships during his career, as well as three-straight appearances in the NCAA Tournament.

As impressive as the tennis accomplishments have been, it’s been Heinrich’s off-the-court feats that have set him apart from his peers.

Carrying a 4.0 GPA as a mechanical engineering major, Heinrich is a six-time President’s List honoree, as well as a two-time CoSIDA Academic All-District and All-American selection.

“Matt’s record of achievement on the tennis court is eclipsed only by his academic accomplishments,” says Russell Rogers, Stevens’ athletics director. “What sticks out the most to me about Matt is he’s all about the team and not himself. I think one of the biggest reasons why he’s so driven to success is he knows it will help push his teammates to do their absolute best as well. He truly is special, and we’re so proud to have him representing Stevens.”

— Danny Vohden
STEVENSMETROPOLITAN CLUB
The club meets throughout the year, normally on the fourth Thursday of the month (except in November and December). Our annual meeting was held this past June, with a number of actions taken. The elected officers for the 2015-2016 season are: John Stevens ’72, president; Joe Schneider ’46, treasurer; Don Daume ’67, secretary; John McDonnell ’72, representative to Council. The dues and lunch cost will remain as last season.

A donation was made to scholarships at Stevens. Members look forward to the monthly lunch meeting and to the December holiday luncheon at the Knickerbocker Country Club in Tenafly, New Jersey, with our hosts, Rose and Bob Bosse ’50. You are most welcome to drop by to give the club a try and enjoy the fellowship in support of the club, the alumni association and Stevens. ❖ — Don E. Daum ’67, Secretary

GREETINGS FROM GREECE
Alumni living in Greece gathered in Athens this spring to give a warm welcome to Stevens students and staff who were visiting the country and studying at Athens University of Economics and Business. See page 32 for more about this study abroad experience. ❖

STEVENSSOUTHERN CALIFORNIA ALUMNI CHAPTER
Southern California alumni welcomed Professor Alan Blumberg, director of Stevens’ Davidson Laboratory, to a reception at the Aquarium of the Pacific in Long Beach, where Blumberg presented a lecture, “Resilience of Coastal Cities to Environmental Threats: The New Frontier.” Read more about Blumberg’s and his colleagues’ research in coastal resilience starting on page 8. ❖

STEVENSN.J. ALUMNI CHAPTER
The Stevens N.J. Alumni Chapter invited members of the Stevens Institute of Technology’s U.S. Department of Energy Solar Decathlon 2015 entry, SURE HOUSE, to lunch at The Breakers On The Ocean, Spring Lake, New Jersey, this past spring. Pictured are some members of the SURE HOUSE team. To learn more about SURE HOUSE, see page 16. ❖
OCT 2-3
FRIDAY-SATURDAY
Homecoming 2015
Stevens campus
stevens.edu/homecoming

OCT 7
WEDNESDAY
President’s Distinguished Lecture Series, with Sharmin Mossavar-Rahmani, chief investment officer, Private Wealth Management Group, Goldman Sachs
DeBaun Auditorium, Stevens campus
stevens.edu/lecture

OCT 28
WEDNESDAY
Heath Lecture Series
with Sandeep Sacheti, EVP, Wolters Kluwer
Babbio 122
Stevens campus
stevens.edu/heath-lecture

OCT 29-31
THURSDAY-SATURDAY
6th Annual Conference on High Frequency Finance and Analytics
Stevens campus
http://hfsi.stevens.edu/hff_conference

OCT 14
WEDNESDAY
WCPR Panel, “Broadcasting Through Adversity”
Bissinger Room
Stevens campus

NOV 18
WEDNESDAY
The Center for Science Writings presents Professor Sheldon Solomon, co-author, “The Worm at the Core: On the Role of Death in Life”
Stevens campus
stevens.edu/cal/csw

For SAA and alumni club events, visit www.stevens.edu/alumni
MARRIAGES

BIRTHS
To Gina and Ryan C. Lynch ’06, twin daughters, Mackenzie Marie and Emma Grace, on Feb. 6, 2015.

To David Velasco ’07 and Valerie J. Byron Velasco ’08, a daughter, Alessandra Elena, on May 22, 2015.

To Kate E. Freed Matos ’08 and Jonathan A. Matos ’08, a son, Jonathan Hamilton, on November 23, 2014.

OBITUARIES
T.R. Gascoigne ’43 ............................ 7/17/15
W.J. Birmingham ’45 .......................... 11/11/14
R.H. Webb ’47 .................................. 10/10/14
J.F. Mahon ’48 .................................. 7/16/14
R.J. Bazzini ’49 .................................. 6/23/15
F.T. Sherman ’49 .................................. 8/3/14
R.C. Watson ’51 .................................. 8/26/14
J.H. Carskadon ’52 .............................. 7/6/14
R.E. Dietz ’52 .................................... 7/30/14
H. Fleischer ’52 ................................. 6/15/14
H.R. Grander ’52 ............................... 6/15/14
J.W. Kelsall ’52 ................................. 7/7/14
R.N. MacMillan ’52 ............................ 5/12/15
R.M. North, III ’52 ......................... 12/17/14
D.R. Phillips ’52 ............................... 5/9/15
C. Van Hook ’52 ............................... 5/16/15
R. Holmes, Jr. ’54 ............................ 1/10/15
H.L. Byron ’57 ................................. 11/8/14
F.R. Gianforte ’58 ............................ 5/3/15
V.V. D’Alessandro ’59 ...................... 8/26/14
J. Van Doorne ’59 ............................ 1/4/15
N. Valcoff ’60 ................................. 4/7/15
R. Acker ’61 ................................. 5/1/15
E.L. Kallander ’63 ............................ 9/9/14
R. Lechelt ’63 ................................. 6/18/15
R. D’Amato ’68 ............................... 6/23/15
K.R. Dawson ’68 ............................ 4/8/15
R.F. Facciolla ’68 ............................ 5/9/15
C.G. Naylor ’70 ............................... 6/20/15
K.G. Tarnawsy ’82 ........................... 7/3/13
R. Maurer ’87 ................................. 3/7/15

GRADUATE SCHOOL
C.J. Pasquale, M.S. ’50 .................... 1/4/15
H. Moreines, M.S. ’51 .......................... 5/21/14
A.B. Shesser, M.S. ’51 .......................... 1/17/15
A.R. Adler, M.S. ’57 ............................ 4/9/10
D.M. Kennedy, M.S. ’58 .................... Unknown
R.J. Feldman, M.S. ’61 .......................... 6/17/15
R.F. Tommaney, M.M.S. ’67 .......................... 7/18/15
A.A. Jalajas, M.S. ’77 .................... 4/12/15
R.J. Shine, M.S. ’86 ............................ 6/4/15

FACULTY
H. Silla, M.S. ’61 .................... 7/21/15
G. Rothberg ................................. 6/23/15
Hon. M.Eng. ’75

SAVE THE DATE
HOMEcoming 2015 FRiday & saturday
October 2-3 Stevens.edu/homecoming
“I am particularly proud of my research and advanced degrees from Stevens and pleased to be in a position to give back. To me, the marine research being conducted at Stevens’ Davidson Laboratory is exceptional, important and the inspiration for my choice to invest in the university’s future.”

John E. Marriott  
M.Eng. ’96 & ’06

Support Stevens with Gifts from Retirement Plans

Retirement-plan benefits are likely a significant portion of one’s net worth. And because of special tax considerations, they could make an excellent choice for funding a charitable gift. Such gifts can be made after (OPTION 1) and/or during (OPTION 2) a donor’s lifetime.

1 ESTATE GIFTS OF RETIREMENT PLANS

How it Works
• Name Stevens as beneficiary for part or all of your retirement-plan benefits.
• Funds are transferred by your plan administrator after your lifetime.

Benefits
• No federal income tax is due on the funds that pass to Stevens. Funds are transferred by your plan administrator after your lifetime.
• No federal estate tax on the funds.
• Make a significant gift for the program(s) you support at Stevens.

Special note
• Call or email us to tell us of your intent, and we will assist you with the details of your beneficiary designation of Stevens.

2 LIFETIME GIFTS OF RETIREMENT PLANS

• Special note: Stevens is watching for news of Congress’ possible reauthorization of the Charitable IRA Rollover, a popular way individuals age 70.5 and up can make tax-free distributions directly to charity from qualified retirement plans. We will send news to all interested parties if/when the provision is renewed.

• Without the Charitable IRA Rollover it can be advantageous for some to withdraw funds from a retirement plan and make a gift of some or all of those funds to support Stevens. Contact us or visit stevens.giftplans.org to learn more.

CONTACT FOR MORE INFORMATION

Michael Governor, Director of Planned Giving: 201-216-8967 or Michael.Governor@stevens.edu
Visit: stevens.giftplans.org

DISCLAIMER
The information is general in nature and may not apply to all individuals. Prospective donors are urged to consult their personal tax and financial advisors concerning the specific consequences of making gifts to Stevens. We would be pleased to discuss, in confidence, ways in which you may support Stevens.
As a full-service contract manufacturer, we constantly invest in the latest technologies and equipment. In addition, we partner with you to co-develop and manufacture high quality components, complete medical devices, and fabricated tube assemblies.

- **Quality**: Committed to quality in everything we do.
- **Precision**: Challenge us with your tolerance requirements.
- **Innovation**: On the leading edge of technology.