

THE STEVENS INDICATOR

SPRING/SUMMER 2018 ✦ THE MAGAZINE OF THE STEVENS ALUMNI ASSOCIATION

SPACE ODYSSEY

ALUMNI FUEL 60 YEARS OF SPACE EXPLORATION

IN THIS ISSUE: A LASTING LEGACY | LIFE AT BUZZFEED | CELEBRATING 50 YEARS OF STEP



DEPARTMENTS

2 PRESIDENT'S CORNER

3 LETTERS TO THE EDITOR/SOCIAL MEDIA

4-7 GRIST FROM THE MILL

7 CALENDAR OF EVENTS

42 SPORTS UPDATE

43-72 ALUMNI NEWS

44 SAA PRESIDENT'S LETTER

68 VITALS

FEATURES

8-10 **A TRIBUTE TO HIS 'STUTE'**

Richard F. Harries' '58 reunion-year gift makes Stevens history

11 **STEVENS VENTURE CENTER 'GRADUATES' FIRST COMPANY**

FinTech Studios strikes out on its own

12-31 **SPACE ODYSSEY**

Stevens alumni fuel 60 years (and counting) of space exploration

32-33 **ENCHANTED EVENING**

See moments from the 2018 Stevens Awards Gala

34-35 **PROFILE: CAROLINE AMABA '12**

36-38 **STEP'S 50TH ANNIVERSARY**

The Stevens Technical Enrichment Program (STEP) will mark its 50th anniversary this fall, as its alumni reflect on its impact.

39 **STEVENS RECEIVES ACE/FIDELITY INVESTMENTS AWARD**

'Turnaround' not too strong a word to describe the university's transformation

40 **QUANTUM LEAP**

Physics team deploys, verifies pathbreaking three-node network

41 **ROBOTIC DEVICE AIDS STROKE PATIENTS**

Mobility-assistance system will be tested by stroke patients at Kessler Institute

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REMEMBERING PAUL MILLER

I had a chance to read the Winter 2018 edition of *The Stevens Indicator* and read the story of former artist-in-residence Paul Miller. I lived next door to Paul on River Street. I remember he lived at 612 River St. from the early '70s to 1979, and I would see him crossing the street on a regular basis as he walked to his studio on the ground floor of the Kidde Building. I never understood art at that age and was fascinated with the interesting sculptures that I would see in the window of the Kidde Building. For whatever strange reason, I seem to recall him wearing sandals (smoking a pipe?) — my memory does escape me from time to time. When I did see him, we never really spoke, as he always seemed deep in thought and I was also very scared to approach him. I wish I were a bit older at that time and would have had the chance to speak to him and understand the sculptures and him a bit more. It was nice reading the article, as it brought me back to the '70s as well as helped me to learn more about his big bird-like statue that I saw in the library and his bronze sculpture that hangs on the wall in the library. I have seen these a million times and never really knew about them. ❖ —Dave S. Manhas '88 M.Eng. '90 M.S. '92

(Editor's note: Manhas' father is retired Stevens professor Maghar Manhas Hon. M.Eng. '74.)



Paul Miller, left, works with a student on the interior skeleton of the sculpture *Tyron*, which is now housed in Sam's Place on the first floor of the S.C. Williams Library.

SOCIAL MEDIA

This year's Stevens Awards Gala proved to be "An Enchanted Evening" (see pages 32-33) as evidenced by the glamorous photos that filled Stevens' social media channels on April 14. ❖



To see all the photos from the event, visit
connect.stevens.edu/awardsgala.



2



3



1



- 1 A scene from the cocktail hour at The Plaza Hotel.
- 2 Professor Vikki Hazelwood Ph.D. '07 accepts her Distinguished Alumni Award in Science and Technology.
- 3 Assistant Vice President for Student Affairs Sara Klein poses with Jose Angeles '18.

PRESIDENT'S CORNER

PER ASPERA AD ASTRA

The Stevens motto, *Per Aspera Ad Astra*, literally “through adversity to the stars,” is being realized before our very eyes.

The 2017 “Best Colleges” edition of *U.S. News & World Report* ranked Stevens No. 69, up 19 places since 2011, making Stevens the second-fastest-rising university among the top 100 in the nation. *Forbes* magazine named Stevens “The Turnaround University” in a September 2017 article. And, in March 2018, the American Council on Education (ACE) recognized Stevens with the 2018 ACE/Fidelity Investments Award for Institutional Transformation for its exceptional progress since 2011.

Over the last six years, Stevens has made transformational advances on the national stage as a university on the rise. Yet, the university’s transformation has only just begun. As Stevens vigorously pursues the goals articulated in our ten-year Strategic Plan (2012-2022), we acknowledge that transformation requires a constant commitment to excellence through 2022 and well beyond.

This issue of *The Indicator* features the tremendous contributions of Stevens and its alumni in the era of space exploration. Consider the transformation of science and technology since the 1950s, when the world entered the Space Age. Stevens innovators and entrepreneurs have played an integral role in advancing space exploration, while others have forged new paths at the frontiers of emerging fields that will transform science and technology in the next century.

Today, in critical domains such as biomedical engineering, machine learning, robotics, sustainability, sensor technologies and more, teams of Stevens researchers have unleashed the future. They are applying mechanical engineering principles to cell biology, enabling the printing of cells which could eventually lead to 3D-



PHOTO: AARON HOUSTON

printing of bones, tissue and organs. Others are using machine learning to analyze speech and writing to develop algorithms that can detect early signs of Alzheimer’s disease and dementia in patients. In collaboration with the Department of Defense, one interdisciplinary team is helping to make military operations safer and more environmentally friendly through the use of treated wastewater to cultivate microalgae that can produce fuel to power manufacturing processes. Another team is training underwater robots to navigate and map harsh underwater environments, which could one day lead to safer ships, ports and harbors.

At Stevens, students, faculty, staff and alumni peer into the unknown, seeking solutions to the most challenging problems of our time in burgeoning fields of science, technology, engineering, business and the humanities.

In the next decade and beyond, *ad astra* will define the university’s meteoric rise as a premier, student-centric, technological research university. With the active engagement of alumni, friends, faculty, staff and students, we will be reaching for the stars.

Per aspera ad astra,

A handwritten signature in black ink, appearing to read "N. Farvardin". The signature is written in a cursive, slightly stylized font.

Nariman Farvardin

President, Stevens Institute of Technology

president@stevens.edu

201-216-5213

BOSWELL NAMED STEVENS TRUSTEES CHAIR

Stephen T. Boswell C.E. '89 Ph.D. '91 Hon. D.Eng. '13 was elected chair of the Stevens Institute of Technology Board of Trustees. His term as chair began on May 22, 2018.

Boswell will succeed Virginia Ruesterholz '83 Hon. D.Eng. '08, who stepped down as chair after a distinguished five-year term. Ruesterholz continues her service and leadership to Stevens as a member of the board.

Previously serving as vice chair of the board and chair of the Facilities Committee, and as the former chair of the Human Resources Committee and the Nominating and Governance Committee, Boswell has provided strategic direction and principled governance to the board and the university.

Through his participation as a member of the Executive Committee and Investment Committee, and his loyal and generous support as an alumnus and donor, Boswell has had a significant impact on Stevens' growth and success.

Boswell is president and chief executive of Boswell Engineering, which is among the largest and most diverse engineering organizations in New Jersey. Under his leadership, the 94-year-old, family-owned and operated firm has successfully completed billions of dollars worth of projects in the northeastern U.S., including projects for the Port Authority of NY & NJ, the New Jersey Turnpike Authority,



the New York State Department of Transportation and the New York State Thruway Authority.

He also serves as a trustee of Hackensack Meridian Health and a director of the Hackensack University Medical Center Foundation, president of the board of trustees of the Buehler Challenger and Science Center, and a co-founder and lead independent director of the NASDAQ-listed ConnectOne Bank.

A licensed professional engineer in 28 states and a fellow of both the American Society of Civil Engineers and the American Council of Engineering Companies, Boswell received the civil engineer degree and a doctorate in environmental engineering from Stevens. He also earned a master's degree in biological sciences from William Paterson University and a bachelor's degree in biology from New York University.

"I am confident that Dr. Boswell will provide outstanding leadership for Stevens' future," said Stevens President Nariman Farvardin. "He is acknowledged by fellow board members as a creative problem solver and prudent manager, and as a dedicated champion of this university. He combines a love of Stevens with keen intelligence and deep knowledge of the challenges and opportunities facing higher education." Boswell received the Charles V. Schaefer Jr. Entrepreneur Award at this spring's Stevens Awards Gala. (See pages 32-33.) ❖

ALUMNI LEAD ENGINEERING EDUCATION SOCIETIES

By mid-summer, two of the most prominent engineering education societies will be led by Stevens alumni. Dr. Stephanie Farrell M.S.'92 will become president of the American Society of Engineering Education (ASEE) in June and will hold the position for one year. She is currently a professor and founding chair of Experiential Engineering Education at Rowan University in Glassboro, New Jersey. Michael N. Murphy M.Eng. '82 Ph.D. '87 is the academic registrar and director of Academic Affairs, Digital & Learning Transformation at Dublin Institute of Technology in Ireland, and currently serves as president of the European Society for Engineering Education (SEFI), a position he's held since June 2017. The two will unite this September in Copenhagen when Farrell will serve as a keynote speaker at SEFI's annual conference. ❖

ALERT TO THE CLASS OF '58 MATCHING GIFT CHALLENGE NEARS FINISH LINE

In celebration of his class' 60th reunion year, Richard Harries '58 has pledged a \$10,000 outright gift to the Class of '58 Endowed Scholarship Fund if ten classmates agree to document a bequest to Stevens or pledge to do so before June 30, 2018. If the goal is reached, Stevens will also commit \$10,000 in matching funds. As of May 1, seven classmates have accepted the challenge: Reno Del Ben; Barry Ficken; Bob Fiocco; Richard Harries; Tom Lunghard; Roger Paquin; and Ron Swade. The class needs three more classmates to join the challenge before June 30. To participate, contact Michael Governor, director of Planned Giving, at 201-216-8967, or michael.governor@stevens.edu. ❖



SU+RE HOUSE ON DISPLAY AT LIBERTY SCIENCE CENTER

SU+RE House, Stevens' winning entry in the 2015 Department of Energy's Solar Decathlon, is now on display at Liberty Science Center in Jersey City, New Jersey. Designed by students from a variety of disciplines who were inspired by Hurricane Sandy to design and create a home resilient enough to withstand hurricane-force winds and flooding, this storm-resistant, energy-efficient beach house uses 90 percent less energy than a traditional home and becomes a hub for emergency power to other buildings in the aftermath of a storm. LSC visitors can stop by the Welcome Desk to sign up for a 20-minute tour of the house to see its resilient construction and clean-energy systems in action. ❖

STEVENS LAUNCHES INSTITUTE FOR ARTIFICIAL INTELLIGENCE

The recently announced Stevens Institute for Artificial Intelligence (SIAI) is a tech-driven collaboration of engineering, business, systems and design experts working toward solving pressing global problems in industry and virtually every aspect of society.

This new initiative will bring a forward-thinking, holistic approach to exploring complex problems and creative new solutions for business advantage, social good and national security while advancing the engineering and science of artificial intelligence and machine learning.



Professor K.P. Subbalakshmi

"Artificial intelligence is transforming the world and industry as we know it, and the future of AI remains seemingly limitless," said Dr. Jean Zu, dean of the Charles V. Schaefer, Jr. School of Engineering & Science. "In a world where AI-enabled innovation continues to rapidly evolve, SIAI and its Stevens collaborators will synergistically develop solutions to real-world problems, while providing a platform for training students to be the next generation of AI thought leaders."

This institute, headed by K.P. "Suba" Subbalakshmi, professor of electrical and computer engineering and a Jefferson Science Fellow, will build upon existing AI and machine learning research at Stevens and will involve more than 40 faculty members across Stevens' three schools and one college. An official launch event is planned for Oct. 3. ❖

TEDx
StevensInstituteofTechnology

an independently organized TED event

SAVE
— THE —
DATE!

Wednesday
September 12, 2018
4-6 p.m. EST

Through Collaboration. IMPACT

TEDx AT STEVENS

Stevens will host TEDxStevensInstituteofTechnology on Sept. 12, featuring four accomplished Stevens researchers who will address the theme, "Through Collaboration, Impact." The live campus event, from 4 to 6 p.m., is invitation-only, but will include a Livestream channel. The speakers will include: Jan Cannizzo, teaching assistant professor of mathematics, speaking on "Reimagining Calculus Education"; Kristie Damell, associate dean of students and Title IX coordinator, "Title IX Today: Time's Up to Speak Up"; Elizabeth Fassman-Beck, associate professor of civil engineering, "Looking Up the Downspout: Green Infrastructure for Roof Runoff"; and Alex Wellerstein, assistant professor and David and GG Farber Fellow in the Program on Science and Technology Studies, "Nuclear Threats Reawakened: Should We Duck and Cover Again?" ❖

For more information, visit stevens.edu/TEDx

For more information on the SIAI, visit stevens.edu/siai

FORMER WHITE HOUSE PHYSICIAN VISITS STEVENS



From humble beginnings in the Philippines to a role on the world stage as physician to three U.S. presidents, Dr. Connie Mariano shared stories of her remarkable journey in a talk titled, “Journey to the White House and Beyond,” as the featured speaker of the Provost’s Lecture Series on Women in Leadership at Stevens Institute of Technology on Feb. 26.

Mariano, a retired U.S. Navy rear admiral, is the first military woman to become the White House physician to the president, the first woman director of the White House medical unit and the first Filipino American in U.S. history to become Navy rear admiral. After nine years in the White House, she retired from the military in 2001. Her post-military career includes a four-year consulting role at the Mayo Clinic in Scottsdale, Arizona, the founding of a medical concierge

practice providing presidential-quality care for CEOs, and a memoir, *The White House Doctor: My Patients Were Presidents*.

“The goal of presenting this talk is to inspire the university community, especially the women students, faculty and staff, to overcome obstacles, seize opportunities and make the most of their unique strengths,” said Stevens Provost Christophe Pierre. ❖

▶ To read the full article, visit stevens.edu/mariano, or for more on the Provost’s Lecture Series on Women in Leadership, visit stevens.edu/provost/lecture

WEBSITE NOMINATED FOR A WEBBY AWARD

Stevens Institute of Technology’s interactive campus map and virtual tour was nominated this past spring for the Best School/University Website in the 22nd Annual Webby Awards, the leading international award honoring excellence on the internet and the internet’s most respected symbol of success. Stevens’ interactive map and virtual tour, powered by CampusTours Inc., was singled out as one of the five best in the world in the website category, representing the top 10 percent of 13,000 entries from nearly all 50 states and 70 countries worldwide. ❖

▶ To view the map and virtual tour, visit tour.stevens.edu

CMU’S MITCHELL CONTINUES AI DISCUSSION

Tom M. Mitchell, the E. Fredkin University Professor at Carnegie Mellon University (CMU), delivered the 11th installment of the President’s Distinguished Lecture Series at Stevens this past January, speaking on “Using Machine Learning to Study How Brains Represent Language Meaning.” Mitchell founded the world’s first machine learning department at CMU and continued a fascinating dialogue on artificial intelligence and machine learning that began at Stevens last year, when Google research director Dr. Peter Norvig and Dr. Oren Etzioni, CEO of the Allen Institute for Artificial Intelligence, each addressed a Stevens audience. To see video of Mitchell’s lecture and past lectures, visit stevens.edu/lecture. ❖



SAVE THE DATE

Grace E. and Kenneth W. DeBaun Auditorium
20th Anniversary Celebration

SATURDAY, OCTOBER 6, 2018

▶ For more information and to be added to the invitation list, email DeBaunPAC@stevens.edu

ALUMNA REPRESENTS U.S. PATENT OFFICE AT CONFERENCE

Maria V. De Abreu Pineda '17 represented the National Inventors Hall of Fame and the United States Patent and Trademark Office at a World Intellectual Property Day conference in Lima, Peru, on April 26. Pineda presented "Keys to Success: Innovating with a Global Impact," which was part of a discussion on the contribution of the intellectual property system in the entrepreneurial ventures of women inventors. "I have been a proud representative of Latinas in STEM and an ambassador of innovation," Pineda said. "One of my priorities has always been to promote the inclusion of differences in my teams: different perspectives, different ideas and different approaches. I believe that richer and more powerful solutions are created within this type of environment." ❖



ENR NEW YORK HONORS FOR PETERSON

Lisa Peterson '02, department manager, Transportation Services, with Dewberry in Mount Laurel, New Jersey, has been named to *ENR (Engineering News Record) New York's* 2018 Top Professionals. *ENR's* regional publications invite people each year to nominate deserving, up-and-coming leaders from New York and New Jersey under the age of 40 in construction and design. Contestants are judged on their industry experience, education, leadership skills and community service. Peterson is the first woman to hold dual professional engineer and professional land surveyor licenses in southern New Jersey, according to *ENR*. Peterson was involved in the award-winning widening of the New Jersey Turnpike Interchange 6-9. ❖

DAIDOLA RECEIVES SNAME MEDAL

Stevens adjunct professor John C. Daidola Ph.D. '84 received the prestigious David W. Taylor Medal from the Society of Naval Architects and Marine Engineers (SNAME) last fall, for notable achievement in naval architecture and marine engineering. He is widely recognized as a leader in ship design, ship vibratory response, ship maneuverability and ship survivability during grounding and collision. Daidola spent the majority of his design career at M. Rosenblatt & Son, Inc. and its successors and is currently a professor of ship structures at Webb Institute and president of his own naval architecture and marine engineering firm, AENY. ❖



CALENDAR

JUNE 1-3 **FRIDAY-SUNDAY**
Alumni Weekend 2018
Stevens Campus
stevens.edu/alumniweekend

JUNE 20 **WEDNESDAY**
15th Annual Stevens Athletics
Golf Outing, Arcola Country
Club, Paramus, NJ

JUNE 30 **SATURDAY**
It's a Shore Thing,
Asbury Festhalle & Biergarten,
Asbury Park, NJ

JULY 13-14 **FRIDAY-SATURDAY**
Tennessee Williams'
"The Glass Menagerie"
DeBaun Auditorium
Stevens Campus

JULY 26 **THURSDAY**
Stevens Graduate
Open House
Babbio Atrium
Stevens Campus

OCT 3
WEDNESDAY
Stevens Institute for Artificial
Intelligence Launch
Stevens Campus

OCT 6
SATURDAY
DeBaun Auditorium
20th Anniversary Celebration
Stevens Campus

 For more details and events,
visit stevens.edu/events

For Love of His 'Stute'

ALUMNUS' GIFT IS ONE FOR THE RECORD BOOKS

He started his career at the tender age of 8, and helped his father make ice cream and bottle milk at his wholesale dairy business in Jersey City.

Richard F. Harries '58 — the son of German immigrants who spoke little English — later fixed cars at his neighbor's repair shop and continued working in the dairy and repair shop throughout his Stevens career.

More than 60 years later, he pulls out his letter of acceptance to Stevens from then-President Jess H. Davis, from August 1954. It is lovingly preserved. This native of the Greenville section of Jersey City was the first in his family to attend college and could hardly believe he was there.

"I was overwhelmed at Stevens," he admits. "And petrified. Never saw a slide rule in my life, never knew what the word meant. There was no kidding



Richard F. Harries '58 with his 1932 Auburn Boattail Speedster, at home in North Caldwell, New Jersey. PHOTO: JEFF VOCK

around that I had to grind, and I had no one to go to."

His "strong German work ethic" was one thing no one could ever take away from him, he says.

"My favorite memory was the fact that I knew that I was going to do this. It didn't matter what was going to happen. I was going to get out of there alive."

It is an astonishing example of the resolve of a man who would go on to form his own development firm that provided engineering, architectural planning and surveying services for more than 900 projects; work on important and iconic buildings across New Jersey, including the Prudential Financial building, the Anheuser-Busch brewery and Morristown and Overlook hospitals; serve as chief engineer for the Hackensack Meadowlands Development Commission; and continue advising other engineers to this day, at age 81.



"I could likely have been the best milkman or had the most efficient gasoline station," he says. "But this is what I was destined to do.

"I was transformed by my education."

And now it is Harries who is determined to further transform the university he fondly refers to as "our Stute."

As he marks his 60th class reunion this spring, Harries, with his wife, Carol, has made a truly historic gift to Stevens — a \$17 million bequest that is among the largest single gifts ever made by an individual to the university.

The Harries gift is, indeed, a watershed moment for Stevens and for *The Power of Stevens* campaign. It propels the university past its \$150 million fundraising goal, in the most successful campaign in Stevens history. (As of May 1, the campaign total stood at \$158 million.)

The gift will fund the Richard F. Harries Tower, an essential component of a proposed 1,000-bed dormitory and university center on campus. Stevens hopes to open the center — which will provide much-needed student housing and feature many amenities including a food court, fitness center and student organization offices — by the fall 2021 semester.

Harries' gift also helps launch the Class of 1958 into the history books for making the largest class gift ever as they prepare to mark their 60th reunion this Alumni Weekend, June 1-3. Harries has issued a challenge to his classmates — through June 30 — to join him in further accelerating Stevens' rise.

And, according to Stevens President Nariman Farvardin, that is exactly what Harries has done.

"This incredible demonstration of philanthropy by Mr. Richard Harries is

a tangible sign of the transformation that has taken place at Stevens over the last six years. When a successful alumnus who had been disengaged from his alma mater for many years makes such a generous gift, it symbolizes his fervent belief in the mission of the university and his resolute confidence in the ability of the university to carry out its mission,” said Farvardin. “I have had the honor to get to know Mr. Harries in the recent past and am inspired by his character, his success, and by his generosity. This gift will lay the foundation for the future success of those who will follow in his footsteps for many generations to come.”

During conversations at his home in North Caldwell, New Jersey, Harries reflects on several reasons for his decision to become a major benefactor of his alma mater. He always comes back to two things: Stevens’ recent turnaround, and Nariman Farvardin.

“What I saw in the last five to six years is a dramatic change, so that’s why we’re here today,” he says.

“There’s no doubt — under the guidance of Nariman — that you have a tremendous administrator. There’s no doubt that this is going to be the most prominent school of engineering, with the most fabulous-looking dorm,” he adds with a slight smile.

When you speak with him, Harries is frank, a straight-talker who can be intensely serious but also possesses a dry wit. He doesn’t hide his disenchantment with the previous Stevens administration and his prior withdrawal of a \$1.5 million cash gift in August 1998. During a gathering with classmates in December 2017, he told the story of first meeting Farvardin, whom he immediately saw as “a man of vision and a doer,” back in 2012. But Harries needed to see what the new president could do before lending his support. As he recalls, Farvardin told him: “Mr. Harries, just give me five years.”

So Harries waited, watched and read the news over that five years: the university’s 19-point jump in the *U.S. News & World Report* rankings; its significant credit rating upgrade and improved finances; skyrocketing increases in applications; impressive student outcomes; exciting research. Then he called Farvardin and told him, “I’m ready.”

As Harries continues his pro bono consulting, his main vocation today is that of philanthropist, and he and his wife are tremendous supporters of charity — some 60 in all.

As he met with some very well-known charities to consider this significant gift, he found something lacking in all of these foundations. Then he decided to speak with Farvardin.

“One of the good things about Nariman was the humbleness and decency, and that played a big role...I have the highest regard for him. He is extremely humble in his position as president. This, to me, is the way that I look at life.”

Today, Harries says he’s convinced that Stevens is equipped to not only give students a well-rounded education, but also instill the essential values of hard work and ethics.

“We’re not only educating them but creating a mold that students get shaped by; it’s not only a deep education, but a way of life,” he says.

Perhaps above all, his drive to give back is rooted in his upbringing and in his Christian faith.

“What inspired this was the upbringing that I had and the importance of Proverbs and the importance of meaning of life that was driven into me by my parents — that you must leave this Earth a better place than you have found it,” he says.

“And that has led me throughout my life.”

Harries’ long career as a professional engineer and planner is a testament to his hard work and stamina, and his passion for engineering. He recalls many years of seven-day work weeks, from 5 a.m. to 9 p.m., and long hours at the drafting table.

Harries, who also owned the Richard F. Harries Industrial Park in Carlstadt, New Jersey, specialized in commercial and industrial design, packaging and development. His general construction projects involved complex mechanical systems requiring a broad knowledge — from HVAC and electric structures to foundations and process piping — and his well-rounded Stevens education prepared him well, he says.

“What it did was organize me and make me very thoughtful and pragmatic in whatever industry I went into. I was not only covered in every field in which I built, but I had a broad knowledge of every one,” he says.

“That made me a couple notches above the competition. I was able to compete in any field, converse in any field. I don’t know any school that you can get out of in four years and do this.”

Not long after graduation, Harries returned to Stevens, with the title of resident engineer. Coincidentally, he helped lead the efforts to build two residence halls and the faculty-student center that later was renamed the Howe Center, the main administration building.

While Harries is officially retired from his business, he still works every day in a large office in his home. This is very much a working space filled with books, papers and a large and busy drafting table.

He has saved his red Stevens dink (the cap once worn by all freshmen) from 1954 and keeps it on a nearby bookshelf. Indeed, his past — and his family — seem ever present. A model train set and layout near his office — he handcrafted the layout himself — recalls a snowy mountain scene in the Alps. Harries also collects antique cars; these are not museum pieces but cars that he drives, repairs and, in some cases, has built from scratch. His garages are working garages and recall his love of cars born in his Jersey City neighborhood.

He pulls out a newspaper clipping from June 13, 1958, with a photo of him — his senior class’ president — standing with the new electronic scoreboard for the long-gone Mott Field. He and his graduating class funded this gift, even digging the trench and running the cables for it. It illustrates his abiding love for Stevens, and a passion for its welfare and that of its students.

As he walks the campus some 60 years later, Harries discovers a “Stute” that wants its students to succeed. He sees students smiling.

“To look at the expressions on students’ faces — they’re so happy to be here and they’re part of a great thing,” he says. ♦ — *Beth Kissinger*

The Harries gift is, indeed, a watershed moment for Stevens and for *The Power of Stevens* campaign. It propels the university past its \$150 million fundraising goal, in the most successful campaign in Stevens history.

FIRST STEVENS VENTURE CENTER COMPANY LEAVES THE NEST

A growing financial technology startup has become the first company nurtured by the Stevens Venture Center (SVC) to “graduate” and strike out on its own.

FinTech Studios, the successor firm to one of the SVC’s original member companies, has moved to offices near Manhattan’s World Trade Center after securing several rounds of investor capital and generating strong sales growth.

The move is a major milestone for both the company and the SVC, which was formed in 2016 to serve as an incubator for promising science-and technology-oriented business ideas developed by Stevens students and to assist faculty members whose research has commercial potential. There are currently 15 companies in the SVC in various stages of development.

“We are extremely proud of FinTech Studios’ success and the role we played in helping them turn their vision into a viable company,” said Adrienne Choma, director of the SVC. “This is exactly why the SVC was founded — to help Stevens’ entrepreneurs learn how to turn their ideas into the next generation of game-changing, technology-oriented businesses.”

The SVC, located just off campus in a River Street office building, is designed to help fledgling companies by providing them with space, advice and expertise and to expose them to networking opportunities with potential investors, entrepreneurs and seasoned business people. Membership benefits include access to a network of established entrepreneurs-in-residence who can offer guidance and open doors in the worlds of business and financing.

In addition, the SVC brings business people to campus as part of a monthly speakers series, holds networking events and organizes “hackathons” — weekend-long gatherings in which participants brainstorm ideas and code applications to solve societal and busi-



The FinTech Studios staff gather in their Manhattan offices, from left, Rich Taylor, Kevin Barresi '16 M.Eng. '16, Rob Schreiber, Ellen Barresi, Jim Tousignant and Dylan Praul '17 M.Eng. '17. PHOTO: JEFF VOCK

ness problems.

FinTech Studios is an artificial intelligence-based financial information company that develops and markets cloud-based financial technology apps and big-data financial analytics products in conjunction with financial technology startups, financial institutions, data providers and other partners.

The company became part of the SVC after it acquired iUbble, an innovative web browser created by Kevin Barresi '16 M.Eng. '16. iUbble was among the SVC’s initial member companies when the center was created in 2016. Barresi became FinTech Studios’ chief technology officer and worked on the company’s software products while it was housed in the SVC.

Jim Tousignant, FinTech Studios’ chief executive officer, said the company benefited greatly from the environment and the connections provided by the SVC.

“My experience with the Stevens Venture Center has been consistently excellent, and our relationship with Stevens has been a huge part of what has helped FinTech Studios start and develop as a growing software and information business,” he said.

One of the SVC’s entrepreneurs-in-resi-

dence, Ray Thek, vice chairman of the technology practice at the New York law firm Lowenstein Sandler, provided valuable introductions to potential investors, which resulted in FinTech raising \$1 million in seed capital from KEC Ventures in July.

FinTech Studios was also able to recruit another Stevens alumnus through its involvement with the SVC: Dylan Praul '17 M.Eng. '17, who now serves as senior director of software engineering.

Because of its success, FinTech Studios is no longer dependent on an incubator to sustain its growth. It has ten full-time employees and has raised about \$1.5 million in capital — \$1.1 million of it in 2017 alone. It also saw its sales increase six-fold in 2017 over the previous year.

Its latest platform is used by thousands of Wall Street professionals to mine news, research, market data and analytics in real-time from millions of websites, blogs and research sources in 32 languages, Tousignant said.

Although FinTech Studios is leaving the nest, it will maintain ties to the SVC. Tousignant plans to stay on as an entrepreneur-in-residence to continue helping SVC companies.

◆ — Michael Markowitz

SPACE O

STEVENS ALUMNI FUEL 60 YEARS (AND COUNTING) OF SPACE EXPLORATION

A son of Russian immigrants, born in Texas, helped put U.S. astronauts on the moon six times, then directed the Space Shuttle Orbiter Program. Others have worked on the launch pads, hardware, software and complex systems that have sent men and women to explore space for more than half a century — and brought them safely home to Earth. They toiled away on early satellite programs in the heat of the space race and on the next-generation satellites and telescopes now spinning above Earth. One Californian is helping usher in a remarkable new age of planetary exploration and private human space flight.

NASA turns 60 in 2018, and numerous Stevens alumni have contributed to the success of the U.S. space program from the beginning. From the Apollo Missions to the space shuttle; the International Space Station to Hubble; from the Mars Exploration Rovers to the Falcon Heavy, they have left their mark, reaching for the moon, the stars and far across the universe.

The university can also claim its own place in the history of space exploration. In the 1970s and '80s, Davidson Laboratory conducted testing of NASA's history-making lunar rover. Stevens has offered a master's degree in space systems engineering for a decade, educating new generations of alumni working with NASA and its contractors. And our students continue to do rocket science through a selection of aeronautics classes and participation in NASA's RockSat-C program, during which student teams design, build, test and ultimately launch experiments into space.

Meet alumni who represent three generations of the U.S. Space Program — men and women who have long proven how Stevens alumni do indeed have "The Right Stuff." ❖

— Beth Kissinger

DYSSEY



PHOTO: SHUTTERSTOCK IMAGES/NASA

KEN VENNER '84, CIO, SPACEX

**“IT’S STILL THE BIGGEST
LITTLE STARTUP I’VE
EVER BEEN A PART OF”**

It seems SpaceX is everywhere in the news these days.

Company founder Elon Musk has brushed aside the naysayers at every stage for 15 years, to the point where fewer and fewer pundits doubt his vision to colonize other planets.

The California-based company has repeatedly demonstrated that its reusable rockets work, landing and recovering more than a dozen rockets via both the land and sea during the last two-plus years. SpaceX supplies the International Space Station (ISS) with drops of food and equipment from an unmanned craft, part of a long-term contract with the space station. In February, its Falcon Heavy rocket sent a one-ton, cherry-red Tesla Roadster electric car hurtling past Mars on a long ride to the Sun’s orbit.

The company has also made recent satellite launches for EchoStar; Spanish and Korean communications firms; and NASA and the U.S. government, among other clients, as well as deploying small experimental satellites to test a new global internet broadband concept. All while continuing to ramp up to its signature mission: a crewed trip to Mars within as little as *six years*, using a giant rocket designed to carry as many as 100 passengers on the trip.

Though he doesn’t occupy the same public eye Musk does, one of the key leaders in SpaceX’s incredible run turns out to be a Stevens graduate: Ken Venner ’84, the company’s chief information officer (CIO) and recent recipient of a Stevens Distinguished Alumni Award.

ROUTINE LAUNCHES, REUSABLE ROCKETS

Venner didn’t start out with the idea of conquering space.

Growing up in Vermont and Florida, he learned engineering by watching his dad, Ed Venner ’56 (currently the longtime CEO of a Florida injection-molding firm), and working summer jobs in construction and as a mechanic.

“I was thinking about pursuing engineering when I was a kid,” chuckles Venner. “I certainly didn’t think I’d be helping plan launches and vehicles that might one day colonize Mars. That was not in the plan.”

He completed a Stevens degree in mechanical engineering, taking time to also learn about computers well before they had moved into the mainstream. During his time on Castle Point, he also met a key mentor who would profoundly influence his future career path: professor Dick Magee ’63 M.S. ’64 Sc.D. ’68.

“He was one of the best teachers I ever had, and I think it’s safe to say I would not be here today if it had not been for Dick,” Venner acknowledges. “I think the world of him. He helped me decide to get a master’s, rather than going to work right away; he taught me a lot about the engineering mindset; he was a true supporter of who I was, what I was doing, and where I was going.”

SPACE CAPSULES

NASA engineer Neill Myers ’67 is a top patent holder at the Marshall Space Flight Center in Alabama, with 27 patents and counting. A 50-year veteran, he is a recipient of the Distinguished Service Medal, NASA’s highest honor. Read more about Myers at stevens.edu/neillmyers.

After that master’s in engineering, acquired at Carnegie Mellon, Venner moved into tech leadership roles with semiconductor giant Broadcom — the firm increased its business tenfold, becoming a multi-billion-dollar company during his tenure as CIO; the customer relationship manager firm Rockwell; and Lucent Technologies/AT&T (formerly Bell Labs).

Then a chance tour of SpaceX’s research and development facility with a former colleague wowed him, enticing Venner to make the leap to rocket-building and space exploration in 2012.

From an office in the company’s sprawling Los Angeles-area headquarters campus, he has since watched SpaceX quadruple its workforce and boost its tally of successful launches from eight to 50 and counting. As CIO, Venner says he manages or interfaces with team members tackling everything from human resources to finance to business processes and supply chains — all





CREDIT: SPACEX

Ken Venner '84, outside SpaceX headquarters in Hawthorne, California.

the loop as possible. That's why we engage and work closely with business owners to understand process changes and system automation that will continue to support rapid activities and high capabilities."

Indeed, one sign of the rapid strides forward SpaceX has made in just a few short years is the growing reliability of its operations as the firm continues developing its uniquely reusable rockets.

"When I arrived here, we were launching once a year and it was a huge event," recalls Venner. "Now we're getting closer to the point where it's like a 747 taking off from LAX — not that routine, yet, but getting closer every day. We'll be getting to a pace where we are launching every week or every other week. It's remarkable."

A SPECIAL HONOR FROM STEVENS

Ever-busy as SpaceX launches more and more frequently and with larger and larger payloads, Venner nevertheless took time in April to travel to New York and the Plaza Hotel for the Stevens Awards Gala (see coverage on pages 32-33), where he was honored with a Stevens Distinguished Alumni Award for Engineering.

"I am quite honored by this," he says. "It really means something to me to be recognized by Stevens, and I don't take it lightly. I have to thank Stevens for doing this."

while also overseeing a host of key technical projects involving software, communications, security and other areas.

"The big challenges include designing the vehicle, designing the launch facility, communications with the vehicle, preparation for performing launches, and launch-landing technology," he says. "Those are some

that we're immediately focused on."

Properly planning and deploying automation, he finds, is an increasingly large part of his role.

"Processes have become so much more automated," he points out. "Sometimes, in manufacturing, you want intelligent software to keep humans as much out of

CREDIT: SPACEX

A Tesla Roadster, with Starman aboard, leaves Earth behind on its long journey toward the Sun's orbit, after its successful launch by SpaceX's Falcon Heavy rocket in February.



Twin Falcon Heavy rocket boosters land safely back on Earth, at Cape Canaveral in Florida, after the Falcon Heavy launch in February.

SPACE CAPSULES

SATELLITE PIONEER DAVID HERSHBERG MMS '68, CEO, STS GLOBAL, INC., ON THE SPACE PROGRAM'S LEGACY:

"Satellites have brought the internet to very poor countries, where people didn't have school books but can now get access to an education, thanks to distance learning. Distance medicine has allowed for doctors to have direct contact with their colleagues. Satellites provided the only way for people living behind the Iron Curtain to see news without censorship. A lot of this has to do with NASA getting the early satellite programs off the ground."

A big fan of the California climate and almost everything about the West Coast lifestyle (except his 90-minute daily commute), Venner says he's glad to have found what he believes is a uniquely effective corporate structure at SpaceX.

He expects to stay on board awhile longer. "You never know, but my game plan

is to remain here five to ten more years, probably," he says. "I still love what I do every day. I love the mission, I love the culture, I love this organization. It is an absolute meritocracy, not a bureaucracy: an engineering-driven place, where the best ideas win. It's what you see in the very best companies. And that sort of culture begins with the founder, who is the

smartest person I've ever worked with.

"We hire the best and brightest, set the tone, and then set them free."

And SpaceX's rapid growth since 2012 hasn't slowed his effectiveness, nor the company's, at all.

"My big fear," Venner confesses, "was that, as we scaled up from 1,200 or 1,400 employees to more than 5,200, you might lose the unique culture here. But we haven't lost it. It's still the biggest little startup I've ever been part of. Having been around the block a few times, I'm now teaching younger employees in this organization that what we have here is special.

"This work environment is not to be found in other places, and they should be sure to enjoy it while they're here." ❖

— Paul Karr

Mary McCabe M.Eng. '09 says her Stevens education came at the perfect time in her career. The 18-year NASA veteran and current chief of the Human Interface Branch at NASA's Johnson Space Center in Houston earned her space systems engineering master's degree through a combination of classes offered on site at Johnson and online courses.

"I was still doing low-level stuff and transitioning to higher-level management, so the formal training was great," she says. "For example, I was able to see how best practices are applied in our processes, and to understand more in-depth how certain analysis is performed."

McCabe took some time to speak with *The Indicator*, offering insights on...

THE HUMAN INTERFACE BRANCH

The Human Interface Branch basically works with everything a space crew uses to "talk to" the vehicle avionics system: displays, controls, switch panels, audio and video systems, and some lighting and electrical systems that the crew uses. There's a small group working on wearable technology, which has really grown. We just launched a wearable personal carbon dioxide monitor and sent several up to the International Space Station. We have CO₂ wall monitors up there, but because of the way the air flows on the space station, there can be air pockets with different levels; just because a wall monitor says something doesn't mean that's what the astronauts are experiencing.

HER MOST MEANINGFUL PROJECT TO DATE

I think the thing that stands out the most, probably because it was early on in my career, was right after the [space shuttle]

Columbia accident in 2003. There was an investigation that produced several recommendations that needed to be addressed before we could fly the space shuttle again. One of those recommendations was to be able to capture imagery of the external fuel tank during launch in order to assess any loss of foam during ascent. I was part of the team that replaced the film camera (which had been capturing this imagery prior to Columbia) with a digital camera. This allowed imagery to be downloaded to the ground during the mission and prior to re-entry (verses post-flight analysis, which was done with the film version). Once the imagery was downloaded, image analysis specialists could evaluate the tank and look for any loss of foam. Their assessment could now be used by engineers and flight operators to determine which areas of the space shuttle tile deserved extra attention when they performed the shuttle tile inspection during the mission. I went down to Cape Canaveral to test the new system for the Discovery "Return To Flight" mission in 2005. It was the first time I felt like I made a real impact.

WHAT SHE'S WORKING ON NOW

My department is really starting to focus on the Lunar Orbital Platform-Gateway, putting a habitat near the moon. Our biggest challenge in the area of human interfaces for space exploration beyond low Earth orbit is a radiation-tolerant graphics processing unit (GPU). The radiation environment, once you leave low Earth orbit, is signifi-

cantly different from what we deal with on the International Space Station, and we are not confident that we have a solution that is reliable for the longer duration lunar missions the country is targeting in the 2020s. We're trying to figure out how to radiation-harden these — the wired display screens, but also the laptops, tablets and phones — for the crew because it's the primary source from where they get information during a mission. We're having a lot of fun playing with different ideas and using virtual reality to see how these things should look and feel for the crew.

HER THOUGHTS ON SPACE TRAVEL

I would love to go! Not only would it be exciting for me personally, but as someone who focuses on designing with the human in mind, having a firsthand experience would help me to do my job better. Plus, I have three small children that I want to inspire to reach for the stars and dream big. ❖

— Rebecca Markley



PHOTO: JEN BERTRAND PHOTOGRAPHY

MARY MCCABE M.ENG. '09, CHIEF,
HUMAN INTERFACE BRANCH, NASA

"WE'RE HAVING FUN PLAYING WITH DIFFERENT IDEAS"

FRANK CARR '60 RETIRED NASA ENGINEER,
PROJECT MANAGER, DEPUTY DIRECTOR

**“WE WERE PLOWING
NEW GROUND, WE WERE
JUST KIDS, INVENTING AS
WE WENT ALONG”**

In July 1960, a shady, one-lane road through the Maryland woods led to a gate, a single building and two uncompleted structures that were NASA's Goddard Space Flight Center. Frank Carr '60 needed a map to find his new worksite; the locals in Greenbelt had never heard of the place.

NASA itself was only 2 years old, and Goddard its first space flight center, with unmanned spacecraft and scientific exploration of the universe as its mission. Goddard would grow to some 6,000 employees in Greenbelt, spread over more than 1,200 acres, and Carr would spend 30 years there — and close to half a century working in the U.S. space program — rising from engineer to project manager, deputy director and review board chair. He would claim a role in numerous NASA missions: the Explorer satellites, Hubble, planetary missions, including Voyager. Even the lesser known missions continued to produce great science about the universe for decades, says this space program veteran who cheered the triumphs of the Apollo program, lived through the trauma of Apollo 1, Challenger and Columbia, and savored the success of Hubble, his eyes fixed on satellites, telescopes, our solar system and beyond.

“I loved it,” he says. “I loved the people, and it was the Cold War. We were advancing technology on behalf of the United States.”

Carr, who retired in 2010, now lives in Fort Myers, Florida, in a home he designed himself near the Gulf of Mexico. He is doing what he had originally set out to do — fly.

One early February afternoon, he had planned to fly his Searey two-seater amphibian — he built it himself, of course — but as stormy weather threatened, he took time to reflect on his long NASA career.

The Totowa, New Jersey, native had his pilot's license at 17, joined the Air Force ROTC at Stevens and dreamed of becoming an Air Force pilot. But the urgent need to support his young family led to what he thought would be a temporary stay in Greenbelt.

“I went to work and fell in love,” he says.

“I thought that all of the work that NASA was doing was valuable, challenging and enjoyable. How can you beat that?” He worked with very smart, “top notch” people and made a career of solving problems.

“It was always about getting it right, getting it on cost, and getting it on time,” he says.

In his early days at Goddard, he cut his teeth on an early satellite program, Explorer XII, the 83-pound spacecraft that launched in 1961. (Explorer I, launched before his time at NASA, on Jan. 31, 1958, was the first U.S. satellite in space and America's answer to Sputnik, which the Russians had launched less than three months before.)

Explorer XII measured cosmic-ray particles, solar wind protons, magnetic fields — all in preparation for future manned space flight.

He watched in awe the moon landing on TV and traveled to the launch pad to witness the launch of several satellite projects he had worked on. He will never forget the space

shuttle launches of Magellan and Galileo at Cape Canaveral.

“The loud, sharp, crackling sound and shaking ground from a shuttle liftoff is hard to explain — you almost needed to be there to hear and feel the awesome power,” he says.

The International Ultraviolet Explorer (IUE), a precursor to the Hubble Space Telescope for which he served as technical team lead, brought him the most satisfaction. The IUE was an 18-inch optical telescope with a camera and spectrograph, and on this international collaboration, Carr and his team provided spacecraft engineering and software. This “workhorse observatory,” as NASA described it, measured objects in space in spectra — from planets to stars to galaxies. It excelled at rapidly responding to comets, novae and supernovae.

Designed to last three years, IUE labored an extraordinary 18.5 years and led to more knowledge of black holes, galaxies and other astronomical discoveries, Carr says, with his quiet pride.

He worked throughout the night at times, through snowstorms even when Goddard was shut down.

“It was complex, it was difficult, it was high tech. We were pushing ourselves





PHOTO: APRIL MERSINGER PHOTOGRAPHY

craft bus. The Hubble project proved to be among his most difficult, most politically charged but, ultimately, one of his proudest achievements.

Goddard and Marshall both had a piece of the project, with a bevy of contractors, and as development costs rose to \$1.3 billion, the project had to be defended to a Congressional subcommittee. (In the ensuing decades, Hubble's costs would rise to \$9.6 billion.)

And then, the telescope didn't work.

After launch in 1990, images that started to come back from Hubble were famously blurry, and it was

discovered that a telescope mirror was misshapen by a hair. After several years of feverish work and reviews, a replacement camera, corrective mirrors and other equipment were blasted up via space shuttle to Hubble and installed by shuttle astronauts — problem solved.

Today, Hubble is whirling about Earth at about 17,000 miles per hour, taking mind-bending photographs of stars, planets and galaxies, peering into the very distant past, to locations more than 13.4 billion light years away. The wildly successful mission has seen some 15,000 scientific papers produced from its observations.

beyond what we had done before.

“It was one of the most prodigious producers of scientific papers anywhere. ... It rivaled the ground-based telescope and paved the way for Hubble.”

His most high-profile mission was Hubble: He served as project manager for the Goddard portion of the mission from 1981 to 1986. He managed a group of 40 engineers and scientists responsible for its five large cameras and instruments, as well as the operations center and ground data processing system, while NASA's Marshall Space Flight Center in Huntsville, Alabama, was responsible for the telescope and space-

Hubble would be Carr's last hands-on project. He moved to NASA headquarters in Washington, DC, serving from 1986 to 1990 as deputy director of the Planetary Division, overseeing budgets and missions, most notably for Voyager I and II.

The twin spacecraft, launched in 1977, had as their primary mission the exploration of Jupiter and Saturn. They have been wildly successful, having made a string of discoveries, including the active volcanos on Jupiter's moon Io and the intricacies of Saturn's rings.

Carr recalls nights at the Jet Propulsion Laboratory (JPL) at California Institute of Technology — the NASA facility that was home base to planetary programs. Images of the planets, Saturn's rings and the moons of Jupiter and Saturn coming down from Voyager mesmerized him — images never before seen on Earth.

“Pictures of the moons — Titan, Enceladus, Dione, Mimas — so clear and so close, putting brand-new faces to the names for the first time in history,” he says.

Retiring from Goddard in 1990 as part of NASA's Senior Executive Service, Carr joined JPL, working out of Maryland. He later consulted for NASA and JPL, as a member and chair of Standing Review Boards for about a dozen missions. The highly successful Mars Exploration Rovers, “Spirit” and “Opportunity,” crossed his desk.

While he may be retired from putting spacecraft into space, Carr will not stay Earth-bound.

For more than 30 years, he flew his Piper Archer four-seater, making cross-country trips. He has since moved on to the air and sea plane that he built in his garage.

He is looking forward to the James Webb Space Telescope — a large space telescope built at Goddard, set for 2019 launch. Its mission: to find the first galaxies that formed in the early universe and peer through dusty clouds to see stars forming planetary systems.

Carr anticipates doing water landings through his 80s and named his airplane “Second Chance.” While he had dreamed of flying as a young man — “I was born with flying in my blood” — NASA became his new dream.

“It was a new enterprise, with no ground rules,” he says. “We were plowing new ground, we were just kids, inventing as we went along.” ❖ — Beth Kissinger

SPACE CAPSULES

JO ANN UHDE HINSON '75 M.ENG. '77 PH.D. '84, 25-YEAR NASA VETERAN (RETIRED), ON WHAT EXCITES HER FOR THE FUTURE OF THE SPACE PROGRAM:

“We were glued to our TV sets during the recent launch of Falcon Heavy! I am super excited about commercial endeavors like SpaceX and Orbital ATK. To see the commercial world take what we developed at NASA and build upon that foundation — this is what should have been happening all along. With the space shuttle, that knowledge is there and it belongs to the American people and it is now helping our companies to become successful. When new visionaries like Elon Musk build upon the foundation set by NASA to do new things, it is immensely satisfying.”

A profile of Hinson appeared in the Winter 2016 *Stevens Indicator*.

SHOOT THE MOON

AARON COHEN HELPED AMERICA
LAND ON THE MOON AND SUSTAIN
A SPACE SHUTTLE PROGRAM



PHOTO: NASA

Ambitious plans by NASA to restart America's successful lunar-landing program — and by NASA and SpaceX (see page 14) to launch manned rock-

ets to Mars within the next decade — are big news, and justifiably so. A new age of space exploration may soon be dawning.

It won't be the first foray into space, of course. There once was a time when strangers crowded excitedly around televisions to watch Americans walking the gray surface of the moon, when they gazed up at the night sky together in sheer wonder at the audacity of that odds-defying accomplishment. Ten years later, space shuttles began routinely blasting off from Florida every few months, like clockwork, orbiting the planet like majestic, oversized jets for a week or two — so routinely they became taken for granted — a program that continued on for three full decades.

Whether you remember those earlier eras or not, you may be surprised to learn that remarkable Stevens graduate Aaron Cohen M.S. '58 Hon. D.Eng. '82 was at the center of it all.

Cohen became a pioneering technical manager in America's then-new space program in the late 1960s and early 1970s, the project director who supervised the design and development of many of the new technologies required to send humans into space for the first time. He played a critical role in the success of all six lunar landings. Later, he directed the massive Lyndon B. Johnson Space Center (JSC) in Houston — mission control for all manned flight missions, and still home to Stevens graduates today (see pages 17 and 26). And Cohen was also responsible for engineering and successfully managing the space shuttle orbiter during its uncertain early years.

"Aaron Cohen was one of my early mentors here in NASA," recalled NASA Administrator Charles Bolden in remembrance when Cohen passed away in 2010, "and he was instrumental in the success of numerous pivotal achievements in human space flight."

FROM TV ENGINEER TO LUNAR-PROJECT LEADER

Born to Russian immigrant parents in northeast Texas and raised in San Antonio, Cohen received a bachelor's in mechanical engineering from Texas A&M University in 1952, then served several years in the armed forces, including time in Korea — rising to first lieutenant — prior to beginning a professional career.

During stints as a research engineer at RCA working on early color television sets and microwave ovens, and at General Dynamics (which bid for huge government contracts to supply launch vehicles to NASA's moon mission), Cohen completed a master's in applied mathematics at Stevens. He also published detailed new rocket-science research on such topics as "Cryogenic Pumping of Non-Condensable Gases" and "Refractory Metal Facings and Protection of Metal Surfaces Subjected to Repeated High Temperature Pulses" in professional engineering journals.

In 1962, inspired by America's feverish space race with the Soviet Union, Cohen made the leap to NASA in Houston to join the lunar-landing program President John F. Kennedy had recently announced. For one of his first projects, the young systems engineer was tasked with figuring out the electrical, mechanical and other functional interfaces and specifications to connect more than 1,200 physical and technical systems in the command, service and lunar modules and booster and rocket equipment to each other.

"You can't define an interface until you have something designed, and you can't design something until you have the interface designed," he recalled of the task later, during a 1998 interview for an oral history of JSC. "So it's very, very difficult to define interfaces...That's one of the toughest jobs to do."

Working marathon sessions in the theater-like firing room at Kennedy Space Center in Florida, Cohen and his team sorted out the thousand-plus interfaces and their solutions in just one week. It would take another six months for NASA teams to engineer the fixes, but he had made his mark.

"I felt that was one of [my] biggest accomplishments...as a

junior engineer, to really resolve all those interfaces,” he told JSC’s historian.

NASA took notice of Cohen’s organizational skill and intellect, assigning him increasing responsibility as the Apollo program moved forward, including helping the agency dissect and learn from the horrific 1967 fire that killed three astronauts during a launch-rehearsal test for the first crewed Apollo flight. Cohen’s team spent four months in a Los Angeles-area aviation plant, meticulously breaking down the accident and redesigning the space capsule’s main hatch (to open inward, and more quickly), adjusting the mix of gases in the cockpit, and making other changes to ensure a flash fire would not happen again.

Soon afterward, Cohen was suddenly tapped to evaluate an exciting new project: the development, construction, testing and completion of Apollo lunar command and service modules (CSMs), two vehicles that would be essential to landing humans on the moon’s surface and returning them safely to Earth.

The cone-shaped command center and its cylindrical attached service module would need to travel five days and more than 240,000 miles to the moon, rationing power and using gravity to assist; orbit for several days in a holding pattern, while astronauts landed on the lunar surface and worked; then point home, navigating and flying another 240,000 miles back. They would also need to separate cleanly before re-entering Earth’s atmosphere, and — in the command module’s case — splash down gently.

Cohen was charged with recommending whether the modules were suitable for the moon-landing effort or not. If they were, he would then be shouldered with an awesome responsibility: As chief of the module program, he would be engineering craft to keep American astronauts alive in space and during re-entry. The viability of the mission depended, in part, upon his technical judgment and management skills.

If there was pressure, Cohen didn’t show it, and the first-ever

lunar orbit — performed by the three-man crew of Apollo 8 on Christmas Eve, 1968 — proved he could successfully manage an unprecedented, almost unthinkable, engineering challenge.

“I still have a copy of the [key recommendation] memo,” recalled Cohen later. “After the flight, I got [Apollo 8 astronaut] Frank Borman to sign it. It’s one of my prized possessions. It’s a copy of that memo, and Frank says, ‘Aaron, you’re right, it was a great vehicle.’”

After two moon landings in 1969, during which the modules performed flawlessly and played an integral part in making scientific history, the CSMs were handed to Cohen to manage for America’s final five lunar-landing missions. From 1970 through the program’s conclusion in 1972, four of five launch attempts would successfully land on the moon’s surface, continuing to expand our knowledge of space in ways never before thought possible.

LAUNCHING A SHUTTLE, LEADING A SPACE CENTER

In 1972, Cohen was tapped to create and direct NASA’s new Space Shuttle Orbiter Program. He directed the program for a decade, building the shuttle and progressively testing both manned and unmanned versions, culminating in the successful



PHOTO: NASA

Aaron Cohen M.S. '58, left, with space shuttle astronaut John Young, center, and fellow shuttle official Robert Thompson, examine shuttle models at Johnson Space Center in 1974. Cohen would later serve as the center’s director from 1986 to 1993.

Bottom photo: Johnson Space Center director Aaron Cohen M.S. '58, third from left, and team in the Mission Control Center during the flight of the space shuttle Atlantis, in May 1989. From left, Eugene Kranz, Lawrence Bourgeois, Cohen and Henry Hartsfield.

PHOTO: NASA



“Get out and touch the real hardware,” he would often say, speaking about the complex projects he shepherded. “When things go wrong, look for innovations, the unusual solutions.”

1981 launch of Earth’s first reusable manned orbital spacecraft.

“Much, much more complicated than the Apollo [spacecraft],” Cohen remembered in 1998. “It’s a launch vehicle, it’s a spacecraft, and, of course, it’s an airplane, so it’s three functions. It really was a challenge.”

Budgets had tightened since the original space race with the Soviets. Yet, once again, Cohen turned an unimaginably complex design concept into reality.

“He was responsible for the design, development, tests, and the budget of the shuttle from the time it started to the time it flew,” noted Christopher Kraft, the legendary NASA flight director during the Apollo and early space shuttle eras.

“He also always had a good relationship with the crews; they respected him a lot,” adds Mike Coats, who logged more than 450 hours aboard the shuttle before later being selected as director of JSC. “Not all senior managers at NASA would necessarily listen to the astronaut, but he did.”

Cohen would go on to preside over the first four successful orbital shuttle missions — carried out in rapid-fire succession, within less than one year — receiving an honorary doctor of engineering degree from Stevens in 1982. Proud of his association with the university, he told the assembled new graduates

on Castle Point that spring day “the opportunities that lie ahead are exciting and challenging,” but that they were “well-equipped to meet the challenge.”

The shuttle program would go on to run 30 more years; they were not all easy years, however.

When the 1986 Challenger explosion tragically took the lives of seven astronauts, threatening the shuttle’s continued existence and pausing the program for nearly three years, Cohen “provided the critical and calm guidance needed at the Johnson Space Center to successfully recover and return the space shuttle to flight,” recalled Bolden.

On the heels of that experience managing the Challenger’s aftermath, Cohen was next tapped to direct JSC in 1986, a tremendous honor. He would remain at Johnson for seven years, supervising thousands of personnel and multiple technical projects and plans, until his retirement in 1993. Then Cohen returned to Texas A&M to teach, enjoy time with his three children and their children, and continue advising NASA.

He even anticipated travel to the Red Planet.

“I’m convinced that students of mine will, if they desire to become astronauts,



The Apollo 9 Command and Service Modules (CSM) and Lunar Module, with Earth in the background, in 1969. Astronaut David R. Scott stands in the Command Module's open hatch. Cohen oversaw the CSM program, leading to six successful lunar landings.

be able to walk on Mars," he told an interviewer in 1999.

When Coats was chosen as the tenth director of JSC in 2005, one of the first things he did was contact his predecessor. By now approaching his mid-70s, the former director leaped at the opportunity, speaking with Coats frequently and even traveling down to Houston on occasion to visit the Space Center.

"He became a good mentor," recalled Coats. "He was not an arrogant guy — he was confident but very open-minded, and I really appreciated the advice he gave. It helped me to be a better director. We found out that NASA could learn from other people doing similar things if we just talked to them, which had been Aaron's advice to me."

Throughout his career, Cohen's philosophy of engineering remained relatively straightforward.

"Get out and touch the real hardware," he would often say, speaking about the complex projects he shepherded. "When things go wrong, look for innovations, the unusual solutions."


His philosophy of life was equally direct: "Have great respect," he would say, "for your fellow human beings."

The admiration was mutual.

"I had tremendous respect for Aaron," concludes Coats. "He was a quiet, competent leader; he tended to listen really well; and I learned a lot from him.

"He truly was one of my role models." ❖ — Paul Karr

Aaron Cohen's reminiscences are archived online by NASA at www.jsc.nasa.gov/history/oral_histories/CohenA/cohena.htm.

A photograph of the Space Shuttle Discovery launching. The shuttle is ascending vertically, leaving a large, bright plume of white smoke and fire behind it. The launch pad structure is visible on the left side of the frame. The sky is a clear, pale blue.

The space shuttle Discovery soars skyward in September 1994.

Their Place in Space

Stevens offers opportunities for students to explore the final frontier

As the world anticipates human travel to Mars and commercial space flight, a team of Stevens students anxiously await their own space endeavor as part of NASA's RockSat-C, a program that invites students from universities across the country to build their own experimental payloads. The Stevens team, comprised of both undergraduate and graduate students, works on a year-long project culminating in a rocket launch in June at NASA's Wallops Flight Facility in Virginia.

"Every year, the students propose the experiments they want to test. We present them to NASA, which will approve them or say they are too hazardous to do in this format," says Joseph S. Miles '74 MMS '76 M.S. '82, an associate professor in the innovation design and entrepreneurship program, who helped bring RockSat-C to Stevens eight years ago.

While launching a payload with experiments on a Terrier-improved Orion sounding rocket — "it's a serious sounding rocket," according to Miles — is an exciting accomplishment, engineering assistant professor Nick Parziale, an advisor on this year's projects, says the real value is in the process leading up to the launch. "The team goes through the same design review process that NASA engineers go through — six design reviews," he says. "The students learn that space is a hard environment. They find out that you can have these grand plans go wrong and then have to figure out what to do the next time around."

Graduate student Richard Thornton '17 M.S. '18 agrees. As he prepares to take on a new role this summer as a systems engineer with Vencore, a private defense contractor in the Washington, DC, area, Thornton says this experience has taught him to keep himself on track. "I've tried to be involved with every program and project I can that connects with the space and defense industry, and the RockSat program, in particular, is very rewarding in that aspect. It's also given me a lot of experience — even more than senior design — in independently carrying out the development of a rather complex project."

Thornton has also taken advantage of Stevens' more formal space education, having completed his master's in space systems engineering (Stevens also offers a graduate certificate in space systems engineering) this spring. Through their work, students gain a more in-depth understanding of today's space industry, the challenges it faces and the opportunities it presents.

"The number and types of products and services provided by space systems has been steadily increasing both nationally and internationally, almost doubling in the last ten years," says Mo Mansouri, Stevens professor and program lead for Systems Engineering & Socio-Technical Systems. "Stevens' space systems engineering master's graduates are in leadership positions within the major aerospace companies and the government, as well as a host of 'new space' organizations like SpaceX and Virgin Galactic." ❖ — Rebecca Markley

LISA VALENCIA '90, PROJECT MANAGER, NASA

“TO WORK BOTH ENDS — THE DESIGN AND LAUNCH OPERATIONS — WAS PRETTY COOL”

Lisa Potenza Valencia '90 was convinced that her two daughters, ages 18 and 21, would want to go into engineering fields. After all, Valencia, a NASA engineer and project manager at Kennedy Space Center (KSC) on Florida's Space Coast, and her husband are both engineers and exposed the girls to engineering early on.

“They're both pre-med...can you believe that?” she says, still somewhat bewildered at the fact. “I told them, ‘You have two engineer parents and we need more women in engineering!’ and they both still went pre-med.”

But Valencia isn't giving up on inspiring the next generation of women engineers just yet. She currently does outreach on behalf of NASA, visiting schools and exposing younger girls — grades four through eight — to different areas of engineering through fun activities. Last week's project? Making a rover vehicle out of pasta and competing to see whose could go the farthest.

“My uncle — a mechanical engineer who worked for Grumman on the thermal design and test of the Lunar Excursion Module — was my first mentor and helped shape my career, so I now try to mentor others,” she says. “I have five interns at NASA, and I love exposing students to different areas within electrical engineering. The more opportunities to see what engineers do, the more it helps them see what they want to do.”

Her mentees are fortunate, as Valencia's impressive career has afforded her the chance to work on a variety of exciting and important projects. One standout was the Solar and Heliospheric Observatory (SOHO), a cooperative effort between the European Space Agency and NASA to study the sun, launched in 1995 and still obtaining images of the sun today. Valencia, who was working at Goddard Space Flight Center in Greenbelt, Maryland, at the time, was part of a team that designed the data processing



PHOTO: NASA

system to process SOHO data via the Deep Space Network that is managed by the Jet Propulsion Laboratory — a NASA facility managed by California Institute of Technology. She eventually transferred to KSC and, having completed her processing responsibilities, was assigned to the SOHO launch team as a launch site support manager.

“As soon as we knew the communication systems were good at liftoff, we were able to run outside and watch the launch. We must have had more than a hundred engineers who had worked on the project there to see the launch, many of them Europeans who came over,” she remembers. “To work both ends — the design and launch operations — was pretty cool.”

She's currently working on the Autonomous Flight Termination System (AFTS),

which is a system that tracks a rocket's position, orientation and velocity. If the uncrewed rocket goes off course, potentially endangering the public, the AFTS issues a command to terminate the flight, either by blowing up the rocket or shutting off the fuel so that it falls into the ocean. Valencia manages the project in a variety of ways, spending some days in the labs overseeing testing and some days in meeting after meeting.

“Today I was talking about budget with the Department of Defense, our partnership with SpaceX, and our upcoming AFTS test flight on the Rocket Lab Electron launch vehicle,” she says, explaining that several

private companies use the AFTS software with their own proprietary hardware and others are planning to use NASA's AFTS hardware and software design as is. “A SpaceX engineer is actually in our lab right now.”

The SpaceX partnership is one of many for the AFTS team, a development Valencia appreciates. She credits her time at Stevens with teaching her the value of collaboration.

“In the real world, especially at NASA, you're always working on a team — everything is team-centric. At Stevens, we always studied together and helped each other out. Taking 19 or 20 credits each semester was tough, so we had to depend on each other and work together,” she says. “You're always more successful working as part of a team and, honestly, it's a lot more fun.” ❖ — *Rebecca Markley*

The 15-foot weather satellite is now rotating 253 miles above Earth, tracking rain and snow from the Arctic to Antarctica, and from every corner of the globe.

The Global Precipitation Measurement Core Observatory (GPM for short) is not your “ordinary” satellite but the largest spacecraft ever built at NASA’s Goddard Space Flight Center, observing a wide range of weather events from space — hurricanes, cyclones, rain storms and falling snow. Its mission: to improve weather forecasting and tracking of extreme weather events, better monitoring of freshwater resources, better crop forecasting. In short, to greatly benefit society.

Carlton Peters ’99 worked as the thermal lead on the GPM for almost five years, ensuring the quality of the spacecraft’s thermal systems, leading a team of ten engineers. After years of long hours on the project, to see GPM sending back unprecedented 3D images of hurricanes and rainstorms that show up on the Weather Channel, and to see scientists using this data in their climate research, is a “great feeling.”

“It’s something that’s for the betterment of society,” Peters says. “You can’t really beat that.

“The fact that it launched, that it is sending back data that is useful for scientists, makes it a resounding success.”

GPM, which launched in 2014 as a joint effort with the Japan Aerospace Exploration Agency (JAXA), is just one project highlight so far in Peters’ 18-year career with NASA, which he joined after graduation from Stevens.

GPM’s mission officially ended in late 2017, though the satellite — which gathers data from a constellation of satellites in space — will be in orbit another ten to 15 years.

As thermal lead, Peters oversaw the design, development, fabrication and testing of the satellite’s thermal system — including thermal hardware such as heat pipes, radiators, thermostats and temperature monitors. His group also conducted all-important testing of the spacecraft at Goddard, subjecting the spacecraft to extreme heat and cold to simulate the space environment and test its workmanship under extreme conditions.

This Brooklyn, New York, native excelled in math and science from the beginning, but NASA was not on his radar. At Stevens, he showed much talent in his heat transfer classes, so a job at NASA in this area was a good fit.

He soon fell in love with NASA’s exciting projects and culture.

“Goddard is really like a college campus,” he says. “There’s lots of collaboration with different disciplines, and it works well with the way I like to operate. And, of course, we do some really cool stuff.”

Another of those really cool projects — the Lunar Orbiter Laser Altimeter

(LOLA) Instrument on the Lunar Reconnaissance Orbiter (LRO) Mission, a robotic mission launched in 2009 that mapped the moon’s surface. Peters served as LOLA’s thermal product development lead; LOLA’s purpose was to provide a precise global lunar topographic model and geodetic grid. “Think about the classroom globes from back in grade school with different mountain elevations; LOLA provided data to generate that type of a globe of the moon,” he says. “This aids future missions by providing topographical data for safe landings and enhances exploration-driven mobility on the moon.”

There’s much to be excited about with the NASA of today, Peters says emphatically, from the James Webb Space Telescope (JWST) — the successor to the Hubble Space Telescope set for launch in 2019 — to future missions back to the moon and to Mars, to the young generation joining the space agency, so full of energy and new ideas.

In 2016, Peters rose to head of Goddard’s Thermal Engineering Branch and now supervises 40 NASA engineers and some 30 contractors. He is embracing his new role of developing a future generation of engineers (he supervises a group now working on JWST).

The work — and the people — keep him with the nation’s space agency.

“We’re NASA. To me, that means mission success. To me, it’s important for us to do great science for the scientific community and for society. That pushes me on an everyday basis.” ❖ — *Beth Kissinger*



PHOTO: NASA

**CARLTON PETERS '99, BRANCH HEAD,
THERMAL ENGINEERING BRANCH, NASA**

**“WE’RE NASA. TO
ME, THAT MEANS
MISSION SUCCESS”**

RON COBBS M.ENG. '12 AVIONICS AND UTILIZATION
(PAYLOADS) CHIEF ENGINEER, INTERNATIONAL SPACE STATION

**“THEY TAUGHT ME TO
BELIEVE IN MYSELF,
HAVE FAITH AND SHOOT
FOR THE MOON”**

Watching a rocket launch for the first time from his family’s small, black and white TV is an enduring memory for Ron Cobbs M.Eng. '12, NASA’s avionics and utilization (payloads) chief engineer for the International Space Station (ISS).

“Star Trek” also helped fire up his youthful imagination. In the fifth grade, he was introduced to the 1960s series by a classmate who came to school one day dressed as Spock.

The broad message of that iconic television program, along with the diversity of its cast, helped break down barriers in American society, Cobbs says.

“It came on at the time of the civil rights movement, and you had people from all different nationalities represented on that show. The message that it did not matter who you were and what you did as long as you were working toward the common goal really resonated with me.”

Cobbs’ decorated career at NASA’s Johnson Space Center (JSC) in Houston spans more than three decades. In 2014, he was awarded the Director’s Commendation Award, the highest honor given by the NASA-JSC administrator.

He credits his older sister, now a contractor at the Marshall Space Flight Center in Huntsville, Alabama, for paving the way for his career. She worked in the training division at NASA-JSC in the 1980s and would regularly send Cobbs, then in high school, training materials and pictures of astronauts that inspired him.

“Her connections and stellar performance helped open doors for me to work in

NASA-JSC’s training division when I was a Tennessee State University co-op student. The hiring committee felt that good workers ran in the family,” Cobbs said.

After graduating with a bachelor’s in electrical engineering from TSU in 1989, he began full time at the space agency as a subsystem manager, assigned to the Space Station Freedom project, which was in development at the time. The cancelation of the Freedom program and its evolution into the ISS had a profound impact on Cobbs’ career. The ISS, a vast multinational collaboration involving the U.S., Russia, Canada, Japan, and the participating countries of the European Space Agency, is the largest space station ever constructed and a research facility like no other.

The U.S. involvement in the ISS provided Cobbs an opportunity to move into NASA’s engineering department as a design engineer, creating avionics interface hardware for the new ISS.

“I loved it because that’s where the design work happened. My boss at the time said to me, ‘There’s nothing more satisfying than designing something, building it and seeing it work in space.’ And he was absolutely correct. I’ve been hooked ever since.”

A UNIQUE LEARNING EXPERIENCE FOLLOWED BY NEW OPPORTUNITIES

After the space shuttle Columbia accident in 2003, the NASA-JSC Engineering Directorate made the decision to offer additional training for the engineers, and Stevens’ graduate programs in space systems engineering were part of this initiative. Cobbs went on to



Ron Cobbs M.Eng. '12 at NASA's Johnson Space Center in Houston.

earn both a graduate certificate and master’s degree in this field, taking classes right onsite at Johnson.

He credits his Stevens education for helping him realize that he had been performing systems engineering at NASA all along.

“Systems engineering is the ability to understand a complex system — the sub-components, the interfaces, and how they all interact with each other,” explained Cobbs.

“Here at Johnson Space Center, we design, develop, build and test complex systems that go into space to support human space flight. Systems engineering affects all aspects of each system.”

Cobbs’ career at NASA took off by leaps and bounds soon after getting his master’s degree. He moved up the ranks to a systems engineer position, and later rose to his cur-



PHOTO: JEN BERTRAND PHOTOGRAPHY

A WORLD VIEW SHAPED BY NASA

Working at NASA is more than a job for Cobbs. He represents the agency 24/7 wherever he goes, he says.

In fact, he is quite happy to engage with the public in order to bring awareness to NASA's broad scope of work. From cancer research to the creation of memory foam mattresses, he wants more people to know that the research conducted in space is really for the benefit of life on Earth.

"There are so many products that we use in our daily lives that are a result of NASA technology — the digital image sensors that let you take pictures from your cell phone, GPS, the cardiac pump. The list goes on and on. There are nearly 2,000 products and services that began as, or have benefited from, NASA technology."

PARENTAL PRIDE, FUTURE PURSUITS

Cobbs' exemplary career at NASA has been the source of tremendous pride for his parents.

"They taught me to believe in myself, have faith and shoot for the moon," says Cobbs.

"My mother loves to brag about her son and has pictures of me all over her wall. My father passed away in 2014 but lived to see me become chief engineer."

Cobbs' current role requires frequent travel to NASA locations, primarily to the Jet Propulsion Laboratory in Pasadena, California, the Kennedy Space Center in Florida and the Marshall Space Flight Center, to deal with daily operations and all matters associated with the ISS. He says the engineer in him is itching to return to design.

"I'm looking to perhaps go back into development and building something from scratch, not necessarily as a design engineer, but as a chief engineer who is overseeing the development of a vehicle that's going to Mars, or something of that nature. But I would always like to stay in engineering. That is where my heart is."

As for experiencing space travel firsthand, Cobbs doesn't even hesitate.

"Absolutely. If there is an extra seat, strap me in. I'm ready to go." ❖

— Young Soo Yang

rent role as one of the chief engineers in the ISS Chief Engineer's Office.

"Getting my Stevens degree was big for my career. They started elevating and promoting me at NASA, and giving me bigger responsibilities and challenges."

As the ISS Avionics & Utilization chief engineer, Cobbs is responsible for overseeing the engineering development, and tasks and operation, of all electronic systems used on the space station.

Cobbs' expansive and integral role at NASA was evident in 2014 when he stepped in to assist a troubleshooting team that was investigating the cause of a space suit malfunction.

During an ISS spacewalk, water used to cool the suit had leaked into the astronaut's helmet. Cobbs was not part of the official Extravehicular Mobility Unit (space suit) investigating team, but he was brought in as an electrical expert to help troubleshoot the problem. He discovered a software issue involving the spacesuit that subsequently led to identifying the problem and new procedures for the astronauts.

He modestly described his contributions as only a systems engineer would.

"I helped troubleshoot the connection between the laptop computer and the computer processor on the suit so that data from the suit could be read, which was just one part of a continued process in the investigation," he explained.

SPACE CAPSULES

John Puente M.S. '60 served as chairman/CEO of Orion Network Systems, which launched Orion 1, the first international private telecommunications satellite to file with the FCC to launch into space.

CARL MARCHETTO '77, FORMER PRESIDENT OF
COMMERCIAL SPACE AT LOCKHEED MARTIN

“IF YOU WORK THROUGH CHALLENGES AS AN INTEGRATED TEAM, YOU CAN TAKE ON ANYTHING”



In early April, Carl Marchetto '77, then-president of commercial space at Lockheed Martin, a position he's held since 2014, retired... again. He's been down this road before.

“I'll miss working with people, so I'll do some work for the less fortunate. I race cars, too, and haven't raced in two years, so I want to get back to that. It's a nice marriage between engineering, hand/eye skills and the thrill is pretty neat,” he says. “But I don't know if I'll be retiring. I've tried it twice before and it didn't agree with me much.”

Marchetto's career is chronicled on his impressive resume, which is replete with titles like “CEO” and “President.” His accomplishments include leading the development and launch of an entire satellite fleet and growing companies by hundreds of millions of dollars. But what he's learned — what he knows — is that the success of any business comes down to its people: the people who make the decisions and the people who bring those decisions to life.

Here are some personal reflections on the executive's career in the satellite industry and the leadership lessons he hopes to pass on to the next generation:

A NATIVE OF MOUNTAINSIDE, NEW JERSEY, Marchetto quite literally worked his way through Stevens, taking jobs with the grounds crew and at the Ratskeller, the former student-run pub. All worth it, he says. “I think the practical aspect of the curriculum is brilliant because it's what you do afterwards that was the foundation at Stevens. It's all about solving problems and it's very realistic.”

“SPACE WAS NOT ON MY MIND.” But a few years into his career, Marchetto interviewed at California Institute of Technology's Jet Propulsion Laboratory and was intrigued by the “wild stuff” being done there. He took a position and quickly became a young leader at the nonprofit NASA research center, where he learned some valuable lessons, having worked on eight deep space planetary missions. “Most of my subordinates were my dad's age and had 20 to 30 years' worth of experience,” he says. “Early on, my drive was to do things quickly, but in my speed to closure, I didn't listen to the workforce and I wasn't building confidence with my team. I learned that it's about slowing down and becoming a better listener; learning about what's been tried, what techniques have been used, and bringing the folks along with you.” Marchetto also did some great engineering work, particularly when a bearing issue arose on the Voyager 2 on-orbit spacecraft. “I thought, ‘I'm a gear design guy,’ so I developed a replica mechanism in the ambient environment yet used a special cooling system to reflect the sub-freezing temperatures it was operating under. Lo and behold, I replicated the failure on the Earth and then came up with a recovery feature.” The fix was successful and it's still working now, 30 years later.

BUT A TIME WOULD COME when other aspects of the business became important, too. “We [at JPL] lacked some criticality in some of the work we did: it was not cost-effective, not schedule-effective. That got to me and I knew it was time for a

change.” And so he made one. “I didn't even tell my wife that I quit.”

HE ENDED UP AT GENERAL ELECTRIC, making commercial satellites. Through a series of sales and mergers, GE's aerospace division morphed into Lockheed Martin, where Marchetto was given the job to build A2100 telecom satellites from scratch to take the place of four outdated satellite designs in orbit. “Forty-eight of the satellites are still up there flying. The first one, GE-1, is still operating and delivers NBC. It was designed with a 12-year design life and it's now on year 21 or 22.” And then it was time for his next move.

“KODAK WAS MY IDEA OF GETTING OUT OF SPACE.” While that didn't exactly happen — he ended up working on the camera payloads for a newly formed Commercial Remote Sensing space sector,



PHOTO: RACHEL WALISKO

HE WOULD DRAW ON THAT CHALLENGE soon after leaving Kodak, when he became an executive vice president of Orbital Sciences Corporation. The company was trying to get into business with a large global satellite operator, so Marchetto headed to meet his counterpart. “I asked him, ‘How are you going to grow your business if you’re already No.1?’ He told me he would open new markets — he wanted to get into Africa — if he could get costs down to X amount. So I went back to Orbital and got to work. I had to change the paradigm — to do something great.” Marchetto devised a concept that worked the cost down, got it approved by his CEO and presented it to his counterpart. “I told him, ‘The more you buy, the closer we get to X, but if you buy four [satellites], I’ll get you there.’ He told me it was brilliant and asked if we could sign the contract in 24 hours, so that’s what we did.” At the time, it was the largest contract that Orbital had even been awarded.

THE TAKEAWAY? There are two, really. First, Marchetto believes you have to work hard and adapt to your workplace, but when it’s time to go and you’re no longer doing great things, have the confidence to go. “When you find that your company’s values aren’t aligned with yours, and even on your best days you’re not being recognized or valued, you just say today’s the day I’m going. You cannot spend months waiting for the person you work for to figure it out.” He admits he’s been called impatient. “I own it.”

AND FINALLY, maybe most importantly, it all comes down to relationships. “If you work through challenges as an integrated team, you can take on anything. That’s the calling of leaders: Get the right people on the right job with the right objective, and that’s how companies prosper and become successful.” It’s those relationships that have foiled Marchetto’s previous attempts at retirement. “What I enjoy the most is the working with people; it’s a cultural thing and it’s such a powerful thing. When you finally get people aligned to a common mission, you can’t even imagine what can happen. You don’t have the capacity to think how far it could go.” ❖ — *Rebecca Markley*

collecting images looking back at the Earth from 400 miles away (including IKONOS, Earthwatch, GeoEye and DigitalGlobe) — he did experience one of his most profound professional moments. After being offered a promotion to lead the team he was currently on, Marchetto was summoned to meet Dr. George Fisher, Kodak’s CEO at the time. “He welcomed me into his office and it struck me how much he knew about me. We talked about my vision, and he told me to take the night to consider everything. I went back the next day and he said that before I took the job, he’d need me to

commit to three things: First, he said ‘Meet with me once a month for a one-on-one.’ I would set the agenda — we could talk about business, development or baseball, he didn’t care. Second, he said, ‘If you get into trouble, come see me early.’ (There’s a long pause here. Marchetto chokes up as he relays the final commitment.) Third, he said, ‘Do something great with what I’m about to give you.’ He didn’t say go make me \$14 billion or grow my business or anything like that. It was just a very fundamental perspective and it’s stuck with me all these years. It was awesome.”

SPACE CAPSULES

Caleb B. Hurtt '53 served as president and COO of Martin Marietta (now Lockheed Martin), directed the company’s Apollo Applications Program and its manned space craft center, and was principal project director for the company’s participation in NASA’s Skylab space station project. He also served as chairman of NASA’s Advisory Council. Hurtt died earlier this year; his obituary appears on page 49.

WILLIAM SHEPHERD, COMMANDER OF EXPEDITION 1,
NAVY SEAL, ADVISORY BOARD FOR SERC

“WHO KNOWS, A HUNDRED YEARS FROM NOW, WHERE WE’LL BE”



As commander of Expedition 1, the first crew on the International Space Station, it's no wonder that Capt. William Shepherd was awarded the Congressional Space Medal of Honor, one of only 28 astronauts to receive the distinction. A Navy SEAL for more than 30 years, with a NASA assignment that included four trips into space — totaling more than 159 days in space — one would think Shepherd is ready for retirement. But no, on to his next act — in academia.

Four years ago, Shepherd was asked to join the advisory board of the Systems Engineering Research Center (SERC), a Department of Defense-funded consortium of 22 universities led by Stevens, which stimulates research in systems engineering and leadership to manage critical 21st-century challenges facing the nation's defense and intelligence communities. “In my time doing that, I got interested in becoming more involved in academia, and I was offered the chance to help part time with the SERC staff. So far, I've lectured on campus about NASA's technical culture for space flight and I'm working on a syllabus for a future SERC course which brings together a lot of technology I've seen in the Navy and in the space program,” he says. “I'm also coaching a Stevens capstone design team this semester, working on an interesting and complex design problem.”

Q Why is a space program important and why do we send people to space?

It's been a debate since the start of the space program, what positions humans have in space. There were robotic vehicles on the moon before any human ever got there, but we've seen that human exploration is incredibly important and valuable. We sent scientists and geologists to the moon and they were able to discern things that machines just could not interpret. More than that, I spent the last half of my NASA career working on the International Space Station (ISS), a premier research platform, which is the place crews and ground teams do great research in the microgravity of low Earth orbit. Beyond that, though, it's a place where six humans live at a time, who are not “residents” of Earth anymore. It's an important question we are asking—“Do humans have a place where they can live and work away from the Earth?” and the ISS is helping to find the answer. This is one of the biggest

reasons it's necessary to have humans in space — to find out how far we can explore in space, and to figure out what is needed to stay there.

Q What was unexpected out there?

On my fourth flight — I was up there for 4 1/2 months — I'd been up there for a month and I was running around thinking about what daily life was like. The biggest surprise was that it all became so *normal* to me. I'm 200 miles up, going 17,500 mph around the Earth and looking out at these places that most people will never see; I remember passing over the Strait of Gibraltar for the fourth time one morning and thinking to myself, “Is there any more coffee in the galley?” It surprised me how quickly life on ISS became “normal” after about a month in orbit.

Q What did you do for fun in space?

I liked to read books, and as a crew, we got together and watched DVDs at night.

I was with two Russian Cosmonauts. We'd trained together for 4 1/2 years, and we got along really well. In our orbital routine, we ate together and the food took a bit of preparation. For the evening meal, we'd stick the food packages in a small oven and it took about 30 minutes for things to heat up. We'd start the oven and start a DVD on a large laptop hanging on a nearby bulkhead. We'd each have lanyards to tie us off to the wall so we didn't drift off as we bobbed around watching the movie. We would watch about half of the show each evening meal. One night we're floating around, watching “2010” with Roy Scheider. It's a science fiction space movie about an international crew (with Russians), on a large craft on a deep space exploration mission. In the background of the video you could see computer screens. And there I am, in a spacecraft with Russians — looking at the screen, seeing another spacecraft and their crews looking at screens etc., etc. It was one of those infinite images of mirrors within mirrors where you see reflections going somewhere strange.

(Editor's note: Shepherd says the movie's depiction of the spacecraft was accurate and “very representative.”)

(Right) Commander William Shepherd, left, and flight engineers Col. Yuri Gidzenko, center, and Sergei Krikalev pose with a model of the International Space Station while on board.

Q What do you want people to know about the experience?

Most people who get into NASA, whether they go in space or work in the teams on the ground, are very aware that we're doing this stuff more because it's hard than because it's easy. I was a "frogman" in the Navy for over 30 years, and I remember one thing I was told in basic training. You get up every day, and you are getting ready for a really hard day of training. Then the instructor would step up and address the class: "You don't have to like it; you just have to do it."

It's hard as a young person to have that kind of perspective, but I think most people who end up being astronauts approach their goals in a similar way.

As far as being selected to be an astronaut, thousands apply, hundreds get extensively interviewed. Most of the other applicants you meet in Houston would make great astronauts, but only ten or 15 are selected. When the space shuttle program started in the late '70s, I applied for the 1980 class and was very encouraged, but then I didn't get selected. I got picked in the following NASA selection. I still believe luck had something to do with it. *(Editor's note: Shepherd was accepted into NASA's Astronaut Corps in 1984.)*

Not being selected the first time was very hard for me, but failure is good in some respects. I think that doing design work or learning to engineer something, you have to have failures. If you don't have some of it in your academic or professional life, you're not growing.

Q Did going to space change you or your viewpoints?

Not really — at least not in a way most people expect. Some astronauts say they have had an out-of-this-world experience, but I didn't feel that way. I don't mean to be negative about this, but when I flew my first flights on the space shuttle, the space "truck" that helped build the ISS, there were several times when I was on orbit, looking out the window at the Earth, 200 miles away, wondering — "Is this all we're going to do?" I thought a lot about the amazing capacity of the shuttle and its technology. There had to be more to spaceflight than just circling the Earth — we had the capability, so let's go out and see what we could do.

Kids today were not born when the moon landings happened. They know only

the history they see on their laptops. For most, it's probably a minor note in their personal interests. We should be doing more in our space programs to excite and inspire younger generations.

Q What would you like to see for the future of the space program?

I roll it back to the reason why we did space as a new technical field: because it was challenging, and because it was politically and diplomatically important to have a strong capability in space. Space exploration was fueled by public interest, which was a big part of why it was successful. Future space exploration needs public support on the political front and the willingness to break out the credit cards — and we don't really have either now. I don't know how to "reignite" interest in space from the early days, but setting some clear national goals — to do more adventurous explorations in space within the next decade — is where I'd start.

The question should be, "What should we be doing to get that?" ❖

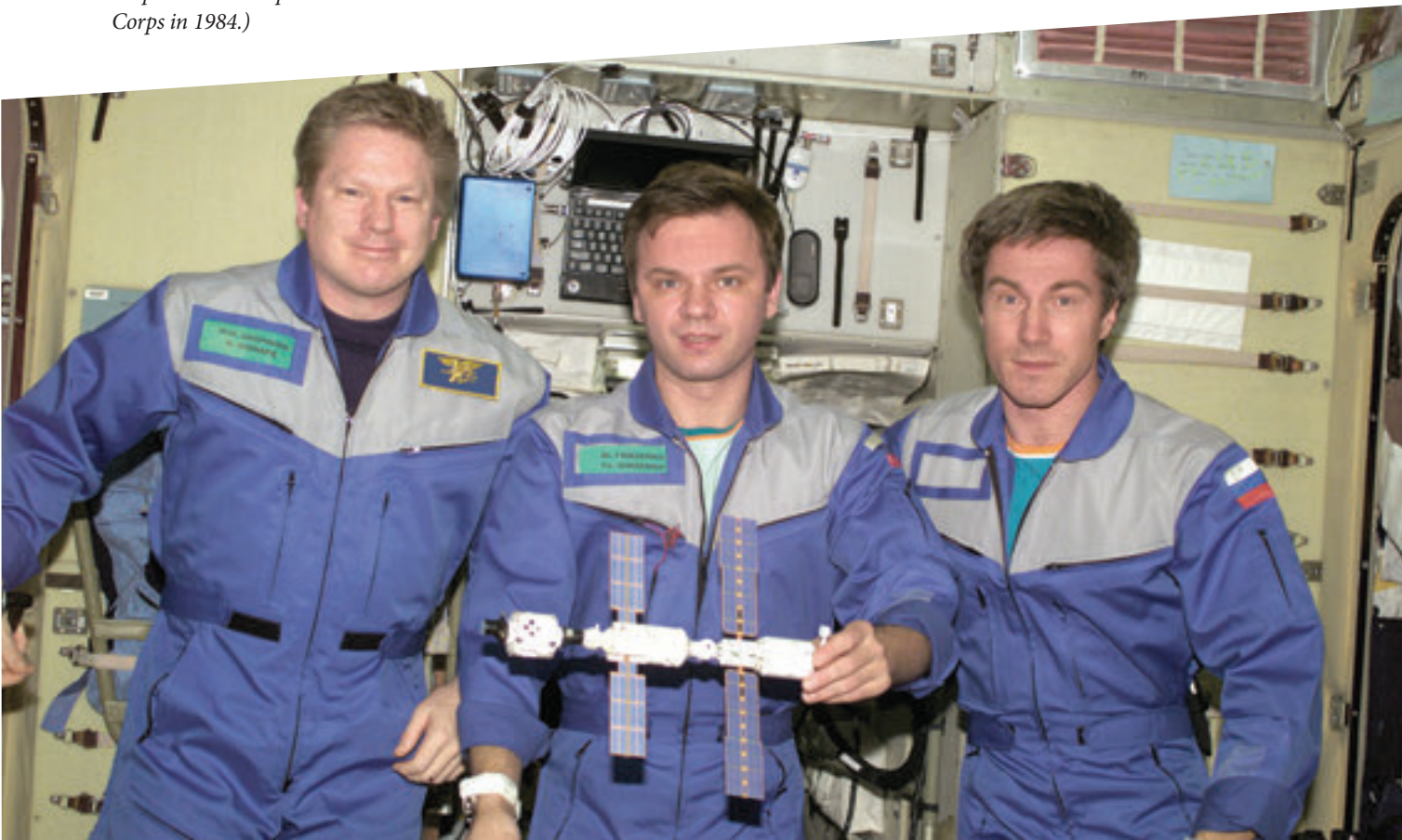


PHOTO: NASA

Gala

APRIL 14, 2018

An Enchanted Evening



April 14 was a night to remember, with more than 400 guests gathering in New York City's Plaza Hotel for the Stevens Awards Gala. Honorees, their friends and family, alumni, faculty, students and staff were all on hand to celebrate these prestigious alumni who exemplify the best of Stevens. "These individuals have left an indelible mark on the world through their work and their character," said President Nariman Farvardin. Reflecting on Stevens' remarkable growth over the past several years, Farvardin said, "We have laid a foundation for a university that is going to be world class; a university that is going to continue its momentum; a university that is going to have more impact on the world."





This year's Stevens Awards Gala honorees include, seated, from left, John "Sean" J. Hanlon IV '80, Vikki Hazelwood Ph.D. '07, Marty P. Valerio '68, Sachin N. Shah '89 M.S. '93, Dianne K. McKeever '01 and Marques Brownlee '15. Standing, from left, are Ken Venner '84, John A. Newton '71, Frank J. Semcer Sr. '65 and Stephen T. Boswell C.E. '89 Ph.D. '91 Hon. D.Eng. '13.



For more on the Awards Gala, visit stevens.edu/awardsgala

PHOTOS: JEFF VOCK

ALUMNA LOVES HER WORK — AND THE CULTURE — AT DIGITAL MEDIA GIANT

Graduating in 2012 with two degrees — a B.S. in computer science and a B.A. in visual arts & technology — Caroline Amaba turned a part-time internship at VaynerMedia into a full-time gig. After helping the company launch its tech team, she spent five years doing web development and social media and digital advertising before she made the jump to BuzzFeed, where she recently celebrated a work anniversary.

YOU'RE CURRENTLY A SOFTWARE ENGINEER AT BUZZFEED. CAN YOU TELL ME WHAT THAT'S LIKE?

I am primarily a front-end engineer on the Ads Group at BuzzFeed. This means I'm usually working on the code on the website that interfaces with BuzzFeed's many users. Specifically, I work with our product managers and designers to create ad products for clients who want to advertise on the website. I also spend some time helping manage our social media presence (both myself and getting others to run our @buzzfeedexp Twitter account), and I help write, edit and plan various tech blog articles.

The office is an amazing, welcoming and diverse place! Everyone is extremely smart and helpful, and we all have a common goal of doing our best work. My first year at VaynerMedia I learned a lot in general and mostly about being part of the professional world post-graduation; with my move to BuzzFeed, I've learned even more, and I continue to hone my programming, design and leadership skills. Everyone here supports each other.

I'd also like to note one of the reasons I came to work at BuzzFeed was the amount of diversity here. Dao Nguyen, publisher and BuzzFeed Tech's fearless leader, recently published a diversity report for 2018 thus far. BuzzFeed Tech's diversity is improving greatly, and I'm very proud to be part of an organization that values that. It makes the atmosphere even more welcoming, and the plethora of ideas and perspectives we have is enhanced greatly by this diversity.

HOW DID YOUR VA&T DEGREE HELP YOU TRANSITION INTO A CAREER IN THE TECH/MEDIA SPACE?

A lot of employers liked my experience with computer science, but with the design background I got from VA&T. I also was originally applying to jobs as a UX/UI designer. Web development and front-end development work just sort of found me during my time at VaynerMedia (I always liked coding). My digital design experience, though, helped me to bridge the gap between our designers and our developers, and those merged sets of skills became very key in building that bridge. I never just did "tech speak" — I could also talk design and visuals as well and find a happy medium between the two. Also, my more technical thinking from my C.S. degree informed how I went about some graphic/visual design problems; likewise, the visual/design thinking helped me think holistically about my code choices and software engineering.

WHAT'S ONE ACHIEVEMENT YOU'RE REALLY PROUD OF THAT YOU FEEL STEVENS HELPED PREPARE YOU TO TACKLE?

At Stevens, both in classes and in a number of my extracurriculars, I made a good number of presentations. Also, while graphic design was always a hobby of mine, design skills I learned in my VA&T classes refined my work for making good-looking graphics and presentations. I recently gave my first talk at a tech meetup, which was a big step for me. There's something about presenting in front of your peers at college, but another in front of total strangers. Either way, I had enough confidence in my skills and abilities, and everything I learned while working, to make a great presentation. I got a lot of great feedback after the talk, too — people told me they didn't think it was my first talk (in a way, it wasn't, but as a meetup talk, it was).

WHERE DO YOU SEE YOURSELF IN FIVE OR TEN YEARS? WHERE WOULD YOU LIKE TO BE?

March 20, 2018, was my one-year anniversary at BuzzFeed. The amount I've done at BuzzFeed is astounding for just one year, and it has been so exciting! I'm enjoying my time here, and currently, I don't think I could tell you where ten years will land me.

To be a bit introspective, part of my decision to leave the agency world was because the work itself was getting somewhat stale for me. I wasn't being challenged enough. It was time for a change, and I think moving to work for BuzzFeed has been an amazing decision. I recently have been discussing with my manager, my peers and friends about what I really do want to do, now that I've dug my hands into product development. I'm a maker, and I love creating things, be it on the side as my art hobbies, or at work (and sometimes on the side!) with my code. I've been working on projects that have me really "in the trenches," as it were, writing code and making big design decisions. I think in the next two to three years, I see myself as staff engineer or individual contributor in some sort of sense: generally just sticking to writing code and building things!

As for the next five...Not quite sure yet, but I do know, be it at BuzzFeed or not, I'll want to keep working on products and building things. I still see myself coding, making. I've been slowly getting back into art and some digital design, and I love merging the two: Code can create some beautiful pieces. Maybe I'll have a change of heart in the next few years and want to go down the managerial route, who's to say? Either way, I just want to produce great, meaningful products and designs.

WHAT ELSE DO YOU DO OUTSIDE OF WORK THAT YOU MIGHT LIKE TO TALK ABOUT?

It's crazy how outside interests get you noticed or make great interview starters. My resume has that I'm a Dungeons & Dragons Dungeon Master (I run the game for players), and it has been quite the conversation starter (also, being a Dungeon Master has a lot of transferrable skills to the real world, like scheduling, conflict management and working well under pressure). And I recently took up climbing! Aside from the gym, I've gone outdoor bouldering in Central Park and the British Virgin Islands. I actually got to reconnect with some fellow alums this way! ❖

— As told to Lina Kirby and Rebecca Markley



KEEPING THEIR EYES ON THE PRIZE

STEP TURNS 50



The Stevens Technical Enrichment Program (STEP) marks its 50th year in 2018 and has served generations of students.



For more on the STEP 50th anniversary, visit connect.stevens.edu/step50th

The Stevens Technical Enrichment Program — or STEP, as it's been known throughout the years — reaches a remarkable milestone this fall, marking its 50th year on campus. Created by Stevens in 1968 to expand access to engineering and science education to underrepresented minority students, the program has evolved over the years. But it has always kept its eye on the prize: to increase the pool of under-represented minority and low-income students within STEM fields, and to provide them and other students from diverse backgrounds with the support they may need, from career to academic to personal.

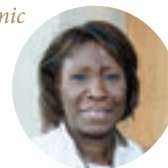
A STEP 50th anniversary event will be held on Sept. 22 at Stevens, and it has the makings of a big family reunion — moments to recognize outstanding alumni, staff and friends; reconnect with old friends; honor the past and look to the future.

STEP's proud alumni have gone on to become doctors, attorneys, engineers (see a profile of NASA engineer Carlton Peters '99 on page 25), business executives and educators, and many give back, paving the way for a new generation of students from diverse backgrounds.

Here, two generations of STEP alumni and supporters take a moment to reflect on STEP, its summer Bridge component and the impact that the program has had on their lives.



"STEP had the most impactful effect on who and what I would become personally and professionally. It instilled a confidence in me that I belonged and I mattered, and that it is all about the journey, the long run and continuous improvement. STEP also taught me about my duty to give back. And because of STEP, I met my lovely wife, Maria." — Hermes Gonzalez-Bello '89 (His wife is STEP alumna Maria Ramirez-Gonzalez '89.)



"STEP didn't only provide academic support but also emotional support. They really reinforced that you can make it. When I questioned myself, they spoke life into me. It's not all about how smart you are, but how determined you are to push past the obstacles, whether it's grades or relationships, to become who you were meant to be." — Clarelle (Charles) DeGraffe '84

ALUMNA ENVISIONS A STEP SCHOLARSHIP FOR THE GENERATIONS

Growing up in West New York, New Jersey, Patty Torres '01 had limited means to attend Stevens, but boosted by several scholarships and loans, juggling campus jobs and paid internships, she made it work. But she had to account for every expense, keeping a spreadsheet to track every penny.

A Stevens Technical Enrichment Program (STEP) student, she thrived at Stevens and made it through until her junior year, when she discovered she was coming up short to cover her tuition. The chemical engineering major and student leader loved Stevens and was desperate to stay. Her mother ended up taking out an additional loan, but it would be an extra burden on this single-parent family.

Torres knows that her experience is shared by students across the country.

"When you come from a low-income or middle-class family, now more than ever, being able to pay for Stevens or other universities is a big undertaking," she says.

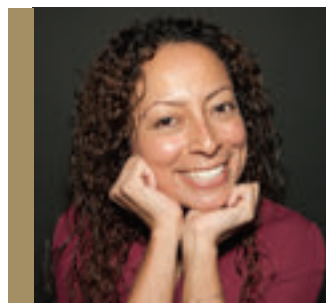
Torres would graduate and enjoy career success, currently as global director of indirect procurement for Bacardi Martini. She worries about college tuition becoming unattainable for today's students and is determined to do something to

help, especially for STEP students who often face financial struggles.

Torres — working with other STEP alumni — created the STEP Scholarship back in 2013 that has since awarded four term scholarships to outstanding STEP students. Term scholarships are extremely helpful but once distributed, the funds are spent. So as STEP prepares to celebrate its 50th anniversary, Torres and others are eyeing a new goal: to establish a STEP Endowed Scholarship, which would ensure that STEP students receive scholarships for generations to come. The goal is to raise \$75,000 by the anniversary event on Sept. 22, 2018.

With an endowed scholarship, Torres explains, funds are collected to a certain dollar amount and invested. Interest from the money raised is distributed and awarded as scholarships. Establishing a STEP Endowed Scholarship Fund is a way to ensure scholarships are awarded for years to come.

Longing to help STEP students several years ago, Torres contacted Stevens' Office of Development and attended an alumni meeting, where she learned more about the scholarship process. Propelled by the smashing success of STEP's



"When you come from a low-income or middle-class family, now more than ever, being able to pay for Stevens or other universities is a big undertaking."
— Patty Torres '01

45th reunion in 2013, she and fellow volunteers started calling up STEP alumni and friends, asking for their support. Today, the STEP Scholarship is making a difference. (Meet scholarship winner Johnny Aza on page 38.)

For Torres, STEP provided her with lifelong friends and the path to a great education, so it was only natural to give back.

"If it weren't for STEP, I would not have been at Stevens," she says. "And I would not have met my friends who, to me, are really my family, 'La Familia.'"

Come this fall, she predicts that STEP alumni and friends will meet or surpass the goal to launch the STEP Endowed Scholarship.

"We need to do this together; we can be so much stronger," she says. ♦ — Beth Kissinger



For more information on the STEP Endowed Scholarship, visit connect.stevens.edu/step50th

"My best moment from STEP was the time spent building relationships with other students from similar backgrounds. The late-night Qdoba runs after recitation, and staying up late studying for Maz's (Professor

Varoujan Mazmanian's) calculus exams, helped me to build my support system, which enabled me to adjust quickly and feel comfortable when the academic semester started." — John Taylor '10



"It really gave me a positive, welcoming introduction to Stevens...And there were students of color who looked like you. It was a safe space to vent. When I look back at my time in college, it's always related to STEP and the people I met through the program, who helped me to grow.

Knowing how much it helped me, I want to continue to give back." — ShaQuill Thomas '15, president, STEP Alumni Club



"It was all about showing people that, given a chance, anyone could succeed...I think it is important to recognize the 50th anniversary; this is a really big deal. I think it's a reflection on Stevens and on STEP that in 50 years, they have influenced more than 1,000 lives. The fight for equity and equality continues. There is no better time than now for the Stevens community to demonstrate our institutional values and commitment to educational opportunities." — Ron West '71



HE'S REACHING FOR THE SKIES, AND THE STARS

Johnny Aza '21 is on track to be the first in his family to graduate from college, and he calls it a privilege — and a great responsibility.

"I'm nervous; I'm that role model," he says — to his younger sister, his cousins, his entire extended family. But this mechanical engineering major also knows that his two "families" have his back.

His parents at home in Parsippany, New Jersey, call him every day to tell him how proud they are of him, that they love him. Other relatives check in. Then there's his STEP family on campus that also offers steadfast support — and generations of STEP alumni behind him, propelling him through the STEP Scholarship.

"When I got this recognition, it really boosted my energy," Aza says.

"The entire community is saying: 'This kid is pushing himself.' It's like, 'Wow!' It's going to help push me through the rest of my years."

The \$1,000 STEP Scholarship has given him not only an emotional boost but also a much-needed supplement to his other scholarships and his work study and co-op jobs, says Aza, who is a second-year student.

When you meet Aza, who spent much of his childhood in Paterson, New Jersey, most immediately striking are his energy, exuberance and sense of gratitude. He has obviously embraced Stevens and is making the most of the opportunities it's bringing him.

*"When I got this recognition, it really boosted my energy."
— Johnny Aza '21*

This past spring semester, Aza worked a co-op job, in quality and delivery control, with GE Aviation in Lynn, Massachusetts, just outside of Boston. "The people make it really good," he says. "They're always quick to throw work at me. They're always pushing me to do more."



Johnny Aza '21 relaxes inside Pierce Cafe on campus this past March.

PHOTO: JEFF VOCK

But he reveals his love of Stevens when he mentions that he has just arrived on campus after a 4.5-hour bus ride from Boston, through a snowstorm, to get back for the weekend. This Lambda Upsilon Lambda brother is very active — with the Society of Hispanic Professional Engineers and the Computer and Console Gaming Society. He writes poetry and plays the ukulele.

STEP played a big role in his decision to attend Stevens. Its summer Bridge program, through which students take Stevens classes and live on campus for six weeks the summer before their freshman year, "was awesome," he says. "You actually get to know the people around you. You're coming into (Stevens) already building a network of students who are already your friends." The early exposure to Stevens academics also eased his transition, he says.

Aza praises the camaraderie and support system of STEP — from social events to mentoring to networking — and that of the greater Stevens community.

"I feel that STEP students always had a little bit of a struggle — first-generation, financial challenges...but everyone is so supportive in STEP. We're more open with each other," he says.

As a child, Aza would watch airplanes and was endlessly fascinated with what kept them up in the sky. "It still boggles my mind," he says. "Someone designed that."

So as he considers his future career, he knows that he wants to design rocket or airplane engines. SpaceX would be a dream job.

"Where we'll be 20 years from now is insane," Aza says. "I want to be part of that." ♦
— Beth Kissinger

Stevens Receives ACE/Fidelity Investments Award

Stevens President Nariman Farvardin accepted the American Council on Education (ACE)/Fidelity Investments Award for Institutional Transformation on behalf of Stevens at ACE's 100th annual meeting on March 11.

The award was created to recognize institutions that have responded to higher education challenges in innovative and creative ways and achieved dramatic changes in a relatively brief period. ACE invited nominations and applications for the award, under two categories, from any U.S. college or university eligible for ACE membership. Stevens won for the category of large institutions serving student populations of 5,001 or more and will receive a \$10,000 prize.

"The demand for a Stevens education has never been higher," said Farvardin. "With the continued commitment of the university community, the potential of Stevens is limitless. On behalf of Stevens Institute of Technology, I am honored to accept the 2018 ACE/Fidelity Investments Award for Institutional Transformation during this catalytic period in our history."

The unprecedented growth and accelerated success at Stevens began in 2011, when Farvardin spearheaded the development of an ambitious ten-year strategic plan that charted the course for Stevens to become a premier, student-centric, technological research university. The process itself was deliberately inclusive — led by two deans, a steering committee with broad representation, six working groups comprised of faculty, staff, students and alumni, and multiple opportunities for input and feedback from all stakeholders within the Stevens community.

The results, from 2011 to 2018, have been remarkable: Undergraduate and graduate ap-



Stevens President Nariman Farvardin gives remarks at the American Council on Education's 100th annual meeting on Sunday, March 11. Farvardin accepted the ACE/Fidelity Investments Award for Institutional Transformation on behalf of Stevens. PHOTO: MICHAEL CARPENTER

plications are up 156 and 128 percent, respectively. Enrollment is up 29 percent at the undergraduate level and 24 percent at the graduate level. Retention, graduation and placement rates have increased to 83, 95 and 96 percent, respectively, which represent all-time records for the university. Financials, fundraising and the endowment have also all seen drastic improvements.

Since Farvardin took office in 2011, the disciplined implementation of Stevens' strategic plan has kept the university on course, requiring high levels of cross-functioning engagement, re-envisioning objectives, clear metrics and regular monitoring and reporting. Milestone tracking and specific metrics reveal a university that has experienced a substantial

turnaround during this catalytic period — a university on the rise.

Saint Peter's University, also in New Jersey, won in the category of institutions serving student populations up to 5,000.

"Stevens Institute of Technology and Saint Peter's University both illustrate how addressing issues head-on — plus a lot of hard work and collaboration — can help transform an institution," said ACE President Ted Mitchell. "We appreciate the generous support of Fidelity Investments for this award, which allows us each year to recognize colleges and universities where such transformation has occurred." ❖
— Katherine Cutler



For more on Stevens' transformation, visit stevens.edu/turnaround.

QUANTUM LEAP

PHYSICS TEAM DEPLOYS, VERIFIES PATHBREAKING THREE-NODE NETWORK

Researchers at Stevens have unveiled and verified a three-node demonstration quantum communications network, introducing an exciting new information technology to the Hoboken campus.

The Laboratory for Quantum Enhanced Systems and Technology (QuEST Lab), directed by physics professor Yuping Huang, successfully completed a single line-of-sight quantum link between two campus laboratories last year. In February, a third node was completed, tested and verified: an underground fiber-optic link to a kiosk in the university's Samuel C. Williams Library.

"This hybrid-quantum network, which could be the first of its kind in a campus setting, will serve as a testbed for engineering innovations and, more importantly, as an open platform to encourage and engage students and scholars from broad backgrounds," explains Huang.

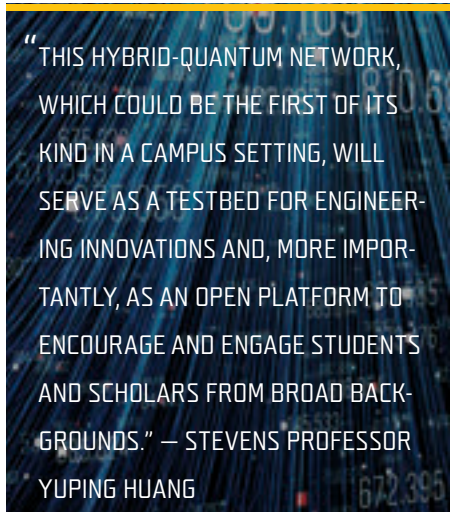
TWIN PHOTONS, ROUTED SIMULTANEOUSLY

Quantum communications, first conceived in the 1980s, have yet to be implemented on an industrial scale. The physics have long been known, and the concept has been proven. But engineering workable networks in a cost-effective manner that can scale widely has proven more difficult.

The Stevens team hit upon the idea of building both line-of-sight and interconnected, fast-switched optic links into a hybrid,

secure system.

A source laser in the QuEST lab creates twin photons in a lithium niobate waveguide. The twin photons are then routed simultaneously to the Hanlon Laboratory for Financial



"THIS HYBRID-QUANTUM NETWORK, WHICH COULD BE THE FIRST OF ITS KIND IN A CAMPUS SETTING, WILL SERVE AS A TESTBED FOR ENGINEERING INNOVATIONS AND, MORE IMPORTANTLY, AS AN OPEN PLATFORM TO ENCOURAGE AND ENGAGE STUDENTS AND SCHOLARS FROM BROAD BACKGROUNDS." — STEVENS PROFESSOR YUPING HUANG

Analytics and Data Visualization directly across a campus street (via line-of-sight technology) and the more distant campus library via beneathground fiber optics. Three detectors, one in each location, flag individual photons and create private keys for data encryption.

Measurements of the pairs are made instantaneously and statistical probabilities are applied to verify the photons appear in both locations and are, in fact, twins.

"This has been very challenging to engineer," notes postdoctoral researcher Yong Meng Sua. "The vast majority of photons are lost by scattering, deflection and absorption during transmission. Also, we need to discern true, signal-carrying photons from other background photons that may come from a variety of other sources."

SECURITY FOR PRIVATE FINANCIAL, MEDICAL DATA

Now that the concept has been demonstrated, Huang says Stevens will refine its setup. If the technology can be harvested and scaled up, applications include secure financial transactions, defense, medical and other sensitive data storage, as well as computational capabilities.

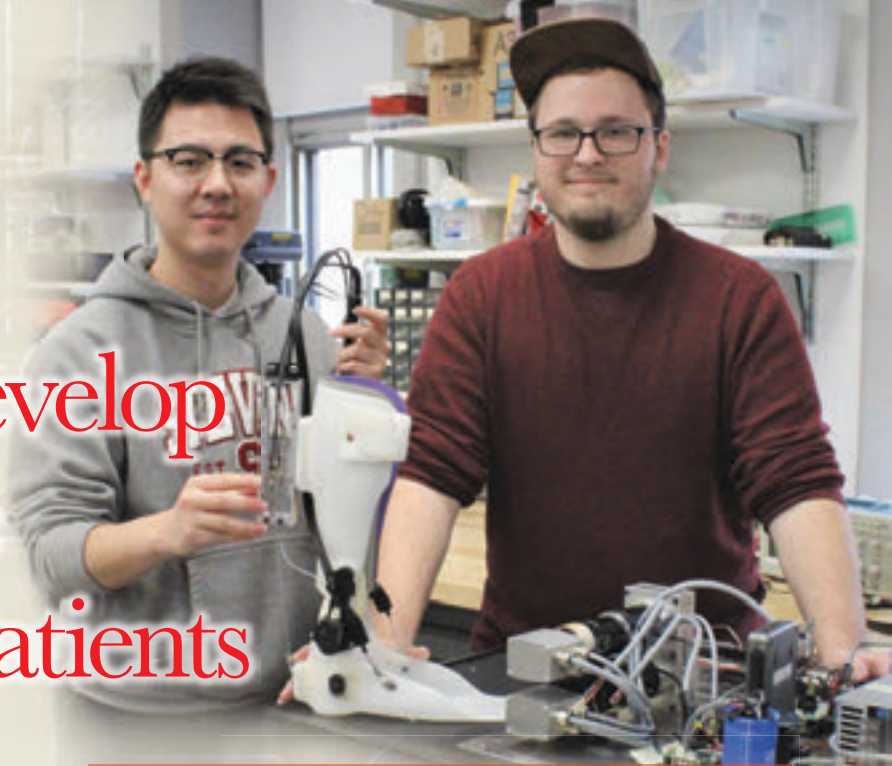
Current security technology depends upon algorithms which, though highly complex, can never be completely random nor foolproof. Very powerful computers could, in theory, be able to crack them. Quantum communications methods, if realized, offer a potentially powerful solution.

"Quantum communications provide ultimate security," explains Huang, "because it is instantly known when information on the photons has been touched or altered, thanks to the principles of quantum mechanics."

The Stevens team will next work to leverage high-dimensional entanglement, techniques to greatly increase the information capacity and robustness of the network. ❖

— Paul Karr

Researchers Develop Robotic Device to Aid Stroke Patients



Nearly 800,000 people in the United States suffer a stroke each year, according to the National Institutes of Health. After a stroke, signals between the brain and muscles are often damaged, which causes difficulty in movements, particularly walking.

Patients can regain mobility through high-intensity gait training, whereby they are retrained to walk on treadmills as teams of multiple physiotherapists repeatedly guide their legs through walking cycles. This process, however, is both long and arduous for patients and physically demanding for therapists.

Now, however, a new concept known as rehabilitation robotics is emerging, and Stevens is at the leading edge. Mechanical engineering professor Damiano Zanotto's team within his Wearable Robotic Systems Laboratory has created a lightweight robotic orthosis worn over the foot and calf, with a motor, power sources and other heavy parts in a remote platform that will eventually be housed in a backpack worn by the patient.

"The device does the majority of the physical work that therapists are doing," explains Zanotto, who worked with a team including doctoral student Yufeng Zhang M.Eng. '16 and Roger Kleinmann '18 (who is one of four students ranked first in the Class of 2018) to develop the device.

The orthosis uses a variety of sensors to measure the patient's foot patterns, and cables routed to the heel and midfoot provide corrective forces in response to these patterns. A controller continuously checks where the patient's impaired foot should be, based on the motion of his or her healthy foot and, if needed, gently "pushes" the impaired foot in the correct direction.

It all works thanks to the control system, which receives real-time data from the sensors and tells the motor what to do next.

"The device provides force feedback and somatosensory stimuli to help patients adjust movement in real-time," says Zanotto. "We hypothesize that this strategy will help patients recover a more natural and symmetric gait pattern. After multiple therapy sessions, patients [should be able to] walk with a better gait pattern without needing the device."

Stevens students Yufeng Zhang M.Eng. '16, left, and Roger Kleinmann '18 with a robotic orthotic device prototype, inside Stevens' Wearable Robotic Systems Laboratory. PHOTO COURTESY OF YUFENG ZHANG

While most robotic ankle-foot orthoses utilize two actuators, making them quite heavy and uncomfortable to use, this one features a single motor.

"No one has ever done this kind of design," notes Zanotto.

Innovative designs present challenges, and deploying one motor presented a number to overcome. So Kleinmann hit upon a two-part solution, repurposing motorcycle cables to provide assistive torques to patients' ankles while also tweaking the mechanics of the system.

"We have a motor that actuates both dorsiflexion [lifting off of the ground] and plantar flexion [pushing into the ground]," notes Kleinmann. "Motors are heavy and expensive, so we decided to try a semi-active system."

That meant countering the plantar flexion with a spring, an elegant fix that turned out to work.

While the current system is only a prototype, it's beginning to attract wider attention.

Zanotto has received a grant from the New Jersey Health Foundation to continue developing the orthosis, which will soon be tested on stroke patients at the New Jersey-based Kessler Institute for Rehabilitation under the supervision of Dr. Karen Nolan, a senior research scientist at Kessler Foundation and Zanotto's co-investigator in this study.

"We are excited about this opportunity and eager to improve the device based on [patient] feedback," says Zanotto.

Ultimately, Zanotto's team would like to make the device more user-friendly to consumers.

"I hope this device can be commercialized," says Zhang, "and that people can benefit from it." ♦ — Laurie Vazquez



WHERE SPORTS AND TECHNOLOGY COME TOGETHER

With the help of alumnae and fund-raising, the Stevens women's soccer program began using the WHOOP Elite Team Solution last August to help measure and monitor strain, recovery and sleep performance.

"WHOOP has worked with Olympians, NBA players and a few select Division I football and basketball teams," said head coach Jeff Parker. "But we have been told that we are currently the only Division III program — of any sport — that uses this technology. Our student-athletes wear it in training. They wear it in matches. They wear it 24/7."

The wearable device — which is attached to the wrist — measures strain and recovery and helps measure sleep. Student-athletes can see the results and statistics any time on their phones or on a computer platform. The data is open team-wide so that everyone can see how well their teammates are performing. Coaches are limited to seeing the data only during the season.

"What's big for us is the educational piece," said Parker. "We want our student-athletes to understand how their actions and choices affect their performance both on the field and in the classroom."

According to its manufacturer, WHOOP calculates your exertion based on workouts and daily lifestyle to make sure you're training optimally. After assessing your strain, the device tells you how much sleep you need to recover and then calculates a detailed breakdown of time spent in each wave of sleep.

It's clear that the effectiveness of the program depends on the student-athletes buying in. Team members say that they have seen the success it has brought them and feel more confident because they are establishing a semblance of control. Indeed, the women's soccer team set an all-program-best team GPA this past fall, recording a 3.71 team average — the highest mark of any team in the Empire 8 ath-



▲ Olivia Butera '20 (No. 7) and the Stevens women's soccer team are using WHOOP, a wearable technology worn on the wrist, to monitor strain and sleep and help maximize performance.

letic conference in Fall 2017. To read more, visit www.stevens.edu/E8GPA

"It's such an amazing opportunity to be able to incorporate this kind of technology into our program," Katie Goncalves '18 said. "It's all about what we can do to get one percent better each and every day."

"We use the data in a variety of ways, from getting a better understanding of the stress levels of our student-athletes, to adjusting our daily training regime, to working with individuals to help them understand what they are personally going through," Parker said. "We feel like it's an eye opener — then it becomes the challenge of aiming to improve. The student-athletes in our program are driven to try to get better, and this is a vital tool in helping them do so."

Busy student-athletes at an academically challenging university may want to play and train, but sometimes their measurables suggest that they should do otherwise. Sometimes it is better to back off during training — for the student's mental and physical health and to help avoid injuries that can become more likely due to stress.

"It gives us the basis to start a conversation," Parker said. "We use it as a tool to help both us and the student-athlete understand what their body is going through. It doesn't replace having that honest conversation with a student-athlete, but it becomes another piece we all use." ❖ —Jon McCue

 For more on Stevens athletics, visit stevensducks.com

alumni**news**



LOST IN SPACE

Do you recognize these students or know what's happening in this photo, dated Jan. 11, 1961? If so, email editor@alumni.stevens.edu.

SAA President's Letter

Spring, summer happenings from your alumni association

Dear fellow alumni,

It has been a tremendous and transformative year for the Stevens Alumni Association (SAA). Throughout the past 11 months, hundreds of alumni volunteers — across generations and around the country — have dedicated their time and talent to prepare for the successful transition to, and implementation of, the new SAA Constitution and Bylaws, approved by the alumni community last June. This unwavering dedication to our organization, pride in our alma mater and commitment to strengthening our connection to one another and to Stevens are truly inspiring. My thanks to the volunteers who have devoted time to participate in this important process.

If it's been a while since you have engaged with the SAA and the university, this is the perfect time to do so! There are a number of easy steps for you to take in the next few months to get you started. First, the SAA election and constitution amendment ballot sent on April 15 will remain open until June 1. I encourage you to take the time to review the slate of officers and directors nominated to represent you on the association's new board, as well as to consider the four constitutional revisions that are being proposed. Then, cast your vote! Your participation in this process is critically important, as it demonstrates a commitment to ensuring that we have a vibrant and thriving alumni association.

Next, join me and the more than 1,000 alumni, friends and family who plan to return for the 98th Annual Stevens Alumni Weekend, June 1, 2 and 3. There are many varied activities taking place throughout the weekend for all ages. Begin your weekend at Black Bear Bar & Grill for Ducks' Night Out. Catch up with old friends and network with new ones, all while enjoying an open bar and appetizers. On Saturday, be sure to attend President Farvardin's State of Stevens address, the annual Lollipop Run for future Ducks and the ever-popular Beer Tasting and Wine Tasting events. End the



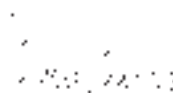
weekend by honoring and celebrating this year's Harold R. Fee '20 Achievement Award Recipients — Harry S. Farrell '93, Christopher M. Rodricks '98, Jennifer Hsiao '03, Michael Bocchinfuso '08 and Owen P. Jappen '13 M.Eng. '13 — and our Stevens Alumni Award recipient, Thomas J. Moschello '63 M.S. '65. To learn more about the weekend, visit stevens.edu/alumniweekend.

After Alumni Weekend, continue to participate in events and activities taking place over the summer in regions throughout the country and on campus. On June 30, head down the shore for the re-imagined "It's a Shore Thing" event, hosted this year at the Asbury Festhalle & Biergarten in Asbury Park, New Jersey; it is just a short train ride from New York City, Hoboken and other points around the state.

Finally, invest in *The Power of Stevens*, the university's current fundraising campaign, by making a gift before June 30. Your support contributes directly to Stevens' ranking and reputation — and adds to the value of our degrees.

This is your opportunity to recommit to, re-engage with and reinvest in the SAA so that, together, we can become an even more powerful force in helping Stevens realize its full potential.

Per aspera ad astra,



Victoria Velasco '04
President, Stevens Alumni Association
president@alumni.stevens.edu

Class Logs

'42 *Editor's note: With much sadness, we report the passing of Robert L. Klein, the longtime, devoted class secretary for the Class of 1942, on Jan. 22, 2018. He will be greatly missed.*

Robert L. Klein

Robert L. Klein M.S. '43 of Naples, Florida, the longtime class secretary for the Class of 1942 whose devotion to his classmates and his alma mater spanned more than 70 years, died on Jan. 22, 2018. He was 96.

Klein received the Lifetime Service Award from Stevens at the 2015 Stevens Awards Gala, where he was honored for his true alumni engagement and his generous philanthropy that began shortly after graduation and lasted through the decades. From attending and helping to organize class reunions since 1947, to helping to found and support the Class of 1942 scholarship, he was a Stevens stalwart. To his classmates, he was the "glue" that kept the class together, and much of this was through reunions in both Hoboken and in Florida, and through his class log, which he wrote with great care for more than 30 years. He wrote engaging and informative logs and never missed a deadline. His devotion to his class log was legendary, as he reached out to classmates by phone and email, not only collecting their news but also offering them friendship, encouragement, health tips and comfort over the years.

Early in his career, Klein worked as chief engineer of the Presmet Corporation in Worcester, Massachusetts, and later moved to New Jersey in 1950, where he founded a new manufacturing company for making aluminum windows. After 17 successful years, he sold the company and partially retired, later forming, with a small group of investors, Morris Cablevision, just as the field was developing. The company was sold in 1982.

Klein launched a "second career" at age 55, when he began competing in United States Tennis Association tournaments up and down the Eastern seaboard. He competed for almost 40 years and, incredibly, held the No. 1 Men's Singles rank in Florida for four consecutive years in the age-80 group, and was ranked No. 9 in the U.S. in that age group. He continued to play into his 90s and in 2013 was the Men's Singles Champion in Florida.

He was active in his community in New Jersey and later in Florida, and a musician for most of

his life. He played with the Morristown Clarinet Quartet for 40 years, and was a bass clarinetist with the Naples Concert Band for 25 years.

Surviving are his wife, Barbara; a daughter, Mara Jayne Miller; a son, David; two stepsons, Dwight and Neal Reynolds; one grandson; five step-grandchildren; and three great-grandchildren. — *The Stevens Indicator*, Castle Point, Hoboken, NJ 07030; (201) 216-5531; alumni-log@stevens.edu

Alumni Weekend reunion, June 1-3, 2018

'43 *February 2018* — My current communications are limited to Bill Caldwell and, occasionally, C.H. Anderson, from whom I have nothing significant to report.

I talk periodically with Marge Fendel, the widow of John. She lives in Berkeley, California, across the hill from me. Her husband, John, has been deceased for about eight years. Prior to John's retirement, he was chief of construction for Bay Area Rapid Transit (BART).

In the previous issue of *The Indicator*, I listed my telephone number, email and home address — also still listed at the end of this log. Unfortunately, I have heard from none of you, including any response for Bill Caldwell's suggestion for the 75th reunion of our class this spring. (Alumni Weekend, June 1-3, 2018.) Please do keep in touch. — *Roland M. Andersen, 20 Valley Drive, Orinda, CA 94563-3534; (925) 254-3789; rmandyandersen@comcast.net*

'46 *Editor's note: The Alumni Office received the sad news that Class of '46 secretary Charles J. Nickelsen passed away unexpectedly on Sept. 9, 2017. His service to the Alumni Association and his class are deeply appreciated. Dick Boera has volunteered to fill the role.*

March 22, 2018 — We start with much better news! On March 12, 2018, the ubiquitous Joe Schneider celebrated his 94th birthday with a big cake and many well-wishers at the Stevens Alumni Association Executive Committee meeting on that date. (Joe's actual birthday was March 9.) Joe and friends had a wonderful time — Happy Birthday and all the best, Joe! Like the rest of us, you have aged gracefully; you don't look a day over 93...



Longtime class secretary Robert Klein '42, seen with his wife Barbara, passed away in January. A remembrance appears in the Class of '42 log.

It's probable that Joe lives closer to the Stute than anyone else in our class and manages to support and attend many of the alumni activities on campus, giving '46 very positive exposure. Perhaps that could have been predicted from his write-up in the 1945 *Link*:

"Smile and the world smiles with you" is the creed of jovial Joe...one that he has carried to every nook and cranny of the Stute...the basketball court, a Hoboken bar, or a Stevens dance floor — all are frequented regularly by debonair (Now and Then) Joe...even the Beaver remembers this Section C standby, for it was the Eco prof who gave Joe his start in solving his intricate financial problems...Joe's suave manner, supplemented by his brains and recently acquired Stevens know-how, should put this local boy on the path to success."

Indicator editor Beth Kissinger has provided me with a list of all known Class of '46-ers, along with contact info for many, so I will be attempting to touch base with you "survivors" in the months ahead to encourage and exhort you to send me copy for these pages. Your classmates really do want to know — regularly — how you and your better half are faring, how many awards and honors you've garnered over the years, how you're spending your retirement years, how many times you've beaten your age on the links, or how many great-grandchildren brighten your life.



Joe Schneider '46 in *The Link* and at his 94th birthday at Stevens this past March.

SAA Update

Cast your vote! Elections for the officers and directors of the Stevens Alumni Association are taking place now. Make sure to cast your ballot before the deadline: June 1, 2018, at 11:59 p.m.



STEVENS
ALUMNI ASSOCIATION
PER ASPERA AD ASTRA

SAA Meeting Dates

Monday, June 25, 2018

Please note that these meeting dates are subject to change. Please RSVP prior to all meetings by emailing alumni@stevens.edu or by calling 201-216-5163.

- ▶ Alumni Weekend 2018 – June 1-3, 2018; stevens.edu/alumniweekend
- ▶ Athletics Annual Golf Outing – June 20, 2018
- ▶ It's A Shore Thing – June 30

ALUMNI WEEKEND 2018 JUNE 1 - 3, 2018
stevens.edu/alumniweekend

And we always have room for (high-resolution) photos. I think you'll agree that there's nothing more disappointing than a blank space following the class numerals.

Please don't wait for my email(s) to arrive. Send something NOW, before you turn to the next page of this *Indicator*...which is published three times a year. (My address appears at the end of this log.) We (literally) don't have much time left to procrastinate! And while you're at it, send along a few thousand bucks to the Stevens Fund...

While I'm awaiting all those welcome tidbits, let's look back to a little-remembered oddity involving three unique Stevens classes whose membership defies any rigid pattern. The situation is unique in Stevens history, but the fact is that the wartime Classes of 1945, 1946 and 1947 are sort of "bastard classes"! It all relates to the Navy's V-12 program which got underway in July 1943; Joe and I and hundreds of others were enrolled. Whether Navy apprentice seaman or civilian, the academic year changed from two to three semesters; we attended school all year round with just the usual holiday and end-of-semester breaks. So consider this:

- Student A matriculates at Stevens in the fall of 1942 in the Class of 1946; the accelerated program begins just after the spring semester 1943, so he graduates at the end of the spring semester 1945 with an M.E. degree, goes off to midshipmen's school and commissioning, followed by sea or staff duty.
- Student B matriculates in the fall of 1942 in the Class of 1946 at another college. In July 1943,

he enrolls in the Navy V-12 program and is transferred to Stevens. He is placed in the second semester at Stevens to conform to the Stevens curriculum, thereby losing one semester of credits. Also at the end of the spring semester 1945, upon completion of the eight semesters allowed by the Navy (total at prior college and Stevens), he joins Student A and goes off to midshipmen's school. Following separation from active duty sometime in 1946, he returns to Stevens for one semester, completing the degree requirements for a B.S. degree and graduating on Feb. 1, 1947. Student B receives an Honorary M.E. at our 40th reunion in July 1986. - Student C matriculates in the summer semester of 1943, completes eight semesters and graduates at the end of the spring semester 1946. (With the end of the V-12 program there was no summer semester in 1945.)

All three students consider themselves — and appear to have chosen to be — members of the Class of 1946. Joe Schneider and Charlie Nickelsen would fall into the category of Student A; as a transferee, I was one of the approximately 20 students (who arrived from 17 or 18 different colleges) in Category B, and I have other alumni friends who were in the C cohort.

All three groups appear in the *1945 Link*. Perhaps President Farvardin, among others, might be surprised to learn of this historical footnote?

— A. Richard Boera, 7 Joshua Way, Apt. 317, Essex Junction, Vermont; (802) 871-5439; arbjlb@comcast.net

~ In Memoriam ~

Charles J. Nickelsen of Tempe, Arizona, our

Class of 1946 secretary, died on Sept. 9, 2017.

Nick worked as an engineer with AT&T, before retiring. He was a World War II Navy veteran and a member of the Navy V-12 program at Stevens. Surviving are his son, William; three grandchildren; and two great-grandchildren. His wife, Lucille, predeceased him.

Theodore J. Zeller of Sea Girt, New Jersey, a World War II Navy veteran, died on Dec. 30, 2017. He was president of Tri-State Pump, before retiring. Zeller was a member of the Navy V-12 at Stevens and earned an MBA from New York University in 1953.

Clayton T. Rogers, Jr. of Durham, North Carolina, passed away on June 4, 2017, at the age of 91. Rogers was born on Jan. 9, 1926, in Bluefield, West Virginia. At Stevens, he was enrolled in the Navy V-12 program and was a World War II veteran. He earned his MBA from Columbia University in 1949 and was employed as a sales manager for Monsanto Chemical Company. He is survived by his wife, Wanda; three children; and two grandchildren.

Donald C. Broggin of Smithtown, New York, left us on Jan. 9, 2017, at age 92. Broggin was also a Navy V-12er at Stevens. After commissioning and brief sea duty, he spent most of his working career at the Grumman Aircraft Company on Long Island, New York. He was predeceased by his wife, Catherine. He is survived by six children; 14 grandchildren; and two great-grandchildren.

We are also sorry to report — belatedly — the passing of classmate Malcolm D. Horton, 85, on Sept. 28, 2009. He was survived by his wife, Doris; three children; and five grandchildren.

'47

Guest log from **Warren Totten:**
February 2018 — In the Winter 2018 issue of *The Stevens Indicator*, **G. Fred Smith** requested to hear from other 1947 classmates. At this point in our lives, it is a pleasure to relive memories of times that changed our lives.

I remember Fred so well, perhaps because I lived in the Castle with the foursome of Totten, Trygg, Twyman and Vignola.

I remember Fred so well, perhaps because I lived in the Castle with the foursome of Totten, Trygg, Twyman and Vignola.

The Navy V-12 program gave me not only an excellent education but also a Navy experience as an officer. We were able to earn an engineering degree in three years because we attended school around the clock, following the Navy's strict rules: no week-ends off if the rooms did not pass inspection, and no summer breaks. I graduated at age 19 and was commissioned as an ensign. I was stopped in Grand Central Station to show my papers because the SP's thought I was too young to be an officer.

I remained in the Navy for an extra year and was recalled in 1951, when I was assigned to the Naval Bureau of Ordnance in Mishawaka, Indiana. I stayed in the Naval Reserve, attending weekly meetings and taking two weeks a year for duty. I had some interesting experiences — on a DE accompanying President Kennedy's ship as he reviewed naval operations; flying off and landing on an aircraft carrier; attending the Naval War College.

During the early years, while I worked for Austenal, I returned to Stevens at night to earn an M.S. in metallurgy. For 15 years, I worked for RCA in the field of transistors. A transfer to California convinced my family that this was where we wanted to live. I took a final job with International Rectifier, retiring in 1985.

My wife, Jane, and I will celebrate our 70th wedding anniversary in February. We met at Stevens at a party. Some of our closest friends were those whom I met through the "Stute." We stayed in touch for many years, returning to anniversary weekends.

Looking back, I realize that my Stevens education shaped my life. Warren Totten — (201) 216-5531; alumni-log@stevens.edu

Alumni Weekend reunion, June 1-3, 2018

'48

February 2018 — I recently reached out to our 22 classmates for whom we have contact information. Here are some of their updates!

I had a good conversation with **Martin Graham**. As an extra-curricular activity, he taught ballroom dancing for some 30 years, initially five evenings a week, then tapering off until he is no longer involved. He remains very involved with physical fitness and with a superb diet. He emphasized his recommendation for all of us '48 members — the tremendous benefit gained from ballroom dancing! Martin was just recently diagnosed with cancer, but with his excellent physical status, diet and positive stance, this should not be a problem of note.

I had a lovely conversation with Mrs. **Bob Bruce**. She is doing very well, and is with Bob each day. Bob is quite limited and requires personal care.

I also had a lovely conversation with Mrs. **Eddie Cassinis**. She is doing very well and is with Eddie each day. Eddie is quite limited and requires personal care. She told me that Eddie still has his great sense of humor. I told her what a great basketball player Eddie was for Stevens!

Dan Haagens had a minor heart attack three years ago, but is doing great. And we have here, his yearly report!

"2017 Milestones: Dan's sister, Miriam, celebrated her 100th birthday on Aug. 24, 2017. She lives in Nyack, New York. Sister Dé (Deborah) is not far behind, as she turned 98 on June 15. Dé lives in Santa Barbara, California.

"Family: Cynthia is teaching in Marin and Sonoma, California, living with Carol and enjoying a new relationship with an old friend, Tom Tally, a professional violinist and violist. Grandson Michael is a freshman at Terra Linda High School in San Rafael, California. He is becoming an accomplished pianist, continuing lessons and playing piano in the school jazz band. Carol and Michael live in San Rafael in the house where Cynthia and Carol grew up. Grandson Sean (Pam's son) and his spouse Jenny live in the East Bay. They celebrated their first wedding anniversary Oct. 2. They honeymooned in New Zealand. Granddaughter Sharon, currently living in Connecticut, works for Starbucks. She traveled to Thailand and Iceland in 2017. Her sister Jocelyn and husband André live in Roseville, California. Jocelyn runs Fixture Pronto (an online business) with her dad, Robert Vaupen. Robert and wife Karen are back in Belmont, California. He still travels to Roseville for a few days every other week to help Jocelyn with the business he founded. Granddaughter

Lauren lives in Brooklyn, New York, and teaches art in a charter middle school there. She is furthering her career as an artist. Granddaughter Krista works at Starbucks, lives in Roseville with her parents (Sue and Dave). She continues with her photography and maintains her great interest in Haiti's children. She traveled to Haiti again in early 2017 and once more in February 2018. Granddaughter Nicole, also in Roseville, is taking classes at Sierra College to become a pediatric nurse. She currently assists people with disabilities through a non-profit organization. Son-in-law Dave now works for Guild Mortgage in Roseville. He travels quite a bit to their various offices. After numerous surgeries for melanoma, he underwent immunotherapy. No new lesions have appeared! Sue is job hunting. Pam and Russ live near us in Novato. Pam works for Marin General Hospital. She counsels patients on diet. Russ is a business consultant.

"Muriel and I continue to live comfortably in our Novato, California, condo. We go to the San Francisco Symphony, the San Francisco Ballet and the Marin Theatre Company on a regular basis. Muriel uses Facebook on her Kindle 7 to keep in touch with family and friends. She shops online, using her laptop.

"Website: haagens.com; Happy 2018! Muriel and Dan Haagens."

Howard Heydon is another remarkable member of our Class of '48. Howard owns a big motor home and spends his time traveling all over, east of the Mississippi. His family has grown to over 60 members, including great-grandchildren. They do a big family reunion every other year, with the next reunion due in Summer 2019, to be held in western North Carolina.

Ely and **Jim Ware** are living a great life in Santa Ana, southern California. I will always remember Jim with his superb magic as a magician, always beyond my comprehension. Jim says that life is grand; his only minor problem involves the result of his feet having been frozen during the Battle of the Bulge against Hitler in December 1944 to January 1945.

Sally and I are doing well, trying to behave and stay out of trouble. My authoring continues, with four books currently published: *Struggle of Titans*, *Death of an Empire*, *Republic in Discord*, and *Who and Why are We*. — **Louis L. Shook**, 220 Bay Colony Drive, Virginia Beach, VA 23451; (919) 619-3955; loushook@cox.net



Charlie Schnabolk '53 attended the annual alumni Thanksgiving party at the Beta Theta Pi house last fall (photo on the right) and got the young alumni to re-enact a photo taken at the house after graduation in 1953. Schnabolk is in the back row, third far right, in both photos.

'52 February 2018 — This year is my 31st year as the Class of 1952 log editor. You might be interested in knowing that my father had also been his class log editor for the Stevens Class of 1925. And it is still my desire to continue as editor of our class log as long as I am physically able. I look forward to receiving your comments and feedback. I have always enjoyed sharing conversations with many of you by telephone, letters, email and at class reunions. Being the class secretary and log editor, I have been able to share experiences and travels around the world with so many of you without ever leaving my home here in West Lafayette. Thank you!

Here is an email from Richard Kidder, who now lives in Issaquau, Washington, a suburb of Seattle, with his wife, Carol. Dick's email is as follows: "I just got the latest *Indicator* and read the impressive obits of Art and Bill. Our numbers get smaller and smaller and it is SCARY! Actually, I bet the actual number is more than 108 because more than a few went off the radar after graduation. By the way, do you happen to know actually how many were in the graduating class? The only person I really have kept in touch with is Charlie Kientzler and that was after his fall. I have been giving him a hard time because he was up on a ladder pushing sideways when the ladder went over. As a mechanical engineer, he should have known better! As for me, I moved to the Pacific Northwest about nine years ago and frankly, it beats living in the East by a large margin. Being retired, I am so busy I don't know how I ever had time to work. My main problem is that it just takes a lot longer to do the things that I have always done. I hope your health is OK. I know you had some problems in the past. I do appreciate the work you have put into keeping the class up to date in the *Indicator*. As always, my very best, Rich Kidder."

My comment: The number of 108 is the number of those classmates that are now included on the class's Memorial Scholarship Honor Roll. There are probably more. There were 184 class members at graduation in 1952. I've got all that information on file here in West Lafayette. I also have all the reunion survey information that you've submitted for the last seven reunions.

I received a phone call from Bigfork, Montana, this past month. It was from **Stuart Lichtman**. I have received many requests, over the years, "Do you have any news about Stuart Lichtman?" I never had any information! Then I received the phone call! It was Stuart Lichtman. He had also read the last log and wanted to confirm the address and phone number of Norma Silvestri. Stuart and **Bill Silvestri** had continued their friendship ever since graduation. I hope that he was able to make contact? Stuart was one of the most colorful and loquacious members of our class. When our class graduated in 1952, he had indicated he was interested in the air conditioning business with a preference of living on the West Coast. The information he gave me during our phone call was that his dreams were realized. He became owner and president of the Stuart Air Conditioning Company in Los Angeles for over 50 years and had a very successful business. He's now lived in Bigfork with his wife Eileen for the last five years. They love it there!

Shortly after graduation, he had enlisted in the Air Force in officer's training which was where he met Eileen. After two years of service, they returned to Los Angeles, where he met a contractor who told him that, if he started his own air conditioning company and was successful, that contractor could give his company all the work that his company could ever handle. Stuart did that and his business lasted for over 50 years. A real success story. Now Stuart sings the praises of living in the town of Bigfork with a population

of 4,500 welcoming and friendly citizens. One of the couple's three daughters also lives there. Well done, Stuart Lichtman!

I do have much more information to share with you from class members, but that will have to wait until the next log. I do encourage any of you to contact me. We all have one thing in common: We invested four years of our lives in developing our skills and talents in Stevens Institute of Technology from 1949 to 1952.

Your Class of 1952 Log Editor, Bob — **Robert F. Wolf, 3740 Broadview Road, West Lafayette, IN 47906-8608; (765) 497-3853; bobw3740@gmail.com**

Alumni Weekend reunion, June 1-3, 2018

'53 *Editor's note: Caleb Hurtt passed away on Feb. 9, 2018. His obituary appears at the end of this log and he is also included with this issue's cover story, page 29. Here, Charles Schnabolk provides a brief remembrance.*

Feb. 19, 2017 — "K" let me use his enormous house in Vail, Colorado, for four years when my kids were young. It was a ski-in, ski-out house next door to President Gerry Ford. He and his wife spent a lot of time in Naples, Florida, and his wife, a painter, published a children's book on her experiences in Nepal.

K told me that they were snowed in at the Mount Everest base camp from an avalanche and had a helicopter fly them out. He was an original and one of the biggest investors in a bare, unheard-of mountain that eventually became the Vail resort. He was a poor kid from Florida who became a ski bum after Air Force service in Colorado. The rest is history.

He was one of several classmates who served on the Stevens Board of Trustees. I believe that we may be the only class to have had three mem-

bers serving at the same time. **Dwight Massey** was another, as was **Steve Cuff**. All three were Delts. I'm meeting Steve for lunch when he visits Hoboken next. Steve and I were classmates in fifth grade in Brooklyn — that's 77 years ago.

— **Charles Schnabolk, 7000 Kenedy Blvd. East, Apt. 42A Guttenberg, NJ 07093; (917) 957-8492; ricochas@aol.com**

Caleb B. Hurtt

Caleb B. Hurtt Hon.D. Eng. '95 of Naples, Florida, and Vail, Colorado, who served as president and COO of Martin Marietta and led the company's Skylab program, the U.S.'s first manned space station, died on Feb. 9, 2018. He was 86.

Hurtt served as president and COO of Martin Marietta from 1987 to 1990 and had a long and distinguished career with the company that would later become Lockheed Martin. He joined the company in 1956 at its Denver Aerospace Division as an engineer and in 1959 headed the engineering support team at Cape Canaveral for the first Titan I ICBM test flight. He was the technical director of the Titan I ICBM during the development of the program and later led Martin Marietta's Skylab program during its development and activation as vice president and program director. He served as vice president and general manager of Martin Marietta's Denver Aerospace Division, president of the company's Aerospace Company, and later COO and president until retiring in 1990.

Hurtt also served as chairman of the Federal Reserve Branch Bank in Denver; chairman of NASA's Advisory Council; and was a public affairs fellow at the Brookings Institution.

Surviving are three children, Dana, Kisa and George, and six grandchildren. His wife, Maryan, predeceased him.

'54 February 2018 — I was pleased to have recently received a postal note from **William Wu**, who lives in West Henrietta, New York. William began by noting that our class is dwindling, that those he remembers are gone and that he doesn't remember the others. As such, he wanted to provide some information about his life before he is gone! After graduation, William was drafted, served two years and was discharged with a disability. He then went to work for GE and Xerox and while at Xerox, he received an MBA using

the GI Bill. William then left Xerox and joined a small accounting firm. He left the accounting job to start his own business, which he eventually closed when his wife died. William sold his home to his granddaughter and settled into subsidized housing where he currently lives. William has four sons, ten grandchildren and five great-grandchildren! One of his sons and each of that son's children all graduated college. William's other sons are in the trades. He has traveled to Ireland where his wife was born, and also to France and China. He remains active and intends to run for County Legislator in two years. Good luck to you, William, and many thanks from us all for the information about your life after graduating Stevens.

Another input received through the mail was from **Ed Thayer** in the form of a Season's Greeting card with a hand-written note enclosed. I am not sure who wrote the note but it reported pretty much what was covered in our last class log. Pat and Ed are going through some hard times now but they report that the "kids" are all doing well. We wish them both the very best under their difficult circumstances.

As is usual, **Pete Kalika** quickly responded to my note soliciting input for this log. He, like Patti and I, indicated that the winter weather has been a challenge for them. They had a major ice dam form over their family room roof and before it melted, a major rainstorm caused leakage under the roof shingles resulting in ceiling water stains which will require attention. On the good side, Pete and Joyce were blessed with a visit from one of their Denver grandsons and his wife and they expect a visit soon from son Doug. Thanks Pete for the update.

A short note from **Dick Rogers** indicated that he hasn't been back to Stevens since **Bob Murphy's** induction into the Hall of Fame several years ago, but that he really enjoys reading *The Indicator* and "is overwhelmed by the breadth and depth of all that goes on at the Stute these days." Join the club, Dick. I think all of us are as impressed as you are. Thanks much for your input.

Patti and I have a new baby granddaughter, Vera Louise Sanborn; she will be baptized at Truro Anglican Church on April 15. The proud and happy parents are our youngest son Paul, 50, and Martha, 42, married 14 years ago! Vera is a wonderful miracle and a complete surprise. Our entire family is thrilled with her birth.

As those of us who live in the north have been

looking forward to warmer weather, an update from **George Hromnak** in Florida indicates they have had beautiful February days in the 70s and even one day hitting 90 degrees, which set a record. No wonder so many move to Florida! George and Peggy traveled to Richmond, Virginia, for Christmas to visit family. They also attended a memorial service in Wharton, New Jersey, for Peggy's 99-year-old sister who had passed away. On the drive home, they encountered a major traffic jam requiring seven hours to drive through South Carolina but finally arrived home safe and sound. Thanks, George, for the update and please send us some of that warm Florida weather.

I recently received notification that Kaitlin Gili was the recipient of the Class of 1954 Endowed Scholarship. From a small town in Florida, she always had the dream of going to a prestigious school up north. She said she wouldn't be at Stevens without having received our scholarship. Kaitlin is majoring in physics and is very grateful to our class. I speak for the class by saying we are very happy to have made a difference in Kaitlin's life and we wish her the very best.

That is the extent of the information I received and I wish all of our class the very best; stay healthy and happy. In your leisure, please send me an update on your life so I can share it with our class. — **Jack Sanborn, 3994 Ballynahown Circle, Fairfax, VA 22030-2498; (703) 754-6499; Jack62@aol.com**

Pres. George J. Hromnak, 45 Glenridge Blvd., Homosassa, FL 34446-4450; (352) 382-7445; ghromnak@embarqmail.com

'55 Feb. 28, 2018 — Beginning with this issue of *The Indicator*, and for three more issues, the Class of '55 column is bifurcated into a printed magazine portion (you have the first-such in your hands) and a mailed/emailed typescript portion (arriving hopefully in the same time bracket as the magazine issue to which it pertains). This bifurcated system was suggested by the alumni magazine editor, in order to, on the one hand, preserve the 800-word limit on magazine class columns, while on the other hand allowing the current series on the ethnic/national origins of Class of '55 members to continue, as requested by class members.

So, below we have the latest correspondence

from, and news events involving, class members. And simultaneously in the mail to you we have the second installment of an explanation of our class' "overseas ancestral heritage," in response to requests for such by members who recently, or forthcoming, took/are taking overseas trips to explore their ancestral places and DNA genealogies on their own.

Correspondence from Classmates: **Rich Muller** sent a copy of a faculty profile of himself from Caltech's engineering alumni magazine *ENGenious*. I shared it with *The Indicator* editor, because it is, of course, too long for this column. Rich was not only valedictorian of our Stevens class, but an electee (1992) to the National Academy of Engineering (joining classmate **Shiro Matsuoka** there), and (mentioned here in an earlier column) recipient of an IEEE major award and, in parallel, The Royal Society of Edinburgh James Clerk Maxwell award (from the hand of Great Britain's Prince Philip, no less). He has been on faculty at UC Berkeley since 1962, where he is a professor in the Department of Electrical Engineering and Computer Science and director of the Berkeley Sensor and Actuator Center. The article appears in the October 2017 (issue 14) *ENGenious*.

Rich Cimera sent a follow-up on his summer 2017 river cruise on the Danube, visiting Vienna, Austria; Prague, Czech Republic; Bratislava, Slovakia; Budapest, Hungary. In the last issue, we published a picture of his ancestral Czech (Bohemian) village of Stracise, with a caption quoting his feelings seeing "where my father was born." Due to the 800-word limit, we deferred to this occasion the rest of his comment: "In the cemetery we found only gravestones of my great-grandmother's family. I assume that when my grandfather left with my father that ended the family in Stracise."

Bill Sluka wrote a while back, also deferred until now for the 800-word reason, regretting the death of classmate **Ed Schmidt**, who did a kindness to Bill 66 years ago, when we were at Stevens. (I, too, admired Ed, a very decent guy and an accomplished Ph.D. nuclear engineer).

Tom Wright wrote (in response to the opening column of the "ancestral heritage" series) about his Scots-side ancestry, citing especially his Scot relative the Rev. Edmond Kant, who was said to be related to the famed German philosopher Immanuel Kant. In the present column — the portion now extracted out and to be mailed/

emailed — we show how the claim was entirely plausible, since Immanuel Kant himself was the known grandson of a Scotsman, surnamed "Cant," who had Germanized it to "Kant."

As you know, family members most often notify *The Indicator* directly of a class death; only sometimes do they also notify the class secretary. *The Indicator* adds what they have to whatever the secretary has received, and appends it to the next column.

A while back, when the column was doing "career bios," we did one on **Ron Keller**, outlining his impressive small business and teaching (at Stevens) achievements. Ron's widow, Evelyn, has now sent directly to this column a fact sheet on Ron's life and November 2017 death. A brief obituary appears at the end of this log.

In addition to what we said here, when doing Ron's "career bio," on the personal side: Ron and Evelyn were married for over 61 years; three children, six grandchildren. A boatman, he was the captain of "Prevail" with Fleet 5 of Long Island Sound "for many happy years," which undoubtedly traces to his youth at River Styx on Lake Hopatcong in New Jersey (he called himself "a hick from the Styx"). "A life well-lived," we say. Condolences to Evelyn from Ron's many friends in our class.

Letters about family events, travel, etc., are always welcome here. — **James A. Spady, 200 Locust Street, 8D, Philadelphia, PA 19106-3917; (215) 922-1606 or (215) 880-3989; kinneyj@wharton.upenn.edu**

Ronald C. Keller

Ronald C. Keller MMS '80 of Barnegat, New Jersey, died on Nov. 22, 2017.

Keller, a licensed professional engineer, worked for more than 65 years in the pharmaceutical industry and was a consulting engineer.

Surviving are his wife, Evelyn; his daughter, Lynda Dillman; two sons, Eric and Roy; and six grandchildren.

'56 February 2018 — Dear classmates, I want to apologize for missing the last *Indicator* deadline and I hope to avoid repeating the mistake. My wife Marge and I are not home in Florida, but my computer and files are. We are in New Jersey at my daughter Amy's house in East Brunswick and I am using her com-

puter to compose this. We are here because we received a call on February 18 informing us that my brother, **Bruce Lager '59**, was found dead in his home by the Fort Lee police, who entered the house at our request because we had not been able to reach him by phone. We called family and friends and made a reservation to fly up to Newark the next day. Our son Jeff arrived in Newark on his flight from Melbourne, Florida, at almost the same time that we did. We were picked up by Amy and made the funeral arrangements with Bruce's rabbi in Fort Lee, the funeral home and the cemetery, and we made calls to inform folks of the location and schedule for the graveside service in Woodbridge, New Jersey. Without going into detail, I'd like to say that I was very proud of the eulogy presentations about their Uncle Bruce made by Jeff, and Amy's three kids, Eric, Emma and Joseph. They all described their experiences with their uncle and the fact that they loved him like a third grandparent. When the rabbi asked if anyone else wanted to speak, **George Bonnici '59** raised his hand and delivered a spontaneous and very apt description of his relationship to Bruce at, and after, Stevens. Thank you George for being such a good friend to both of your Lager fraternity brothers.

When we checked out Bruce's house, we found wills for my father and mother. Both contained reference to **Richard A. Joel, Esq.** I called Dick Joel today. He has recently returned from China where he traveled with three sons and six grandsons. I think Dick is the most frequent and lengthy traveler from our class. His next trip will include Berlin, Prague and Warsaw. He is also planning what he calls his Adventure Trip, this time to Norway. — **Alan E. Lager, 6585 Maggiore Drive, Boynton Beach, FL 33472; (561) 735-9511; Alan_e_lager@msn.com**

Alumni Weekend reunion, June 1-3, 2018

'58 Feb. 28, 2018 — It is mid-February as I'm writing this log and we are in the midst of our reunion committee's campaign to promote our 60th class reunion to be held on Alumni Weekend, June 1-3, 2018. During this process, mainly through the efforts of **Barry Ficken** and the Alumni Office, we uncovered some sad news. We learned that three additional classmates have passed on, though not recently. They are

Barrie Luttgé, Mike Machyowsky and Alexander McKeen. At this point we don't have any details or actual dates of their passing, but we will try to obtain obituary notices to provide more information. On behalf of the Stevens Class of 1958, we extend our condolences to their families and friends. We plan to recognize and honor all the deceased from the class of 1958, now totaling 54 members out of a graduating Class of 154, during our reunion celebration. For the record, we have lost 14 members since our 50th reunion held in June 2008, though we have to admit that the records may be incomplete since in some cases we have not had contact with some individuals since our 50th. Given that we are all in our 80s (any naysayers????), this gives us pause to consider coming together for possibly the last time to renew old friendships and memories...

The campaign is aimed at making direct contact with all classmates and by now you should have received the info letters, if not the actual phone contact. As expected, many of our email addresses and phone numbers are out of date. If you are reading this and have not been contacted by the designated committee member either by our omission, your choice or otherwise, we encourage you to reconsider and call in to let us know your plans. Each committee member was given about 13 names to contact. In my group, **John Boyle** said he would attend and **Al Greiner** and **Bill Ziganto** hoped to make it. **Roger Bond** (now living in Florida but keeping a house and business in Connecticut) and **Nels Gravenstede** both have spouses with medical issues and probably will not be able to make it. **Bruno Katsch** will be unable to attend and I'm waiting on responses to my other calls. I also spoke to **Steve Krehley**, who was trying to track down **Roger Pacquin** (who recently moved), both of whom have plans to attend. Other committee members have informed me that **Bob Bozzone**, **Stan Nisenon** (an ex-Bayonne-ite coming in from California), and **Bud Schubert** plan to attend, with **Bob Mazza**, **Gunnar Sarstan** and **Pete Zanetich** as probables. **Bob Fiocco** mentioned that he spoke to **Bob Steinke**, one of his contacts who is now living in Colorado Springs with family close by, and one of our few classmates who is still doing some consulting work. This is still an early listing and I haven't heard from most of the committee members, so we are gradually filling up. Just a reminder: The **Friday night cocktail party and**

reunion dinner are free, courtesy of Stevens. For those local to New Jersey who do not want to drive on Friday night, I encourage you to drop by on Saturday where I'm sure we will have a Class of '58 meeting location in the picnic area as was done in previous years.

A few of us spent a very enjoyable dinner and social evening with President Farvardin and his wife Hoveida at their Hoxie House home right before the holidays. President Farvardin explained that it is a practice he is starting, to invite in the leadership of the "senior" reunion classes (e.g., 50th, 60th), mainly for an informal exchange of information as well as promoting the idea of legacy giving to Stevens. Our group, with spouses, consisted of **Nick Mestanas**, **Barry Ficken**, **Rich Harries** and your scribe, **Mike Bonner**. A few others were invited but could not attend. It was a pleasant evening with a performance by the Stevens glee club before dinner, and a holiday concert by brass section members of the New Jersey Symphony Orchestra afterwards in DeBaun Auditorium, which was well attended. **Barry Ficken** is heading up the effort related to remembering Stevens in your will under the Legacy program.

We will have a surprise at our reunion celebration — one of our classmates is in the final stages of making a very large donation to Stevens and recently added a matching gift provision for other donors. We have been sworn to secrecy regarding the name of the individual and the amount of the gift, but those of you that are perceptive might guess who it is. In any case, it is all the more reason to plan to come to Hoboken sometime during the June 1-3, 2018, weekend, preferably for our Friday events. We can try to re-live the Bayliss snack bar, bridge games, Black Matt, Chatterbox, the black MG reviewing the troops, River Street, summer camp, senior trip, hour papers, etc., etc. Remember: As I said on the cover of our 50th reunion booklet..."We are twenty, we are twenty, who says we are more," at least for the reunion weekend! (Any questions, text me at 732-890-5940.) — **Michael F. Bonner**, 329 Sylvania Ave., Avon by the Sea, NJ 07717-1242; (732) 890-5940; mfbonner@optonline.net

'59 February 2018 — Sorry I missed the last issue of *The Indicator*, but things are perking up. I got a great letter from **Gene Anguil** (with a summary

of his life's history since Stevens), which I am posting below.

"George,

"It seems like yesterday that I promised to send you information on my life and career. But actually the promise was at our 50th reunion which occurred over eight years ago. The other driver that is making me write is that in one of your recent articles, you received a letter from one of our classmates' wife, where you commented that each of us should avoid having our wives tell our story. Having just gone through open heart surgery, which has been successful, I am taking advantage of your prodding. Thanks for your patience and persistence.

"Upon graduating from Stevens, I received a National Defense Scholarship to attend Virginia Polytech Institute to obtain a Ph.D. in mathematics in three years. At end of the first year, I married my college sweetheart, Brenda, and we have been together for 58 years. After completing all of my course work at VPI, I was awarded a Fulbright Fellowship to study computers at the University of Rome. It was a year of significant new adventures, which included Brenda delivering our first child, Kimberly.

"My work career started at Kearfott where I was developing equations of motion for the Short Range Attack Missile, SRAM. After four years, I was invited to work for General Motors at their aerospace division in Milwaukee. This division designed and manufactured the Apollo Inertial Guidance System, which guided our astronauts to the moon. I continued my efforts in the Inter-Continental Ballistic Missiles with Multiple Re-entry Vehicles. It was also at this time that GM was introducing airbags and crash sensors, to which I made a small contribution. A unique experience was that GM attempted to develop a car-mounted computer that would detect if the driver was inebriated. I was a test subject in developing the protocol and on one morning, we went to a laboratory where I ingested several glasses of vodka and orange juice raising my blood alcohol level to 0.27. Normally, a blood alcohol level of 0.08 is considered inebriated and I assure you I could not drive or walk straight. Brenda and I had three children at this time.

"After four years at GM, I moved on to a smaller privately held company where I became the VP of engineering. This company designed and manufactured non-polluting industrial and

hospital incinerators which were not working too well when I arrived. Using our learning of combustion and the three Ts — time, temperature and turbulence — we were able to resolve the difficulties. I stayed there for four years which was when I turned 40 years of age. Brenda and I had five children at this time.

"It turns out that I had read a book in my early 20s on how to be president of a firm by the time you are 40. The impact that this book had on me was surprising, but I knew it was a goal that I would achieve. The options were to buy a business, to become president of the firm you are working for, or to start your own company. The first two options were not possible, so I started a company called Anguil Environmental Systems, Inc. (www.anguil.com). It has continued to operate, with lots of ups and downs, but we are entering our 40th year and two of my children are running it. My five children have blessed us with 13 grandchildren.

"The equipment that we supply is designed to reduce the Volatile Organic Compounds (VOCs) exhausting from an industrial plant. We have equipment throughout Europe, Australia and Malaysia, with partners in China and India.

"It has been a great ride and I owe much to Stevens Institute of Technology, the knowledge they transferred to the students, and the commitment of the faculty. Stevens is much different today, but my hope is that the students, as they graduate, may have successful careers and contribute to society.

"I hope that things are well with you, George. Take care and we shall meet again. Gene"

Here is Gene's contact info if you would like to

look him up: Gene H. Anguil: phone: (414) 365-6400, email: Gene.Anguיל@Anguil.com.

We also had some bad news from the Alumni Office. **Fred Berenbroick** passed away on Dec. 15, 2017. Here are parts of the obituary:

"Born on Sept. 4, 1936, in Jersey City, New Jersey, to the late Melville Berenbroick and Anna Marie Berenbroick (nee Justin). He grew up in Cliffside Park, New Jersey, and graduated from Cliffside Park High School. He received a bachelor's degree and a master's degree from Stevens Institute of Technology in Hoboken, New Jersey, where he was a member of the Men's Chorus Alumni, 50th Reunion Committee and the Metropolitan Club.

"He worked at Lever Brothers Company as a research chemist in Edgewater, New Jersey, until his retirement. He resided in Leonia, New Jersey, and was active in various aspects of the town. He was elected to the Leonia Board of Education, served on the Leonia Environmental Commission, and the Leonia Planning Board. For many years, he was a member and elder at Bergen Boulevard Reformed Church and then at English Neighborhood Reformed Church, Ridgefield, New Jersey."

Fred was a very active Mason and participated in a number of Masonic organizations for over 60 years. He enjoyed cruising and traveling to far-off places, and is survived by his wife of 53 years, Lynne, sons Frederick and William, as well as three grandchildren.

After I had finished this article, I learned from the Alumni Office that **Bruce Lager** had passed away in February. I had not heard from Bruce for a long time but I do know that he had returned

to Stevens and earned an M.S. degree in 1962 and had worked as a senior scientist with ITT Corporation. I best remember Bruce from those many late Wednesday nights in *The Stute* office, getting the paper "put to bed" and dashing down to the Hoboken post office so it could get to the printer the next day...and the great parties at Beta Theta Pi.

As for your dedicated class secretary, I am still practicing law full time here in Huntington, as well as wearing my other "hat" as executive director of the Transportation & Logistics Council. I continue to be active in the Huntington Choral Society and the Alfa Romeo Owners Club (just got a new Giulia and it is a wonderful car), and am learning to really enjoy grandchildren.

I hope you will all take the hint from Gene and send a nice note or letter for the Class of '59 news in *The Stevens Indicator* (so we don't have to just print your obit). — **George C. Pezold, 120 Main St., Huntington, NY 11743; (631) 271-8817; george.pezold@transportlaw.com**

'60 February 2018 — Just as I was going to send out this class log, I received an email from **John Lidstrom** with the obit of **Larry Southwick**. Larry was a regular at most Class of '60 alumni events and we will miss him. I always considered Larry a "true" engineer because of his love for trains and all things mechanical.

I sent John an email and he replied. "Don, Personally, I am doing fine. Moving to Florida was the right thing to do. As I am now single, working as a realtor keeps me going. John"

As you know from my last class log, my younger son (with his wife and son) lives in Florida (Pembroke Pines). How many are living in Florida? Let me know.

Got a note from **Joe Seventko**. This was bumped from the last log because of space limitations. So here goes: "Hi Don, Just a note to wish you continued success with your rehabilitation, and also my best for a happy and prosperous 2018. I do have a question that I hope you may help me with. Other than **Mike Chwan** and I, were any of our classmates involved with the war in Vietnam? I hadn't thought about this until my children started questioning me about the PBS documentary, and what was going on in the mid-'60s. I was unaware of Mike's death and wondered if anyone else was involved in



In December, 40 alumni gathered at the Renaissance Hotel at Newark Airport for the annual Delta Tau Delta reunion luncheon organized by Tom Nathanson '74. Attendees ranged from '59 to '15, spanning seven decades of Rho Chapter history. Al Ward '71 flew in from Minneapolis for "three hours of rejuvenation."

that fiasco. But on a happier note, I retired from a successful career as an orthopedic surgeon here in Lancaster, Pennsylvania. Have traveled extensively through the USA and Canada in a 33-ft RV, and delight in the company of my ten grandchildren. Life is good!

“Stay well. Joe Seventko”

By now (58 years since graduation), I would hope that you have an email address or access to email. If you do not have it, just ask any of your grandchildren. **John Dalton** tells me that, “According to the Alumni Office, we (Class of ‘60) had 160 living, locatable classmates at the beginning of the fiscal year. I have email addresses for 125, so that means that about 35 of our classmates receive information solely by snail mail.” We need to do better.

One major benefit to having your own email is that you will be on John Dalton’s email blasts. There are a lot of interesting things about Stevens and the Class of ‘60 activities you may be missing. If you do receive John’s eblast, you know what I am relating. Therefore, please note that John’s email is jjdalton1@verizon.net. My email is dmerino@stevens.edu.

We learn from John’s latest eblast that, at **Bill Bauman’s** suggestion, the Class of ‘60 will make **Nariman Farvardin** an honorary member of the Class of ‘60 so he could become a member of the Stevens Old Guard just like us! I know that many of you want the name changed to the Stevens Gold Guard but we can discuss that later.

Another item in John’s eblast is info on the Class of ‘60 Scholars. One is **Andrew Chrepta** from Holmdel, New Jersey, who is a music and technology major. Music and technology is a new program at Stevens and one that has attracted very interesting and talented students. For instance, Andrew is active with APO, has a radio show on WCPR and has helped (naturally) in productions of two theater shows. Andrew says that “I truly want to thank Stevens for the Class of ‘60 Endowed Scholarship because I know that I could never have gone to a great school like this without financial help.”

Andrew’s comments sound very familiar and apply to many of us — including me.

Ethan Gurerra is another ‘60 Scholar and comes from Sparta, New Jersey. He is a chemical engineering student who plans to serve in the U.S. Navy after graduation. I think this is a very sound decision although I am somewhat biased



Bob Hills '61 shoots photos at a baseball game in Havana, Cuba. Read more from Bob in the '61 log.

having both my sons do the same. My older son, **Don W. Merino M.Eng. '94 Ph.D. '98**, was a Naval Academy grad and spent six years in the Navy and my younger son, **Stefan Merino M.T.M. '98**, spent eight years in the U.S. Marines.

Lastly, **Matthew Roleke**, of Beachwood, New Jersey, is a '60 Scholar and in the B.S. naval engineering program. Matthew thanks the Class of '60 Scholarship and notes that “the cost of attending Stevens is quickly approaching double that of the average annual personal income in the U.S.” As all of us know, the cost of a college education in all schools (public and private) is very high compared to when we attended, and is getting higher. This is a national problem. The Class of '60 Scholarship fund is one way to help talented students survive in today’s high-cost environment.

Another interesting factoid from John’s eblast is that **Millicent Fenwick** was finally elected to the New Jersey Hall of Fame. Many of you may remember Millicent, who was a Stevens descendant and served on the SIT Board of Trustees when we attended Stevens. She and her family lived in Bernardsville, New Jersey. I worked with Millicent’s son, **Hugh**, when he was employed at Stevens and we established the Executive Masters of Technology program. Hugh was also mayor of Bernardsville and told me many interesting stories about Millicent and the Stevens family. — **Donald N. Merino, dmerino@stevens.edu**

'61 February 2018 — Greetings '61ers, I'm writing this log in February in Dallas, thankful that I didn't have to endure a brutal Rochester winter. This winter has been colder than any I've experienced in the last 14 years and I don't expect any sympathy from you northerners. Yes, I missed a submission for the last *Indicator*, blowing my streak since I became class secretary. (No input, no output).

My recent call for input was quite successful. I received four responses: **Fred Dietrich**, **Leon Hojegan**, **Bob Hills** and **Gary Fitton**. Word count has delayed Gary's feed.

From **Fred**:

“We recently moved from our large house in Hillsdale, New Jersey, to a decent-sized condo in Montvale, New Jersey — three miles away.

“Between packing, getting rid of A LOT of stuff — unpacking, cleaning out the house and putting it up for sale — there hasn't been much time for anything else. We are mostly done now, except for the sale of our now-empty house.

“Of course, we must leave time to get in our many regular doctors' appointments. No more snow shoveling or grass cutting or weeding! But, no more gardening either (alas!).

“We decided to make the move now, while we could both work on it together, and not leave it to the kids to do. It was a much bigger job than we had expected. We had excellent help from a professional organizer, in going through the considerable stuff we had amassed over 56 years of marriage and 37 years in a big house with lots of storage areas. We got rid of about half of our accumulations.

“And, I have not yet come across my Stevens folder!”

From **Leon**:

“The last two months have been quite busy for me. Spent Thanksgiving week with my youngest son, **Mark**, and his family on a cruise out of Long Beach, California. My granddaughters, ages 5 and 6, had never been on a cruise so we decided to see how they would react to a short four-night cruise. They loved it. The only meltdown we had was on the last night when they had to come down from the children's activity center to pack. They wanted to stay another week.

“Mark brought the girls to New Jersey for a few days after Christmas. We spent a day at the Natural History Museum, caught the show at Radio City Music Hall, visited the Statue of Liber-

ty, and spent a day with relatives. They came on Dec. 26 and left Dec. 31. I spent New Year's Day resting up and catching my breath.

"I joined some friends for a two-week tour of Thailand on Jan. 15. After a 22-hour flight, including a change of planes in Taipei, we arrived in Bangkok. Had a nice dinner cruise the night we arrived and spent the next several days touring the Bangkok sites before heading north to Chiang Mai, Chiang Rai, Sukhothai, and Ayutthaya. Upon our return to Bangkok, we took a day trip to the floating market of Damnoen Saduak and the bridge on the River Kwai.

"Along the way we saw numerous Buddhist temples, historic ruins, the Thai Elephant Conservation Centre at Lampang, the Golden Triangle, took in a Thai cooking class, and had several Thai massages. I should note that we had some great Thai food along the way and no one in our group got sick.

"Speaking of food, any visit to Thailand should include a meal or two at Cabbages and Condoms. They have several restaurants and resorts in Thailand that operate as a business for social progress with all profits supporting programs in primary health education, rural development and environmental issues. The food is wonderful and the decor is not quite what you would see in most restaurants.

"We ended our trip with a three-day layover in Taipei where we did a full day's worth of sight-seeing, plus relaxing and getting things in order for our return flight.

"2018 is going to be pretty busy for me. My plans include trips to Colorado, Texas, Wyoming, Nevada and Hawaii."

From Bob:

"Let me fill you in on what I have been up to. I am still living in Redwood City, California. After graduation I worked for GE for 18 months in manufacturing. I returned to New Jersey and worked as a metallurgist for Materials Research Corp. while getting my master's in metallurgy at Stevens in 1966. In 1967, I got married and moved to Silicon Valley in a sales position selling to the burgeoning semiconductor industry. My companies supplied high-tech manufacturing equipment to the major chip producers and other pioneers in the industry. During my time in the industry, I published a paper on the Sematech Cost of Ownership model, and its application to wafer fab layout. I also wrote a paper titled 'Prin-

ciples of Selling to the Semiconductor Industry.' When I retired in September of 2015, the diameter of a silicone ingot had grown from two inches to 15 inches, a 55-fold area increase.

"My 48-year career took me to Japan, China, Korea and Southeast Asia, and that was where I developed my interest in photography. I received an AA degree in photography (with high honors) in 2012, and had an opportunity right after retirement to spend two and a half months living in Florence, Italy, studying art history. Photography has enabled me to visit Yellowstone in winter, which I highly recommend, as well as travel to Cuba, Ireland and Iceland. Each year, I vacation in Maine at the end of the summer where I read, take pictures and overeat. My 'selfie' is attached. The following is a link to some of my work from Iceland: <https://flic.kr/s/aHsm1TR6HJ>

"I recently bought a drone to do aerial photography. I wanted to buy a motor scooter but my sons said 'no motor scooters for old men.' I should be getting an AA degree in art history this June, again with high honors.

"I have two sons: Bobby who lives in Clarkston, Washington, and John who works in San Francisco. Bobby is a project manager for the Nez Perce tribe in the Watershed Division. He is married and has four sons. Naturally, I take lots of pictures of them. John works for USI Insurance, specializing in construction and real estate practice.

"It has been a good ride and there is a still a lot to see and do. Hope this note helps fill up your column. Bob Hills, gimlet_123@yahoo.com."

Hope to see some of you at the Alumni Reunion. Stay healthy, guys. Jay — [Jay I. Wartell, letrow@yahoo.com](mailto:JayI.Wartell@letrow@yahoo.com)

'62 Feb. 28, 2018 — It may be late winter here in snowy New Hampshire, but it's not too soon to talk about our upcoming 56th class reunion. This year, Alumni Weekend will be held on June 1-3, and our intrepid class committee has already begun planning for this event. **Dennis Blahut** said he would like to stress participation in the Stevens Fund for 2018, as his overview of last year's participation indicated that if we could have just attracted 12 more class donors, we would have competed for first place! **John Lupi** suggested that we send out monthly reminders to classmates both to attend and to donate,

and compile a running list of those expecting to attend for distribution to the class. We hope that by the time you read this, you will have decided to attend Alumni Weekend, and also made that most appreciated donation. To quote John, "Folks, be well, be safe, and we hope to see all of you soon at a happy get-together!"

I heard from **Alex McKenzie**, with the following: "As you know, I frequently crew for our classmate, **Tony Mirabella**, on his sloop *Bella Ber* during winter races on Saturdays." Unfortunately, he recently received a "Not So Good News" note from Tony, who indicated that he won't be racing for a while due to a serious fall that caused a fracture of his T11 vertebra. Tony added that recovery would be several weeks, but that the boat would be available to Alex and friends, and hopefully could still be raced. We all wish Tony a speedy and full recovery, as I sure know what an interruption of the racing schedule can do to your standings!

Alex continued with, "**Al Kiel, Ken Hotz** and I recently got together at my house in Sarasota for a mini-reunion. Al and Pat live in Hatboro, Pennsylvania, but spend the time between New Year's Day and Easter at their condo in Tampa, Florida. Ken lives near Los Angeles, but has a daughter in Florida whom he visits in January most years. Ken still works part time at the aerospace parts company he founded that is now owned by one of his two sons. Ken spends much of his free time enjoying off-road four-wheeling in his modified Jeep Cherokee, in places like Death Valley! Needless to say, we had a great time together."

Carl Mitchell is one of two classmates who have written novels, and recently Carl sent me the book jacket for his futuristic novel, published last year, titled, *Sundown: Engineering Gives the Devil a Sunburn*. He writes, "Since I have never sent an update note to be included in the class log, I'll try to be brief. I met my future wife, Maryann, a Hunter College girl, at Stevens in 1961. We were married one year after graduation and moved to Wappinger Falls, New York, where I worked at IBM for 35 years until retiring in 1997. We moved to Hillsborough, New Jersey, in 2002 to be near our daughter's family (daughter and son-in-law, **Laura** and **Adam Kaletski**, both '86 Stevens grads). We continued our targeted tours to various countries: China, Australia, Peru, Vietnam, Southern Africa, South America, New Zealand, etc. Starting in 2012, the two of us started spending winters in Tarpon Springs, Flor-

ida, where it is difficult to find good bagels and snow-covered hills for downhill skiing. Around that time, I decided to buckle down and put my engineering background to work in the development of a futuristic work of fiction, which was published in November 2017, and is detailed on my website, CarlHMitchell.com. The novel takes place in the year 2057. The Vice President of the United States has just been assassinated, and NYPD Detective Nick Garvey has been assigned the case. Global oil and energy are scarce, held in the unrelenting grip of Jason Beck, Supreme Leader of the World Council. President Lenora Allison is committed to breaking that grip by activating a 30-year-old satellite to convert the sun's energy into electricity and beaming it down for all of Manhattan as a start. Nick Garvey is plunged into the middle of this fight. When he gets too close to answers, his 6-year-old granddaughter is kidnapped, and he and President Allison are set before a firing squad." The novel is available now in eBook and paperback from all the usual sources, and quoting Carl from his website, "What will happen next? Stay tuned for the second book in this three-part, mind-bending suspense series."

My thanks go to Dennis, John, Alex, Tony and Carl for their updates. Remember you can email me at pbkim25@gmail.com with what's happening in your life. Don't forget to include high-res photos of your family activities, trips, hobbies, etc., for inclusion in future class logs. — Phil Kimball; pbkim25@gmail.com

Alumni Weekend reunion, June 1-3, 2018

'63 *Editor's note: As The Indicator was going to press, we received the sad news that Jules Nagy passed away on April 4, 2018. We express our deep sympathy to his family and friends; a full tribute to Jules will appear in the fall issue.*

February 2018 — I got out a couple of copies of old *Indicators* and did some light reading. The 1888 issue was leather-bound, 282 pages, and had several interesting articles. One, on the growth of the Institute, stated "The remarkable rapid growth of the Institute from a mere handful of students a little over 15 years ago, to the large number which now throngs the halls..." In the 1887-1888 academic year, there were 11 professors, three instructors and 177 students with a senior class of 39.

The 1901 issue was over 440 pages long and

had some interesting news. The lacrosse team won the championship and soundly beat Lehigh twice during the year. There was also a photo of the new Carnegie Laboratory of Engineering taken on Dec. 17, 1900.

The committee is working hard planning for our 55th anniversary and it sounds like we'll have another wonderful weekend. We should all thank **Bruce Boylan, Joe Grauman, Dick Magee, Tom Moschello, Jules Nagy, Charlie "I'm with him" Perruzzi and Joe Polyniak**, and they couldn't have done it without lots of help from Claudette Williams.

"Dear Nev, If you're still looking for material for your next column, here are a few items that may help:

"1. I'm in my 46th year of teaching full-time at Stanford, most in the School of Engineering. I've been at Stanford continuously since spending a year at Bell Labs in Murray Hill in 1978-79. My two specialties are technology in society, and ethical issues in engineering.

"2. Apropos of the latter, Princeton University Press will publish my new book, 'The Ethical Engineer: Contemporary Concepts and Cases,' in February 2018.

"3. My son, Brian, is the executive producer and sometimes director of the acclaimed Netflix series 'Chef's Table.' Each episode explores how a notable chef's culinary practice and ideas were shaped by her/his cultural and personal background. The 'Chef's Table' series, now in its fourth season, has been nominated for several Emmy Awards.

"4. My partner, Birgit, and I lived part of last summer in the Umbria region of Italy, halfway between Florence and Rome. While the weather was torrid, the food, art, language, architecture, concerts and local people were splendid. We enjoyed exploring charming medieval hill towns, such as Spoleto, Assisi, Orvieto, Montefalco (superb Sagrantino red wine) and Trevi. We hope to travel to Austria this summer.

"Best wishes, Robert"

Prof. Robert McGinn Dept. of Management Science and Engineering Program in Science, Technology, and Society Stanford University, Stanford, CA 94305"

"Hi Nev, In your next *Indicator* column, please let our classmates know that I'm preparing an 'In Memoriam' poster to commemorate our deceased classmates at our 55th reunion. If anyone

wishes to receive a PDF copy of this poster, they should contact me after June 1 at josephgphd@gmail.com. Regards, Joe Grauman" — **Neville W. Sachs, nevsachseng@gmail.com**

'64 Feb. 27, 2018 — Gentlemen, In response to my call for news, I am in receipt of a dozen of our fellow classmates writing back with updated news. Many of your emails came back as undeliverable, some were work addresses and others not, and some dropped you from the contact list, as it was our only contact. If you did not receive an email, you are gone from our contact. Please send me your new emails so that we may stay in touch.

Thanks to those classmates who submitted a little post-grad history. I will post a few, with more to follow in future issues. **Fred Zierold** writes: "My experiences with Western Electric and Bell Labs have shown me that most technological advances are the effort of many people working together to achieve a goal, not the sole effort of one person. I was lucky enough to be put on a couple really good teams in my career. I am thankful that my education at Stevens was one of the reasons my supervisors thought that I was qualified to be a contributor to development teams that made significant improvements in AT&T's transmission capability.

"Was all of my work significant? Not at all. I made some mistakes that, in retrospect, were really dumb, and I often wonder why I did those things. The real geniuses are the guys who get patents for their ideas. These are the real creative people. I never got any patents, although I was able to make some advances in cable manufacturing technology. Now that I am retired, I reflect on these things, and I am amazed about the impact of the technology that I was involved in. The most recent trans-oceanic cable systems being installed between the U.S. and Europe have the capability of simultaneously streaming almost 50,000 movies. This is amazing when you think about how difficult (and expensive) it was to make a telephone call to Europe 50 years ago. It is mind boggling! I see a small picture of what was done to advance technology in one field. Multiply this many times when one considers what was done in the last 50 years in electronics, medicine, space exploration, computing, materials, food processing, construction, etc., etc. We



Rich Seeley '66 shot this extraordinary photo in Tanzania. Learn more in the '66 Log, where there's also a url to view more of his work.

were lucky to be a part of it all.

"It would be interesting to find out what our classmates did to advance the state of the art in their field. I know engineers don't like to brag, but let's face it — we were good at what we did, and Stevens helped us do it. For me, I played a small part in the development of low loss optical fibers for terrestrial and underseas cable. In the 50 years I worked in telephone cable development, the bandwidth increased from megabits to terabits ... an increase 100 million times. Even now I am overwhelmed by the impact of this technological improvement.

"I would be interested to know what the rest of our classmates have seen in their careers."

From **Mark Cardillo**: "I have not responded to, nor been included in, any 'alumni' matter previously. I think that I am now old enough to try it. So here goes: I am still 'working,' after being in Bell Labs Research for nearly 30 years, I have been executive director of the Dreyfus Foundation (in Manhattan) for the last 14 years. I hope to retire at the end of this year. My wife Lois and I recently moved to the waterfront of Jersey City, and I have started to occasionally attend Stevens events, especially the President's Distinguished Lecture Series. At Stevens, I was co-captain of the fencing team with **Tom Thomson**, who we occasionally see, and who, I believe, recently persuaded the Department of Athletics to induct me into the Stevens Athletic Hall of Fame, an ironic

honor for someone who is short, bald and overweight.

"I have two grown children (boy and girl) and two grandchildren. I used to play a lot of squash and tennis, but these activities have recently faded away.

"We have a house on a lake in the Berkshires, where we spend a substantial fraction of the summer (biking, Tanglewood, summer stock, etc.)"

From **Allan Barry**: "Great to hear from you! I no longer have my dink but I do have my slide rule (around here someplace!) A great tool, needs no batteries and is intrinsically safe! My freshman roommate was **Bob "Buffalo"**

Bison. I remember the dreadful cafeteria food and the ability to smoke in class! I remember going between classes in the Navy Building in 1963 when we learned that President Kennedy had been assassinated. I remember our senior class trip on the 'weary Erie.' I assume that most of the industrial locations that we visited are now ancient history.

"After retirement from Orange and Rockland Utilities in 2010, my wife and I have been traveling — Ireland, Alaska, Hawaii, Finland, Norway and a great river cruise in Europe. Next month we will be touring Italy. Our daughter got her master's degree in social work and moved to Chicago four years ago."

Class President **Peter Astor** received this letter from Brian Tseng, who just completed his freshman year as a finance major at Stevens and is one of the Class of 1964 Scholarship recipients. Here are some excerpts:

"Please thank the class for providing me with a scholarship for this year. During my time at Stevens, I hope to further my passion for finance and gain valuable experience in this field, gaining hands-on experience that will let me know what working in finance is all about. After graduation, my goal is to find a job I am passionate about. I also hope to start to pay off my student loans, as well as find a good place to settle in. I am involved with the Bergen Youth Orchestra as associate concertmaster. Not only has my participation in this activity helped me develop

my musical talent, but I have also developed my leadership skills within this role, as well as become more accustomed to public performances. My experience as a teaching assistant at Bergen Chinese School pushed me into the role of a teacher, which was very new to me. This forced me to experience education from the other side of the classroom, and gave me new insight into how educators work and the difficulties that they face. I make violin covers of songs, and I'm also trying to learn guitar. I like to listen to music, my favorite genres being electronic and rock. I like to play tennis and basketball, and my favorite NBA team is the Nets."

I will post more updates from our classmates in future issues, but as those New York-area classmates may remember the words of WOR's Jean Shepard: "Keep those cards and letters coming." — **Harley Graime**; hgraime@att.net

'65 Feb. 27, 2018 — Fellow classmates for '65, It has been a relatively mild winter in the Boston area. Yesterday was sunny and not too chilly, so I did some early garden preparation and today I even washed the car. That weather will most certainly not last, but it was nice. Those of you who are in Florida or some other warm climate are probably snickering right now.

I assume you are aware of the continuing progress and good news from Stevens through *The Indicator* and mailings, so I will not try to repeat information even though it is tempting. There are not enough column inches available to do justice to all the news.

I have not had any special news from classmates, so this will be short. Of course, I could tell you about our trip to Israel in February or our plans to sail around the coast of Svalbard, Norway, in June, but I will control myself.

The year 2020 should have a very good 55th Reunion for the Class of 1965. It will also be 150 years since the founding of Stevens. We could make it a double celebration, as I am sure Stevens will have planned additional special events.

Our 50th reunion was very successful, with good attendance, opportunities to meet and socialize, plus a very successful fundraising effort for the class gift. In the months leading up to Alumni Weekend, **Tullio Pitaro**, fraternity brothers and I had contacted almost all classmates by phone. We know that some could not

attend in 2015 due to health issues, conflicting travel plans, 50th wedding celebrations, actively moving from one state to another state or some other good reason. We could do it again if there is good interest.

In the winter 2018 log, I asked you to save a slot in your calendar for a potential 55th reunion over the first weekend in June 2020. I would now like to ask you to phone me or send an email so I can assess the level of interest before making early planning efforts. Your assistance is appreciated. Cheers. — **George Greene**; 781-631-1323; gwgreene43@hotmail.com

'66 February 2018 — “Hi Steve, my wife Beth and I had an amazing adventure in Tanzania. We visited and photographed in Lake Manyara National Park, Ndutu, Serengeti National Park, Ngorongoro Conservation Area and the Ngorongoro Crater. It was a wildlife photographer’s dream. Cheetahs, leopards, lions, rhinos, hippos, zebras, lilac-breasted roller bird, and grey crowned cranes were just a few of the animals that we saw and photographed. Wildlife at every turn. We did 22 game drives over 12 days, three to four hours per game drive, starting before sunrise, a break for lunch, then again at 4 p.m. until after sunset. We had our own private safari vehicle and guide. We highly recommend Roy Safaris, Arusha, Tanzania. Now I am back home and starting to process the 20,007 images that were taken. Some of my favorites are attached.

“If interested in more info, feel free to contact me: richard@seeley.com; www.richardseeley-photography.com; www.richardseeleyphotography.smugmug.com/places/tanzania; www.richardseeleyphotography.wordpress.com; or just Google Richard Seeley photography.

“Best, Rich”

“Hi Steve, I was appointed to chair the IEEE History Committee in 2018. I was recently at Stevens for a conference on the technologies of *Frankenstein* that was co-sponsored by the IEEE History Center. Great conference! The year 2018 is the 200th anniversary of the publication of the novel by Mary Shelley. By the way, Stevens is now the home of the IEEE History Center. Best, **Bob Dent**; bobdent44@verizon.net” — **Stephen W. Fields**, Steve.Fields@mac.com

'67 February 2018 — **Peter Gollobin** writes, “I celebrated my 71st birthday with friends skiing in Chamonix, France, and am sending this message just before leaving to go again on Feb. 15. I’m currently putting my medical products business, MEDpoint, for sale after 45 years of owning it and moving toward my other three businesses. I have a U.S. patent for a smoking device, I own an 11-acre farm in Napa Valley, California, and I’m part of a luxury women’s swimwear line in Geneva, Switzerland. I am surely having fun in my old age!!!”

Bob Eisenberg writes: “I am extremely busy serving as the president of our local homeowners association (HOA) in Boynton Beach, Florida, especially since we embarked on three major projects: a new landscape design for our community’s entrance and main boulevard, installation of pickle ball and bocce courts, and a major expansion and renovation of our clubhouse. Total cost for all three projects exceeds \$1 million. As president, I get to share in all the aggravation and hopefully some of the thanks for a job well done. I still manage to find some time to serve as a principal/part owner of a small engineering consulting firm, TAV Networks Inc. For more than five years, we have been providing engineering services to utilities that are installing smart meters and have also developed some innovative products.

“Fran and I continue to travel. This year, we will be visiting South America (Argentina, Uruguay, Chile) and sailing around Cape Horn. We also welcomed our ninth grandchild and just celebrated his first birthday. We enjoyed Alumni Weekend at Stevens and getting together with all



Peter Gollobin '67, riding the gondola up Mont Blanc, at Chamonix in France, in 2017.

of you and your spouses/significant others. Let’s do it again — but not wait another 50 years!”

Bob Kopki writes: “Thirty-one members of the class of ‘67 attended the 50th Reunion. Nine from Delta Tau Delta Fraternity showed up, making the Deltas 29 percent of the turnout. It turned out to be an amazing 60 percent of our Delt graduating class. I ran a private dinner for us Saturday night at Amanda’s Restaurant (in Hoboken) and it was an amazing event seeing all those guys again. Photographs from the dinner can be found in my online photo album: <https://www.flickr.com/photos/bob24/sets/72157682475589921>.

“As for myself, we moved from Virginia to Boca Raton, Florida, last year and are now full-time Florida residents. I am trying to keep up my travel schedule. Last fall, my son and I went diving in Indonesia for 11 days and lived during that period on the tall ship ‘Dewi Nusantara.’ It was a FAB trip: FAB diving and FAB living on a great ship. [At first, I thought Bob meant FAB, the laundry detergent!] I did a lot of photography, both underwater and in Jakarta.

“My wife and I are planning a month-long trip to Eastern Europe this fall. And then we’ll return to Indonesia in January 2019. I’m planning to go to Yosemite and Sequoia National Parks this spring with my son. Frankly, my plan is to be an active traveler and diver as long as my health stays OK. I have been retired 18 years and have never looked back nor have I had a thought of ever working again.” — **Jeffrey I. Seeman**, jiseeman@yahoo.com

Alumni Weekend reunion, June 1-3, 2018

'68 February 2018 — Well, we’re coming down to the wire. You should be reading this log before Alumni Weekend. Hopefully, you’ve decided to come in for the weekend festivities. There is a dinner on Friday, hosted by Dr. Farvardin, exclusively for our class. Other activities for our class will be planned as well.

I do know the following classmates have indicated they plan to attend:

Reunion Committee Members as follows:

Jay Gassaway - Co-chair

Marty Valerio - Co-chair, Andre Jackson, Stan DuBrul, Al Foytlin, Mike Hollander, Rodney Kurtz, Steve Stein, Mel Thor.



Phil Pryjma '68 sent in a photo of his granddaughter Zufan, right.

Others:

Alan Adler, Jim Barbarito, Bill Blazowski, Alan Brooks, Joe Carra, Greg Del Corso, Bill Destler, Dennis Erdman, Alfonse Esposito, Ben Forbes, Don Friedman, Bruce Friemark, Bill Glasofer, Russ Grant, Roy Johannsen, David Joshi, David Knebel, Richard Lupia, Pete Murphy, Nick Niccolini, Richard Noble, Fernando Pertuz (from Barranquilla, Columbia), Arthur Schmidt, Ted Shepard, Jon Swenson, Hank Thompson, Glen Townley, Dan Weintraub, Anthony Wereta, Irwin Wolosky.

That's a head count of 40 classmates. And there may be more who I did not know about at the time of this writing. So if you want to catch up on what your former roommate or fraternity brother or just plain classmate has been doing for the last 50 years, make plans to attend the weekend.

One thing about being on the Reunion Committee is that calling on classmates to survey their interest in attending the weekend has generated some news for this log.

John McCormack writes the following: "Certainly 50 years is a long time! The short version: engineer for five years.

"Founder of The Cheese Shop, sold after 23 years to an employee. Our former store is 44

years old this year.

"Commercial real estate broker for over 32 years (there is an overlap with TCS). I am still active with brokerage. It is too hot to retire right now.

"Recreation...walking, golf and travel. We recently spent two weeks in Ireland. Great people and fun.

"Nancy and I are still best friends. Our son is now 30 and underwrites commercial investments for UBS. He married his college sweetheart last August after holding out for ten years."

Paul Flanagan writes: "I was talking to friend and fraternity brother, Steve Stein, and told him I was planning to attend. He must be keeping that as a surprise!

"A short update on my life. I worked for the same company since graduation but they kept changing the name. It started as Inland Manufacturing division of General Motors and after a number of iterations, was eventually Delphi Chassis, which closed in 2007, when I retired. My responsibilities did change through the years as I started in the development laboratories, then project engineering, and for the last few years, was manager of both technology planning and intellectual property and had the honor to lead both of those groups at the corporate level. One of my development highlights was to lead chassis involvement in the first modern production electric car, the EV1.

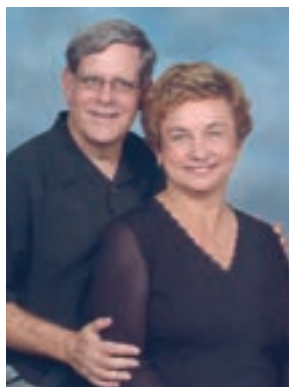
"Carolyn, my wife of about 49 years, and I love to travel and spend time with the grandchildren. We had two children, both engineers, and they married two engineers. The grandchildren have not yet gravitated to engineering but we

have hope. Carolyn and I love ocean cruises and have been on many of them. Recently, we tried river cruises and love them even more.

"You can share my email address and would love to hear from classmates and particularly fellow Alpha Sigs: paulfflanagan@gmail.com."

And lastly, I heard from Phil Pryjma. He writes: "Right now, I'm immersed in packing and coordinating our 14th trip to Kenya. We leave in two weeks (message dated Jan. 19, 2018) and will return in April. We work in a rural area in western Kenya near Rongo. It's a very poor, drought-ridden section called Angiya. The traveling group does hands-on work and education. We focus on agricultural renewal, medical care, classroom enrichment, water projects, and leadership promoting. We are a 501(c)(3) nonprofit foundation called Sawa Sawa, which means 'good good.' We have a website and a Facebook page so you can get more details. We keep our organization small so that we can maintain our one-to-one work. The greatest energy goes into education and empowerment so as to make all of our projects self-sustainable. Because I won't be back until mid-April, and then I am busy opening up my art gallery in a reconvered church in Lee Ma (called St. Francis gallery, also online), I'm not sure how useful I can be. Apologetically, I have not kept up with friendships from Stevens so not sure how much pull I have to get people to come. Keep bugging me, it works. Thanks for reaching out. Best, Phil (alias Louie)"

Hope to see many of you in Hoboken during the weekend of June 1-3! Until then, stay safe and be careful. — Allen A. Foytlin, foytlin01@gmail.com



1 Frank Neiman '68 with his wife, Arline. **2** Paul Flanagan '68, far left, is with, from left to right, his wife, Carolyn, son-in-law Quay Pham, granddaughter Jordan, 10, daughter Erica, granddaughter Kaylee, 14, daughter-in-law Genevieve, grandson Benjamin, 3, son Michael and grandson William, 1½.

Don't see your class log listed? Send an update to alumni-log@stevens.edu or call 201-216-5161.

'69 February 2018 — Guest log by Ed Eichhorn (with commentary by Gerry Crispin): Dear Class of '69,

As we move through February 2018 on the calendar, I can't help beginning to think about spring break (last chance to get your grades up). The weather is beginning to warm up a bit here in New Jersey (not really).

Spring is about a month away, give or take a few days, and the sun is shining a few minutes longer each day. When we were in school, at this time of year I began to daydream about the need to plan and, more importantly, pay for a brief get-away with my friends and classmates to Daytona (by selling our books).

Some classmates were just focused on getting home for a week to visit family and friends. Some took the opportunity to work fulltime for that week to help to defray school expenses and some took the time to catch up on homework and classwork, all good things...but I was figuring out how to get to Florida, to enjoy the sun if I was awake during the daylight hours and the nightlife. The place had become a sort of Mecca for college students and it was an extracurricular planning session that was worth my while and,

perhaps, yours as well.

I hope that this year you are planning or having your own winter or spring break with your family and friends.

I also want to take this opportunity to remind you that we have our 50th reunion at Stevens at the beginning of June next year and ask you to join our committee to help plan this event so that it can be what you would like it to be, as you did when we had spring break back in college (maybe not that much fun but hey, we're older now).

The reunion can be a great time in Hoboken with side trips to New York City, family, etc. if you are so inclined. Whatever we all decide to do together, it will take some advanced planning to make the reunion a success for each of us and to that end we are planning a conference call for mid-March and we will provide more details on that as the date approaches.

The Alumni Association has asked us to prepare a slate of officers for our class. The officer position can be co-positions (if you would like a volunteer role and there is a classmate that you would like to share the position with). They have asked us to nominate a class president, vice president, and fund captain. So please send us

a few suggestions for these positions that I can forward to the SAA.

Ed Eichhorn and (Gerry Crispin)

We do not have email addresses for the following classmates: Allen Barber, William Barretti, Bruce Bartlett, Rudolph Blahut, William Bogosian, Jerome Bucci, Thomas Budny, John Bunnell, Robert Carstensen, Haig Casparian, Alfred Crichton, Robert Cumming, Frank De Rosa, David Engelhardt, Peter Esslinger, Barry Frankel, Lawrence Fretts, Robert Frohreich, Joseph Gangi, Stephen Glickman, Gregory Gottlieb, Michael Green, Jeffrey Greenman, Henry Heidt, Ronald Hille, Lee Holljes, John Hutnick, Victor Jaks, Richard Johnson, Howard Katz, Stanley Kay, Hanns Kircheis, Robert Lewis, Douglas Mac Dougall, James Marshall, John Mattaliano, Craig Maze, Barry Mitchell, Ronald Neff, Thomas Och-ab, Leonard Oleniczak, Laurence Ostaszewski, Edward Radziewicz, Saul Rapkin, John Ritger, Robert Russell, Peter Sabol, Richard Sander, Bruce Schachter, Carl Sheidegg, John Scillieri, William Spakowski, Christopher Szymczak, Reinhold Tanke, Scott Thompson, Paul Torre, Eric Tullberg, James Tyson, Dirck Uptgrove, Roger Weigelt, William Wielgus, Thomas Yarrington,

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— Frank Semcer '65, Member, Stevens Board of Trustees



To help ensure a bright future for the university, Frank Semcer '65 and his wife, Mary Jane, have included Stevens in their estate plan. Through planned giving, the Semcers have ensured that they can provide for both their families and the charitable organizations that have helped shape their lives and successes.

For answers to your estate planning questions or information about joining the Stevens Legacy Society

► visit stevens.giftplans.org/join

Michael Governor

Director of Planned Giving

201-216-8967

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STEVENS INSTITUTE of TECHNOLOGY

Jeffrey Yohay, Robert Zahl, Edward Zeller and Ted Zuentd.

Please contact us to stay in the loop. — [Ed Eichhorn, ed.eichhorn@medilinkgroup.com](mailto:EdEichhorn@medilinkgroup.com); [Gerry Crispin, gcrispin@careerroads.com](mailto:GerryCrispin@careerroads.com)

'70 *Editor's note: As The Indicator was going to press, we received the sad news that Annie Viviani, who is featured in this log, died tragically in a car accident. We express our deep sympathy to her husband, Donn Viviani, and their family and friends.*

February 2018 — In the last log, we included information from **Donn** and **Annie Viviani**. Donn also sent in a photo, which inadvertently was not published. This photo from the World Aquathlon Championship in Penticton, British Columbia, Canada, is included with this log. They are world-class athletes, and world and national champions in several multi-sport competitions.

Roger Kellman contacted us: "I am still working for a small civil engineering firm in Connecticut, but I have been slowly cutting my hours down. I am still learning, and the work is usually interesting. I have plenty of other stuff to do. I have gotten very involved in the local American Legion post. I am a finance officer and do all of the licensing, permitting and reporting, plus most of the communications. It's a nice group of veterans, and we do some good work for other area veterans. We have a bar that reminds me of the basement bar at Chi Phi. I'm also very involved in the Star Island Corporation, a nonprofit that runs a retreat center on a small island off the coast of Portsmouth, New Hampshire. I'd be interested to hear from any other alumni who have been to the island. I continue to sketch and paint.

"Maureen retired three years ago, but is now fulltime caregiver for her mother who moved in with us a year ago. My health is still pretty good, although I had to give up playing volleyball because of my back and hips. We get to California twice a year to see our older son, his wife and the two grandkids. Our other son and wife live in D.C. and both work for National Public Radio, he on the blog 'Skunk Bear.'

"I get back to Tech a couple times a year. In October, I met with **Warren Fisher**, **John Ferrer** and **Bob Young '73**. We hung out at Chi Phi, toured around the campus, walked around Hoboken, the waterfront and Washington Street, visited the Hoboken Historical Museum (a great

little place), had dinner at Arthur's and drinks at the 8th Street Tavern. A wonderful day with good friends. I try to stay in touch with other Chi Phis, including **Jerry Meehan**, who is dealing with Parkinson's but is still upbeat."

Roger sent me some of his sketches, but I lost them! If you resend them to me Roger, I will put them in the next log. Roger can be reached at namllek@aol.com.

Bernie Chachula contacted me a while ago. Bernie wrote: "2017 was definitely a mixed bag for me, as I spent most of my energies dealing with a diagnosis of multiple myeloma, which included a two-week hospitalization at The Ohio State Wexner Medical Center for a stem cell transplant. So, I'm glad to be alive and pleased beyond telling to report the birth our first grandchild, Ava Sophia, who was born to our daughter who lives with her husband in San Jose, California — he working as a software engineer in Sunnyvale and our daughter as a program manager primarily in support of the U.S. Coast Guard. We have two other children, both captains on active duty in the Army — one a Special Forces detachment commander, deploying regularly to all sorts of locations around the world, and the other is a flight surgeon supporting U.S. forces in Honduras.

"Diane and I are about to celebrate our 42nd wedding anniversary this week, and that's another cause for celebration. In assessing my priorities, I went into inactive status as a lawyer starting this year and hope to restart RV-ing to



Donn Viviani '70 and his wife, Annie, after competing in the World Aquathlon Championship in Penticton, British Columbia, Canada.

the extent I can keep the cancer somewhat in check. I'm not in remission, but serious illness tends to make vivid what matters. Friends and family definitely matter! I keep in touch with **Jerod Babb**, for example, and I enjoy hearing about his family and activities." Bernie can be reached at chachula@gmail.com.

Jean Kleinhans, wife of **Paul** who left us in 2003, enjoyed the article in the last *Indicator* on the late Paul Miller, who was a former Stevens artist-in-residence and her cousin. She has a new email address, jeanwk4@gmail.com, and still likes to hear from classmates who knew her and Paul, so don't be shy. — **Eugene A. J. Golebiowski**; eagolebiowski@att.net

'71 February 2018 — **Jim Eckel** retired in April 2017, after 32 years, ten months, and 17 days with Northrup Grumman. He recalls his first post-Stevens assignment in March 1972 as an Air Force 2nd Lieutenant at the Laredo Air Force Base Missile Tracking Annex. About one month after his retirement, Jim was notified that he was a 2017 recipient of the Albert Nelson Marquis Lifetime Achievement Award ("Who's Who" lifetime award for achieving greatness in their industry). Their retirement adventures began with a trip to Texas to visit Jim's best man and lifetime friend from the Air Force.

Jim joined Barbara as a volunteer with the Hooved Animal Humane Society. They represented HAHS at the Midwest Horse Fair, the McHenry and Boone County Fairs, and the Wisconsin State Fair. They relaxed with trips to Harrah's resorts in Joliet, Illinois, and Laughlin, Nevada. In Joliet, they caught Sir Paul McCartney in concert. Even at age 71, he gave a great three-hour show of Beatles and Wings music, and his current songs. To celebrate their 25th anniversary, they took the Norwegian seven-day cruise of the Hawaiian Islands. Starting in Oahu, they sailed to Maui, Hawaii, Kauai and back to Oahu. The highlights of the trip were Pearl Harbor and walking on lava beds on the big island of Hawaii. Jim's recommendation: Retire at your first opportunity!

Ralph Ferrara is enjoying retirement in Scottsdale, Arizona, especially winters spent harassing cold northerners from his sunny, warm desert dwelling, complete with a daily 4 p.m. wine date with his wife Carol. After graduating SIT with

a B.S. in physics, he went on to get an M.S. in computer science at SIT in 1975. He then worked as an electrical engineer for 43 years with RCA labs, ADT R&D in One World Trade Center (91st floor), Motorola, Freescale and many others. He went on to form his own company, Security Microsystems, for 13 years, making security software and hardware products called "LOCKIT" for the IBM PC. He finally decided to retire and is now enjoying life doing what he had wanted to do since he was 8 years old — play guitar. He is an active member of the Arizona musicians union and plays regularly in several different bands including the Main Event nine-piece group (www.maineventaz.com). He went to Burbank, California, where he recorded the music for a new movie called "Crazy Rich Asians." If you listen to the guitar parts while the credits are rolling, that will be Ralph. He also got back into his ham radio hobby, updating his general license to an extra class license (WB2CIU/7). Ralph has now been married to Carol for 45 years and has four married children and eight beautiful grandchildren, all living in the Phoenix area. He met Carol at a Sigma Nu Friday night party in January 1968. Ralph claims that life has been very good to him and he owes a great debt to SIT, Sigma Nu and his excellent education.

The wandering **Gaffneys** continued their sojourns on DaBus (now five years old). Leaving in January, they arrived three weeks later in San Diego, with stops along the way in Little Rock, Waco (Magnolia Market), San Antonio (Alamo and River Walk), Balmorhea (Fort Davis and MacDonald Observatory), Phoenix and Yuma. After a month's return home to play grandparents in Cary, North Carolina, it was off again with two grandchildren for spring break at Bryce and Grand Canyon. After exchanging the grandkids for Paul's brother, it was off to Glen and Antelope canyons, Monument Valley, Natural Bridges, Bears Ears, Arches and Canyonlands before driving home. After a short stay at home, boredom set in, so they grabbed Paul's sister and her husband for a trip up to Niagara Falls. Alone again, they meandered home through Canada to Michigan, Mackinaw Island and Sault Sainte Marie. Paul still does some occasional consulting while Ginny manages the house during their brief stop-overs at home.

Pat and I finally did our long-planned Stengle family vacation to Disney World in November. My

son and oldest daughter came with their children, and we had a great time visiting the Magic Kingdom, Epcot, Hollywood Studios, and Animal Kingdom, while finding some time to relax at our Orange Lake Resort just outside of Disney. We kept up with the four grandkids pretty well, but did take a grandparents' dispensation, leaving the parks by about 3 p.m. each day for an afternoon siesta.

Any other Ralphs out there with exciting news? Now that **Ralph Cohen** and Ralph Ferrara have punched in with interesting news for my last two *Indicators* (after not hearing from them for decades), I figure it must be something with the name. But, I'm not picky — all names and news are welcome! — **William F. Stengle**; wfs20hlm@aol.com

'72

(Written collaboratively by Enrique and George)

March 2018 — Fellow Class-

mates: Yep, by the time you read this log, Alumni Weekend 2018 will be just here. Nothing like the excitement of our 45th reunion, but it still will be good to see some of you who don't frequent the SAA meetings. You know, you don't have to wait another year to stop by Stevens or have a meal with a classmate. If you are ever in town or want to meet at a half-way point somewhere for dinner or lunch, don't hesitate to call or write. Case in point, **Mike Stegura** (Alpha Sigma Phi, msteg@aol.com), George and I, with our lovely spousal units, recently got together to have dinner in a turn-of-the-century (1927) Blue Comet observation railroad car, named Biela. How cool is that?! Unfortunately, we missed seeing **John** and **Barbara McDonnell** (j.b.mcdonnell@worldnet.att.net) because John was under the weather. Don't forget, if there is food involved, I'm there!

Now, about cruising (there's food involved), Mary and I went on a cruise this past January on the *Anthem of the Seas* to celebrate our 45th wedding anniversary. There were 31 family and friends on board. We had a great time. Please let us know if you are interested in our getting a bunch of classmates together and cruising somewhere. It's the best way to enjoy time together and see the world.

On a sad note, our classmate **Al Rhodes** has passed. Please see the "Final Thought" section at the end of this *Indicator*, on page 72, for a touching article written by classmate **Mark Schneider M.S. '75** (MailForMarkS@yahoo.com), on Al's

life. May he rest in peace. I leave you now in the capable hands of our secretary George.

Thanks Enrique! In a prior log, you may recall our mentioning that the long-lasting bachelorhood of **Richard Bradshaw** (Alpha Sigma Pi, richardw337@gmail.com) had been scudded. While many of us were celebrating Alumni Weekend last year, Richard and now-spouse Janet Hinkle "tied the [nautical] knot." You see, Rich and Janet are avid sailors, which became the impetus of a wondrous seafaring adventure right out of a South Seas romantic novel, as Rich explains below.

"In the spring of 2015 I met a wonderful woman through our shared interest in sailing. We are both members of the Stonington Harbor Yacht Club, and we enjoy sailing on the waters of Long Island Sound. Janet has a daughter, Lilly, a graduate of Connecticut College, majoring in economics and mathematics. The three of us have grown very close.

"Janet enjoys skiing, and we went skiing together at Killington, Vermont, many times. I had not skied since the 1980s, and it was frightening to be back on skis for the first time in 30 years but just like riding a bicycle, you never forget. We stayed on only the beginner and intermediate skill trails.

"The summer of '16 brought us back to the sea. Janet and I participated in sailing races in Stonington Harbor and day cruising around Fishers Island, New York. We also sailed as crew members on friends' boats for weekends to Jamestown and Newport, Rhode Island. As our sailing confidence grew, we decided to leave on an adventure. Janet, Lilly and I charted a course to sail my boat, named Dauntless, on a four-day trip 14 miles offshore to Block Island, Rhode Island. Part of the adventure is that for a while we were out of sight of land and had to depend on our navigating skills. As luck would have it, a storm blew in the first night we were at anchor in the Great Salt Pond Harbor on Block. I spent most of the night with my head outside the cabin hatch in the rain and high winds making sure that the anchor was holding. The rest of the trip was great fun enjoying the beach, the sun and great seafood.

"All of these adventures brought Janet and me to a loving relationship, and in August 2016, I proposed that we get married. Naturally, we planned our wedding reception to be held at

Stonington Harbor Yacht Club, which is on the waterfront a few blocks away from the church.”

Rich and Janet, Heartiest Congratulations! Please let us know when the first little navigator arrives “on board.” (Just kidding!)

All, we need your help with the class log! Please email us what you have been doing lately. Still working full time? Retired? Working part time? Changed jobs or professions? Teaching engineering or science? Or just relaxing and watching TV reruns of “Mr. Wizard”? We need your help in sending information and photos so that Enrique and I do not have to resort to filling the log with how smart and wonderful our grandkids are! Thanks! — **George W. Johnston**, gwjohnstonjr@msn.com; **Enrique Blanco**, elb-mcb@optonline.net

'74 February 2018 — “Better Late Than Never”...Henry Winkler, William Shatner, George Foreman and Terry Bradshaw pursue life experiences that they missed due to busy and successful careers and lives (this show is now on HULU if you have missed it on NBC). They visit places they have longed to see and had not been able to, and reconnect with the people and family with whom they had lost touch...until now. With comedic flair and poignant moments, they pursue them.

They lightheartedly remind each other not to miss out on what may be a final opportunity to connect to these places, experiences and people from their past. Most of us are probably in the same mindset. We have, or have had, fulfilling careers with support from family and friends, but have been ready to fulfill one of our long-postponed desires in seeing all the changes and improvements to our alma mater and reconnecting with classmates.

2019 will be our 45th year since leaving Stevens as the Class of '74, and we have a lot of catching up to do! Especially with the people with whom we have lost touch during those years... better late than never. Please keep May 31-June 2, 2019, open for this once-in-a-lifetime event, and look and listen for updates and additional information by mail/email or on your phone later this year.

There are additional ways to meet up with class members, such as the “State of Stevens” lecture series held by the Stevens leadership team at several locations across the country.

I attended one last year in the Lehigh Valley, Pennsylvania, area. A great surprise was meeting up with **Greg Gemgnani** and his wonderful wife, Claudia, after way too many years. Stevens President Nariman Farvardin discussed the physical improvements already completed and those being planned through the capital campaign, as well as all the significant improvements in the programs and metrics used to measure the success of our school. We enjoyed hors d'oeuvres while he answered questions, and we toured the recently completed National Museum of Industrial History in Bethlehem, Pennsylvania, on the site of the old Bethlehem Steel Works. This was my first experience (it was a terrific one) meeting and talking with President Farvardin as he discussed the impressive improvements to our school his leadership team has made. Also memorable was seeing the awesome museum, which is an extension of the Smithsonian Institution. What a great evening!

In April, we elected a new class leadership team that will be working to provide the information you want about our class and class members. Just let us know! — **Gary A. Jung**; jungpackaging@msn.com

'75 Feb. 28, 2018 — From **Joe Krieger** (joe.krieger.75@gmail.com):

You should recall that our class established “the Class of 1975 Endowed Scholarship Fund” as part of our 40th anniversary gift in 2015. The following extract summarizes Stevens’ financial report for fiscal year (FY) 2017 covering the period from 7/01/2016 through 6/30/2017 for the associated endowed account.

Cumulative Gift Total on 6/30/2016: \$32,530;
Balance as of 7/1/2016:\$32,187;
FY2017 New Gifts Received:.....\$8,425;
FY2017 Return on Investment:.....\$3,474;
FY2017 Funds Distributed:.....\$0; and
Balance as of 6/30/2017:.....\$44,086.

This fund becomes “fully endowed” when our class achieves a total gift of \$75,000, and with a 6/30/2017 cumulative gift amount of \$40,955, another \$34,045 is required to achieve full endowment, to start distributions from this account for scholarships. The \$8,425 “gifts received in FY2017” suggests we’re on a pace to complete endowment in about four years. If we, as a class,

can accelerate our total gift giving to about \$11,500 per year, then endowment can be completed by our 40-year anniversary in May 2020. It would be great to announce future endowed scholarship winners in this class log!

In addition to the endowed account, our class’ fund includes a separate “term account” to which several classmates have contributed for some years now. For FY2017, the financial report summary for the term account follows.

Balance as of 7/01/2016:..... \$1,375;
FY2017 New Gifts Received: \$0;
FY2017 Other Income Received:..... \$0;
FY2017 Funds Distributed:.....(\$1,000); and
Balance as of 6/30/2017:..... \$375.

As you can see, the endowed scholarship fund has the advantage of preserving gift money; disbursements are only taken from the return on investment of an endowed account.

During the 2016-17 academic year, the FY2017 term account distribution was awarded as a \$1,000 scholarship to Michael Armstrong of the Class of 2019, a mechanical engineering major from Cranford, New Jersey. The Alumni Office sent Michael’s profile brief to me: On the dean’s list during each semester, Michael participates in the “4 + 1 Master’s Program” to earn his bachelor’s and master’s degrees in five years, and is interested in working in the biomedical field developing prosthetics and 3D-printed organs. This Class of 1975 scholarship is one of several scholarships awarded to Michael, and he is grateful for the opportunity to manage his time to include giving back by tutoring other students, and looks forward to supporting young students in the future.

When we were Stevens undergraduates, we depended on the generous gifts from the older alumni to continue our studies. How awesome would it be if 100 percent of our class would contribute a gift to our alma mater during FY2018, ending on June 30, 2018! The amount of your gift is solely your decision. When designating the destination for your gift, please consider the “Class of 1975 Endowed Scholarship Fund.” Thanks, Class of 1975! — **Joe Krieger**; joe.krieger.75@gmail.com; **Harold J. MacArthur, Jr.**; harrymac@comcast.net



Sigma Nu brothers, circa 1974, are looking sharp in this photo shared by Steve Harmelin '77. Find out who's who in the '77 log.

'77 February 2018 — Hello, one more time! It's ironic that as you are reading this, you are either making plans for summer or maybe have started an early vacation or you may be planning to be at this year's Stevens Tech Alumni Weekend on June 1-3. It's hard to believe it's already a year since our 40th anniversary! However, while I'm writing this, many of our classmates north of Washington, D.C., are digging out of some major snow. On one monitor, I see pictures on Facebook of **Scott Orshan**, dealing with quite a bit of snow where he is. Actually, last weekend we had some major wind storms come through here in Falls Church, Virginia, where we managed to miss being hit by parts of a few trees, but still managed to lose power for a few days. So, all in all, right now, up and down the East Coast, it's been a weather merry-go-round.

I haven't been able to keep up with many classmates recently but **Eric Olsen** passed on some news he got from **Jim Pasternack** not too long ago. Jim mentioned, "Got to do kite-boarding and scuba diving in Turks and Caicos, lots of day trips with the boat to Watch Hill. Bantam Lake was low, and it was hard to get the boat out of the water. Candlewood Lake was great last week. We got to spend a good amount of time with the kids and granddaughter too; she is so much fun. Ophthalmology has been a good profession. I like the surgery and have gotten the chance to operate overseas many times. Work is busy, but I still make time to play — sailing or skiing with the kids, or scuba diving."

Also, on a relatively regular basis, we get photo and video updates on Facebook from **Paul Antieri** about his musical exploits as a drummer with his band, Emerald City, out in California.

Speaking of Mr. Antieri, he is in a photo that will be included with this article; **Steve Harmelin** sent it along. After a little bit of Photoshop work, I believe it's presentable for publishing. It's a circa-1974 photo of some of our classmates from Sigma Nu fraternity. I think they are, in vertical columns, from left to right, starting from the back:

1st column: **Harry Herrmann, Tony Kosinski, Bob Confessore**

2nd column: **Richard Kinsle, Pier DeJong, Pat Clune, Paul Antieri**

3rd column: **Calvin Kinsel, Eric Four, Steve Harmelin**

4th column: **Gorden Schaubhut, Joseph Parzel, Marty Lassen, David Peters**

Pictures like this are always welcome on our "Stevens Institute of Technology: Class of '77" Facebook page or to our website, <http://www.stevensclassof1977.com/>. And please do feel free to just drop us a line either on the Facebook page or to the email addresses at the end of this log.

Well, there it is! So do please try to stay in touch and have a wonderful summer!

"Time flies like an arrow. Fruit flies like a banana." - Groucho Marx.

Sincerely, **Paul Porzio**, Facebook: Eclectic Hours Radio Show — Paul.Porzio@eclectichours.com; Classof1977@alumni.stevens.edu

Alumni Weekend reunion, June 1-3, 2018

'78 A couple of things to report this issue. First, some sad news — **Art Harper** passed away last September. Art was very active while at Stevens and went on to a very successful career with GE and later as the founder and managing partner of

GenNx360 Capital Partners, a private equity firm based in New York City. Art left behind his wife, Linda, and a legacy as a generous, caring man. For more details on Art and his career, go to gennx360.com. (Editor's note: A full obituary for Mr. Harper ran in the Winter '18 Stevens Indicator.)

I received the following from **Mike Chodnicki**: "Hello from South Carolina, where I have lived since graduating 40 years ago! I had been working for the same company, owning the paper mill in Charleston for 38 years, until new management started cleaning house. Now I am self-employed, doing home inspections and loving it. On the family side, my wife and I not only have three grandchildren, but we also have one great-grandchild (wow, we are getting old). I have not kept up with many of our fellow alumni, except for a few Christmas cards each year. Hoping to make it to the Alumni Weekend in June and catch up with those I have lost touch with."

Don't forget Alumni Weekend, June 1-3, 2018, (stevens.edu/alumniweekend) at Stevens and our 40th anniversary! It's a great opportunity to catch up with friends you may not have seen for many years. If you've lost touch, the Alumni Office may be able to send you contact info so you can reach out and make plans. — **John T. Jarboe**; jjjarboe1@comcast.net

'80 February 2018 — I am so sorry to share with you the loss of another one of our classmates, **Kevin Healy**. The following is his obituary, as printed in *The Record of Hackensack*, New Jersey.

Kevin J. Healy, 59, of Hillsdale, New Jersey, passed away of natural causes on Jan. 17, 2018. Raised in Ridgewood, New Jersey, son of the late Bernard P. and Mary Patricia Healy, he is predeceased by his sister, Megan Healy and his brother, Bernard P. Healy, Jr. He is survived by his son Erich Healy of Santa Clara, California, and siblings Joanne Witney, Mary Pat Stagen and Douglas Healy. Kevin was a loving family man and a fun uncle to many nieces and nephews. Kevin is a graduate of Our Lady of Mt. Carmel School, Bergen Catholic High School and Stevens Institute of Technology, where he earned his B.S. in electrical engineering. Kevin was passionate about his beliefs in which he proudly served as an usher at St. Lawrence RC Church in North Highlands, California, and was a longtime member of the Knights of Columbus. Kevin was employed by



Proud mom Katie O'Malley Coumans attends Stevens' Scholarship Luncheon with her sons Jake '18, left, and Sam '20.

Mercedes-Benz USA, Montvale, New Jersey.

The following remembrance of Kevin was submitted by **Albert Ostanek**, with the help of other members of the Palmer Reading Circle (PRC):

"On Jan. 17, 2018, Kevin Healy, a lifetime Palmer Reading Circle member and 'flounder,' passed away from natural causes. Kevin was known to his friends as Skag, short for his WCPR radio name Dr. Skagmeyer G. Cornflake. He was always ready to take apart the toaster, his employer, any church or government, or anyone's perspective of the universe, or anything else for that matter, and put it back together 'correctly.' He loved chess and was inquisitive, irreverent and energetic. He was a good friend and will be missed by all.

"After graduation, Kevin, **Jeff Griffith**, **Lou Biondo '79** and I joined **Pat Hickey**, **Scott Fader**, and **Steve Lomaro** (all Class of 1979) at Henckels, Haas, and Brown in Mahwah, New Jersey. While at HHB, Kevin met his ex-wife Karin. After leaving HHB, Kevin and Karin moved to Long Island where he worked for SMC. Kevin, Karin, and their newborn Erich then moved from Long Island to Sacramento, California, where he came to work with me at FRS, Inc. We had a lot of fun in California, from skiing in the Sierras, to pool parties at my house with **Larry Sikorski '79** and **Scott Fader**, and with the occasional visit from other PRC members like Pat Hickey, **Matt Kuzel '79** and **Vinnie D'Agostino '82**.

"While at FRS, Kevin and I, along with another co-worker from FRS, formed a consulting company, Growth Solutions Technology, Inc. We had fun while working at GST too, from providing

consulting services for the control system of a robotic chicken feather plucker at Adept Technology to high-end routing equipment for a company that was eventually purchased by Cisco. After we decided to end GST, Kevin and I worked together at ExpressPoint Technology Solutions, a major subcontractor to HP. Kevin then left ExpressPoint and went to work for Apple Computer before returning to New

Jersey in 2015 to work for Mercedes-Benz.

"Every year since 1979, we would get together in May with most of our friends from Tech for a weekend of catching up with each other's lives, playing euchre, tossing Frisbees, lots of beer, wine and scotch, and toasts to absent friends.

"Skag, bauer up!"

Thank you for your submission and help with this, Albert. On behalf of our class, I would like to extend our deepest condolences to Kevin's family and friends. — **Kathy M. Burkholder McCarthy**; kathybmccarthy@hotmail.com

'81 February 2018 — This time around we would like to share with you some information regarding our Class of 1981 Scholarship recipient, **MariaCristina Todaro**, an engineering student who expects to graduate in 2020 or 2021. What really impressed me in her two-page write-up, which I received just recently, was her involvement in the community to raise funds and awareness for some worthy causes. Her participation in the dance club (TECHniques) and sorority (Delta Phi Epsilon) has given her an avenue to support St. Jude's Hospital, Relay for Life, and other nonprofit organizations. Her willingness to actively participate in these volunteer activities is commendable and, as many of us have found, we find these passions outside work and study. They are meaningful to us because we get much more out of it than what we put in. We look forward to hearing of MariaCristina's journey to graduation and beyond, joining our alumni community and making a difference both as an engineer and a leader in her community.

Here's a challenge if you are reading this column, even if you're not a member of our class — pick up your mechanical pencil (we know you still use them, right?) and jot down one or two activities which you've found to be fulfilling. It could be coaching your kids' sports team (or possibly your grandkids!), participating in the arts, volunteering at a local shelter, serving on a board of directors or a town council, getting a local rally together or attending one, spending time as a Big Brother/Sister/Family, hosting a foreign student, helping someone learn to read, teaching a first-aid class, or being a mentor. There are literally thousands of ways to volunteer; let's share them with our classmates — who knows? You may spark an idea in others to join your team. Now, dictate those few lines into a message on your smart phone, and send them to my ancient email address howell77hs@aol.com. We would certainly enjoy hearing from you regarding this topic, or any other events going on in your lives which you would like to share.

And just to make it fun, I'm sending this challenge personally to a few of you by name — yup, we're calling you out! How about we list, alphabetically by last name, a sampling of the As through Ms? So, sharpen your pencils, **Hal Armstrong**, **Ken Bird**, **Lee Chen**, **Nivaldo Diaz**, **Jose Enciso**, **Scott Fillion**, **Elias Gedeon**, **Titus Harney**, **Ted Ivers**, **Brian Jongsma**, **Adolfo Kaufman**, **Alexander Levi** and **David Martin**. Please feel free to expand the list beyond this (next time we'll call out the Ns through Zs), and encourage those with whom you've been in touch to do likewise. Fill up my inbox with notes, gang! — **David L. Ritter**; howell77hs@aol.com

Alumni Weekend reunion, June 1-3, 2018

'83 Hi, classmates! It's **Linda Smith (Burgermeister)**, one of the new co-secretaries of the Class of '83. It's hard to believe that it is almost 35 years since we graduated Stevens and our reunion is just around the corner. **Tim Moran** and I are looking forward to posting updates and greetings from our classmates.

Over the past 30+ years, I've been working in the software industry in a variety of functions including development, testing and quality assurance in the lovely state of New Jersey. My husband, Jim, and I just celebrated our 25th

wedding anniversary by taking mini vacations to Mohonk Mountain House in New York and Charleston, South Carolina. It's nice to be almost empty-nesters. I am the proud mom of Phoebe, who is a student at Marist College, and Peter '17, who graduated last year with both a B.E. and M.Eng. from Stevens.

Many things have changed since graduation: I am a bit wiser and I love spending quiet mornings tending to my garden. But some things are still the same: My hair is still multi-colored (although now it's mostly dark brown and gray), I still tend to wear black, enjoy live music and love getting lost in books. Hope to see you at Alumni Weekend 2018.

Please send updates/greetings to Tim or me and don't forget to join the Stevens Institute of Technology-Class of 1983 Facebook page.

From Tim:

Hi, this is Tim Moran, your new co-secretary. Just wanted to re-introduce myself and let you know there have been a few changes at the Alumni Office with regards to the Class of 1983. To help recharge class participation, a new slate of officers has been elected to serve our class. One of the things we wanted to do was to hear more from the class. I've seen issue after issue of *The Indicator* come out over the years with hardly any mention of the Class of 1983. After four years at Stevens, we were all given degrees that allowed us to rise, go forth and conquer. So, what have you been conquering? Even if it wasn't creating the latest gizmo that's taking the world by storm, you no doubt have attained victories great and small. Let us know what they are.

As for myself, I am now in my 35th year in the commercial nuclear power industry. For a long time (about 23 years), I was stationed in and

around the Indian Point nuclear power plant just north of New York City. Then, about ten years ago, I decided that it was time for a change and I've been on the road as a contractor. I was in Tennessee for four years and then in Maryland for another two before I finally got a chance to return to New York. I'm still traveling, but it's all in the Empire State. My wife and daughter are still in the Hudson Valley, keeping the home fires burning. Aurora and I just celebrated our 25th wedding anniversary by taking a cruise in the Hawaiian Islands. Emma, our daughter, is in high school now and is already reminding Dad that she is only a year away from getting her learner's permit. And no, it won't be Mom that goes out with her when she is practicing her parallel parking... — [Linda Smith, LindaGildaSmith@gmail.com](mailto:LindaSmith, LindaGildaSmith@gmail.com); Tim Moran, matp2m@aol.com

'86 February 15, 2018 — Happy Spring '86ers! Thank you for sharing all of your updates.

Now, some good news from our classmates.

Dawn Doherty (Pelowitz) has dedicated the rest of her career to helping corporate professionals build their newly launched private practices. She's coached thousands of want-to-be consultants with how to be booked through referrals-based networking and online marketing.

Gene Nenortas is still in Baltimore (28 years). His son just graduated from the University of Maryland and is now applying to graduate school. His daughter is a student at the University of Louisville.

Lauren Laplante Rottman is enjoying living in New England (Massachusetts) and a flexible lifestyle doing independent consulting in business operations and energy management. This allows her to train in the gym and compete in body building. Anyone coming through northeast



Mary Anne Cannon '86, left, and Leslie Brunell '86 M.Eng. '90 Ph.D. '96 reunited last spring at a Women's Leadership Panel.

Massachusetts is welcome to contact her at LaurenSept20@gmail.com.

Joan Wendland (Lerner) reports that she published a sci-fi book this past Thanksgiving called *Backstage: A Novel of Secret Agendas, Slow Burn Romance, and Imaginary Cats*. It's available for download from Amazon. Her next novel will be a Steampunk manners play. She still works as an engineer for a small consulting firm called Inductive Minds. Joan lives in Northern Virginia... she is a Beltway Bandit.

Mike Zari shares: "Hey there fellow classmates of 1986! Thought I would drop a quick note to say hi and let you know that I am really looking forward to seeing everyone again at an upcoming reunion (or sooner if anyone is down in Alabama!). First of all, I hope all is well health wise and otherwise. I am still consulting and spend an equal amount of time with family and friends. Mary-Lee and the girls are all fine and also had a great time meeting everyone at the 30th reunion in Hoboken in 2016.

"As I am a firm believer of the 'work hard and play hard' philosophy, in 2017 I went on two separate backpacking trips with friends. The first one, in the spring, was to Escalante State Park (Escalante, Utah) where 11 of us went on a seven-day trek across the desert, crossed the Escalante and ended up at the Egypt trail head. Had a great time. In the fall, I joined another



Good friends from the Class of '86 returned to Benny Tudino's in December 2016. From left: Laura Mitchell Kaletski, Judi Biesiada Jakubowski, Lynn Parsons, Jeanne O'Connor Massaro, Denise Kalinski Uminski and Jeannie Duggan Burgermeister.

group of friends on the North Bass Trail for seven days of backpacking off of the North Rim of the Grand Canyon.

"I look forward to seeing everyone either up in Jersey or down here in the South. Y'all take care!"

Ken Sparano reports he still works with Sealed Air and lives part time in Charlotte, NC—the company's new headquarters.

Finally, from **Leslie Brunell M.Eng. '90 Ph.D. '96:**

"**Mary Anne Cannon** came to Stevens last spring for a Women's Leadership Panel. This incredibly successful woman works for Pratt & Whitney and truly paved the way for other women. '86ers may remember we were roommates during the '83-'84 academic year. She flew onto big planes and I stayed grounded." — **Debi Motler, Dmot419@gmail.com**

'87 *Guest log from Grace Dalessandro: February 2018* — Hello, my fellow '87 alums. I have wondered and wished that everyone is doing well since we've tossed our graduation caps in the air, and finally decided to reach out and try to connect with old friends and acquaintances. Anyone interested in doing the same, check in on Facebook, under Stevens Institute of Technology '87 (<https://www.facebook.com/87SIT/>). It's been great to see many classmates check in and hearing from them.

Anil Bharucha wrote that he is married and has one daughter who is a sophomore in college. After working at a couple of companies for a few years, he decided to go back to Stevens and earned a master's in telecom management while working full time. He's been working at AT&T Bell Labs for the last 23 years in many different technical positions and is currently working in the mobile technology area. He is also an adjunct professor at Kean University in the IT/computer science department. It's a wonder that he's done so much in the "short" time since we left school.

On a sad note, I learned from reading *The Indicator* that an old friend, **Charles Saylor**, had passed away last August. He was a very accomplished magnetic resonance imaging scientist and was well respected by his colleagues in the field. He had been working with Philips for more than 15 years. Charlie collapsed suddenly at work in China due to pulmonary embolism, a condition that is estimated to be

responsible for 15 percent of sudden deaths. Charlie was married to Dr. Yilei Qian, associate professor of microbiology at Indiana University at South Bend. He was a great friend to many and a loving husband, son and brother, and is sorely missed. Please feel free to add to a page set up in his memory — <https://www.facebook.com/A-tribute-to-Charlie-117126358928961/>.

As for me, I've been busy raising two girls since I left a paying job 14 years ago, and am now thinking about what might be my next phase as the girls are headed to college. Isn't it exciting to find yourself in the brink of a new beginning?

My new hobby is to contribute to *The Indicator* class log. I would love to hear from you all, anything you'd like to share is welcomed: your job, family, travel, hobbies, Stevens memories, etc. Write to me at gldale22@gmail.com. Hope to hear from you soon! — **Dino P. Kostarelos, dino@ucy.ac.cy; Grace Dalessandro, gldale22@gmail.com.**

'89 *Feb. 28, 2018* — By the time you read this, spring will be in full bloom and the Mid-Atlantic area will be heavy with rebirth and renewal. In that spirit, I crowd-sourced grads on Facebook for an answer to a question. I thought this might be a great way to hear from folks quickly, succinctly and all while they wait in line at Starbucks or fill the car with gas. We are all driven to maximize efficiency, **amiright?** The question was: "Most of us have now turned 50 and many of us have kids, nieces or nephews in college. What kind of advice have you imparted (or one day will) to these young, impressionable minds regarding getting the most out of their college experience?"

Seemed like a thought-provoking question considering the current perceived climate of the generation known as "Millennials." I was curious to hear what Stevens grads, who tend to be super smart, practical and, yes, efficient, were telling their offspring or whoever might listen. The responses did not disappoint.

Kevin Buckley: "I tell my daughter and my troops, always do your best and be kind. For my Navy troops, if the answer is no, figure out how to get to yes."

David Cole: "Set the bar high, so we've heard so often. What bar are they talking



1 Charles Saylor '87 passed away in 2017. He is remembered in the '87 log. **2** Grace Dalessandro '87, who has written the '87 log, is seen with her husband Larry and daughters Michelle and Mia. **3** Dave Manhas '88, with his daughter, Ashna '18, left, and wife Preeti, at the men's alumni lacrosse game last year. Ashna graduated 30 years after her dad.



about? Until recently, I didn't realize there are in fact two bars. It's obviously a good thing to set the bar high for your goals, achievements and ambition. However, there is another bar, which is for your expectations. I say set this bar low, as low as it will go. Heck, drop this bar all the way to the floor. Try it. You'll be amazed by the results of less stress, bigger rewards, and overall greater happiness. But try not to confuse the expectation bar with the ambition bar. Just because you set your expectations low doesn't mean you are sacrificing your goals, achievements or ambition. It just means that no matter what happens, you'll always get more than what you were expecting, and enjoy an endless stream of happiness and bliss. My significant other and I like to call this concept "tunneling."

Nicki Troianos Louloudis: "Don't sweat the small stuff. Life's too short."

Sachin Shah: "Take control, aim high and just do it!"

Andrew Tom: "Be grateful. You're not entitled to, and no one owes you, anything."

Timothy Dalton '88: "I tell my kids to enjoy



college! It is a unique time in life. You get to learn a lot, meet a lot of new people, possibly travel, without all of the demands of 'adult life' — car payment, mortgage, job, etc. Enjoy being a student while you can and get the most out of it. And if you are not paying for it — it's truly a gift! Make the most of it. And take courses in AI/ML — it's the next wave that will be here for decades. AI is the new IT."

Eric Faust: "College advice needs to start at the beginning of ninth grade. I've told both my boys, their friends, fellow scouts, etc. (and parents) that they need to develop a vision before they finish their freshman year. By vision, I mean, 'What do you want to do when you grow up?' Without an end game, you cannot build a strategy. Their strategy includes the high school classes, sports and activities to help get them into the right college or university to help them achieve their goal. They need to treat college like a job — get to classes on time, do your homework, study hard for tests because you only have one shot at it and like high school, college isn't an end point; it only gets your foot in the door for your first

This past February, the U.S. Chemical Safety and Hazard Investigation Board announced the appointment of **Stephen J. Klejst M.S. '89** as its new executive director. Klejst leads the agency's investigations and recommendations staff. He previously spent nearly ten years with the National Transportation Safety Board (NTSB), where he was deputy managing director and director of the agency's railroad, pipeline and hazardous materials division. During his NTSB tenure, Klejst led the agency's investigation of major pipeline accidents including the explosion of a major natural gas line in San Bruno, California, and the rupture of a hazardous liquid transmission line in Marshall, Michigan. The CSB is an independent, non-regulatory federal agency whose mission is to drive chemical safety change through independent investigations to protect people and the environment. The agency's board members are appointed by the President and confirmed by the Senate.

Chris Poer M.S. '91 joined QuadraNet, Inc. as director of Cloud Services for the nationwide datacenter provider earlier this year. He is responsible for expanding the company's product portfolio in cloud services as well as building out a network of partners to grow the business. Poer has more than 30 years of experience in the telecommunications and information technology industries, having worked with AT&T, Bell Labs, Lucent Technologies and Openwave Systems.

Anthony Dupree M.T.M. '10 was named chief information officer and chief information security officer of Ca-

reerBuilder — the global, end-to-end human capital solutions company — late last year. As CIO and CISO, he oversees infrastructure, development opportunities, cloud and security to ensure that CareerBuilder clients and users are protected, and he is responsible for directing the company's global IT and information security vision, policies and programs. Before joining CareerBuilder, Dupree served as the CIO and CISO of Novitex. He is a decorated Army Reserve officer who served for 28 years before retiring as a lieutenant colonel. He has received numerous awards, including the Bronze Star for Operation Iraqi Freedom.

Maggie Wilderotter Hon. D.Eng. '14 recently joined the board of directors of DocuSign, a pioneer in the development of the e-signature that offers a broad platform for automating the agreements platform. She served as CEO of Frontier Communications from November 2004 to April 2015, and then as executive chairman until April 2016. She previously served on the President's National Security Telecommunications Advisory Committee as both vice-chairman and chairman during her four-year tenure ending in 2014. She also served until January 2017 on the President's special commission responsible for a recommendation report to the new President of the United States on enhancing national cybersecurity.

Jialu Yan M.S. '16 works as a data scientist with Fareportal, a travel technology company and travel concierge service, helping consumers to book travel online, on mobile apps for iOS and Android, by phone, or through live chat. ♦

Vitals

Births

To Ryan R. Donovan '06 and Sona A. Donovan, a daughter, Gia Ayer, on Sept. 17, 2017.

Obituaries

R.L. Klein '42 1/22/18
S.I. Gussack '45 1/17/18
D.C. Brogini '46 1/9/17
C.L. Du Vivier '46 3/7/18
R.H. Halstead '46 2/9/18
M.D. Horton '46 9/28/09
L.J. Kuzenski '46 6/11/16
C.J. Nickelsen '46 9/9/17
C.T. Rogers, Jr. '46 6/4/17
T.J. Zeller '46 12/30/17
L.J. Kuzenski '47 6/11/16
K. Brenner '50 1/21/18
C.B. Hurtt '53 2/9/18
J.H. Pfeiffer '53 3/18/18
F.A. Cozzarelli '55 1/25/18
R.C. Keller '55 11/22/17
F.J. Berenbroick '59 12/10/17
B. Lager '59 2/1/18
J.J. Nagy '63 4/4/18
R.J. Rapak '63 7/5/2016
S.M. Bobker '70 11/8/17
H.A. Rhodes, Jr. '72 1/15/18
K.J. Healy '80 1/17/18
C.A. Saylor '87 8/30/17

Graduate School

R.W. Deichert, M.S. '50 3/1/18
R.H. Horn, M.S. '59 1/21/18
D.R. Graham, Jr., M.S. '60 2/15/18
Dr. R.B. Cole, M.S. '61 1/24/18



Meet future Duck Gia Ayer Donovan, daughter of Sona and Ryan Donovan '06. She'll be 1 in September.

job. Yes, there will be time to blow off steam and have fun, but that is the reward for doing well, not the main focus. A good analogy is to compare it to levels in a video game."

John Rizzuto: "I visit with undergraduates regularly — my advice is always the same — be very cautious of working in a cost center and understand the long-term value of working in a role where you are driving company revenue (i.e., weigh the differences in being a software engineer for Proctor & Gamble versus being a software engineer for Google). Hint: The value is well beyond salary."

Katie Twomey '90: "Never miss class."
[Dawn's note: I don't remember you exactly following this advice, Katie. HA!]

Chris Frank: "Connect with people. Be curious. Ask questions. Listen more, talk less when they answer. Spend time with friends. Build the bonds that will last a lifetime. It will carry you through tough classes, late nights, good times and rough times. I tell my kids all the time... anything worth doing is worth doing well. Act in haste, repent in leisure."

Rosa Iglesias Eckhardt: "Manage your time wisely. Don't waste so much of it on social media! Do your best and don't be afraid of making mistakes. Keep moving forward."

Sage advice coming from graduates who have chosen wide and varied career paths, who hail from different backgrounds and live

all over the country. I'll place a bet that any young people you folks mentor will turn out just fine! Happy Spring everyone!! — Dawn M. Madak, dawnmadak@me.com

'01 February 2018 — Dear Class of '01, I've been a terrible class secretary for the past year but knowing that we have a section about our class, I'm going to take advantage of this opportunity to be a little selfish and share a picture of our friends that have been together since 1996.

We all met through the STEP program in 1996 and have been in each other's lives through college and our professional lives. Now that we've been out of school for the past 17 years, we are all in our 40s or will be 40, married, have kids or about to have kids. I've included a picture of all of us and our families in what we call "La Familia white elephant." We each bring a gift, pick a number and go in order to open up a gift or steal a gift. The twist we add is that if you want to steal a gift that's already open, you need to take a shot of alcohol of your choosing. This was our tenth year having our white elephant event and you can see that kids and our significant others are also with us.

I'm sure that there are more groups like this, and it would be great to be able to share your group pictures, your accomplishments, your loved ones, or your next step in your life at this point, 17 years since we graduated. I'm sure all of us have had ups and downs, gotten married or divorced, changed careers and, to be honest, it's great to reconnect with everyone.

I also need to shout out about STEP's 50th Anniversary event this Sept. 22, right here on campus! See pages 36-38 for more on STEP and this exciting event! — Martha P. Torres, mptorres78@gmail.com

'02 January 2018 — Payal Yokota '02 M.S. '04 shared this wonderful news in January.

"I recently defended my Ph.D. in molecular and cellular biology at the University of Massachusetts, Amherst, with a focus in infectious immunology under the tutelage of Dr. Cynthia L. Baldwin. It's been a long journey to get here, and it really does take the love and support of an entire village. We had a great time celebrating with friends and family and are ready to start a



1 Patty Torres '01 shared this photo of her gathering with STEP alumni friends and family, with friendships dating back more than 20 years. Read more from Patty in the '01 log. **2** Dr. Payal Yokota '02 M.S. '04 earned her Ph.D. this year. See the 2002 log. **3** Getting into the spirit at the Houston Club's holiday party last December, from left, were Ryan Kerrigan '07, Stevens students Megan Hand and Sofia Zapata, Annemarie Thomas '17, Jessica Berg '17 and guest Brian Carmon.



new chapter in our lives... wherever it takes us! My best friend **Matthew Brennan '03** joined us for the celebration as well!" — **Elizabeth "Biz" Metzger**, bizmetzger@gmail.com

'06 February 2018 — From **Ryan Donovan**: "Hello! I have exciting news (better late than never). I would like to announce the birth of **Gia Ayer Donovan**, on Sept. 17, 2017.

"Future Duck for sure!" — **Elizabeth A. Bakarich**, ebakarich@gmail.com; **Sukesh V. Shah**, sshah4@gmail.com

'14 On November 8, 2017, **David Cabrita '13** surprised **Dana DeSantis** with a trip to Disney World for their eight-year anniversary. After a lovely day in the Magic Kingdom, he asked her to be his wife, with a beautiful view of Cinderella Castle in the background. The surprises continued as they were then joined by **Halie Holmes '15**, **Rob May '13** and Dana's sister **Amelia** to celebrate. See their photo on page 70. You can view the whole story via <https://youtu.be/g7QIDG1gcd4>. — **Sean Richards**, seanrichards33@gmail.com

'15 February 2018 — **Andrew Deutchman M.Eng. '16** received a patent in December 2017 for the design of an autonomous rail coupling shuttle system. Andrew formulated this idea as an undergrad and further developed it as the focus of his senior design project. His patent focuses on improving rail service while incorporating autonomous capabilities. He hopes that this design will revolutionize the railroad industry in the future.

Halie Holmes and **Rob May '13** recently got engaged. On July 23, 2017, Halie thought that they were going for a nice dinner with friends to celebrate Rob's birthday in New Orleans, Louisiana. Little did she know that Rob had something extra special planned: After a fun day exploring the city and a beautiful dinner at Café Amelie, Rob got down on one knee and asked Halie to marry him. Many friends and family were in attendance, including **Dana DeSantis '14**, **David Cabrita '13** and **Ella Hope**.

Spencer Lin has been named the recipient of the **Bernard Maitenaz Scholarship** presented annually by the American Optometric Associ-

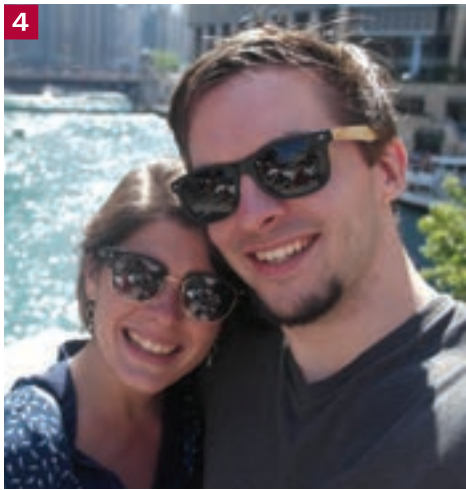
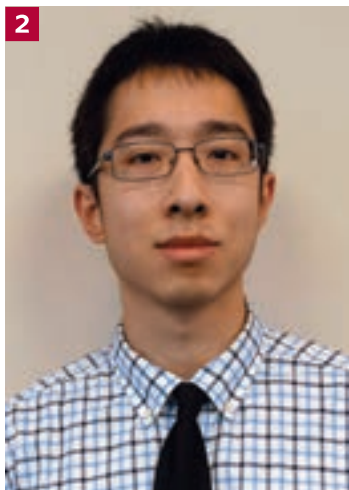
ation (AOA) and Optometry Cares – The AOA Foundation.

Lin, a third-year student at the Salus University Pennsylvania College of Optometry, was one of eight applicants nationwide for the \$10,000 award. To be eligible, applicants must submit a two-page essay and a five-slide PowerPoint presentation or a three-minute video, plus two letters of recommendation. Applications are submitted to their respective dean, who then will submit only one to Optometry Cares. — Danielle M. DeFeo, ddefeo@alumni.stevens.edu

Don't see your class log listed? Send an update to alumni-log@stevens.edu or call 201-216-5161.



1 Christian Geary '15, left, and June and Dave Kamrath '71 enjoy a Houston Club happy hour in Houston in March. **2** Spencer Lin '15, who is studying optometry, has won a national scholarship. **3** Dana DeSantis '14, second from right, and David Cabrera '13, third from right, got engaged at Disney World, in a trip full of surprises, including a visit from friends Halie Holmes '15 and Rob May '13, far left, and Dana's sister, Amelia. Learn more in the '14 log. **4** Halie Holmes '15 and Rob May '13 got engaged in New Orleans. Read their fun story in the 2105 log. **5** Gathering at the Houston Club's holiday party last December, from left, were Emily Spencer '14, Diana Leon '15, Alexis Kenny, Stevens assistant director of alumni engagement; and Tania Fedorenko '15.





Chi Phi 'Old Guard' Brothers Get Together in Connecticut

This past fall, 26 "Old Guard" Chi Phi brothers and their wives or significant others met for friendship and good times in Connecticut. During the three-day gathering, the group visited the first nuclear submarine and the last wooden whaling ship at Mystic Seaport, toured the Mark Twain and Harriet Beecher Stowe houses in Hartford and visited the New England Air Museum near Bradley International Airport in Windsor Locks. They capped their time together with a banquet to welcome new brothers to the "Old Guard," honor accomplishments and share stories from their days at Stevens. A great time was had by all. The Mu Chapter "Old Guard" is open to brothers who have been Chi Phi members for 50 years or more and meets about every 18 months. The next get-together will be in Florida in the spring of 2019. For more information, please contact Tony Mirabella at tonymirab@gmail.com. ♦



WCPR Alumni Association (WAA)

About: The WAA is formed to establish, maintain and cultivate among its members a sentiment of regard for one another and of attachment to WCPR (the station), as well as current WCPR members, and members of the Stevens Alumni Association (SAA). Additionally, WAA is tasked with stewarding the WCPR Outstanding Performance Award (WOPA), keeping an accurate catalog of the history of the station, as well as provide the current station members with a source of knowledge and information.

Types of Activities: Social gatherings, mentorship opportunities, panel discussions

Leadership: Mike Bocchinfuso '08 (president), Suzanne D'Addio '07 (vice president), Nicholas Barresi '12 (secretary), Imran Merali '08 (technical resource officer), Derek Ives '08 (historian)

Contact: council@wcprialumni.com ♦



1 Members of the Stevens Wisconsin Alumni Club gathered this past February for a tour of the Milwaukee Beer Museum at Brew City MKE in Milwaukee.

2 Enjoying the camaraderie of Houston Club alumni at a recent happy hour at the Houston Flying Saucer, from left, are Norman Brown '02, Frank Roberto '76 and Andreas Pallikaras '16.

Remembering ‘Rods’

Editor’s note: Al Rhodes ’72 passed away on Jan. 15, 2018. Longtime friend Mark Schneider ’72 M.S. ’75 has written this remembrance.

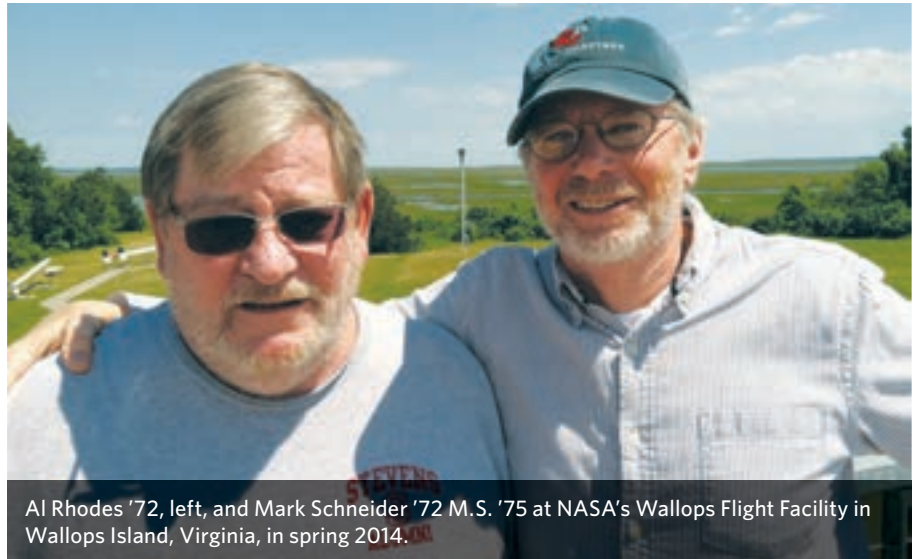
Howie, Rhodes, Rhoddez, Rods, Al: He went by many names over the course of his life, but he was always the same Howard Alan Rhodes, Jr.

I met Howie — that’s what he went by in those days — on the first day of our electronics class with Herskowitz in *my* only, and *his* repeat, sophomore year. What attracted us to each other is unclear, but I remember him walking down, after class, from the seats higher up in the lecture hall, and us starting a conversation. Turned out we both lived on The Ship, so we became fast friends.

Rhodes had, pretty much, no compunction about doing anything that was suggested; he relished doing anything outlandish. In school, he had a Chevy SS, and I had a motorcycle, so, of course, we decided we should race them. Where? On the pier of course! Now, in hindsight, this would seem like a ludicrous idea; the pier was a fixed length, and ended, abruptly, at the Hudson River! What we could possibly have been thinking is, at the least, unclear; anyone in their right minds would have considered this before starting, but two testosterone-fueled, early-20-somethings obviously did not. The fact that we survived unscathed was a miracle, because we came within yards of the end and had to swerve off wildly to avoid the dreaded drink.

This easy-going, laissez-faire, come-what-may attitude was Rhodes 95 percent of the time. However, when he wanted something, he was the most stubborn, recalcitrant, pig-headed person alive. One time, senior year, I came back to my room to find Rhodes in the upper bunk in my two-bunk cabin. This was not only unusual because he rarely visited my equivalent portside stateroom — he usually held court in his — but he was lying there reading a magazine, and smoking. Now, I had no beef with him *being* in my room, but I did take issue with him *smoking* in my room. I started by gently asking him to stop smoking; he ignored me. I asked more fervently; still no response. Eventually, I had to get Cleaver (Robert Ward ’72) — a big guy — and F.Y. Hague (William Hague ’74 M.Eng. ’78) — another big guy — to come and try to pry him out of that bed; somehow he managed to foil all our efforts! Eventually, we all gave up and left. Sometime later I returned to find him gone, but it was obviously on his terms. He never did tell me why he was there or why he wouldn’t leave.

About a decade after graduating, he and I went on a bareboat sailing



Al Rhodes ’72, left, and Mark Schneider ’72 M.S. ’75 at NASA’s Wallops Flight Facility in Wallops Island, Virginia, in spring 2014.

trip — just the two of us — on the Chesapeake. He had no sailing experience, but, being the 95 percent Rhodes, he was up for it. The first day out we encountered some big wind, but he sat silently when I called for him to help. The first few times I asked, and got no response, I figured it was the 5 percent Rhodes I was dealing with. However, after making several attempts to get his help — which I desperately needed — I looked over and saw that he was white as a ghost and motionless; staring blankly into space and not even responding when I waved a hand in front of his eyes. It was then that I figured out he was seasick! (When we made landfall, he rallied, and we went on to have many exciting, and sometimes life-threatening, moments, but that’s another story.)

Our friendship went through ups and downs as we followed each other’s lives from afar. But we managed to share several more adventures, at increasingly spaced intervals.

He called me a few weeks before he died. He’d been bed-ridden for months, but he was still the 95 percent Rhodes in his attitude toward it all. When I asked why he wouldn’t move in with his son so he could take care of him, his answer was just that he didn’t want to. I knew that it would be no use trying to persuade him because I could just picture the 5 percent Rhodes, lying in that bed in my dorm room, and damn anyone who tried to move him!

It’s been over 48 years since that fateful day in electronics class, but sadly, I won’t be having any more adventures with Rods. I’m sure I’ll miss him in ways I’ve yet to discover. Fortunately, I’ll always have the memories of the 100 percent Rhodes to keep me company. ♦ — Mark Schneider ’72 M.S. ’75

THE POWER OF LEADERSHIP

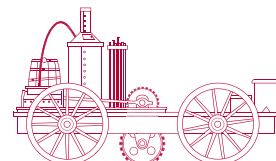
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INVESTING IN FUTURE WOMEN LEADERS



"Having a place where women feel comfortable discussing issues related to school and work, sharing challenges, celebrating successes and learning from the experience of other women was really empowering for me."

—YONaida BRITO '18

The Lore-El Center for Women's Leadership is a vibrant community that serves to promote and amplify the voices of women at Stevens in a dynamic living and learning environment.

The Lore-El Center was established by a generous gift and continues to flourish thanks to recent renovations and new programming made possible by donors. Their commitment to fund resources and services is preparing women like Yonaida Brito '18 to be a leader in the construction industry as a project engineer.

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