1938 RETAIL MANAGEMENT CO-OP IMAGE COURTESY OF DREXEL ARCHIVES

ANNIVERSARY

100 YEARS OF CO-OP

Drexel's co-op program, which celebrates its centennial this year, grew slowly from its start in 1919. But it has picked up speed in the modern era as the need for career preparation and hands-on skills has accelerated. In the past 20 years alone, students have traveled to co-op employers in 108 countries and 48 states plus the District of Columbia, Puerto Rico and the U.S. Virgin Islands. Over the past generation, the program has grown from 3,526 students in 1999 to 5,324 students in 2017.

10,339

Distance in miles between Philadelphia and Drexel's farthest-flung co-op employer: Federation University Australia in Ballarat, Australia.

92%

of all Drexel undergraduates participate in the co-op program.

84

Number of companies that have hired a Drexel co-op every year for the past 20 years. Among them, GlaxoSmithKline, Lockheed Martin, SAP America and Sunoco.

48

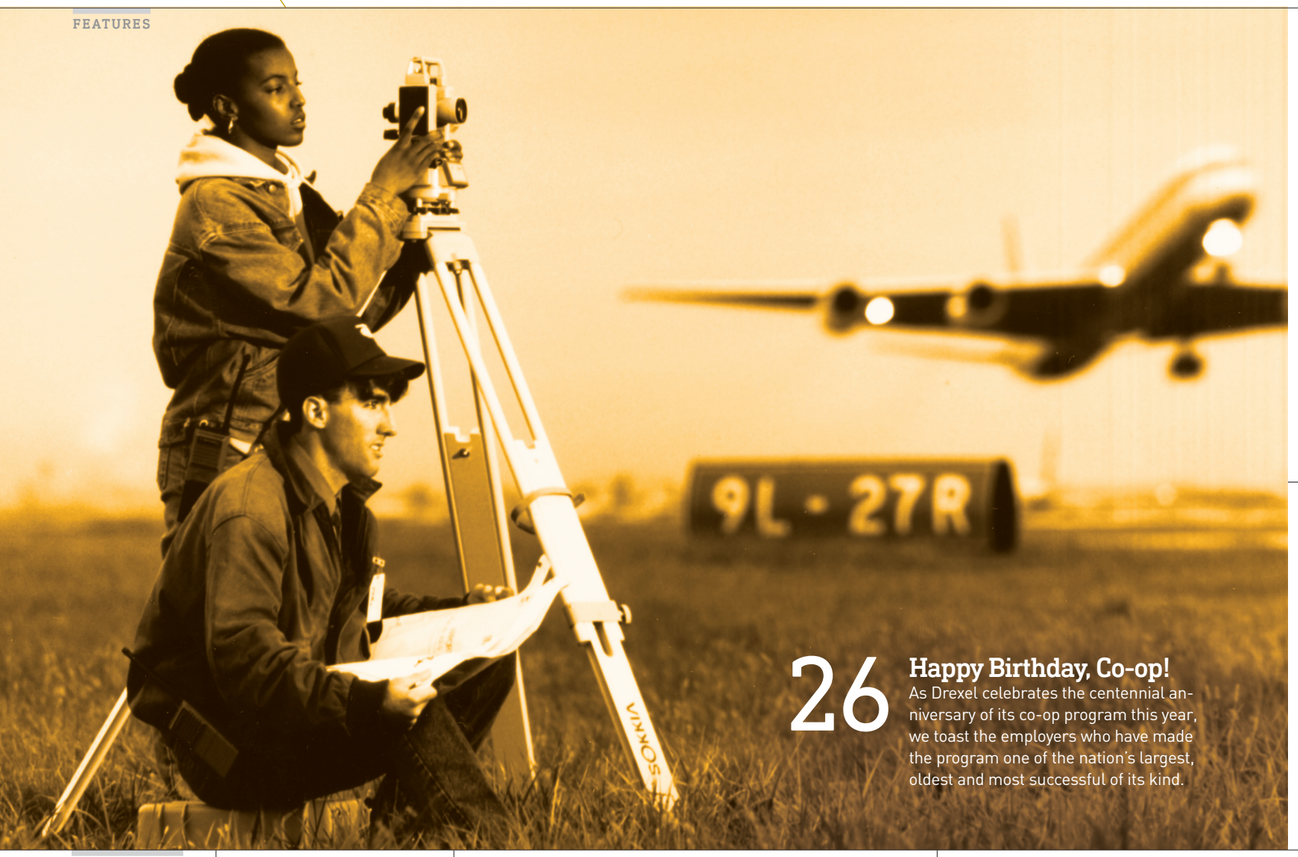
Number of states where Drexel has had co-op opportunities — all but North and South Dakota.

1,810

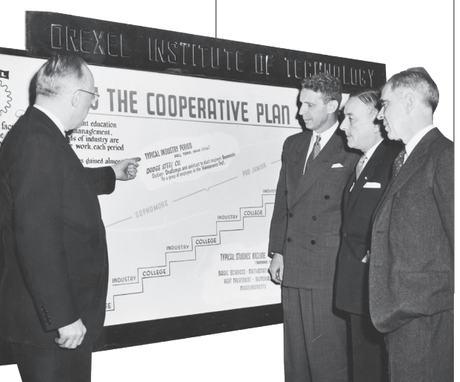
Number of co-ops hired over the past 20 years by Children's Hospital of Pennsylvania, Drexel's top co-op employer.

TABLE OF CONTENTS

FEATURES



DEPARTMENTS



UP FRONT

THE VIEW FROM MAIN

If there is one thing I'm confident your years at Drexel taught you well, it is how to face and make the most of each challenge in life. As I reflect on the academic year now underway, I can report that your alma mater is just as resilient.

At the start of the term, we looked back, ahead and around us with deep pride and appreciation — thanks to the launch of our 100th anniversary celebration of the Drexel Co-op program, the progress on groundbreaking additions to the University City Campus, and the arrival of a high-achieving class of first-year students.

At the same time as Drexel was pushing the boundaries of academic and research excellence, though, we had to deal with a virtually unprecedented situation in our College of Medicine, and nationally trending declines in graduate and international student enrollment. We also worked collaboratively over the summer to take steps necessary to close a budget gap and begin the academic year on solid financial footing.

Drexel's alumni and friends, generously loyal, expect nothing less of this University. And we know that their support is unwavering — as witnessed by the substantial strides in the latest Campaign for Drexel. *The Future Is a Place We Make* campaign is more than three-quarters of the way toward its $750 million goal.

But securing the College of Medicine demonstrated the greatest resolve. The bankruptcy and closure of Hahnemann University Hospital was truly "a crisis thrown on our doorstep," as trustee Thomas Kline described it. We acted fast, and successfully reassigned hundreds of third- and fourth-year medical students to new clinical settings around the region, as well as students of the College of Nursing and Health Professions, and we moved to strengthen our new relationship with our new medical partner, Tower Health.

Then, in an historic move, we joined Tower in a bid to rescue St. Christopher's Hospital for Children from bankruptcy. This ensures that the 144-year-old hospital continues to serve annually more than 30,000 pediatric patients, and 70,000 emergency room patients. Also secure: Drexel's medical students' hospital-based clinical rotations in pediatrics.

The College of Medicine has been a part of Drexel for 21 years. Thanks to the hard work and grit shown by untold numbers of colleagues at the University, it will continue even stronger into the future. Challenge met.

Sincerely,

John Fry / President

EDITOR'S LETTER

We Bought a Hospital

Twenty-one years ago, a major Pennsylvania hospital system collapsed; this summer, the other shoe dropped when Hahnemann University Hospital shuttered. In some ways, the two bankruptcies feel like a single catastrophe – one with far-reaching challenges and opportunities for Drexel University.

Allegheny Health, Education, and Research Foundation, or AHERF, was a Pittsburgh-based system that ballooned from a single community hospital into a statewide conglomeration of providers. Between 1987 and 1998, its CEO piled on acquisitions throughout the state and in Philadelphia. But synergies failed to materialize and the health care market shifted, and the company used dubious accounting to keep bond payments going — until it couldn't.

In October 1998, all of AHERF's Philadelphia operations including Hahnemann University Hospital and St. Christopher's Hospital for Children were sold in bankruptcy to Tenet Healthcare for $345 million.

AHERF's spectacular fall turned out to be Drexel's gain. Among its assets was the largest private medical school in the country, MCP-Hahnemann University. AHERF also owned a school of public health, allied health professions and a nursing school.

Pennsylvania law did not allow a for-profit company like Tenet to run a medical school, so a deal was brokered for Drexel to operate MCP-Hahnemann University under an academic affiliation agreement, with financial support from Tenet and the Commonwealth of Pennsylvania. Drexel later exercised an option to assume full ownership of the medical school in 2002.

And so, out of the demise of AHERF, emerged Drexel's College of Medicine. Drexel also gained operations that would become the Dornsife School of Public Health and a merged College of Nursing and Health Professions.

Now here we are. Just last year, Tenet exited the Philadelphia market for good by selling Hahnemann University Hospital and St. Christopher's Hospital for Children to American Academic Health Systems, a California for-profit run by an investment banker. When AAHS claimed bankruptcy, the unprofitable Hahnemann closed, and St. Christopher's was put up for auction.

This time, the challenges for Drexel have been graver. Throughout the summer, Drexel leadership rushed to reassign College of Medicine students who were in clerkships at Hahnemann, and efforts were made to secure new positions for most faculty and staff employed by Drexel University Physicians with Tower Health, Drexel's new hospital partner.

But by winning the bid for St. Christopher's Hospital for Children with Tower Health for $50 million in September, Drexel is once again making lemonade. And while many details remain to be ironed out as of press time, it is a bittersweet boon.

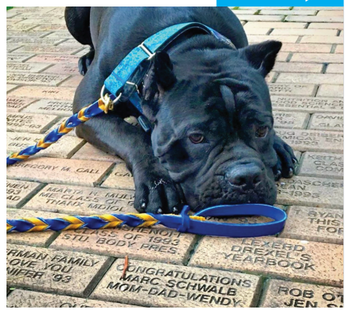
More on that in future editions...

Sonja Sherwood / Editor

ABOUT THE COVER
XPrize winner Basil Harris '92, '94; illustrated by David Plunkert.

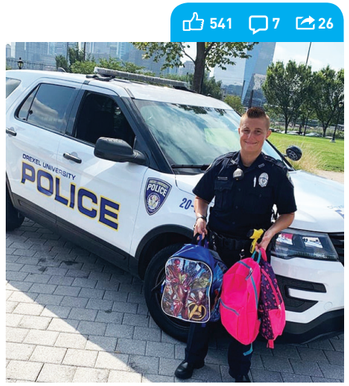
SOCIAL

1,008 5



drexeluniv There's now a three-generation dog dynasty at Drexel 🐶🐶🐶 Our newest therapy dog Java has joined the @Drexels_therapy_dogs pack alongside his mom Espresso and grandma Chai!

541 7 26



drexeluniv Drexel Police Officer Alexis Nagel donated 30 backpacks filled with school supplies to children who live in the 16th Police District, which covers Drexel's surrounding neighborhoods in West Philadelphia. Over 200 backpacks were donated in total in an effort to help students and parents as they get ready for the new school year! 🎒📚✏️

OCT. 8
@DrexelUniv This fall, 366 Dragons moved into Bentley Hall (formerly Calhoun Hall) for the first time since 2015 after phase one renovations were made to the building.

OCT. 3
@LindyCenter: The Lindy Scholar Advisors are at the Center today for training. Awesome students will be running after-school literacy and math students for local middle schoolers. #lindyscholars #volunteers #drexeluniversity #drexelvolunteer

Drexel MAGAZINE

EDITORIAL STAFF
EDITOR
Sonja Sherwood

STAFF CONTRIBUTORS
Beth Ann Downey
Alissa Falcone
Britt Faulstick
Lara Geragi
Niki Gianakaris
Annie Korp
Greg Richter
Emily Storz

DESIGN
Pentagram

ADMINISTRATION
PRESIDENT
John Fry

SENIOR VICE PRESIDENT, UNIVERSITY COMMUNICATIONS
Lori Doyle

Drexel Magazine, Vol. 29, Edition 3
Drexel Magazine is published two times in print and once online each year by the Office of University Communications, 3141 Chestnut St., Suite 309 Philadelphia, PA 19104.

CHANGE OF ADDRESS
Drexel University Records, Gifts and Stewardship
3141 Chestnut St., Room 310
Philadelphia, PA 19104
Tel: 215.895.1694
Fax: 215.895.4966
Email: bioupdates@drexel.edu

OFFICE OF ALUMNI RELATIONS
Peck Alumni Center
3141 Chestnut St.
Philadelphia, PA 19104
Tel. 215.895.ALUM (2586)
Toll-free: 1.888.DU.GRADS (384.7237)
Fax: 215.895.2095
Email: alumni@drexel.edu

LETTERS TO THE EDITOR
magazine@drexel.edu
215.571.4104

ADVERTISING
Carrie Roye
215.571.4103

A Record Release Party 50 Years Overdue

In May, student-run label MAD Dragon Records celebrated the release of a never-before-heard Philadelphia soul album discovered in the Sigma Sound recording studio archives.
By Beth Ann Downey

There's a song by Philadelphia soul band Nat Turner Rebellion on their debut release called "Never Too Late" — and it's very fitting.

That's because the track was recorded, along with the rest of the material on "Laugh to Keep from Crying," sometime between 1969 and 1972 in Philadelphia's iconic Sigma Sound Studios, when Nat Turner Rebellion were in their heyday. Back then, the politically charged, Black Power-era ensemble opened for the chart-topping Delfonics, had a hit-making agent and were signed with a renowned record label, Philly Groove Records. But only a handful of the band's singles were ever released while the short-lived band was together, until now.

The unreleased material came to light thanks to a unique collaboration between the Westphal College of Media Arts & Design's student-run MAD Dragon label in partnership with music publishing company Reservoir Media and online record club Vinyl Me, Please.

Reservoir Media acquired the publishing rights for Philly Groove's song catalog in 2012. But no one realized the band had physical tapes stored in the archives of Philadelphia's legendary, long-gone Sigma

CHARLES SHAN CERRONE

Drexel manages 7,000 historical audiotapes from the famous, now defunct, Sigma Sound Studios.

Joe Jefferson, 75, is the last surviving member of the band Nat Turner Rebellion.

Tarana Burke (left) spoke on campus about the evolution of the #MeToo movement.

(CONT.)

Sound Studios. Drexel preserves and manages the studio's 7,000 historical audiotapes of pop, soul, disco and R&B recordings that were known as "the sound of Philadelphia."

Toby Seay, an associate professor in Westphal College who manages the Sigma Sound Studios collection, first found and identified the 14 Nat Turner Rebellion tracks that comprise the album.

After the band's sole surviving member, 75-year-old Joe Jefferson, gave his approval for the album, Seay's talents were tapped to remaster the tracks and prepare them for release on vinyl. Students from MAD Dragon Records connected with Vinyl Me, Please, a subscription service that sends new albums to its tens of thousands of members each month, to handle distribution of the release in March.

"This sort of thing is pretty much unheard of in the music industry," says Marc Offenbach, an assistant professor in Westphal College and adviser of MAD Dragon Records, of the collaborative release.

In May, the record's many collaborators, supporters and Jefferson's family and friends came together in the URBN Center Annex on Drexel's University City Campus to celebrate the album's release. The event featured a Q&A between Jefferson and *Philadelphia Inquirer* music critic Dan DeLuca, which prompted Jefferson to open up about the band's history, reception and the reasons why the music wasn't released to the masses back in the band's youth.

"There was a part of me that thought I would be fooling myself if I thought I could do it," Jefferson says of his band's music. "There are a lot of fear factors in life, so I had a lot of them on my plate. ... But what a wonderful gift that someone can give someone else: belief in yourself."

ACADEMICS

Welcome, New Deans

Charles B. Cairns
Dean and Senior Vice President of the College of Medicine

Penny Hammrich
Dean of the School of Education

Norma Bouchard
Dean of the College of Arts and Sciences

Drexel is welcoming several new deans this year.

Charles B. Cairns became the Annenberg Dean and Senior Vice President of the College of Medicine in April. Cairns succeeds Daniel V. Schidlow, who has retired. Before coming to Drexel, Cairns was dean of the College of Medicine and Health Sciences at the United Arab Emirates University (UAEU) in Abu Dhabi.

In addition, Penny Hammrich was named dean of the School of Education after a stint as interim dean. Before that, she was a professor and associate dean of academic affairs and graduate studies.

They join Norma Bouchard, who recently took over Drexel's College of Arts and Sciences after serving as dean of the College of Arts and Letters at San Diego State University.

EVENTS

#MeToo Gets Real

The #MeToo movement is compelling, and so is its founder, as a campus audience found out when Tarana Burke came to speak at Drexel in April.

"An Evening with Tarana Burke" revealed Burke as more than just the face behind a viral hashtag. She shared personal history, questions and answers, and lots of laughs with the audience attending the event organized by the Campus Activities Board, The Good Idea Fund and the Women's and Gender Studies Program at Drexel.

Burke discussed how the #MeToo movement was initially created to help young women of color who survived sexual abuse and assault — Burke herself being a survivor of child sexual abuse. She said that, with the publicity garnered since the fallout in Hollywood from allegations against film producer Harvey Weinstein in 2017, one of the hardest things has been holding onto the #MeToo narrative as people apply to it their own definitions and purposes. However, she said any conversation around these issues is beneficial.

"The most important thing I think #MeToo has done has been to elevate the conversation about sexual violence, so it's not hard to have these open conversations," Burke told the audience. "I could never fill a room like this five years ago talking about this thing, but it's so pervasive."

For more about Drexel's research enterprise, see EXEL Magazine *at* ***exelmagazine.org****.*

Research

MEDICINE

LIGHT AND CONTRAST

Drexel researchers have developed an ultrasound imaging contrast dye that is activated by the heart's electrical activity. The contrast agent, dubbed Electrast, gives doctors a better look at blood flow in the heart muscle — which could allow doctors to detect early signs of blood blockages.

The Drexel team of faculty from the medical and engineering colleges designed the contrast dye to activate only when it's in the presence of the electric field generated by the heart — effectively, allowing it to handle its own lighting and take a better picture.

MEDICINE

Dangerous Loss

A new study suggests that even planned and advised weight loss could be dangerous for kidney transplant candidates if not closely monitored.

Obesity is common among kidney transplant candidates. Many are only surviving because of regular dialysis treatments, but the treatments limit energy and physical activity. Meera Harhay, an associate professor in Drexel's College of Medicine and Dornsife School of Public Health and lead author of the study, says candidates are often told to lose weight to be eligible for the procedure, but are not given guidance on the safest way to do so.

The study found that patients who lost a significant amount of weight — 10 percent or more of their body weight — prior to a kidney transplant had an 18 percent higher risk of mortality.

ENGINEERING

Preventing Potholes

Researchers from Drexel's College of Engineering have discovered that a special type of bacteria — responsible for the formation of minerals like limestone and marble — can also be used to prevent potholes from forming on roadways where road salt is used as a deicer.

Road salt can break down concrete by generating CAOXY, a chemical that causes internal expansions and distresses. In their research, Yaghoob Farnam, Christopher Sales and Caroline Schauer show how mixing a bit of bacteria into concrete can curtail the formation of CAOXY.

"The bacteria are capable of changing the microenvironment around them," Sales says.

PUBLIC HEALTH

Support for Safe Injection

Ninety percent of residents and 63 percent of business owners and staff surveyed in Philadelphia's Kensington neighborhood support opening an overdose prevention site in their community, according to a study from Drexel's Dornsife School of Public Health.

No sanctioned sites of this kind, where individuals use previously obtained drugs under the supervision of a trained health professional, currently exist in the United States, although 11 other countries have them. This is the first study to systematically gather public opinion of the surrounding community around a proposed overdose prevention site in Philadelphia.

Assistant Professor Alexis M. Roth attributes the results to the widespread incidence of drug-related social problems in Kensington.

INFORMATICS

Trauma 'To-Do' List

Drexel researchers have been working with doctors from Children's National Medical Center in Washington, D.C., to create and implement the first digital procedural checklist for trauma centers.

Due to their dynamic and often chaotic environment, trauma centers are prime candidates for using this type of tool, which can support team performance. But for the same reasons, implementing one is quite challenging.

Researchers found that implementing the digital checklist did not slow the work of trauma teams, and that the teams using the digital list more frequently completed the 18 critical tasks measured.

Chuck Haas, co-inventor

INNOVATION

Seven Characters

THE STORY OF NO.

0254,782

It can take inventors years to receive an official U.S. patent, usually represented by a seven-digit number. But the full story behind most patents is much longer. Drexel College of Engineering professors Ivan Bartoli, Chuck Haas and former assistant professor Kurt Sjoblom were motivated by the lead-contamination crisis in Flint, Michigan, to design a device that can determine whether an underground water pipe is made of lead. Their patent was approved in 2018, and this is the story of how it came to be. *— Jen A. Miller*

Walk on any street in Philadelphia, and you're walking on layers of history — and pipes. Lots and lots of pipes.

"There are literally **hundreds of thousands** of pipes that are underwater service lines buried in older cities," says Kurt Sjoblom, formerly in the Department of Civil, Architectural and Environmental Engineering. "Utility companies have no idea whether they're lead, steel or copper."

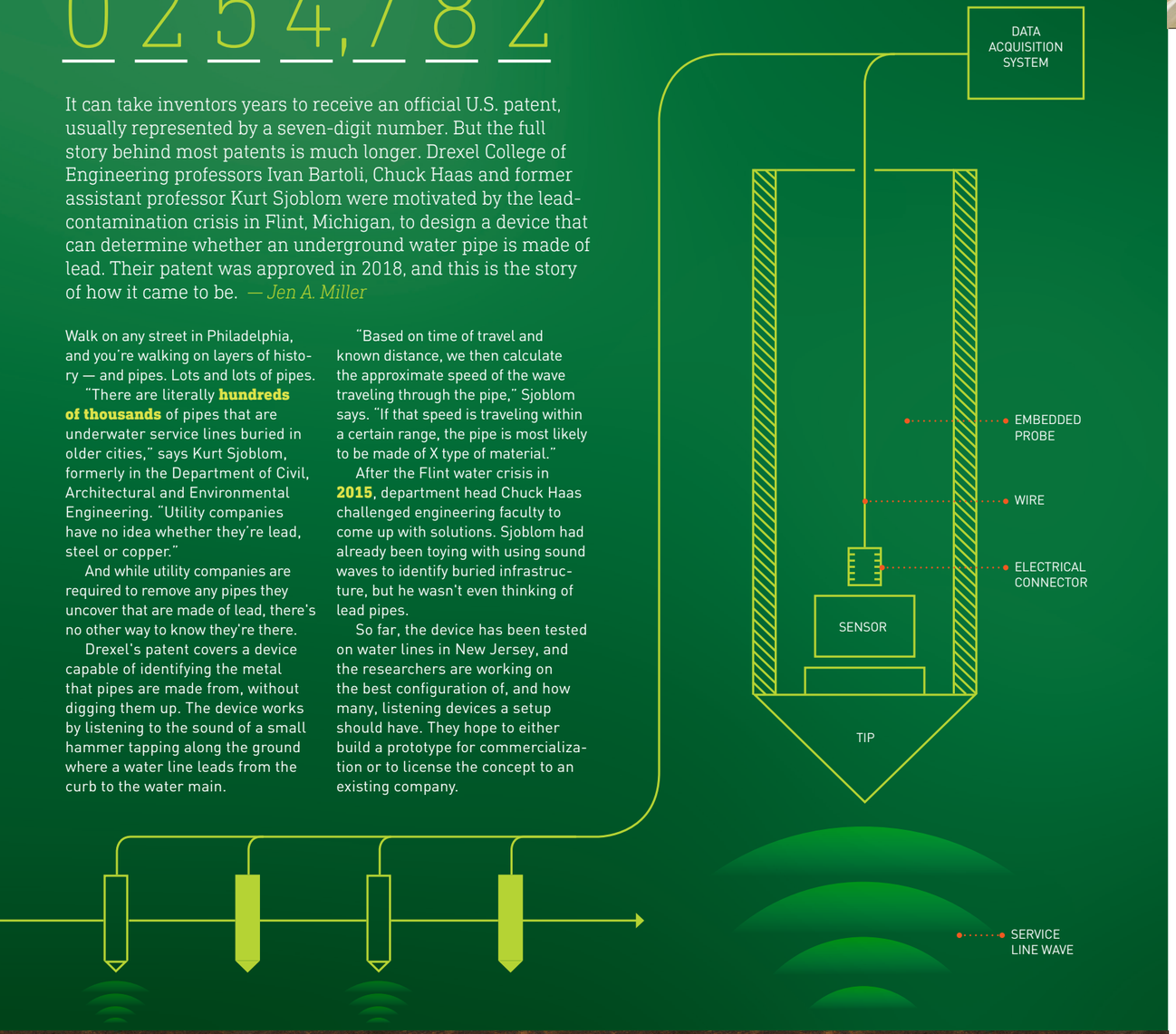
And while utility companies are required to remove any pipes they uncover that are made of lead, there's no other way to know they're there.

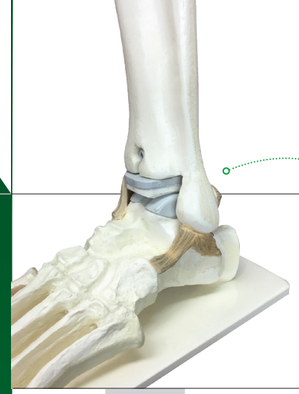
Drexel's patent covers a device capable of identifying the metal that pipes are made from, without digging them up. The device works by listening to the sound of a small hammer tapping along the ground where a water line leads from the curb to the water main.

"Based on time of travel and known distance, we then calculate the approximate speed of the wave traveling through the pipe," Sjoblom says. "If that speed is traveling within a certain range, the pipe is most likely to be made of X type of material."

After the Flint water crisis in **2015**, department head Chuck Haas challenged engineering faculty to come up with solutions. Sjoblom had already been toying with using sound waves to identify buried infrastructure, but he wasn't even thinking of lead pipes.

So far, the device has been tested on water lines in New Jersey, and the researchers are working on the best configuration of, and how many, listening devices a setup should have. They hope to either build a prototype for commercialization or to license the concept to an existing company.





This patented ankle implant is being developed for commercial use by engineering professor Sorin Siegler.

Send letters to the editor to **magazine@drexel.edu.**

"It's just been great to turn the lights up and see your faces and share the evening with you." **— Terry Gross**

RESEARCH

Drexel's Patent Pool Grows

Drexel moved up three spots to No. 51 in the National Academy of Inventors (NAI) and Intellectual Property Owners Association (IPO)'s list of the world's top 100 universities for patents granted in the country in 2018.

Drexel had 44 patents issued in 2018 in which the University was listed as the first assignee.

The NAI and IPO's Top 100 Worldwide Universities Granted U.S. Utility Patents, in its sixth edition, uses data obtained from the U.S. Patent and Trademark Office.

The ranking complements Drexel's recent designation as a first-tier research university in the Carnegie Classification of Institutions of Higher Education system, underscoring Drexel's ongoing emphasis on expanding its research and tech-commercialization.

PUBLIC SPACE

Drexel Square Now Open

What was once a parking lot is now a tree-lined, grassy gateway to the $3.5 billion master-planned development known as Schuylkill Yards.

In June, Drexel and its development partner Brandywine Realty Trust celebrated the opening of Drexel Square — a new 1.3-acre community park across the street from 30th Street Station on the corner of 30th and Market streets.

The square is the first completed project of the Schuylkill Yards plan and is the first of several public green spaces that will eventually comprise 6.5-acres of the 14-acre Schuylkill Yards neighborhood. These green spaces will connect 6.9 million square feet of workplace and lifestyle environments being master developed by Brandywine Realty Trust on Drexel land.

Adjacent to Drexel Square is the Bulletin Building, which is being redeveloped by Brandywine in partnership with Philadelphia-based architecture firm Kiernan Timberlake. Together with Drexel Square, the $43.3 million re-imagination of the Bulletin Building will serve as the centerpiece of Schuylkill Yards.

EVENTS

An Evening with Terry Gross

"Fresh Air" radio host Terry Gross spoke at the annual Distinguished Lecture Series produced by the College of Arts and Sciences on April 10 about her unique interview style, her insights, and finding her voice through her illustrious career.

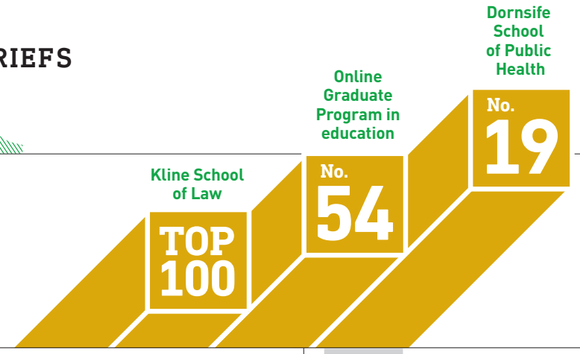
Gross put the audience at ease about one question they might have as soon as she took the stage.

"You might be wondering, 'So, what's she going to do tonight? Ask herself questions?'" Gross said, eliciting laughter. "No, but I am going to talk about some of my techniques as an interviewer, and I'm going to play some examples of things that could go terribly wrong and lead to unintended consequences."

Two of her top techniques? Get personal and listen closely.

But even the most skilled interviewer has to stay on her toes. She recounted how she almost missed Grover Norquist comparing the estate tax to the Holocaust — "what a shocking thing to say," she recalls. And as an example of unintended consequences, she described how George Clooney opened up about an injury he sustained while filming "Syriana" that left him with debilitating headaches — only to have the tabloid *The New York Post* use the interview for a story about his supposed "suicide anguish."

As a radio personality, she rarely gets to converse with her guests in person, she said, and as the evening concluded she thanked the audience for the chance to talk face-to-face.



CONSTRUCTION

Plans Move Forward to Build New Grade School

A timetable has been set for the much-anticipated construction of a transformational new development on Drexel's University City Campus that will house a K-8 facility and the College of Nursing and Health Professions.

Developer Wexford Science & Technology will erect two buildings on a site that formerly housed the University City High School at 36th and Filbert streets.

The first project will be the $38 million home for Samuel Powel Elementary School and the Science Leadership Academy Middle School. The school project is nearly fully funded through a combination of private and public funding secured by Drexel. The final funds needed to start the project will be sought from other public sources.

Construction on the K-8 facility is expected to be completed in time for the 2020–2021 school year. The School District of Philadelphia will lease the building from Drexel and the facility will house both the Powel School, currently at 36th Street and Powelton Avenue, and the Science Leadership Academy Middle School, which is currently at 3600 Market Street.

The second project is an academic building to house Drexel's College of Nursing and Health Professions, which will relocate from Center City under a long-term lease agreement with Wexford. Under the terms, Wexford will finance, develop and construct the building for occupancy in 2022.

Wexford is building on 14 acres of University-owned land, which Drexel will lease to the new tenants.

RANKINGS

Drexel Advances in Graduate School Rankings

Several Drexel schools, colleges and programs made gains in the 2020 *U.S. News & World Report* "Best Graduate Schools" rankings released in March.

The rankings, which use both data and reputational surveys, recognized institutions' online, full-time and part-time graduate school offerings in areas like business, law, education, health specialties and nursing.

Notably, the Kline School of Law moved into the Top 100 of the country's best law schools; the Dornsife School of Public Health ranked at No. 19 among 118 nationally ranked schools and programs of public health; and Drexel's online graduate program in education, which is offered through the School of Education and Drexel University Online, jumped 30 spots to rank at No. 54.

"The improved rankings recognize that graduate-level education and scholarship at Drexel is of the highest quality and that Drexel continues to innovate by providing unique programmatic offerings that meet market needs."

ELISABETH VAN BOCKSTAELE, senior vice president of online and graduate education and dean of the Graduate College.

Adam Kesselman, '89

Dragons interested in supporting City Bright can make a tax-deductible donation at **https://www.gofundme.com/city-bright-philadelphia**

Rad Grad

COMMUNITY

Adam Kesselman created the City Bright Philadelphia nonprofit a year ago to offer homeless shelter residents a fair wage while also tackling the city's litter problem. — *Jen A. Miller*

'It's a win/win. The homeless get paid, which helps them get a meal they're missing or toiletries they need... It's also helping the community by keeping it clean and giving people a sense of pride.'

Adam Kesselman (BS accounting and finance '89) wears three hats: He's senior vice president of corporate development at Health Union, a company that creates digital ecosystems for patients with chronic diseases; adjunct professor at Drexel in the Charles D. Close School of Entrepreneurship (and at Temple University); and founder of City Bright Philadelphia, a nonprofit that pays homeless shelter residents to clean up trash around Philadelphia.

"It's a win/win," he says. "The homeless get paid, which helps them get a meal they're missing, or toiletries that they need, or use the money toward recovering a lost birth certificate or social security card. It's also helping the community by keeping it clean and giving people a sense of pride."

The idea came to Kesselman from similar programs in Fort Worth, Santa Fe and San Diego. Would it work in Philadelphia?

In July 2018, he decided to give it a shot. He handed out flyers to homeless people he saw on the street, and at a few homeless shelters, and asked anyone interested to meet him the next day at 12th and Race streets. He offered to pay each person $20 for two-and-a-half hours of work — above minimum wage — with money from his own pocket.

"I expected three or five people to show up," he says. He got 25. He did it again a week later. Seventy-five people showed up. He had to turn some away because he only had enough money in his pocket to pay 40 people. All in all, he used $5,000 of his own money getting the project off the ground.

Last August, he established City Bright Philadelphia as an official nonprofit. Now private donations and sponsors keep the program growing. Volunteers assist with coordinating the cleanups and he partners with Philadelphia homeless shelters. So far, the organization has done 36 clean ups, with 1,175 people collecting 155,000 pounds of trash.

He sees this as a template that can be replicated in other cities. "If you can explain the concept in less than 30 seconds, then it's quite likely scalable and executable," he says. He hopes that expanding the organization's efforts can help bring people out of homelessness.

"I want to create opportunities for people to earn a little bit of money so they can use that as a means of getting sustainable housing, or a recommendation for a full-time job," he says.

CO-OP

Show & Tell

EMILY CAREY
BS GEOSCIENCE '20

More than 92 percent of Drexel's undergraduates participate in the Drexel Co-op program — a signature model of education that balances classroom theory with job experience within a buzzing network of more than 1,500 co-op employers in 38 countries. What does a Drexel co-op look like? In this regular feature, we ask a student fresh off a recent co-op to show us. *— Katie Clark*

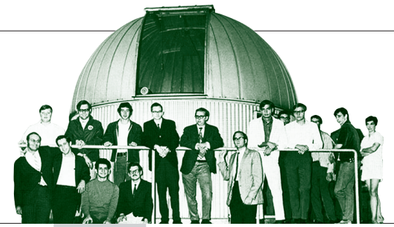
THE CO-OP
My second co-op included a month of field work at Mount Sinabung, a volcano on the Indonesian island of Sumatra, with a team led by Dr. Loÿc Vanderkluysen, a volcanologist in the Department of Biodiversity, Earth and Environmental Science. Our goal was to test the use of modern technology, like drones and cameras, in volcanology, a field that has historically used collecting methods that date as far back as the 1800s. Our team evaluated the possible use of drones to collect time-of-eruption ash samples from volcanoes. We also collected remote photographs of gas coming from the volcano to better understand the rate at which it is releasing gas.

THE TAKEAWAY
This was a life-changing experience for me. I had never spent so long living abroad nor even been to Asia. I got to meet people different from myself, and I loved it. It's made me want to travel more. It cemented my love for geology. As someone who loves science, but also loves art and looking at the world through a creative lens, geology is a beautiful melding of so many different concentrations, thoughts, ideas and disciplines. It was a great thing for me to be able to merge all these together in one co-op.

JEFF FUSCO

THE OBJECTS
These are some rocks I collected. One is pumice from near Mount Sinabung that originated from Toba, a volcano many kilometers away. And these are pieces of sulphur from the Ijen volcano complex, which supports a centuries-old sulphur mining industry. My gas mask was mandatory for field work around Ijen — the particles from the ash plume are dangerous to breathe. From my work at Ijen, my hiking boots smell like rotten eggs. They stay in a bag in the lab, because I don't want them stinking up my house.

CROSSWALK BRIEFS



Did you know Curtis Hall is home to the largest telescope in the city?

Lucy Kerman at a 2016 block rebuild party in the Mantua neighborhood, where volunteers made health-and-safety repairs to homes.

ASTRONOMY

See the Stars from Curtis Hall

A large white dome on the roof of Curtis Hall holds one of Drexel's true hidden treasures: the Joseph R. Lynch Observatory, home to the most powerful telescope in the city.

The observatory's origin story begins in the '60s, when Drexel hired assistant physics professor Leonard D. Cohen to jumpstart the nuclear engineering program. Cohen had a personal side interest in astronomy and oversaw the opening of the observatory in the '70s. He continued to advise astronomy-themed student organizations until he retired in the '90s.

Stargazing apparently wasn't widely popular at Drexel. Michael H. Tunick '77, an assistant clinical professor in the Department for Food & Hospitality Management who was vice president of the student-run Drexel Astronomy Society at the time, recalls there was such disinterest in the observatory that his small group jokingly called it "Mount Apathy."

Today, the Department of Physics in the College of Arts and Sciences uses the observatory's 16-inch Meade Schmidt-Cassegrain telescope in two classes.

The observatory is also open to the public once a month to connect laypeople with astronomy.

Also, in keeping with Cohen's original spirit of bringing the study of the stars down to earth, the department's graduate students host a monthly astronomy night for the public at the Dornsife Center for Neighborhood Partnerships in the Powelton Village neighborhood.

COMMUNITY

Health Boost for Philly

Drexel is partnering with the Lazarex Cancer Foundation to establish Community IMPACT, a program that will focus on reducing cancer and improving health outcomes in Philadelphia, starting in West Philadelphia neighborhoods.

The program — involving the Dornsife School of Public Health, the College of Nursing and Health Professions and the College of Medicine — will combine public health qualitative and quantitative assessment and research methods with grassroots engagement in communities that are often not invited to make their own decisions for health care.

"We aim to inform culturally tailored and linguistically appropriate messaging and educational strategies to prevent cancer and treat it more effectively."
LUCY KERMAN, senior vice provost for university and community partnerships at Drexel.

The lessons learned from the program will be applied to similar community-led cancer initiatives for residents in North Philadelphia and other vulnerable city communities through the Stephen and Sandra Sheller 11th Street Family Health Services.

Keep up with current news about Drexel at **drexel.edu/now.**

Quoted

Drexel news and people.

SHARON L. WALKER, distinguished professor and dean of the College of Engineering, giving advice on empowerment.

PEOPLE WILL LISTEN IF YOU CAN KNIT A STORY OUT OF YOUR RESEARCH AND EXPERIENCES

TED DAESCHLER, curator of vertebrate zoology at the Academy of Natural Sciences and professor in the College of Arts and Sciences, about the importance of communicating geosciences research to inspire citizen engagement.

OPPORTUNITY IS ONLY PART OF THE SUCCESS EQUATION. THE REST OF IT IS RESOLUTION, AND THAT'S ENTIRELY UP TO YOU

JONATHAN DEUTSCH, professor in the Department for Food & Hospitality Management, on how people should shop smart.

MAKE SURE YOU'RE BUYING ONLY WHAT YOU NEED, AND THEN USE IT

ALLEN SABINSON, dean of the Westphal College of Media Arts & Design, on why he agreed to DJ a two-hour set on Drexel's student-run radio station.

LONG AGO IN A FARAWAY LAND, I WAS A COLLEGE DJ AND I'VE NEVER STOPPED LOVING MUSIC

THOMAS DECHIARO, vice president of information technology and chief information officer of Drexel University Information Technology.

EVERYONE EXPECTS A WI-FI CONNECTION WITH THE SAME MINDSET AS WATER COMING OUT OF THE FAUCET. IT'S EXPECTED TO ALWAYS BE ON!

DAVID FLORIO '06, assistant crew coach for Drexel's rowing program, on living inside Bachelors Barge Club on the Schuylkill River's Boathouse Row.

IT'S A PIECE OF HISTORY AND I GET TO BE A PART OF IT.

To learn more about the Immersive Research Lab, visit:
http://digm.drexel.edu/acelab/irl-launch/

AUGMENTED MEDIA

3.5.19
IMMERSIVE RESEARCH LAB

"IRL" is gamer argot for things that happen "in real life" rather than inside a virtual reality world. It's a fitting acronym for the Immersive Research Lab, a facility that opened this year in Drexel's Westphal College of Media Arts & Design. Here, students have access to a workshop of specialized tools found at few universities. The tools allow them to combine visual arts and computer technology to create the realistic models and settings used for movie visual effects, video games, computer visualization and now, virtual reality, augmented reality and other immersive media formats.

"If you have even the smallest inkling of an idea that involves immersive media and augmented reality/virtual reality, this lab will give you the tools and expertise to explore it and test it out, including computers, headsets, motion capture, custom immersive camera systems, motion platforms and even holographic displays," says Assistant Professor Nick Jushchyshyn, director of the lab.

JEFF FUSCO

1
THE SPACE
The 550-square-foot lab is home to custom-built technologies developed within the lab, such as 360-degree virtual reality cameras and an X-wing fighter cockpit platform. To display student work, the lab includes three screening rooms, stereo and mono display screens, an Ambisonic sound system and a 16-foot diameter domed projection screen (located in a nearby room).

2
THE GADGETS
Travis Hove '20, a game design student majoring in virtual reality, helped Jushchyshyn build this motorcycle-like platform to assist with motion capture for immersive reality and gaming content. The lab includes a number of special headsets, such as the one he's wearing, that overlays holograms into the visual field. In one recent class project, students programmed headsets like this to display an immersive 3D undersea experience choreographed for audiences listening to a Curtis pipe organ concert.

3
THE DIRECTOR
Lab director Nicholas Jushchyshyn previously worked in the feature film visual effects industry. His credits include work on striking films such as "The Girl With the Dragon Tattoo," "The Last Air Bender" and "The Curious Case of Benjamin Button." He designed a new bachelor's of science program in virtual reality and immersive media that enrolled its first students this fall.

4
THE PROJECTS
Animation major Jennifer Raimondi '20 is testing ways to push the capabilities of this OptiTrak motion capture camera. The camera is used to pre-visualize in 3D how a computer-designed setting will look. In the classroom, Raimondi is experimenting with ways to use the camera to incorporate a live person into a digitally created 3D scene.

Fired Up

The men's basketball team has a mix of new and seasoned talent to lead them, they hope, to a great season. ***By Mike Unger***

Sometimes in sports, numbers don't tell the whole story.

At first glance, last season was a tough one for the men's basketball team, which went 13-19. But Coach Zach Spiker describes it as "a year of progress." Nestled among the tough defeats was a victory at the College of Charleston that snapped the second-longest active home winning streak in Division I.

"I like where we're headed," says the fourth-year coach. "Each year has presented a different set of challenges, and you have to adapt and do things the right way to make our program as locked in as it can be."

One of his reasons for optimism is Camren Wynter (pictured at right), a second-year student studying finance in the LeBow College of Business. Last year, the 6-foot-2 guard from Hempstead, New York, set a Drexel freshman record with 164 assists. He averaged 11.3 points and 4.6 rebounds on his way to being named the Colonial Athletic Association Rookie of the Year.

"What impresses me so much about Cam is how quickly he plays," Spiker says. "He doesn't have to score to impact the game. He delivers the ball on time and on target. When he does that it creates energy and gets guys fired up."

Wynter says it took him some time to adjust to how much more physical college basketball is than the high school game, so he worked tirelessly this summer to improve his jump shot and get stronger. He was in the gym every day — literally — with his sights set on winning the CAA championship and taking home the conference's player of the year award.

"If you don't think you're the best, you've already lost," he says.

Junior James Butler is among the Dragons' other key returnees. He averaged 8.2 rebounds per game last year, which was seventh in the CAA.

"He just grinds," Spiker says of the 6-foot-8 forward. "He may be a little bit undersized, but he uses that to his advantage. He's very strong, skilled and plays with a high motor. You play with a motor, things happen."

Drexel will be boosted by the return of seniors Zach Walton and Kurk Lee, both of whom battled injuries last season. Coletrane Washington, Tim Perry Jr. and Matey Juric, who was honored as the team's top defender last year, also return.

The newcomers include freshmen Mate Okros and T.J. Bickerstaff, whose grandfather and uncle both coached in the NBA.

Spiker likes the mix of experience and youth. It won't take long for him to learn what kind of team he has: Drexel opened the season against city rival Temple University as of press time. Challenging games against LaSalle, Rutgers and South Florida follow.

"It's been a close group," he says. "I believe firmly that the closer you are off the floor the more success you can have on it. This group has invested in that time together, and I think it will be a fun group to watch."

There's a saying Spiker is fond of telling his team and recruits: energy and enthusiasm are kindling to the fire of success. The 2019–2020 men's basketball team seems ready to strike a match.

TOMMY LEONARDI

"This year we want to get what we wanted last year." **— Bailey Greenberg '20**

WOMEN'S BASKETBALL

Back for More

The women's basketball team is charging into the season with a thirst for the championship that eluded them last year. ***By Mike Unger***

Here's something you'll almost never hear from a basketball player who leads their league in scoring.

"Defense is my favorite part of the game."

But sure enough, those words were spoken by Bailey Greenberg, the Drexel women's basketball team's all-everything senior star. Despite being called upon to defend the opponent's best post player virtually every game last season, the 5-foot-11 forward from North Wales, Pennsylvania, managed to lead the Colonial Athletic Conference in scoring. Yet it's the less glamorous end of the court that she believes holds the key to her team's dreams for this season.

"If our defense stays at the level it did last year and we can increase our scoring, I think we'll be in excellent shape," says the LeBow College of Business marketing major.

Last year was a successful, if bittersweet, one for the Dragons. An impressive 24-9 campaign ended with two stinging defeats, to Towson in the CAA Tournament title game, and to Harvard in the first round of the WNIT.

"Overall, you're pleased when you look at the record," says Coach Denise Dillon. "We were fairly young. We came up with some big wins, especially in conference play, and put ourselves in a great position to compete for a CAA championship. But the team and coaches want more."

Her inexperienced group has aged into a veteran one. All five starters are back, as are several key backups. Niki Metzel, Keishana Washington, Aubree Brown and Hannah Nihill are among the key returnees. They'll be joined by freshman A.J. Davis and Maria Ferariu, the younger sister of senior guard Ana Ferariu.

And then, of course, there's Greenberg. The reigning CAA Player of the Year averaged 17.2 points per game last year, twice the second-highest total on the team. Her 569 total points were third-most ever for a Drexel junior, and her 7.2 rebounds per game were third in the CAA.

"She did everything for us offensively," Dillon says. "She's not the strongest and she's not the biggest on the floor when it comes to post play, but she knows how to use her quickness and her timing is so good. Her defense was so impressive. When you talk about being player of the year in the league most often it's recognized because of the offensive strength that a player has. I was pleased to see that the coaches recognized Bailey's commitment on both ends."

Greenberg worked on her ball handling and shooting this summer, but also paid special attention to her conditioning. Whether she ran, sprinted or actually shot hoops, she tried to do something active every day.

"Last year we had a couple of games where we lost at the end because we got tired," she says. "So whatever we can do to prepare ourselves so that we don't get tired at the end is a big goal."

This season promises to be an exciting one in the CAA, where defending champion Towson is expected to contend along with James Madison and Delaware. Dillon believes the conference may even be able to place more than just its champion in the NCAA Tournament.

But Greenberg isn't even considering that scenario. In her last collegiate season, she's focused squarely on winning the CAA title.

"Anytime a team achieves over 20 wins it's a great accomplishment," Greenberg says. "But I think the whole team is not satisfied. This year we want to get what we wanted last year."

TOMMY LEONARDI

"I've always been a big competitor."
— Connor Schmidt '20

GOLF

A Long Shot

It's not every day a college golfer earns a spot in the most prestigious tournament in amateur golf. ***By Mike Unger***

On July 9, Connor Schmidt experienced the kind of day most golfers can only dream about. At Edgemont Country Club in Charleston, West Virginia, Schmidt played 36 holes — without carding a single bogey. His pair of 64s was seven shots better than his closest pursuer and secured him a spot in the 2019 U.S. Amateur, the best shot at a long shot that any amateur could ask for.

It was a sterling — but not surprising — performance by a man whose golfing trajectory has consistently trended upward.

"A lot of people told me I had potential while I was growing up," says Schmidt, who first picked up a plastic club around age 5. "In high school, I kept getting a little better every year. I didn't randomly just get good one day."

Drexel coach Ben Feld has seen Schmidt's game continue to progress. As a third-year student last season, Schmidt won two collegiate tournaments, the Lonnie Barton Invitational and the Wildcat Invitational. A business analytics and supply chain management major, Schmidt plans to play one more season before graduating and pursuing a professional golfing career.

"Connor is the complete package," Feld says. "He has outstanding natural ability, an outstanding work ethic, is an outstanding student and has nothing but a positive impact on his teammates. His mental maturity, eagerness to learn and improve and his attention to detail set him apart from other talented players."

Schmidt comes from good athletic stock. His father, Ralph, was a baseball player in college, and his mother, Aimee, played college basketball. Growing up outside of Pittsburgh, Schmidt played baseball, basketball and soccer in addition to golf. But when he started breaking 70 in high school, he began focusing more and more on the links.

"I've always been a big competitor in everything I do," he says. "Golf is an individual sport — you're in control of everything that you do. You don't have to worry about anyone else. It teaches you a lot of lessons, like staying patient. You have to be really positive on the course."

That's not difficult when you're able to drain putts like Schmidt. His short game is his strength, he says. But in order to continue improving and excel at the next level, he'll have to sharpen his entire game.

"Once you get good at golf, it's 90 percent mental," he says. "I've been getting really good at the mental side since I got to college. I've been working with my coaches on course management and playing smart."

Schmidt practices at least five times a week and often plays 36 holes like he did that fateful July day in West Virginia. The U.S. Amateur, whose previous winners include Tiger Woods and Phil Mickelson, was played in August at legendary Pinehurst No. 2 in North Carolina.

He placed decently but at such a momentous event, just getting invited is the real win, and Schmidt's affinity for the sport remains strong.

"There are a few times when I need a little break from golf, but I love it," Schmidt says. "It's my favorite thing to do. I think about it all the time."

For a guy who has posted so many magical scores, somewhat surprisingly he's never made a hole-in-one.

"Sadly," he says. "Maybe tomorrow."

Spoken like a true golfer.

HAPPY BIRTHDAY, 100 CO-OP YRS

As Drexel celebrates the centennial anniversary of its co-op program throughout the 2019/2020 academic year, we toast the employers who have made the program one of the nation's largest, oldest and most successful of its kind.

A century spent building partnerships with companies of all sizes, in all fields, across the United States and abroad has earned Drexel deep relationships with employers invested in cultivating graduates ready to make an impact from day one.

Our network of employers has grown from a handful of local companies like DuPont and the Pennsylvania Railroad in the 1920s to more than 1,500 companies employing 5,300 students a year. They include Fortune 500 companies, enterprising startups, and respected arts and cultural nonprofits.

Many organizations have been hiring Drexel co-op students for decades. Drexel Magazine asked them why they return year after year.

Here's what they say.

PECO, an Exelon Co.

Rich Cornforth has spent nearly 40 years working at PECO, adapting to changes in the utility industry along the way. But he says a fresh perspective from Drexel students can generate solutions that have eluded even him.

"Co-op students are just great resources," says Cornforth, who is director of engineering at the Philadelphia-based natural gas and electric utility. "They bring skills that they've clearly picked up in their studies — data analytics and understanding the latest data tools."

PECO has been hiring Drexel co-ops for four decades. This is because at PECO, co-op students get real work done, and they are as valued as employees are.

Cornforth has seen co-op students devise ways to automate rigorous tasks that have created lasting efficiencies by significantly reducing the time to complete them.

The students learn productivity hacks at Drexel that they bring with them to the job, which helps PECO's bottom line. But for the nearly 150 co-op students who work at PECO each year, there's always give and take.

PECO puts its co-op students through a rigorous onboarding and off-boarding process that includes five training sessions and optional career workshops with résumé reviews and mock interview scenarios. At the end of their co-op period, each student delivers a poster presentation on the project they completed. And these projects aren't just theoretical — some have gone on to see implementation and millions of dollars of funding.

In fact, when Cornforth meets with company colleagues in other regions, he makes them jealous.

"As we compared staffing levels, the number of people and the amount of work that would get done, my peers were like, 'Well, that's not fair, you have extra people. You're getting work done but I can't hire more full-time staff,'" he reminisces. "I say, 'Well, that's your fault. Hire co-ops.'"

PECO's Director of Engineering Rich Cornforth says the utility hires Drexel co-op students because they bring new knowledge and perspective into the company.

Lia Diagnostics

While on co-op with Philadelphia-based startup Lia Diagnostics, College of Arts and Sciences major Riley Stanford '19 created a patent-pending film for the firm's flushable pregnancy test, which is close to commercialization. "This feels big," Stanford says of the project. "It's definitely a project I'm proud to be involved with. What Lia Diagnostics is doing is good for the environment and good for women, and both are things that I care passionately about. The Drexel co-op ultimately gave me the chance to see everything through and affect change."

Anna Couturier, co-founder and chief product officer at Lia Diagnostics, with co-op student Riley Stanford.

"Riley made an impact in the company. She's super smart, she's a fast learner, she's genuine, nice, funny. She added to our culture, but she also pushed forward our technology and our manufacturing in the future. She's done it all for us."

ANNA COUTURIER, CO-FOUNDER AND CHIEF PRODUCT OFFICER

'...THEY BRING SKILLS WE MAY NOT HAVE...'

Philadelphia Eagles

"There's only so much you can learn in a classroom. We look for people who have gone out and joined clubs or actually done the work that they're learning about in class. Drexel co-op students are taking things from their six months of class into the workforce and taking things from the workforce back into their classes, keeping the circle going. That's appealing to us because we want people who can walk into the job and have experience under their belt, and knowledge of what it's like to be in a professional environment, with all the teamwork and relationships that come with it."

KELLY RAFFERTY, EVENT PRODUCTION COORDINATOR

Comcast Corp.

"The Drexel Co-op program is highly regarded by Comcast because we know that the students who come to work here are serious about gaining valuable work experience and could one day follow in the footsteps of other co-ops who have become top performers on our full-time team."

KAREN DOUGHERTY BUCHHOLZ, SENIOR VICE PRESIDENT

Christian Roberts '15, business sales representative at Comcast Corp., with Nika Chugh, fifth-year marketing student who co-op'd at Comcast.

Estée Lauder

"Our two co-ops in our last cycle in our quality assurance department actually developed an inspection application that we're rolling out globally. They did all their own coding, created the app and presented it to the executive president of our supply chain. It's been beneficial beyond our imagination. These students are unbelievable."

JOHN FRENTZEN, ASSISTANT MANAGER, TALENT ACQUISITION

Philadelphia Ronald McDonald House

"The co-op program works for us because it allows the students a greater number of hours and that lets them get ingrained in our programs and really have a sense of what it's like to be in a workplace full time. They become dedicated and connected to our mission. Those are the types of students we look for, who are looking to get involved with the community, and Drexel students really seem to have that desire."

SHARON BROWN, HUMAN RESOURCES MANAGER

TOP 25 CO-OP EMPLOYERS

Children's Hospital of Philadelphia
PECO, an Exelon Co.
Comcast Corp.
Johnson & Johnson
University of Pennsylvania
Philadelphia Water Department
Lockheed Martin
Hospital of the University of Pennsylvania
PJM Interconnection
Susquehanna International Group
Thomas Jefferson University Hospital
SAP America
National Board of Medical Examiners
Estée Lauder/Northtec
CHUBB (formerly ACE USA)
Academic Internship Council
Goldman, Sachs & Co.
JPMorgan Chase & Co.
NAVSEA
FMC Corp.
Independence Blue Cross
Merck
Fox Chase Cancer Center
Macquarie Investment Management
Bristol Myers Squibb Co.

*2017–2018, excluding Drexel

TIMELINE

1919

In the wake of World War I, Drexel Institute of Art, Science and Industry President Hollis Godfrey announces Drexel will support the post-war economy by creating a co-op program. The program begins with just 152 engineering students.

1929

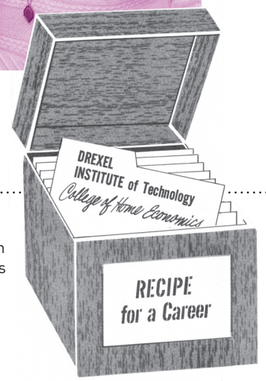
Drexel responds to massive economic layoffs by approaching smaller employers and extending the co-op work terms. Throughout the Great Depression, the unemployment rate rises from 3.2 in 1929 to 17 percent by 1939.

1934

Drexel's four-year co-op in merchandising becomes a five-year co-op in retail management. The historic Wanamaker's department store in Center City (now Macy's) begins hiring Drexel students, largely women.

1941

The U.S. enters World War II. In April 1940, about 13 million women make up the country's total workforce; five years later, that number grew by more than 6 million.



1963

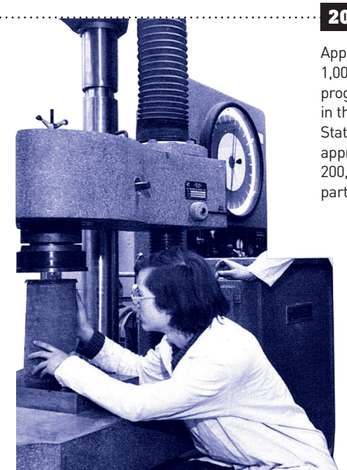
The National Commission for Cooperative Education is established, with a goal of doubling the number of cooperative institutions from 60 to 120 within 10 years.

1968

As part of the Higher Education Amendments of 1968, Congress makes $10.75 million in grants available to help institutions of higher education establish new co-op plans.

1971

There are now 178 institutions of higher education with some kind of cooperative program.



2005

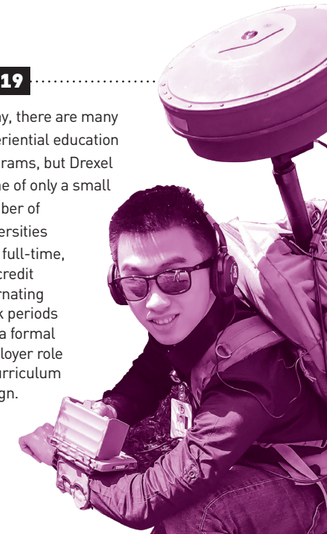
Approximately 1,000 cooperative programs exist in the United States with approximately 200,000 students participating.

2006

A *U.S. News & World Report* article names Drexel one of the best "fully co-op" schools in the country.

2019

Today, there are many experiential education programs, but Drexel is one of only a small number of universities with full-time, for-credit alternating work periods and a formal employer role in curriculum design.



ASK ME

WHAT IT'S LIKE

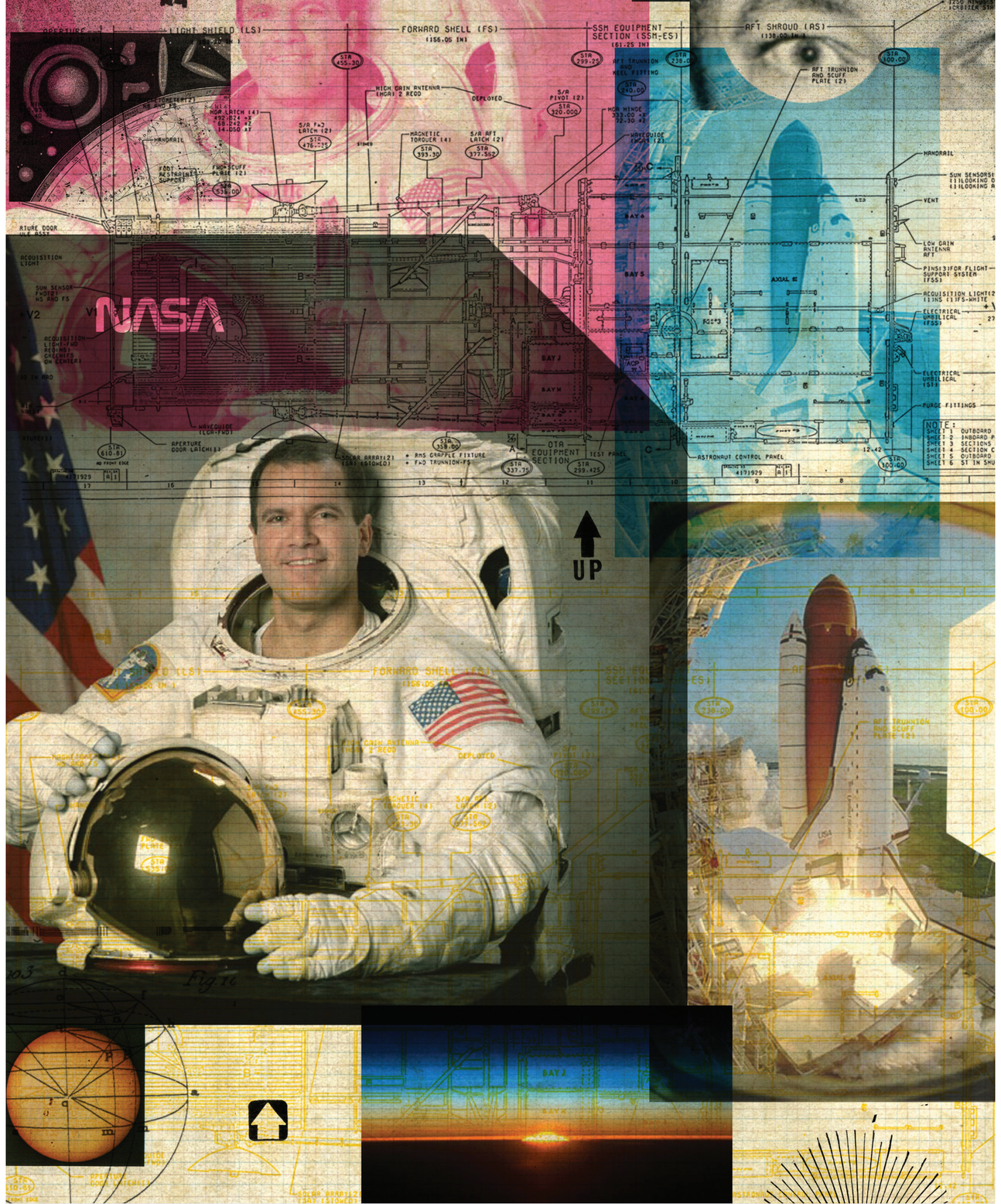
Have you ever wondered what it is like to explore outer space, compete on "Jeopardy!," or win millions of dollars? We ask eight alumni to share a time in their lives they'll never forget.

The wilderness photographer Ansel Adams once said that every experience is a form of exploration. Life is a call to action that takes you to a new place, and hopefully, to greater wisdom.

Here at Drexel, we couldn't agree more. We're also fond of the old chestnut that experience is the best teacher. That's what our educational model is all about, after all. And as we celebrate the centennial of the Drexel Co-op program, we honor not only academic experience, but also the interesting and rare life opportunities that come with a rich education.

BY SONJA SHERWOOD, BETH ANN DOWNEY & MARIA ZANKEY

ILLUSTRATIONS BY DAVID PLUNKERT



What is it like to DO A SPACEWALK?

PAUL W. RICHARDS
BS mechanical engineering '87

If you want to be an astronaut, you've got to be the best at something.

Of the more than 330 people selected by NASA to travel into space, nearly all are top pilots, scientists or engineers.

Paul W. Richards happened to be the best tool guy.

Richards, 55, is a mechanical engineer with degrees from Drexel (BS '87) and the University of Maryland (MS '91). After college, he worked on the Hubble telescope project as a designer of crew aids and tools for astronauts. Which means that when he applied to the astronaut program in 1996, he had already logged hundreds of hours with the devices in NASA's underwater tank, simulating the slow, weightless ballet of an actual spacewalk.*

By the time he boarded the Discovery shuttle for his first and only spacewalk in March 2001, he had trained 17 hours for each hour that he spent outside the International Space Station, rehearsing routines forward and backward, using tools that in some cases he had personally designed.

So he felt totally chill, in other words.

"During the entire mission, I felt like I had been there before," he says. "It seemed like my peripheral vision was fine-tuned; colors seemed brighter. We are trained so well it's sometimes like the crew can read each other's minds. It's an amazing feeling to be that ready."

Then you step out of the airlock into space, where the sun rises and sets every 45 minutes and temperatures swing 500 degrees in either direction.

"NASA trains the surprises out of you," Richards says. "But they can't train you for the view outside such as the sight of lightning strikes over Houston at 2 a.m., or the beauty of sunrises, sunsets, moonrises and moonsets. Around the Earth, you see the thin atmosphere lit up by the sun with spectacular colors. Parts of the ground look pristine and uninhabited; other parts seem very inhabited as you see smoke coming from power plants in China or sediment from a river reaching hundreds of miles into the ocean. Also, I didn't train for the complete darkness on the backside of the space station, or for that moment, when your hand slips off the space station…and the heart races. Because you *never* want to fall off the space station."

"They tell you all the odds about the danger of launch, but when it was me and I was going up, it was 50/50: I was either coming back or not. We all write two sets of letters for families back home: a MECO (main engine cut off) letter, and a good-bye letter. Once you start coasting in space, your MECO letter tells everyone back home how happy you are to be living your dream."

For Richards, experiencing the immensity of space and the marvel of man's ability to reach it left him more certain of the divine.

"To be traveling at 5 miles per second looking down at Earth from this machine that we built….for me, that opportunity to see the universe differently strengthened my faith in God. There is definitely a grand designer that we're just beginning to figure out." — Sonja Sherwood

* Remember Michael Bay's space spectacular "Armageddon"? When Ben Affleck's character is inside NASA's underwater tank learning how to save the planet from an asteroid, one of the suited figures in the tank with him is actually Paul Richards.

What is it like to

WIN AN XPRIZE?

BASIL HARRIS
BS architectural engineering '92, BS civil engineering '92, MS civil engineering '94

It wasn't until Basil Harris was at the Los Angeles awards ceremony in 2017 that he began to believe his team of seven siblings and friends could actually win the $2.6 million grand prize in the international Qualcomm Tricorder XPrize competition.

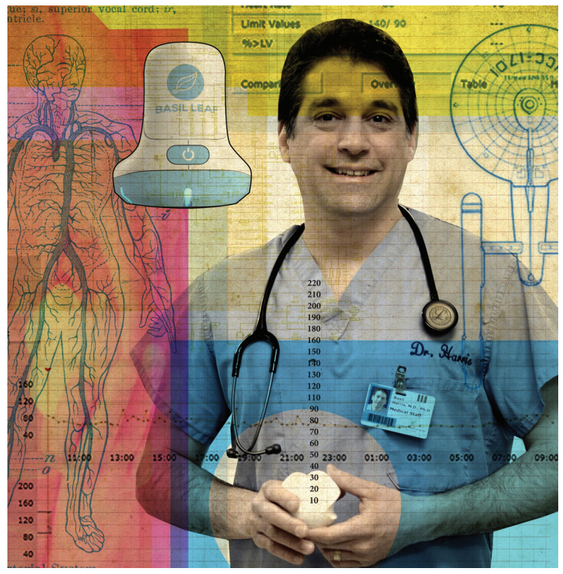
The victory was five years in the making, and it meant surviving 311 rival teams from 38 countries, including large teams with deep pockets. (Second place went to a powerhouse of 40 or 50 medical professionals and programmers backed by cellphone maker HTC and Taiwan.)

Harris, 49, was (and still is) a busy night-shift ER doctor and father of three working at Lankenau Medical Center and living in Paoli, Pennsylvania. But he grew up with an engineer dad (his father Harry Harris is a retired Drexel engineering professor) and a love for old "Star Trek" re-runs. He holds five degrees, including two undergraduate degrees and an MS in civil engineering from Drexel, a medical degree from Jefferson University, and a PhD from Cornell. He also has a number of patent applications to his name and a medtech startup he runs with one of his brothers called Basil Leaf Technologies.

So when the California-based XPrize Foundation — known for staging high-concept contests around innovations that solve major human challenges — asked teams to create a "tricorder" tool for rapid diagnoses like the fictional one Dr. Leonard McCoy used on the starship Enterprise, Harris cleared the table and began tinkering.

The objective was to create a handheld medical device that anyone could use at home to easily and instantly diagnose at least 13 health conditions and monitor five vital signs.

As a physician, Harris had an advantage over teams that were focused mainly on the tech. "I wanted to recreate what we do in the ER when I make a diagnosis," he says. "When I approach patients I'm not thinking, 'Hey, what cool tech can I put on this person?' First, I need to know what information [about the patient] I need to gather."



HARRIS' "TRICORDER" WAS BUILT AT HIS HOME WITH FAMILY AND FRIENDS. ONE OF HIS KIDS CHANGED PRINTER HEADS; ANOTHER THREADED WIRES IN THE EVENING. AT THE END, THE FAMILY HEAVED A 'HOORAY' TO HAVE THE KITCHEN TABLE BACK.

Joining the labor of love were four friends and three of Harris' siblings: George, Gus (BS electrical engineering '90) and Julia. They named themselves Final Frontier Medical Devices.

"When we started it was more kind of a fun project so that we could get together and have something to work on," he says. "In the beginning, just being a part of building this iconic tricorder and advancing in the contest in any way was enough for us. I was a little in shock that we pulled it off. I wouldn't have bet on us."

They spent five years — just like the "Star Trek" series' five-year mission, Harris jokes — bootstrapping a medical device they call the DxtER (pronounced "Dexter"). The team, spread out between Boston and Tennessee, got together nights and weekends to work on prototypes. Each of the 65 kits took 90 hours to print from scratch, and Harris' house was filled with circuit boards and the hum of three 3D printers. "My kids don't know life before tricorder building," Harris reflects.

Like Harris himself, DxtER is an overachiever. DxtER uses sensors and artificial intelligence to diagnose 34 — not just 13 — conditions, including diabetes, sleep apnea, urinary tract infections and pneumonia. Once Harris has a working model ready, it could retail for $200 and diagnose more conditions, he hopes.

Today, he's still working nights at Lankenau's ER, fielding jokes from colleagues who tease him that he should be building tricorders full-time. A multimillion-dollar prize purse doesn't go nearly as far as inner motivation, it turns out.

"Sometimes I think I should have taken the winnings and run off to Italy or Belize," he jokes. "But no, we have been just doing more of the same… design, build, test and repeat. With the winnings we've been able to continue without investors. We are still operating in a startup mentality: no salaries or employees, just putting our heart and souls into building something we think is really cool and useful."

DxtER units are going through calibration tests, and Harris hopes to launch a clinical trial that will include about 175 patients at the University of California in San Diego before the end of the year. Next: FDA approvals, and onward to commercialization and scaling up. At that point, Harris hopes to partner up with a big firm because the team will be boldly going where they've never been before… — Sonja Sherwood

What is it like to

WEAR A HIJAB IN AMERICA?

NOOR JEMY
BS health services administration '16

Islam has been a constant in Noor Jemy's household for as long as she can remember. For almost as long, she has worn a hijab.

Jemy, 25, a 2016 health services administration graduate, emigrated with her parents to West Philadelphia from Bangladesh at the age of 3 and has lived on the cusp of University City ever since.

She says that throughout her life, her hijab has been a personal symbol of Islam and its principles that inspire her to be a good human being.

Wearing a hijab meant bedtime stories with her two brothers of the Prophet Muhammad and other prophets Moses, Jesus and Adam. It represented eating halal, speaking with respect, dressing modestly, and the prayer and knowledge conferred from reading the Quran with her parents.

She used to view her hijab as a symbol of her religion. Today, in an America rife with cultural tensions and political unrest, she says her hijab has become her shield.

"It's a symbol of defiance — that I will not be swayed to tear away my identity," says Jemy, who currently serves as the program manager for Graduate Student Services in the LeBow College of Business. "That 1,438 years of this beautiful religion being practiced, and with more than 1.7 billion followers, this religion of Islam cannot be painted with one stroke of an ugly brush."

She notices whispers among strangers, stares charged with negativity, tugs on her headscarf from passersby.

Once, while waiting to catch a train at 30th Street Station, she heard a voice call out: "Go back to where you came from, you [expletive] terrorist." She froze, her hands clutching her bag as her eyes burned. She was too shocked and saddened to respond.

"I remember everyone around me going about their way. Life continued on," Jemy says. "The train arrived, and I boarded. And that was it."

She says it's "heartbreaking to be treated like an outsider in your own home," to be viewed as an "other."

"It's a weird dichotomy because of how important freedom of religion is here in America," Jemy says. "I am free to practice the religion I prefer, but somehow when I choose to cover my head and my body in this beautiful land of freedom, I am said to be oppressed."

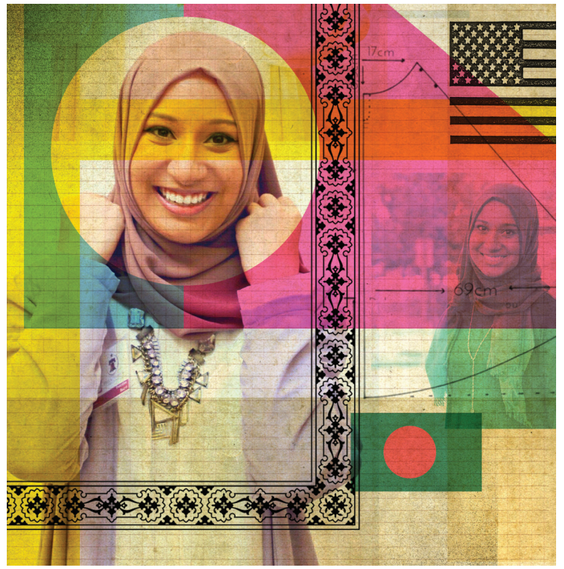
This perceived and sometimes projected oppression is the paradox of her hijab, Jemy says.

The more she read about women's rights in Islam, the more she noticed her religion elevated women in a way that that gave them immense respect, honor and equity.

"We're encouraged to go and seek knowledge and always pursue higher education and be independent, to vote, to make decisions in the house and in business and so much more," she says. "The more I learned about women in Islam the more liberated I felt."

She wishes more Americans saw and understood that liberation, too. But until then, her hijab will continue to remind her of her love for God, and her ability to rise above societal assumptions.

"I will keep saying it and showing it in any way I can here in America, my home," Jemy says. "Through my words and actions, and ultimately, my hijab. Islam is peace. Islam is beauty. Islam is love. Islam is understanding. Islam is acceptance. It will always be all that and so much more." — Maria Zankey



"I AM FREE TO PRACTICE THE RELIGION I PREFER," SAYS JEMY, "BUT SOMEHOW WHEN I CHOOSE TO COVER MY HEAD AND MY BODY IN THIS BEAUTIFUL LAND OF FREEDOM, I AM SAID TO BE OPPRESSED."

What is it like to

LOSE A BUSINESS?

MIKE EDWARDS
BS business administration '83

According to legend, it took the members of The Buggles just one hour to write the popular tune "Video Killed the Radio Star" inside a London apartment in 1978.

In 2010, it took Mike Edwards, BSBA '83, just one week to realize that the book and music mega-retailer Borders Inc., of which he was CEO, was similarly doomed by changing tastes and technology.

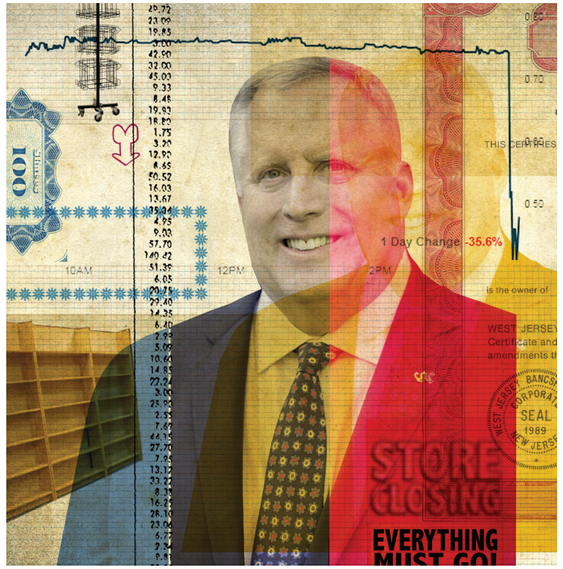
"The first week the Apple iPad came out, we dropped 6 percent in sales because people just downloaded books," Edwards recalls. "The company was already wounded because music became digitized, video became digitized and now books — the biggest category — was shrinking."

The $2.8 billion, 715-store retailer filed for bankruptcy just a year later. Edwards normally prides himself on his abilities to be innovative, pivot fast and see around corners, but he admits he didn't see it coming. When he became CEO in 2009, Borders wasn't doing well, but he thought it could be turned around.

When his intuition proved wrong, he viewed it as a learning experience. "With Borders, at a certain point, you couldn't save the patient," he says. "All the best intentions in the world, but when the banks pull the plug and you have no capital and you can't pay the bills, that's the hard lesson of business not performing."

There were a few glimmers of hope before Edwards resigned himself to liquidating the company in July 2011. First there was a rumor — false — that Barnes & Noble might acquire Borders. Optimism rose when Edwards lined up an investor for a bridge loan to keep things afloat. But the investor pulled out the day before the deal was to close.

"We went from thinking we would come out and survive, to filing a Chapter 7," Edwards recalls.



MIKE EDWARDS WAS CEO OF BORDERS WHEN DIGITAL BOOKS DROVE HIS COMPANY TO EXTINCTION. "YOU LEARN AS YOU GO, NO ONE TRAINS YOU TO BE A CEO," HE SAYS. "ONE DAY, YOU'RE IN CHARGE, AND THAT'S A VERY BIZARRE EXPERIENCE."

Edwards likens the five months between bankruptcy and liquidation to running a marathon. He cut underperforming stores, renegotiated leases, closed distribution centers, eliminated third-party vendors and reduced corporate overhead — all while running the business and trying new sales tactics.

"It's sort of being realistic with your team about the risks but also waking up every day with a sense of optimism and pushing as hard as you can to accomplish the goal," Edwards says of his feelings at the time. "Mentally and emotionally, it's fatiguing."

In the end, the book superstore went the way of the radio star. Immediately after filing the petition to liquidate, Edwards and his CFO flew back to Ann Arbor, Michigan, to deliver the bad news to the remaining 600 employees at Borders' corporate office. Instead of the reaction one might expect, they were met with a standing ovation for their efforts to save the company.

"We came close, but it wasn't meant to be," he says. "But, you know, a good failure is just as important as a lot of wins in one's career."

His experience with Borders will not be Edward's only legacy. The 59-year-old went on become president and CEO of online luggage retailer eBags from 2015–2017, and in April became president and CEO of Portland, Oregon-based children's apparel corporation Hanna Andersson.

As a Drexel trustee, he sometimes counsels business students to keep a sharp eye on industry changes.

"AirBnB was considered a very bad idea for a long time, but they disrupted the hotel industry and Uber disrupted the taxi industry and Apple disrupted the music industry and Amazon disrupted all the industries," he says. "The fact of the matter is the industry around you is changing. When you see a bad trend, sometimes you can't fix it." — Beth Ann Downey

What is it like to BE A SNIPER?

DANIEL NAVIN
BS mechanical engineering '17

Fully half of all the soldiers who try out for sniper school — yes, sniper school is an actual thing — fail out. The demands for peak fitness and sharp mental attention mean very few people are even nominated. Those who graduate get a coveted assignment: high-powered rifles, magnified optical equipment and the chance to sneak through enemy territory in small teams. The job has a heroic, elite quality. The stealthy, skilled sharpshooter saves soldiers' lives. That is the hope.

Daniel Navin, 35, joined the Pennsylvania Army National Guard straight out of high school in 2003 and went to sniper school in 2008. He was a natural choice for the sniper program: physically fit and fluent with firearms already from a childhood spent shooting BB guns and rifles in his backyard as a self-described "country boy." Navin finished the two-month training program handily and in 2009 he deployed to Iraq with the 56th Stryker Brigade combat team.

He arrived in an area north of Baghdad nicknamed the Triangle of Death. The area is densely populated and riddled with insurgents and roadside bombs. His job during the 10-month deployment was to spot things that looked out of place, to protect the team, to neutralize the enemy.

"You have to be able to rationalize what you're doing and how it fits into the big picture of saving American lives," says Navin. "You're given a high-powered rifle and your country is asking you to kill people and you have to have the maturity to cope with that."

His first week in Iraq, a team went out without a sniper, and a soldier was shot in the head.

"After that, we were always with the guys ready to respond and it put a lot of pressure on us," says Navin. They did foot patrols at night, kicked in doors at 3 a.m. to round up suspects, and walked into dozens of potential booby-traps.

All of which could be exhilarating, when you're 24 and this is what you trained for, Navin says. "You've trained with a bunch of guys and you're excited to be there — it's almost like being a pro athlete because you're ready and you're finally in the game."

But living with constant danger also plays with your mind, Navin says. "Looking back on it now, I can't believe we did what we did and are still around today," he says.

A touch of paranoia is a life-saving mentality for an infantry soldier in a combat zone, and it has since helped Navin as a civilian. While completing his degree in mechanical engineering at Drexel, he and fellow veteran James Ostman (BS mechanical engineering '17) invented a device called the Ballistic Curtain Cordon System to protect people in public venues from mass shooters. It's a bulletproof curtain that drops from a ceiling in a matter of seconds to provide cover for bystanders as they flee gunfire.

As public spaces increasingly come to resemble combat zones, Navin moonlights on development of the curtain while working with his wife at a family business in Pennsylvania in hopes that his startup will one day succeed in shielding citizens from danger. — Sonja Sherwood

What is it like to RIDE OUT A TYPHOON AT SEA?

ALAN ROHANNA
BS mechanical engineering '90

Large U.S. Navy ships are built to survive storms, but they aren't invincible.

The most famous case of Navy vessels foundering at sea is the story of Task Force 38, a fleet that was surprised by Typhoon Cobra in the Philippine Sea in 1944. Hurricane-force winds tossed the ships on massive waves and sank 46 aircraft and three destroyers, drowning 790 men in the roiling waves.

The enormous losses inspired the Navy to establish a typhoon tracking center on Guam, among other improvements. No large naval ships have sunk in storms in the past 70 years.

Maybe that's why Alan Rohanna was able to laugh his way through eight to 10 hours of oceanic churn and winds that reached 120 mph.

Rohanna was one of more than a dozen federal employees with the U.S. Department of the Navy who rode out a super typhoon on the Pacific Ocean aboard a U.S. Navy destroyer. At the peak of the storm, a homemade chronometer — a device that measures the list of the ship — indicated the ship was tilting up to 26 degrees from one side to the other.

Rohanna, who is 52 now but was 27 at the time, and his shipmates decided to have fun with it. They took an enlarged photo of their boss's face and attached it to the weight of the chronometer.

"Because his last name was Wos, we called it a Wos-o-meter," he says, laughing at the memory. "That's what you have to try to do to keep your mind off things and, you know, hopefully make it out alive."

Rohanna started working for the Navy at the Philadelphia Naval Shipyard — now The Navy Yard — during his first co-op in 1987 and continued there for two subsequent co-ops, graduating with a full-time offer. He worked there through the closure that turned the shipyard into the mixed-use development it is today, and was then transferred to a post in Norfolk, Virginia, in 1996, where he's worked for the past 22 years.

In 1994, he and his colleagues were flown from Philadelphia to Pearl Harbor, then boarded a Spruance-class destroyer set for a nine-day-long voyage across the Pacific to Yokosuka, Japan, on a work mission to study discrepancies in the propulsion and auxiliary systems. The trip took them right into the path of Super Typhoon Zelda.

"The captain was trying to veer away from it, obviously, because you don't want to go through the center of a storm," Rohanna says. "Even with him doing that, the seas were obviously quite rough."

After docking safely, Rohanna never fully recovered his sea legs.

"Once I stepped foot on the pier I was like, 'Oh my God, I'm not doing this ever again!'" he says, and nearly 25 years later, he hasn't.

"I have zero interest in going on a leisure cruise to Holland or wherever else, even though it's a totally different situation," he says, still chuckling. "I like the solid land." — Beth Ann Downey

What is it like to BE ON 'JEOPARDY!'?

JESSICA JOHNSTON
MS higher education '15

BEING ABLE TO JOIN A SECRET FACEBOOK GROUP OF PAST WINNERS IS ONE OF THE PERKS OF BEING CHOSEN TO COMPETE ON THE QUIZ SHOW "JEOPARDY!," SAYS JESSICA JOHNSTON.

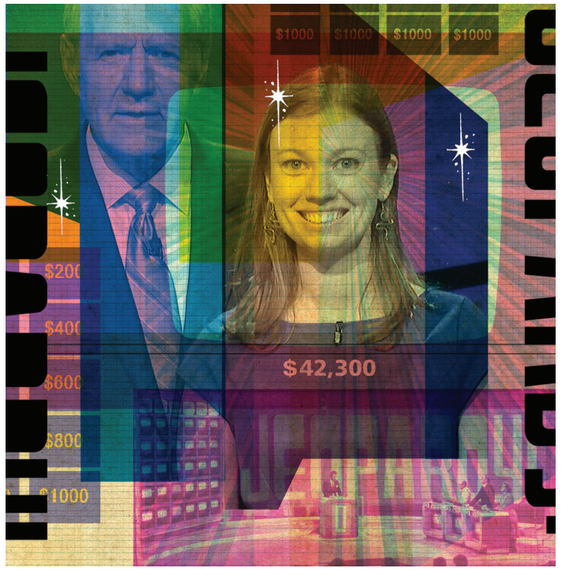
Getting on "Jeopardy!" isn't easy. More than 70,000 people take the quiz show's online qualifier test, 3,000 are invited to audition, and about 400 are actually chosen — which Jessica Johnston figures is less than half a percent.

Johnston, 33, appeared on several episodes in March 2017, and the Scripps College admissions recruiter won a respectable $42,300 as a two-day champion.

Fewer than a quarter of contestants win multiple episodes.

"I only tried this on a whim, so I was surprised to get as far as I did," says Johnston, a quizzo buff who took the online test at the suggestion of her boss. "I just sort of went into it with the attitude that, 'Well, this will always be a good story.'"

To qualify, she needed to answer 35 or more out of 50 "Jeopardy!" test questions, each timed at eight-second intervals. Finalists then attend an in-person audition, and a chosen few are invited to a taping in Los Angeles, where producers record five



episodes in a single day.

Beforehand, contestants have to write answers to more than 30 ice-breaker questions about themselves, so that Alex Trebek can make casual chit chat with them on screen. ("And he went totally rogue and asked me something not on the card at all!" Johnston complained.) Johnston also vividly recalls the producers' pep talk advice in the 'green room' before taping: don't look weird, don't fall off the platform, don't be that person.

Johnston says she worried more over what to wear on screen than about studying up or mastering a wagering strategy.

"So much of it is luck of the draw and just the categories you get," says Johnston. "There were some categories that came up where I was like, 'Oh man, are you kidding me?' There was one about fungus, another one about RVs, and I thought, 'This not going to be my day.'"

The question that doomed her winning streak was about the Gotye song, "Somebody That I Used to Know." She forgot the word, "That." Another contestant got it right, and he ended up beating her that day by $200.

"I still can't listen to that song," she says. But no matter. She won a nice chunk of money for her favorite thing: travel. She immediately booked a cruise to Antarctica.

The best, most surprising thing about being on the show? How nice everyone is. You join a big, but still pretty exclusive, club of tens of thousands of smart, friendly contestants, and Johnston says she made new friends and there's even a secret Facebook group.

"You think you're all going to be sitting in the 'green room' glaring at each other, but .... there's really much more of a community than I ever expected," she says. — Sonja Sherwood

DR. SANDRA LEE'S REALITY TV SHOW "DR. PIMPLE POPPER" IS NOW IN ITS THIRD SEASON AND HER YOUTUBE CHANNEL HAS MORE THAN 3 BILLION VIEWS.

What is it like to BE A REALITY TV STAR?

SANDRA SIEWPIN LEE
MD '98

Dr. Sandra Lee, 48, is not, herself, a "pop-aholic."

That's what she calls the cohort of social media users who enjoy watching dermatological "popping" videos online — a much larger cohort than she realized existed when she started posting these types of videos four years ago. For her, it's a profession; but for the fan base she's tapped into and which has propelled her to reality TV fame, popping is a passion.

Lee, MD '98, graduated from Hahnemann Medical College, which is now the Drexel College of Medicine, and is known as "Dr. Pimple Popper" for her role on the TLC reality show of the same name. Now in its third season, the show is the most-watched cable TV show on Thursday nights. Lee also boasts 3.4 million followers on Instagram and has racked up more than 3 billion views on her YouTube channel.

"Yes, that's with a 'B,' that's crazy," remarks Lee, who lives in Upland, California, with her husband and fellow alumnus Jeffrey Rebish, MD '98. "I just thought people would like to see a window into my world."

Although her father was also a dermatologist, Lee says she didn't get interested in the specialty until medical school. After completing their professional qualifications, Lee and Rebish settled in California, where Lee is from, and took over her father's practice upon his retirement. Skin Physicians & Surgeons is now a familiar setting for Dr. Pimple Popper viewers, but back when Lee was about a decade into her career, the popping videos she began posting online were just starting to gain traction.

"Early on, I think I had posted a blackhead extraction video and it got a noticeable increase in attention. I didn't know what to make of that; I thought it was really strange. So, I did it again and it happened again," she recalls. "Then a few months later, Buzzfeed posted a reaction video to my video on YouTube ... and I think I gained like 20,000 followers in a few hours."

A few years after Lee went viral, a production company came knocking. They wanted to create a reality TV show around her and her practice.

Lee was hesitant. "I really wasn't interested in it completely because it's sort of like me handing over control to somebody else, and I didn't really like that idea because reality shows are scary," she says. "I was concerned with how I would be represented, how I would be portrayed and how my patients would be portrayed."

But once she said yes and the July 2018 pilot episode did well, she saw that the show could provide something positive for fans.

"I think it's a really feel-good thing," she says. "In this day and age we have so much negative stuff, and reality shows with people tossing tables or getting into fights, but it's the opposite here. We might have something that is shocking or something that people haven't seen, or that might seem gross to people, but we're actually making it normal, and going the opposite way."

Being a reality TV star was never Lee's dream. In fact, being famous was pretty hard for her to get used to. But she sees this attention as a platform for the mission she holds dear to her heart: bringing dermatological knowledge and high-grade skincare products to people who might not have access to them. She's doing this by continuing her YouTube channel, through her SLMD Skincare line, and with her book, "Put Your Best Face Forward," which was released in December.

With her status, Lee also takes very seriously her opportunity to serve as a role model, especially for her younger fans.

"There are so many 5-year-olds, 8-year-olds, 12-year-olds who are obsessed with Dr. Pimple Popper," she says. "I get so many photos the first day of school when they say, 'When I grow up I want to be' and they put in 'Dr. Pimple Popper,' or they dress up like me on Halloween."

Future "pop-aholics" in the making. — Beth Ann Downey

FOUND ART

The next time you visit campus, take a walking tour of Drexel's outdoor art collection.

ILLUSTRATION BY JOHN S. DYKES

1 RUNNING FREE

HENRY MITCHELL, 1975
Bronze
LOCATION: Drexel Recreation Center, northern side, 3301 Market St.

"Running Free" was purchased by the University to fulfill a "1 percent" clause imposed by the Philadelphia Redevelopment Authority that requires developers to allocate a portion of their construction budget toward public art. The statue was purchased for the 1975 opening of what is today the Daskalakis Athletic Center. Henry Mitchell's work might be familiar to those who live in Philly — his oeuvre includes the Impala Fountain and statues of a hippo mother and baby at the Philadelphia Zoo.

2 FLAME OF KNOWLEDGE FOUNTAIN

SHERL JOSEPH WINTER, 1968
Bronze
LOCATION: Outside of North Hall at 3200 Race St.

This statue is thought by some to be the original "Drexel Shaft," which is a piece of campus lore you have to Google to appreciate. It may or may not be. What we do know is that it was located in the Korman Quad until moving to the entrance of North Hall in 1999.

3 ANTHONY J. DREXEL (1826-1893)

MOSES JACOB EZEKIEL, 1904
Bronze, marble
LOCATION: Gerri C. LeBow Hall, east entrance, 3200 Market St.

The statue of the University's founder was paid for by his business partner, John Harjes, who oversaw the Paris branch of the Drexel & Co. bank. If you look close, you'll see little details, like that the founder's chair is on top of a rug beside a basket of papers, one of which is clearly labeled "plans." This statue originally sat in Fairmount Park; in 1966 it was relocated to campus for the 75th anniversary of the then-Drexel Institute of Technology.

4 DREXEL BOOK

HAROLD KIMMELMAN, 1986
Polished stainless steel, black granite
LOCATION: Rush Alumni Garden

The "Drexel Book" was created to honor Doris Zimmerman, MS '70, who was once described by then-Drexel President William W. Hagerty as "a delightful and lively person and a most effective trustee of the University." The statue stands in front of the waterfall in the courtyard of the Rush Building, which Zimmerman had been involved with when the space was being renovated.

5 TWO OPEN TRIANGLES LEANING GYRATORY

GEORGE RICKEY, 1984
Stainless steel
LOCATION: Hagerty Library, rooftop, 3300 Market St.

It can be hard to see this sculpture, located on the roof of Hagerty Library. But once you spot it, admire how the two triangles move with the wind. George Rickey was very well known for his kinetic and geometric steel sculptures, and his work is also in the Metropolitan Museum of Art, the National Gallery of Art and the Tate Gallery. This artwork is just one of several important "triangles" at Drexel, like the triangle in the official University seal and the name of the student newspaper, *The Triangle*. It was acquired through the generostiy of Edwin Fay '42, '54 and Elizabeth Fay.

6 MOMENTUM

MICHAEL SPELLER, 2011
Bronze
LOCATION: Drexel Recreation Center, eastern entrance, 3301 Market St.

Of course, the best spot to have a sculpture featuring a figure in motion is outside of an athletic center! "Momentum" was created by Michael Speller, a British sculptor who is an expert in bronze, and donated to Drexel by the Earle I. Mack Foundation.

7 MARIO THE MAGNIFICENT

ERIC BERG, 2002
Bronze
LOCATION: Corner of 33rd and Market streets

Philadelphia artist Eric Berg got the commission to sculpt this by pitching the idea to then-Drexel President Constantine Papadakis 40 years ago. He thought a dragon statue was just something the University should have, and he spent three years creating it. If you look at the dragon's armpits you can see initials Berg carved of people in the administration who were helpful in getting the project approved, including "CP," believed to refer to Papadakis. Berg still has a studio in West Philadelphia and drives past his sculpture routinely.

The Life of a Liberty Scholar

Since 2010, Drexel has awarded more than $89 million in full scholarships to more than 500 financially disadvantaged Philadelphians through its Liberty Scholars program. But supporting these students through graduation takes more — and means more — than what money can buy. **By Beth Ann Downey**

For many college students from families of limited means or nontraditional backgrounds, college poses challenges beyond the cost of admission. Cultural transitions, time management, complicated home lives and a sense of belonging are all factors that can make the difference between success and failure.

That's why each year Drexel's Liberty Scholars program helps 50 academically talented, financially disadvantaged graduates from Philadelphia high schools overcome hurdles like these by building a community from their first year of college to their last.

"When you come to Drexel, realization can slap you in the face very quickly," says Bernetta Millonde, the director of diversity initiatives and community relations for undergraduate admissions at Drexel. "[We give scholarship recipients] the mindset where, 'You are resilient beyond what you think.' You may have a shortfall in a skill set, but we can help you get there if you go to the resources that we're outlining for you."

The Liberty Scholars program was created nine years ago when then-Mayor Michael Nutter called upon local institutions to play a role in increasing the number of college-educated Philadelphians. Drexel pledged to provide 50 full scholarships a year and created the Liberty Scholars program to support recipients through graduation. Scholars receive an assigned mentor, mandatory and optional monthly events aimed at building a supportive learning community, and opportunities to grow through programming, such as study abroad information sessions and financial literacy workshops.

The program has been a huge success, with a 97.4 percent retention rate and an 86.1 percent average six-year graduation rate that surpasses overall Drexel averages. To date, it has helped 171 students graduate who might otherwise have been unable to afford college at all.

As we approach the 10-year anniversary of the program, *Drexel Magazine* spoke to some past and present Liberty Scholars about how this program has impacted their lives.

The Upperclassman

"If I hadn't received it, I don't think I would have ended up here," says Shania Smith, who at the time of this interview was a fifth-year marketing student in the LeBow College of Business, of the Liberty Scholars scholarship.*

In her time here, Smith has taken full advantage of campus life by living on campus all five years, studying abroad, becoming a resident assistant, being involved in both college- and University-level organizations, and co-oping at a startup on the West Coast as well as attending the annual Forbes 30 Under 30 Summit.

"I feel like I've been able to do everything that I probably would have wanted to in college," she says.

Not that it wasn't challenging in the beginning. Smith had been near the top of her class at New Foundations Charter School in Northeast Philadelphia. But her high school didn't offer AP classes or college prep, and at Drexel she had to catch up in first-year English and math classes.

"You have to push yourself harder to perform at the same level, if not above, other students," Smith says. "It was kind of a wake-up call because you're thinking, 'I'm coming from high school. I graduated third in my class. I'm going to do fine.' And then you get into your first few courses and you're like, 'Why am I not getting all A's on my assignments?'"

"If I hadn't received [the scholarship], I don't think I would have ended up here," says Shania Smith, who is now working at LinkedIn.

Shania Smith
**After graduating in summer 2019, Shania Smith joined Drexel's Baiada Institute for Entrepreneurship incubator to work on her edtech app startup called Invure; as of press time she is moving to California to join the business leadership program at LinkedIn — where she had co-op'd in the past — and develop her app part-time.*

Even though she grew up nearby, University City was so new to her she felt she might as well have moved across the country.

"I tell my [dorm] residents this: Drexel is a bubble," she says. "For me, it's sort of like you can disconnect campus from the rest of Philadelphia because it's very different."

Smith says that staying in Philadelphia for college also means Liberty Scholars like herself remain close to the challenges that home can bring. Because of this, the opportunity to live on campus can be even more enjoyable and important.

"It definitely shapes how much you're able to get from a school, based on how present you are here," she says.

Smith takes time to mentor underclass Liberty Scholars — a service she valued herself during her first years at Drexel. She advises her mentees to push themselves and not be satisfied by simple goals.

"I think a lot of us come in [to college] with a very limited view of what we can do," she says. "I think we can all achieve and be really great."

The Freshman

Education was always a big deal in Chike Onuchukwu's family, and after graduating from Central High School in North Philadelphia, he felt pressure to choose a STEM major. That meant a schedule packed with labs and recitations during his freshman year.†

"It's really hard," Onuchukwu reflects. "Every day I have at least three classes, so it kind of gets annoying when you see friends in other majors, and they're chilling. They only have a class a day. It's kind of frustrating. But whatever, it's college."

Fortunately, his high school programming was pretty rigorous, and when he graduated, he felt college ready.

"I'm fine here, it's just more effort, so that's something that I'm working on," he says.

To make time to focus on academics, Onuchukwu decided to forgo joining the club soccer team, despite qualifying for it.

"Drexel is just too fast," he says. "You can't slip up on anything. Once you slip up, that's your A. So definitely do whatever it takes to put your academics first."

He's seen other Liberty Scholars he enrolled with struggle and drop out, but he says the program has done everything possible to make sure he has all the resources he needs to succeed. He calls Millonde a "second mom."

When he feels too much stress to do well, he keeps his graduation goal in mind and recommends the same to others.

"It seems like a lot of pressure," he says. "Just try to ignore that and do your best. Don't listen to outside factors. ... Try not to think of those voices in your head."

The Commuter

Ramon Gonzalez Jr., a third-year student majoring in management information systems in the LeBow College of Business,* still remembers packing up his room in Millennium Hall after his freshman year, knowing that he'd be moving home to become a commuter student.

"I was, like, 'I could have done this a little better,'" he remembers.

Gonzalez got caught up in grass-is-greener thinking, because when he was living on campus, he often wanted to be home with his family and longtime friends, and once he moved home he wished he were still on campus.

"Once I started commuting, it was a little more difficult for me to be on campus," he says. "I would come for class and some club meetings here and there, but you're not on campus all the time and you don't know what's going on all the time simply because sometimes you just don't want to take the commute."

Despite this, commuting is now working well for him. The decision all came down to cost and convenience, like not having to move on and off campus for every co-op. Plus, being home means eating his mom's homecooked meals. Gonzalez's family is from the Dominican Republic, and he and his siblings are the first generation to go to school in the United States.

Gonzalez can get some work done at home, where having his own room minimizes distractions. But when he has to be "in the zone," he's here on campus, sometimes at night and on weekends.

"Sometimes I'll be here really late, or if I have group projects, I'll be here even on days that I don't have class," he says.

As a commuter, the thing that most helps him stay connected to campus is the community created by the Liberty Scholars program, he says. Having a cohort of 50 students like him was a network he could lean on right away, and it helped with the initial college transition.

Coming from Northeast High School — a large, public school — he felt at a disadvantage to students from smaller private schools, despite taking a host of AP classes.

"At the end of the day, they're just ahead," he says of students from more elite backgrounds. "It's a curve that you have to catch up to. The University can't slow down to the point where the private school kids are like, 'Why am I here?' And they can't speed it up, so it's a transition. You've got to find a middle ground, even if that's putting more hours in than everybody else."

The Liberty Scholars program tries to help students feel like they belong, he says.

"A lot of kids ... feel like they're not supposed to be here," he says. "I think it's a collective effort to make everyone feel like they should be here."

"A lot of kids... feel like they're not supposed to be here," says Ramon Gonzalez Jr. "I think it's a collective effort to make everyone feel like they should be here."

Chike Onuchukwu
† *He is now a second-year chemistry student.*

Ramon Gonzalez Jr.
• *He is now a fourth-year student.*

The Graduates

For recent alumni Michelle Torelli (BS chemical engineering and MS environmental engineering '18) and Shahmar Beasley (BA political science and anthropology '18), college was a very go-it-alone experience.

Both were first-generation college students who relied heavily on the Liberty Scholars program for help adapting to college life.

"At home, I don't have anyone to look back on when it comes to college or engineering," says Torelli, who now works as an advanced engineer for global support for one of the 10 largest publicly traded corporations in the world. "So mentorship was an important thing for me in the Liberty Scholars program." She has continued to seek out mentors in the workforce to compensate for sometimes feeling different from fellow employees who come from families with generations of engineers. Her only quibbles about the program is that it needs more post-graduation support for alumni (something Millonde is already working on) and perhaps mental health support beyond the counseling center because, "a lot of us have bad problems at home," she says.

Beasley was in the same boat, and he struggled to find his footing at the beginning. "When I first came, I tried to do a little bit too much," he says. "I joined the mock trial team literally a couple weeks after I got to campus. It's very intensive — you have to travel a lot, you have to study up a lot, you have to memorize literally these long scripts of paper. ... The Liberty Scholars program let me know there were a ton of resources available if I needed tutoring or anything."

Being first-generation didn't stop these former students from taking on aggressive goals to get the most out of the college years. For Torelli, this included taking 23 credits during more than one term of her college career.

"A lot of people say I'm an extrovert and very determined," she says. But she says she "absolutely" wouldn't be in the prestigious engineering position she is today if not for the opportunity the Liberty Scholars program provided.

"There are a ton of opportunities here," agrees Beasley, who was accepted into Drexel's Kline School of Law and four other law schools (including Notre Dame with a six-figure scholarship) but deferred enrollment to work as a paralegal for Lawrence Krasner, Philadelphia's high-profile district attorney. "Pretty much anything that you want to do, you can do at Drexel," he says.

"The program helps broaden people's perception of the demographic of this type of student," Bernetta Millonde says. "Low income, many first-gen, many students of color, and they are *sharp*."

Shahmar Beasley

Michelle Torelli

The Future

Drexel's participation in the Liberty Scholars program is now nearing 10 years, but Millonde is still fine-tuning it to focus its philosophy even more on building community and instilling self-advocacy for participating students.

For that reason, cohorts starting this year are assigned to live on campus throughout their Drexel careers.

"We know there is a difference in students' performance when they're commuter students versus living on campus," Millonde says. "We want to make certain that we're giving them all the advantages of everything that's happening here on campus, rather than worry about commuting back and forth. And sometimes our students have family responsibilities that can tear at their hearts and pull them away. We're hoping that being able to keep them more focused will help with that part as well."

Additionally, the program recently became part of the new Center for Academic Inclusion and Scholarship under the division of Enrollment Management and Student Success, which better connects it to existing student resources. That will help Millonde improve programming, including the creation of post-graduation opportunities so that graduates enter the workforce with confidence.

At its best, the Liberty Scholars makes Philadelphia a stronger city, and Drexel a better learning environment with more voices.

"[The program] helps broaden people's perception of the demographic of this type of student," Millonde says. "Low income, many first-gen, many students of color, and they are *sharp*. I think it helps to enhance everyone's experience in the classroom."

For the scholars themselves, it can be a life-changing opportunity.

"We help students learn to advocate for themselves, become more confident in their scholarship, and understand that they earned their seat at the table," says Millonde. "The Liberty Scholars program changes the trajectory of students' lives."

Do you have a great co-op story to share? Visit **https://bit.ly/34fSHcY.**

Co-op, Our Common Thread

More than any campus tradition, the Drexel Co-op program connects all living generations of Dragons. Help us celebrate 100 years of co-op by sharing your own story of what the co-op program accomplished for you. Visit https://bit.ly/2JzL6hM to find out how.

"I completed my third co-op at The National Board of Medical Examiners, which is now my full-time job. The board finds so much value in Drexel's Co-op program. I now run the co-op program at the board, and it has been such a rewarding experience to be on the other side of the process."
— AYELET "YELI" ARBELY '19

"My co-ops took me from photographing for the Drexel Fashion Design program to the halls of 30 Rockefeller Plaza, photographing on 'Saturday Night Live.' I've appeared in 18 publications, culminating with publication on the front page of *The New York Times*!"
— CHRIS SIRACUSA '19

"My co-op experience was rewarding for me and fruitful for my employers. I was ambitious and eager to make a meaningful contribution. I still work with the company and have lasting relationships 40 years later."
— KAREN JEHANIAN '82

"Right out of school, my co-op experience and my power systems curriculum helped me land an opportunity with PJM Interconnection. I wouldn't have gotten such an opportunity — in the middle of a recession — had it not been for my education and co-op. Earlier this year, I celebrated my 10-year work anniversary, and I look fondly at my Drexel years and my co-op that truly shaped my career."
— ANKIT KHAROD '08

GOLDEN ADVICE FROM THE CLASS OF 1969

Today's jobs look nothing like they did 50 years ago, but this advice on how to make the most out of one's work experience from the Golden Dragons Class of 1969 stands the test of time.

"Ask questions. Don't be afraid to investigate and learn as much as you can on the job. Talk as much as you can to people who've had that experience that you are seeking to gain."
— MARY LOU BURKE '69

"Co-op is a wonderful time to try different things. And you're young enough that whatever happens to you, you can recover! You've just got to take advantage of the experiences when they're offered to you."
— ROBERT FRICK '69

"Move around and learn as much as you can from all different kinds of people. You just never know what you're going to do down the road, so my advice is to make yourself very agile."
— BARBARA MANLEY '69

A snapshot from a workshop in Bolivia where Jeff Martin spent his co-op.

A Change of Scene

Co-op allowed Jeff Martin to take his career choice for a test drive — and change course for something better.

Jeff Martin's first co-op as a mechanical engineering major was making screws for computer hardware. It was a good job, and it was not for him.

"I wanted to travel the world and accomplish something substantial," says the 2003 graduate.

So he switched majors to civil engineering and appropriate technologies and combined his last two Drexel co-ops into a year-long placement in Bolivia.

Martin had explored the field of appropriate technologies during a freshman project and saw value in the discipline. "You can't just drop off high technology in places where there's no network to support it," he explains. "You have to look at technologies that match the resources of the local communities."

In Bolivia, he worked in development with the Mennonite Central Committee. "For the first three months I took intensive language classes, and after that, I was pretty fluent in Spanish," he says.

At the same time, he was learning to weld and fabricate metal. "I worked at a shop developing intermediate technologies, like animal-drawn implements. For one local farmer, I fabricated a frame for a two-row seed planter that could be drawn by his horses."

His co-op culminated in a project building rainwater catchment tanks.

"I developed plans for building tanks for a remote indigenous community that had no accessible drinking water," recalls Martin. "Peoples' homes had tin roofs, so we had a pretty clean source of water from rain. We mounted gutters to collect rain and then showed them how to build catchment tanks using chicken wire, cement and sand."

After graduation, Martin built on his co-op experience and started his career as a project engineer for heavy construction company Allan Myers. He says, "At first, I worked on a lot of environmental, water and wastewater treatment projects. Over the years, I've used my Spanish language skills with crew members and in the union work that I do."

Looking back at his time in Bolivia, Martin says, "I learned a lot about the culture there and made a lot of friends. I came back with a very international worldview, which was transformative for me." —*Louisa Wilson*

HOW CAN I SUPPORT CO-OP?

Today, co-op spans 89 disciplines, across 38 countries and more than 1,500 employers, from Google and Goldman Sachs to small nonprofits and entrepreneurial startups. Some **pay cost-of-living stipends, while others are made viable for students only through donors' generous support of the Drexel Co-op program. Alumni play a critical role in making co-op richer, more diverse and more responsive to student and workforce needs. Here's how you can shape a brighter future for the Drexel Co-op program.**

MAKE A GIFT. Nearly 20 percent of students pursue opportunities that are not adequately salaried, whether they're located abroad, in research or nonprofit positions, or in high-cost-of-living cities. Too many students make a difficult choice: the best co-op opportunity for their career or a less relevant but more affordable option. Donor investment in co-op creates opportunities where industry funding doesn't exist or is very limited. **Learn more at future.drexel.edu/co-op.**

HIRE A CO-OP. The Drexel Alumni Network — including alumni referrals and recommendations — is the University's greatest asset when it comes to creating quality co-ops for our students. Hire a co-op and provide fellow Dragons with career-defining opportunities. **Learn more at drexel.edu/alumni.**

Stay up to date on the latest alumni news and events and learn more about the Alumni Board of Governors at **drexel.edu/alumni.**

ALUMNI BOARD

'Drexel Is for Doers' Says New Board Chair

"Drexel doesn't have to be just a four- or five-year experience. It can be a lifetime experience."

AMISH DESAI
BS BUSINESS ADMINISTRATION '03

The incoming chair of the Alumni Board of Governors knows hard work will pay off in building stronger, life-long Drexel connections.

Amish Desai is a man of purpose, and when he talks about Drexel, he talks about a culture of achievement.

"Drexel is for doers," says Desai, who graduated in 2003 with a BS in business administration with concentrations in finance, international business and economics. "It's a school for students who know what they want and who can handle the intensity of Drexel's compressed quarter system."

Desai brought this same sense of purpose and perseverance to his career as a portfolio manager and to his founding of investment firm Red Spruce Capital in 2011. Now he's bringing these qualities to his role as the new chair of the Alumni Board of Governors. "We're not a figurehead group," Desai says of the board. "We have tangible deliverables we work on every year."

Desai's term began in July and is the culmination of his increasing involvement as an alumni volunteer over the past several years. But he wasn't always so connected to Drexel.

"I didn't have much of a Drexel connection for the first 10 years after graduation," says Desai. "It's not that uncommon for alumni in that life phase. We just dive into our work."

Then a Drexel representative paid him a visit, and Desai had a frank conversation about the University making it too easy for him to disappear. It was that conversation that hooked Desai back in. "I think they were issuing me a challenge, that if I felt that way, I should get involved and do something about it."

Desai has been a dedicated volunteer ever since.

"I started by volunteering on LeBow's finance advisory council. I started visiting campus, meeting with former professors, getting to know Drexel leadership and reacclimating myself to the University," says Desai.

He says joining the Alumni Board of Governors seemed like the best way to make an impact. "Drexel has a small but incredibly productive team of alumni relations staff," he says. "They do the work of a staff twice their size. I knew we could do more to take some load off their shoulders, to help build stronger — and longer — connections between Drexel and the alumni community. Drexel doesn't have to be just a four- or five-year experience. It can be a lifetime experience."

Now as chair, Desai has a clear vision for his two-year term. At the top of his list: celebrating the 100th year of Drexel's Co-op program, which kicked off in September.

He says, "The co-op program was what drew me to Drexel, and it was absolutely crucial in helping me launch my career in finance. My co-ops gave me connections to the finance world, and I had a job offer before I even graduated."

He wants to make sure the co-op celebration represents the entire alumni community. "We want to mark the program's 100 years by honoring the wide range of industries our alumni are working in," he says.

He also wants to build on Drexel's commitment to being the nation's most civically engaged university. "I want to highlight alumni who are serving their communities, as well as our nation and world. I want to build connections; we have thousands of alumni who might want to give time and energy to the service initiatives our alumni have spearheaded."

Desai has big plans, and he knows that he can't do it alone.

"I've gotten to know everyone on the board through the years, and the folks who are coming in are super motivated and talented. We're going to be able to accomplish a lot together," he says.

It will also take the participation of the alumni community at large. "We're a board that works for you," says Desai. "We're not here to make decisions for you. We want to make decisions with you. If there are service projects, social activities or affinity group events you're interested in, we want to have your input."

And of the hard work it will take to make his vision a reality, Desai says, "If you put in the time and the effort, you can move mountains. That's a very Drexel type of mentality to have.

"When I commit time and energy to something, I ask myself if I will leave it better than how I received it. Yes, I think there is something in my skill set that I can lend toward this organization to make it better than how I found it," he says. "I also see the talent coming through our Alumni Board of Governors, and I see plenty more people who will, after my term is over, take it a whole lot further." —*Louisa Wilson*

And Welcome to Our Other New Members, Too

We asked each of our new board members to share an interesting fact about themselves, and describe themselves in three words.

MARSHALL FLEMING
BS '11

"When I turned 30, I left my job and life in Los Angeles to spend most of the year traveling and then volunteering for candidates in the lead up to the 2018 mid-term elections. Then, I moved back to Philly!"

ME IN THREE WORDS:
"We, not me"

KARLA TROTMAN
MBA '15

"I spent the first part of my life as a trained dancer. I wanted to pursue it, however, my father reminded me that I am expensive, and I'm used to nice things, so I pursued a corporate career instead. I can't help but think that I could have been the next Dorothy Dandridge."

ME IN THREE WORDS:
"Rosé, Prosecco, Albariño."

ASHISH JOSEPH
BS '12

"I own a CBD extraction facility called SC Botanicals in Pickens, South Carolina, and a bar and liquor store called Joe's Tavern in Sicklerville, New Jersey."

ME IN THREE WORDS:
"Loyal, ambitious and funny (I think I'm funny...not sure how other people feel!)"

VAL TUTWILER
BS/MS '13, PHD '17

"I have three degrees from Drexel."

ME IN THREE WORDS:
"Ambitious, creative and collaborative."

50s

Victoria Alekna Norvaisa, BS secretarial '59, published her second novel, "Lydia: Destiny Or Choice," about a journey from the United States to Brussels, Sweden and Lithuania.

60s

Martin Mandelberg, BS electrical engineering '69, is celebrating a 50-year career as an engineer, strategist, scientist, educator, executive and entrepreneur. Career highlights include award-winning performance developing innovative science and solutions, leading strategic change, and managing professionals across diverse organizations.

Donald A. Mankin, BS electrical engineering '64, presented at Adventure Hub in Seattle and spoke about his travels in southeast Asia.

Joseph A. Ritsick Jr., MD '69, retired from the practice of physical medicine and rehabilitation. He had been living and practicing in the San Francisco area for 20 years after moving from Denver in 1998.

Stewart M. Weintraub, BS business administration '68, was selected for inclusion in the 2019 edition of *Pennsylvania's Best Lawyers.*

70s

Alfred D. Calabria, BS mechanical engineering '70, was inducted into the Edgewood High School Hall of Fame.

James F. Coyle, MS urban management '75, was appointed to the Economic Development Authority in Falls Church, Virginia.

Carl E. Dranoff, BS civil engineering '70, HD '86, president and CEO of Dranoff Properties, announced the groundbreaking of the company's newest property, Arthaus — a 47-story condominium tower located at Broad and Spruce streets, across from the Kimmel Center for the Performing Arts.

Gloria Miglionico Krolak, BS home economics '70, was featured in the May issue of *Jersey Jazz* about her book, "Jazz Lines...Free Verse in the Key of Jazz."

Roseann B. Termini, BS human behavior and development '75, had several speaking engagements, was appointed to co-chair of the Pennsylvania Bar Association Health Care Law Committee and vice chair of the Pennsylvania Bar Association Disability Rights Committee. Termini also co-authored, "A Look Back at DSHEA — Over 25 Years Later: The Dangers of a Reactionary Approach to Dietary Supplement Regulation," which was published in the *Quinnipiac Health Law Journal.*

80s

Beatrice Agar, BS nutrition and food '86, dietitian manager/clinical dietician with Mercy LIFE, was featured in *Food & Nutrition* for breaking new ground in staff training for those who work with the elderly deaf community.

Charles John Barreras, BS history and politics '87, founding partner, Chartwell Law, was selected for inclusion in 2019 Pennsylvania Super Lawyers list in the category of Workers' Compensation.

Martin G. Belisario, BS mechanical engineering '85, partner at Panitch Schwarze Belisario & Nadel LLP, was ranked for his prowess in IP law by Chambers USA, a leading legal ranking guide.

Elizabeth Roth Benson, RN nursing '82, co-founder and CEO of B&G Educational Innovations, and her colleague and business partner designed a wearable clinical training device that allows clinical students to improve hands-on skills when starting

We're interested in hearing about your weddings, new babies, special traditions, group trips and regular get-togethers with fellow alumni. Send stories and photos to Sara Keiffer at **seb434@drexel.edu.**

CAREERS

Starting a Career on the Spectrum

Landing a job isn't easy when you're on the autism spectrum, but Jimmy McMonagle had Drexel's Steinbright Center on his side. — By Lini Kadaba

Once he sets his mind to something, mechanical engineer James "Jimmy" McMonagle '16 is nothing if not persistent.

The Collingswood, New Jersey, 26-year-old is on the autism spectrum. In high school, McMonagle made the basketball team as a senior, even though he never played it before, by promising to work harder than anybody else. He brought that same dedication to Drexel, graduating with an impressive 3.63 GPA.

"He has a strong determination to do things once he has made up his mind," says his father, retired schoolteacher and guidance counselor Joseph McMonagle.

Then in 2016, McMonagle faced a challenge that demanded a whole other level of resolve — getting a job. Ken Bohrer, graduate co-op adviser and career counselor at Drexel's Steinbright Career Development Center, along with other center staff, helped guide the search that took two-and-a-half years. Finally, in April, McMonagle landed at defense and aerospace company BAE Systems as an AEGIS engineer in New Jersey.

"It was a happy day," Bohrer says. "Jimmy didn't quit. He didn't give up. He seems to be unflappable." Bohrer helped McMonagle make a résumé, find job openings and practice communications skills through mock interviews — month after month. "It became personal," he says.

"I talk too loud for interviews," McMonagle says. "I learned to talk softer. You always have to be positive and uplifting in an interview. I learned that, too." He also took computer science classes at Rowan University and attended work readiness training programs.

Meanwhile, McMonagle sent out 100-plus résumés and got about 20 interviews — but no offers.

Ultimately, his persistence and the Dragon network delivered when a fellow classmate vouched for Jimmy. During the interview, McMonagle made sure to talk softer, stay upbeat. "I showed them I really wanted the job," he says.

McMonagle with his parents Connie and Joe.

an IV, while also enhancing their bedside communication.

Dominic J. De Simone, BS accounting '88, was appointed to co-chair of the finance department at national law firm Ballard Spahr LLP.

Lisa Freundlich Guss, MS communications '86, launched her first book, "The Essential College Admissions Handbook," which provides a step-by-step approach to successfully navigating the complex world of admissions.

Kirk Harman, MS civil engineering '80, was named Structural Engineer of the Year by the Philadelphia Section of the American Society of Civil Engineering.

Marcel Keschner Jr., BS electrical engineering '81, was presented with the 2019 IEEE Richard M. Emberson Award at the IEEE Honors Ceremony at the Marriott Marquis in San Diego, California.

Dottie Petrone Leonardi, BS finance '86, chief operating officer of Drucker & Scaccetti, was the featured author in the April issue of *Working Mother*. The article provided advice for new moms returning to work and chronicles lessons learned on her journey to the C-suite in corporate America.

Jock Sommese, MBA '81, completed his doctor of business administration degree from Wilmington University. He is a former adjunct and co-op employer at Drexel and has relocated about 40 miles west of Chicago.

James I. Stubblefield, MD '82, was profiled in *Leading Physicians of the World*. Over the past 25 years, he has run three emergency departments. He also served as EMS medical director for Monterey County for more than 21 years and has overseen the development of two STEMI/STROKE hospitals and a Level II Trauma Center. As lieutenant colonel in the military, he was honored with multiple awards to include the Bronze Star and Air medal in Operation Desert Storm.

90s

Daniel Astolfi, MBA '91, executive vice president, middle market regional executive, mid-Atlantic region at Citizens Bank, served as the keynote speaker at the Philadelphia Outward Bound School's Business Breakfast. The event, called Stronger Together: Corporate-Nonprofit Partnerships, offered insights for developing high-impact and mutually beneficial partnerships.

Laura Grubb Baldwin, BS graphic design '91, was promoted to vice president of marketing and communications at Arcadia University.

Michael R. Bartosik, BS accounting '91, was promoted to senior manager at Duane Morris tax accounting group.

Richard C. Liu, BS corporate communications '94, was named vice chair of ArtsQuest's Performing Arts Board. ArtsQuest is a Bethlehem-based nonprofit dedicated to presenting music, arts, festivals, cultural experiences and educational and outreach programs that aid in economic development, urban revitalization and community enrichment.

Joseph F. Roth III, BS civil engineering '90, was named Transportation Engineer of the Year for 2019 by the Philadelphia Section of the American Society of Civil Engineers.

Sarah Holtz Wilson, BS civil engineering '98, was the first female elected to the chair of the board at McMillen Jacobs Associates.

SNAPPED DRAGONS

Two physician assistant grads met in a very special way on Feb. 8, 2019. **Chris Stacer, BS physician assistant '02** (left), performed a total hip replacement on classmate **Denise Cologne, BS physician assistant '99** (center), along with Dr. Durgesh Nagarkatti (right) at the Glastonbury Surgical Center, part of Hartford Hospital's Bone and Joint Institute in Connecticut. "The surgery was amazingly successful and has allowed me to resume a physically active lifestyle," says Cologne, who currently practices internal medicine at Hartford Hospital and loves her job as much as Stacer loves his. How's that for Alumni reconnecting?

Butch Sincock; **Judith Murphy Sincock, MD medicine '75; Henry Febo, BS chemical engineering '67; Elizabeth Burt Febo, BS home economics '68;** Penny Goldberg and **Paul Goldberg, BS metallurgical engineering '61** met on a Drexel-sponsored cruise at the American Cemetery in Normandy, France.

00s

Shoshana L. Remetz Altrichter, BS film and video production '07, was recently promoted to vice president of travel at the World Affairs Council of Philadelphia.

Rodney N. Anello, BS business administration '06, was promoted to senior manager at Duane Morris tax accounting group.

Paul Avazier, BS architecture '07, was promoted to associate principal at Atkin Olshin Schade Architects.

Daniel K. Choi, MD '08, joined the medical group at Advocate Children's Hospital in Park Ridge, Illinois, as a pediatric hematologist/oncologist.

Christopher Drumm, MD '06, hosts a podcast, "The Doc and the Deacon" — a humorous and honest take on trending topics from both a medical and faith-based perspective.

Melissa Buchanan Fincher, MS arts administration '07, was recently promoted to consultant in the education practice at executive search firm WittKieffer.

Shefali Karani, BS business administration '10, MBA '13, wrote the book, "Own It! Love What You Already Have," which talks about the lessons she learned as a young executive in her family-owned business.

Andrew Knox, BS history and politics '04, an associate with Timoney Knox LLP, has been included in the Rising Stars list of attorneys for 2019.

Abigail Sullivan Maslin, MA creative arts '07, wrote a memoir, "Love You Hard: A Memoir of Marriage, Brain Injury, and Reinventing Love," about rebuilding her family and marriage after her husband was assaulted.

WEDDINGS AND BABY DRAGONS

TOP Kyle Acker, BARCH architecture '13, and **Christina Disciullo-Acker, BA international area studies '11,** were married on April 27, 2019.

BOTTOM Sonia K. Braeckman Bachik, BS management of computerized information systems '87, and Gary G. Bachik were married on Oct. 30, 2018, at Sandals Grande Antigua in St John's, followed by a church wedding on Nov. 10, 2018, at St. Stephen's Orthodox Cathedral in Philadelphia.

Marc Blumberg, BS electrical engineering '04, and Audrey Blumberg welcomed daughter Devorah Arielle on Feb. 13, 2019.

SNAPPED DRAGONS

Alumni Ambassadors **Carvon Johnson, BS commerce and engineering '85, MS engineering management '88; Izabelle Gómez, BS international studies '04; Catherine Campbell-Perna, BS corporate communications '95, MS higher education '11;** and **Janai Johnson, BS marketing '18** talk to prospective students and their parents at a packed college fair at Council Rock North High School in Bucks County, Pennsylvania.

Ian B.K. Martin, MD '00, was named as the 2019–2020 president of the Society for Academic Emergency Medicine.

Christopher M. Notte, MD '03, was appointed chief medical officer of Abington–Lansdale Hospital, effective June 15, 2019.

Jesse H. Pointon, BA architecture '02, started a new position as an associate at Strada, a cross-disciplinary design firm.

Joshua Voss, JD '09, was elected a partner of Kleinbard LLC.

10s

Teru Bower Clavel, MS global and international education '14, released a new book, "World Class: One Mother's Journey Halfway Around the Globe in Search of the Best Education for Her Children."

Robert Burris, HD '14, was named president and CEO of Solano Economic Development Corp.

Assunta Daprano, BS civil engineering '17, was presented with the Community Outreach and Service Award for 2019 by the Philadelphia Section of the American Society of Civil Engineers.

Jenny Davidson, MBA '12, CEO of Stand Up Placer in Auburn, California, was named to the BBC's list of 100 Women Who Inspire and Influence the World for 2018 for her work as an advocate for survivors of domestic violence, sexual assault and human trafficking.

Ajin Fatima, BS civil engineering '15, was named Young Government Engineer of the Year for 2019 by the Philadelphia Section of the American Society of Civil Engineers.

Kyle Foster, MS higher education '12, was named assistant vice chancellor for academic affairs at the Oklahoma State Regents for Higher Education.

Sarah Levine, MBA '15, owner of Luna Café, opened a second location at 317 Market St. in Philadelphia.

Brianna Lisi, BS biological sciences '17, works in the Cideciyan Lab at the University of Pennsylvania, progressing toward a cure for blindness.

Daniel T. Mullin, BS sport management '13, JD '16, started a new position as associate general counsel at Holman Enterprises.

Lauren Pitts, MFT family therapy '13, EDD education leadership and management '17, wrote the book, "The Queen Within: Becoming the Woman God Intended," about the highs, lows, failures and resilience that fueled the major successes in her life.

Jonathan M. Sefcik, BS mechanical engineering '18, is a power distribution engineer at Henkels and McCoy in the Lehigh Valley, Pennsylvania.

David Seok, BA architecture '12, was promoted to project manager at The Lighting Practice.

Mina N. Soryal, CERT biomedical technology development '14, MS biomedical engineering '14, raised $2.3 million in non-dilutive funding from the National Cancer Institute via SBIR grants at ImCare Biotech.

Friends We'll Miss

1930s

Mary Maun Cleaver, BS Home Economics 1936
Anna Weber Hughes, RN Nursing 1936
Marykirk Donaldson Hull, D/C Secretarial 1939
Carolyn Bright Mueller, D/C Home Economics 1936

1940s

Wilmer K. Allebach, BS Mechanical Engineering 1949
Elizabeth Baldwin Booth, D/C Library Science 1940
Elizabeth Lentz Burke, BS Secretarial 1948
Leonard H. Caplan, BS Civil Engineering 1948
Albert Chesavage, BS Electrical Engineering 1944
Mary Holland Clancy, BS Retail Management 1943
Norma Jeann Frew Cresswell, BS Home Economics 1948
Edward Cutler, MD Medicine 1949
Jack Darlington, BS Commerce and Engineering 1946
Ellison L. Davison, BS Mechanical Engineering 1949
Viola Cortellini Deluca, RN Nursing 1944
Veronica Long DuBois, RN Nursing 1943
Evelyn Hallworth Entenmann, BS Home Economics 1945
Anita Hissner Field, BS Retail Management 1946
Bernard E. Finneson, MD Medicine 1948
Charles J. Gavin, BS Electrical Engineering 1948
Sybil D. Haire, MD Medicine 1948
William Y. Heywood, BS Home Economics 1944, MS 1950
Madalyn L. Kelly, D/C Secretarial 1947
Edna M. Levergood, D/C Secretarial 1949
Ernest J. Mammarella, BS Mechanical Engineering 1947
Libby Rubin Marks, MD Medicine 1949
Elizabeth L. McGee, MD Medicine 1949

EXHIBIT

Epitaph for Hahnemann Hospital

A special exhibit this fall looks back at the institution from which Drexel's College of Medicine was born — and sets the stage for a fresh start with our newly acquired hospital: St. Christopher's.

The bankruptcy and closure of Hahnemann University Hospital over the summer marked an abrupt end to a 171-year-old legacy known for path-making medical firsts in the fields of homeopathy, anatomy, cardiology and transplants, as well as for progressive medical education. The hospital's history will be on display in an exhibit presented by The Drexel Collection through Jan. 10 in the Paul Peck Alumni Center.

"Drexel College of Medicine is an amalgamation of Hahnemann, the Woman's Medical College and eventually the Medical College of Pennsylvania; these institutions have been rooted in Philadelphia and, frankly, they've changed the world," said College of Medicine Dean Charles B. Cairns recently.

At the time of Hahnemann's bankruptcy, about 30 percent of Drexel's third- and fourth-year students were in clinical clerkships at the hospital, and clinical faculty relied on it for research and patient visits. Drexel has adapted by forging closer ties to Tower Health, a six-hospital system with locations in the Philadelphia area, that will ensure that Drexel medical students continue to receive excellent hospital training. And, at press time, Drexel and Tower Health had acquired St. Christopher's Hospital for Children from the owner of Hahnemann, preserving St. Chris' legacy of providing nationally recognized programs for children.

Expect to hear more about what Drexel's relationship with Tower Health and ownership of St. Chris' will mean for the College of Medicine in future issues of *Drexel Magazine*.

An undated photo of Hahnemann's ambulance service from Drexel Archives.

1848 The Homeopathic Medical College of Pennsylvania opens at 625 Arch St.; later named Hahnemann Medical College and Hospital.

1850 Female Medical College of Pennsylvania (later Woman's Medical College) is established. It was the world's first degree-granting medical school for women, and it graduated the country's first Native-American woman doctor and the first woman with a Western medical degree from India.

1888 Rufus B. Weaver conducts the world's first dissection of a complete nervous system.

1890 Hahnemann opens its hospital-based nursing program, the Training School for Nurses.

1920 The country's first school of X-ray technology opens.

1928 The new 20-story hospital at 230 North Broad St. is the country's first "skyscraper" teaching hospital.

1948 Charles P. Bailey, MD '32, performs the world's first successful closed-heart valvular surgery.

1967 The world's first graduate-level creative arts therapy education program launches.

1993 Allegheny Health acquires Hahnemann and combines it with the Medical College of Pennsylvania to form MCP Hahnemann School of Medicine.

1998 Tenet Healthcare Corp. buys Hahnemann and forms an academic affiliation with Drexel to manage Hahnemann's medical school with financial assistance.

2002 Drexel exercises an option to assume ownership of the medical school from Tenet and renames it Drexel College of Medicine.

2018 American Academic Health System purchases Hahnemann and St. Christopher's from Tenet for $170 million.

June 2019 American Academic Health System files for bankruptcy and closes Hahnemann two months later.

Sep. 2019 Drexel and Tower Health acquire St. Christopher's Hospital for Children out of bankruptcy court for $50 million.

Look for more about our aquisition of St. Christopher's Hospital for Children in upcoming issues.

Marvin N. Miller, BS Electrical Engineering 1948, MS 1952
Fred E. Morgan, BS Electrical Engineering 1942
Patricia Floyd Nagel, BS Home Economics 1949
Edith Waugh O'Brien, BS Home Economics 1948
Mary Lou Bullock Paul, D/C Library Science 1947
Betty Smith Pierce, BS Home Economics 1942
Arthur B. Richards, BS Business Teacher Education 1949
Libby Rubin, MD Medicine 1949
Marjorie Peterson Rumbaugh, D/C Secretarial 1944
Yolanda Cifaloqlio Saffioti, D/C Secretarial 1941
Greta Baney Sanner, RN Nursing 1945
Albert J. Schillinger, BS Chemical Engineering 1944
Christie Reinhardt Sell, BS Home Economics 1949
Helen King Shuptar, D/C Secretarial 1944
R. Morton Simon, BS Mechanical Engineering 1944
Kasiel Steinhardt, MD Medicine 1949
Jean E. Symons, RN Nursing 1946
Norma Bolig Teel, D/C Home Economics 1949
Domenic J. Turchi, BS Mechanical Engineering 1949, MS 1955
Anita Treyan Van Horn, BS Home Economics 1945
Nadine Miller Varrin, RN Nursing 1944
Albert R. Wacker, BS Chemical Engineering 1949, MBA Business Administration 1957
Ira F. Weigley, BS Chemical Engineering 1949
Mark A. Whitman, MD Medicine 1947
Edwin W. Whitmore, BS Civil Engineering 1949
Oscar Wilsker, BS Electrical Engineering 1948

1950s

Frank J. Altomare, MD Medicine 1959
Irving M. Aptaker, BS Electrical Engineering 1952, MS 1962
Martha J. Bailey, MLS Library Science 1956
Lyle W. Barney, BS Electrical Engineering 1958
William R. Barto, BS Business Administration 1959
Henry Behrens, BS Mechanical Engineering 1950
Joseph C. Beres, MD Medicine 1954
William G. Beyer, BS Electrical Engineering 1955, MS 1961
Harry P. Birnkrant, MBA Business Administration 1956
Anita Bullock Blackledge, BS Home Economics 1955
Evelyn Snydor Bouden, MD Medicine 1955
John L. Boyle, BS Business Administration 1957, MBA 1968
Robert A. Brown, MS Aerospace Engineering 1955
Richard V. Buck, D/C Civil Engineering 1958, BS 1960
Hugh R. Carlon, BS Chemical Engineering 1957
James J. Coletti, BS Mechanical Engineering 1956
Charles S. Crawford, D/C Electrical Engineering 1954
William J. Dane, MS Library Science 1951
John A. DiCiurcio, BS Electrical Engineering 1950
Robert F. Digirolamo, D/C Mechanical Engineering 1955, BS 1956
George W. Dolde, BS Mechanical Engineering 1950
Joan H. Facey, BS Mechanical Engineering 1958
Lewis C. Farsetta, BS Business Administration 1954
William C. Feldbaumer, BS Electrical Engineering 1951
Sally Ramsay Fine, BS Home Economics 1957
Linda Trimmer Fisher, BS Home Economics 1954
Patricia F. Flamm, BS Medical Technology 1953
Adolph R. Fusco, BS Business Administration 1957
Norman H. Gaffin, BS Mechanical Engineering 1956
William O. Garden, BS Electrical Engineering 1957
John M. Gasper, BS Business Administration 1957
Linda Pflieger Gilbert, BS Business Teacher Education 1959
Alice Geiger Girvin, BS Secretarial 1952
Richard W. Glazier, BS Mechanical Engineering 1954
Robert L. Glazier, BS Mechanical Engineering 1956
Barbara Shreves Gombert, BS Home Economics 1955
Robert A. Granger, MS Physics and Atmospheric Science 1959
Rachael Klonymus Guth, MD Medicine 1955
Patrick J. Hagan, MD Medicine 1956
Frances Rumianok Harkins, RN Nursing 1952
Richard E. Harz, BS Commerce and Engineering 1952
Walter L. Heilman, BS Commerce and Engineering 1953
Richard A. Henry, BS Civil Engineering 1953, MS 1963
Edward W. Hoover, BS Electrical Engineering 1957, MS 1960
Neil J. Humphreys, BS Business Administration 1957, MBA 1961
Anthony D. Iadicola, MS Electrical Engineering 1959
Vernon Jarvis, BS Business Administration 1956
William F. Keenan, BS Electrical Engineering 1959, MS 1964
Jerome D. Krassenstein, BS Business Administration 1954
William O. Kruger, D/C Mechanical Engineering 1953, BS 1955
Henry Laessig, D/C Business Administration 1953
John F. Laukaitis, BS Mechanical Engineering 1950
Mildred Lauchman Lukens, RN Nursing 1951
Walter F. Lipski, D/C Electrical Engineering 1959, BS 1961
Ljubo Lulich, D/C Library Science 1956
Hugh E. McDonald, BS Business Administration 1951
Richard A. Miller, MBA Business Administration 1958
Phyllis Childs Moeller, MD Medicine 1951
H. F. Nielsen, BS Business Administration 1956, MBA 1968
Gerald P. Nolan, MD Medicine 1954
Miriam Drummond Padusis, BS Home Economics 1951
William B. Plossl, D/C Electrical Engineering 1959, BS 1961
Dale T. Poe, BS Business Administration 1954
Charlotte A. Raffensperger, MD Medicine 1954
Walter H. Reading, D/C Mechanical Engineering 1952
Bernard C. Ruddy, BS Mechanical Engineering 1954, MS 1957
Robert L. Scheer, MD Medicine 1953
Morris Schwartz, D/C Architecture 1950
Robert C. Seidler, MD Medicine 1958
Ernest Shorrock, BS Chemical Engineering 1958
Barbara Penn Skinner, BS Home Economics 1951
Andrew M. Smolcynski, D/C Civil Engineering 1955
Alayne Stauffer Snader, BS Home Economics 1952
Bernard Soltz, MBA Business Administration 1955
Harry E. Spencer, D/C Electrical Engineering 1952
John R. Stauffer, BS Business Administration 1952
Charles Stone, MD Medicine 1959
Robert R. Tarbuck, BS Mechanical Engineering 1951
Bruce L. Uibel, BS Civil Engineering 1955
Helen Grell Wasser, BS Design 1954
Lindsay F. Watton, BS Business Administration 1951
Doris Davis Westfield, MLS Library Science 1956
William C. Whitmore, BS Electrical Engineering 1953
David L. Whitney, BS Mechanical Engineering 1958
Jayne Savell Williams, BS Medical Technology 1958
John L. Willis, BS Business Administration 1959

1960s

Raymond B. Agler, MLS Library Science 1963
James M. Allman, MS Electrical Engineering 1961
Edward Altman, BS Civil Engineering 1962
Brite R. Bilger, BS Metallurgical Engineering 1962
Philip L. Bonnet, MD Medicine 1969
Linda Long Bunker, RN Nursing 1966
Ivan L. Butler, MD Medicine 1962
Louis Camerota, BS Business Administration 1964
Mark J. Cerciello, MD Medicine 1964
Philip R. Cohn, BS Electrical Engineering 1968
John F. Conrad, BS Metallurgical Engineering 1962
Benjamin H. Cranston, BS Mechanical Engineering 1965, MS Materials Engineering 1976
Thomas E. Creamer, MD Medicine 1962
Gail Braceland Deats, BS Home Economics 1966
George D. Del Casale, BS Electrical Engineering 1962
Anthony J. DelVecchio, BS Chemistry 1963
Roland M. Dixon, BS Electrical Engineering 1960
Mark Dorfman, BS Accounting 1966
Virginia M. Drobner, MD Medicine 1962
Walter B. English, MS Chemistry 1966
William B. Eyre, BS Mechanical Engineering 1966
Lucille Iannelli Francesco, BS Home Economics 1964
Carol Ann Williams Fray, BS Business for Women 1968
Walter G. Frick, D/C Mechanical Engineering 1960
Allen D. Gart, BS Commerce and Engineering 1963
Maria Geczy, MD Medicine 1960
Michael P. Gosnell, BS Mechanical Engineering 1963
Alfred O. Gottschalck, BS Mechanical Engineering 1965
Bruce L. Gotwols, BS Physics and Atmospheric Science 1963
Barry H. Gross, BS Mechanical Engineering 1962
William W. Hales, BS Chemical Engineering 1966
Mary Ann Healey, MD Medicine 1963
Francis C. Heil, BS Mechanical Engineering 1963
Dennis P. Helmer, BS Business Administration 1962
Robert G. Hoeppner, BS Business Administration 1961
Clarence D. Hopper, BS Commerce and Engineering 1960, MBA Business Administration 1976
Susan T. Horn, MS Library Science 1966
Thomas N. Howard, BS Mechanical Engineering 1963
Paul A. Ironside, MD Medicine 1962
Joseph L. Izzo, MD Medicine 1967
Mary Elizabeth Jeffrey, MD Medicine 1965
Ruth R. Johnson, MS Library Science 1963
Thomas J. Kennedy, BS Electrical Engineering 1968, MS 1973
William L. Kern, BS Industrial Administration 1960
John J. Kern, MBA Business Administration 1969
Edward B. Kinney, BS Business Administration 1968
Victor Klein, BS Metallurgical Engineering 1960
Theodore J. Kowalyshyn, MD Medicine 1966
Stanley H. Kratchman, BS Business Administration 1964, MBA 1967
Walter A. Kurish, BS Mechanical Engineering 1967
Vito A. Lamorgese, BS Electrical Engineering 1968
Peter G. Lavine, MD Medicine 1966
Walter L. Law, BS Business Administration 1963
L. D. Leiter, BS Mechanical Engineering 1962
Ernest W. Liska, BS Chemical Engineering 1968
John H. Litschert, BS Mechanical Engineering 1960
Joseph G. Llaurado, MS Biomedical Engineering and Science 1963
Harold L. Lustig, BS Business Administration 1966, MBA 1968
Daniel L. Mack, BS Mechanical Engineering 1963
Joseph G. Maley, BS Electrical Engineering 1968
Robert B. Maynard, BS Civil Engineering 1965
Margaret Y. McCarron, PhD Biochemistry 1969
Timothy F. McManus, BS Electrical Engineering 1966
Lynnette Hammond McNeal, MD Medicine 1961
A. Lee Mercy, BS Mechanical Engineering 1964
Lawrence J. Miceli, BS Mechanical Engineering 1967, MBA Business Administration 1979
Christopher A. Miedzius, MS Electrical Engineering 1963
Henry M. Mikulski, BS Mechanical Engineering 1963
Nancy Pharr Minnich, MLS Library Science 1965
William L. Moore, MD Medicine 1961
Ellen M. Muzi, MS Library Science 1966
Paul E. Nelson, MS Electrical Engineering 1965
John F. Ohlson, BS Mechanical Engineering 1962
Joseph A. Paglia, BS Industrial Administration 1963
William S. Patterson, MS Mechanical Engineering 1965
Harry F. Pirmann, BS Business Administration 1961
Peter W. Pratt, MD Medicine 1961
James F.F. Reamer, MD Medicine 1961
Richard V. Reed, BS Electrical Engineering 1961
Lois J. Reid, RN Nursing 1960
Walter A. Reimann, MBA Business Administration 1964
Thomas J. Rodgers, MBA Business Administration 1967
Lawrence Rosen, BS Chemical Engineering 1960
Dale B. Ruhmel, BS Mechanical Engineering 1960
Michael D. Sarles, MS Electrical Engineering 1964
Frederick W. Schmidt, BS Business Administration 1968, MBA 1971
Roy C. Schmidt, MS Mechanical Engineering 1967
Diana Klimashevsky Serke, BS Interior Design 1965
Rose Shannon, MS Library Science 1969
George A. Shiner, MS Biomedical Engineering and Science 1965
Rose Silver, BS Home Economics 1969
Michael J. Smith, MS Physics and Atmospheric Science 1964
Gerald C. Smith, MBA Business Administration 1967
Homer C. Smith, MBA Business Administration 1969
Stephen L. Snyder, MBA Business Administration 1968
Thomas P. Speas, MS Mechanical Engineering 1963
Miriam Siegel Spector, MLS Library Science 1967
Eileen Wilson Stanton, RN Nursing 1963
Harvey M. Steinberg, BS Electrical Engineering, MS 1967
Frederick W. Stowell, BS Electrical Engineering 1968, MS 1971
Jerlynn Brodnick Taylor, Cert. Nursing 1961
John H. Tinker, MD Medicine 1969
Marshall M. Truex, BS Electrical Engineering 1968
Howard J. Van Dusen, MS Aerospace Engineering 1966
Meyer Wagner, BS Electrical Engineering 1968
Richard E. Ware, BS Chemical Engineering 1965
Scott S. Whitaker, BS Civil Engineering 1962
Eleanor Moore Wicks, MS Home Economics 1967
Robert C. Williams, BS Electrical Engineering 1968, MS 1973
Edwin S. Wilson, MD Medicine 1962
Walter A. Wise, BS Commerce and Engineering 1965
James C. Zinman, BS Business Administration 1967

1970s

Thomas J. Barr, BS Electrical Engineering 1971
Richard C. Black, BS Chemistry 1970
Catherine Baran Boss, MS Library Science 1973
Robert A. Box, BS Civil Engineering 1972
David W. Bradway, BS Physics and Atmospheric Science 1970, MS Electrical Engineering 1971, MS Mathematics 1987
George A. Buck, BS Business Administration 1972
Alan C. Clayton, BS Operations Management 1977
George F. Cowperthwaite, BS Chemistry 1970
Adriano B. D'Angelo, BS Mechanical Engineering 1977
George J. Donovan, BARCH Architecture 1974
Steven E. Ehmry, BS Business Administration 1973
Paula K. Fischer, MD Medicine 1974
Thomas C. Ford, BS Business Administration 1975
Allen Gaisin, MD Medicine 1972
William C. Geisdorf, BS History 1973
Wayne L. Gibbons, MD Medicine 1979
Richard E. Gratz, MD Medicine 1978
Ronald E. Holt, BS Mechanical/Industrial Engineering 1975
Richard D. Huder, BS Architecture 1973
Stephen J. Hulshizer, BS Mechanical Engineering 1971, MBA Business Administration 1974
Dalton R. Hunkins, PhD Applied Mechanics 1973
Roy J. Johnson, BS Electrical Engineering 1975

Linda Cain Karmilowicz, BS Design 1979
Martha S. Kravitz, BS Human Behavior and Development 1979, MS Home Economics 1982
Albert B. Lemanski, MBA Business Administration 1978
Gerald J. Maden, BS Business Administration 1971
Stephen J. Mapa, BS Electrical Engineering 1971
William L. McCauley, BS Materials Engineering 1977, MS 1979, PhD 1986
Madelyn McDade Massey, MS Library Science 1971
John M. McCullough, BS Mechanical Engineering 1971
Frederick V. Muto, BS Mechanical/Industrial Engineering 1971
Bettina Garrett Nuding, RN Nursing 1972
Stephen A. Pacitti, BS Business Administration 1972
Arjun C. Patel, BS Chemical Engineering 1979
Frederick J. Peck, MBA Business Administration 1971
James M. Pizzola, BS Mechanical Engineering 1976
Mary Louise Ponsell, MS Library Science 1972
John T. Poprik, BS Business Administration 1970
Joseph J. Sanelli, MBA Business Administration 1975
Gary L. Shapiro, BS Electrical Engineering 1972, MS Physics and Atmospheric Science 1981
Milton E. Skelly, MD Medicine 1979
Stephen L. Squires, BS Electrical Engineering 1970
Deborah A. Stokes, BS Retail Management 1979
Dorothy Slothower Stout, MS Library Science 1972
Robert D. Taylor, BS Business Administration 1975
Samuel B. Walker, MS Engineering Management 1974
Judith A. Wolfe, MD Medicine 1975
Robert W. Worthington, BS Business Administration 1975

1980s

Joseph A. Burke, BS Accounting 1982
Louis J. Evangelista, BS Accounting 1983
Charles S. Fleischmann, BS Marketing 1985
Harry J. Gabriel, BS Construction Management 1986
Mark W. Geeting, BS Chemical Engineering 1982
Luise A. Gray, PhD Clinical Psychology 1984
Nancy A. L. Hart, BS Commerce and Engineering 1988
David J. Henninger, BS Computer Science 1984
William P. Hook, BS Electrical Engineering 1981
Paul J. Hughes, MD Medicine 1984
Jeffrey R. Jensen, MS Home Economics 1981
Susan M. Jolly, AS Nursing 1981
Joanne Jeanes Kuniholm, MFT Family Therapy 1989
Douglas R. LaBar, PhD Anatomy 1981, MD Medicine 1982
Edward W. Lauer, BS Business Administration 1980
Lyn D. Lerie, BS Business Administration 1985
Angela Spahr Long, BS Design 1981
Robert Luczak, MBA Business Administration 1980
Catherine W. Marchok, MS Library Science 1983
Olga E. Mohan, MD Medicine 1982
Patrick J. O'Neill, BS Computer Science 1986
James M. Pfrommer, MD Medicine 1983
Leon C. Pickus, MS Communications 1986
Robert P. Sabo, MD Medicine 1981
Lorraine A. Scott, BS Medical Technology 1985
Jules F. Senske, BS Metallurgical Engineering 1982
Leonard M. Shulman, BS Electrical Engineering 1986
Deborah Carilli Steinmetz, BS Accounting 1980
Evelyn Smith Udell, MS Library Science 1980
Denise Anne Verleur, MD Medicine 1984
William H. Weaver, BS Marketing 1985
Howard O. Zogott, MS Library Science 1987

1990s

Stephen C. Aldrich, MS Information Systems 1994
Theresa R. Brooks, MS Library and Information Science 1992
Daniel L. Carl, BS Electrical Engineering 1994
Tara Byram Ennis, BS Mechanical Engineering 1993
Thomas F. Gibbons, BS Electrical Engineering 1994
Ravindra Joshi, MS Mechanical Engineering 1995, MS Engineering Management 2001
Matthew J. Lynch, BS Marketing 1990
Pearl Talley, BS Teacher Education 1994
Judith S. Turnbull, MS Library and Information Science 1990

2000s

Michael Bergstraesser, MBA Business Administration 2008
Susan Burke-Leichner, MS Taxation 2002, MBA Business Administration 2002
Francis J. DiMento, BS Mechanical Engineering 2007
Thomas C. Ely, BS Computer Science 2004
Jerome T. Grzeskiewicz, BS History and Politics 2007
James J. Heiserman, BS Computer Science 2006
Edward M. Jalowiecki, MCAT Creative Arts 2001
Tracy A. Kelly, BS Commerce and Engineering 2000
Joyce Kunkle, MS Nursing 2007
Ravi A. Patel, BS Biological Science 2007, MD Medicine 2011
Luis D. Pinero, BS Business Administration 2000
Jared V. Simons, BS/MS Chemical Engineering 2002
Eve P. Stoddard, MS Clinical Psychology 2003, PhD 2007
Ducquang Tran, BS Mechanical Engineering 2007
Laura C. Tuszynski, BS Psychology 2009
Jennifer Voiner, MS Science of Instruction 2009

2010s

Samuel J. Capizzi, BS Chemical Engineering 2014
Terrence D. Daniels, EdD Education Leadership and Management 2017
James A. DiFalco, BS Biological Science 2007, BS Marketing 2016
Lacie L. Grisley, BS Biological Science 2007, BS Nursing 2011
Warren Staatse, BS Computer Science 2010
Monica B. Zealand, MBA Business Administration 2015

Correction: *Due to a factual error from one of the University's information services, John S. Dobrota, MD '65 was incorrectly included in Friends We'll Miss in the summer issue.*

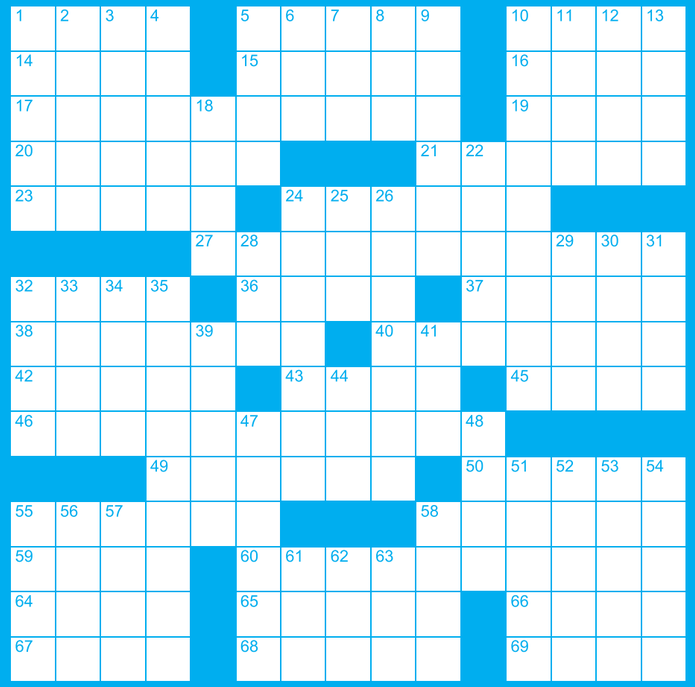
Crossword

THINK YOU'VE GOT ALL THE ANSWERS? *If so, send your completed puzzle to the address at right to be entered into a drawing to win a great Drexel prize. And congratulations to the winner of our summer edition contest: David Putnam (MS '09) of Brecksville, Ohio.*

Drexel University
Office of University Communications
3141 Chestnut Street
Main Building, Suite 309
Philadelphia, PA 19104-2875

*CO*OPERATION

It's no "*co*incidence" that that you'll need to "*co*ordinate" your words into some wacky "*co*mbinations" to solve this puzzle.



ACROSS

1 Jelly containers
5 Proficient
10 It isn't right
14 Mole in a science class, e.g.
15 ___ Wilco (hero of the "Space Quest" computer game series)
16 Bar on a 38- or 42-Across
17 2020 presidential candidate Booker, when he was a baby?
19 Matches, in poker
20 Madison, Jackson, and Lincoln, e.g.
21 Powerful political patron
23 Like some questions with only two possible answers
24 Creatures found in the Everglades, informally
27 Score for a DEA agent?
32 Wrestling style for a rikishi
36 Sets of parts to be assembled
37 Prepare, as steak
38 Pontiac model introduced in 1969
40 Liturgical cry of adoration
42 Automotive name that "still stands as shorthand for complete and utter failure," per *Motor Trend*
43 Home of the Himalayas
45 Colorado and Washington were the first U.S. states to legalize it for recreational use
46 Snake that does exercises to strengthen its pecs?
49 Small thing on a slide
50 ___ vortex (meteorological phenomenon)
55 "All the same ..."
58 Remove, as a king
59 Go through the articles of an alumni magazine, say
60 Denominations devoted to dance music from the 1970s?
64 "All ___" (court command)
65 "Great" American quintet
66 Challenge issued at recess, say
67 Racer on a snowy hill
68 "Lords of Dogtown" actor Hirsch
69 Opening on a vending machine

DOWN

1 Like gossip and grapefruits
2 "No More 'I Love You's" singer Lennox
3 Significant schisms
4 Red mark on a white carpet, e.g.
5 Dance, film, theater, etc.
6 One prescribing meds
7 Big thing for a superstar, perhaps
8 Miles ___ gallon
9 Attempt to attain
10 Proverbial breaking point
11 Corp. honcho
12 Jumper on a boxer
13 It may be multiple-choice
18 Element just below helium on the periodic table
22 Palestinian people
24 Expression showing disgust
25 Take part in community theater, say
26 Maker of Tecra laptops
28 Initials before a pseudonym
29 "Say Anything" co-star Skye
30 Number of rows in a typical sudoku puzzle
31 Delighted
32 Bit of choreography
33 Language heard in Islamabad
34 Quantity in physics problems
35 Like some difficult catches in football
39 Impoverished neighborhoods
41 Implement used in a regatta
44 Demonstrate grief
47 The dog Georgette in the animated film "Oliver & Company," e.g.
48 Animals observed by primatologists
51 Pieces with personal perspectives
52 From this town
53 2019 World Series runner-up
54 Adjust, as a timer
55 Screws up
56 Hijab or niqab, e.g.
57 Simplify
58 Amount in a syringe
61 "Who's in charge here?" reply
62 Enjoy Aspen or Breckenridge, say
63 Animation fan's collectible

PUZZLE BY EVAN BIRNHOLZ