

DREXEL UNIVERSITY COLLEGE OF ARTS AND SCIENCES

Ask

2018



FOLLOW MY LEAD

HOW SIX DREXEL
ALUMNI ARE
MOVING THE
WORLD FORWARD



Follow My Lead

p. 16



“

It's better to make a bad decision than to make none. Without a decision, your team is wandering around doing nothing, when they could be learning and growing.

ANTHONY DeSIMONE, PhD



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FOLLOW MY LEAD

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Catching Up With
Coach Ashley Howard '04

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BACK COVER: Amber Racine, Esq., p. 28

PHOTOGRAPHER: Jared Castaldi

FROM THE DEAN

It feels fitting that my first note in *Ask* as interim dean of the College of Arts and Sciences would be on the topic of leadership. I've led teams throughout my career at Drexel, as director of the Applied Neuro-Technologies Lab and as head of the Department of Psychology, but the role of dean brings a new challenge and opportunity to expand on the approaches I've learned through the years.

As I read through the features in this year's magazine, numerous themes emerge, but one in particular resonates with me: the value of building strong teams. Each of the individuals profiled remarks on this in some way, noting the need to recognize and invest in the potential of our people. I agree wholeheartedly — you don't reach the highest levels of achievement by treating the world or your work as a one-person show.

Teams take many forms, and building a strong one is no simple task. It requires transparency and a respect for each individual's unique strengths and expertise. It requires that we let go of the egos that often keep us siloed and be open to learning from each other.

In my new role, I am focused not only on continuing to shape our vision for the College, but also on bringing together and capitalizing on the talent and expertise that already exist within our College community. Much like the alums in this issue, I believe in investing in our teams, in taking the time to develop leaders, and in the importance of collaborating with people whose viewpoints may differ from our own.

The capacity to tackle complex issues requires all of us — with all of our diverse experiences and perspectives — coming together. It requires the fearlessness to break out of predefined roles or disciplinary bounds, to forge new partnerships and to work collaboratively to challenge outmoded ways of thinking. That's how the College will achieve its shared vision, and how we will continue to contribute life-changing solutions to society.

Sincerely,

Maria T. Schultheis, PhD
Interim Dean
Drexel University College of Arts and Sciences



JEFF FUSCO

FROM THE EDITOR

Some of my earliest, fondest memories are of the afternoons I spent with my grandfather growing up.

On our walks through the woods or flying kites, I learned how to slow down and appreciate the world around me, how to find joy and beauty in quiet moments spent with people we love.

On our trips to cut lilacs for my grandmother or to pick up groceries for dinner, I learned how to be thoughtful, and how simple acts of kindness could demonstrate our appreciation and respect for others.

On our car rides home, when we would sing “America the Beautiful” and “Row, Row, Row Your Boat” in a round, I learned not to be afraid of my own voice, to be proud of myself and to value all I had to give to the world.

My grandfather was one of my greatest role models — my definition of what it means to be a good human being.

He worked in the stone quarries growing up and was a plane mechanic in World War II. Later, he went on to serve as a police officer for 35 years, filling his spare time and retirement with carpentry work for the state. He delivered babies in the back of his patrol car on more than one occasion. He stood up to bullies. He helped strangers. He once traded a pistol for a pair of binoculars. He believed, without ever being told, that *all* people deserved kindness and respect.

Even on the day he died at the age of 100, his presence could still fill a room — his 6-foot frame, broad chest, and hands that could envelop those of many adult men.

As illustrated by the individuals featured in this issue, much of leadership comes back to our humanity. It is not about titles or the size of our staff. It is not reflected in our paychecks or in the number of years we’ve worked. It is the way we walk through the world, our vision of what could be and our fortitude to pursue it, the way we build up and inspire others to be the best of themselves and to come with us on the journey.

I am most proud of myself when I see my grandfather reflected in my actions. He remains my truest definition of what it means to be a leader.

All the best,

Amy Weaver
Executive Director, Marketing and Communications
Drexel University College of Arts and Sciences



COLLEEN STEPANIAN

Ask 2018

ART + SCIENCE = KNOWLEDGE

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Jacob Owens, PhD, holds a giant panda at Panda Valley in Dujiangyan, China.



DREW FELLMAN

PANDAS

IN THE WILD AND ON THE BIG SCREEN

BY DIANE HOLLIDAY

Upon his return to the United States, postdoctoral researcher and Drexel alumnus Jacob Owens, PhD, received an urgent phone call: Qian Qian, a captive-born giant panda who had been recently released into the wild, was in danger.

Qian Qian is the precocious star of the new IMAX film “Pandas,” a documentary that features the work of researchers from Drexel University and the Chengdu Research Base of Giant Panda Breeding in China. Together, these institutions are working to safely release giant pandas bred in captivity into the wild to increase their population.

The Chengdu Panda Base called on Drexel Professor James Spotila, PhD, and his postdoc Owens, as they were developing the panda-release program. Spotila recommended using a “soft release” technique developed by his former student Benjamin Kilham, PhD, on orphaned black bear cubs. The technique pairs a scientist with each bear upon its release — allowing the scientist to monitor the panda’s progress through GPS tracking.

Qian Qian had been in the wild for two months before her GPS collar stopped detecting movement. After hearing the news, Owens booked the first flight back to China. He had been working with the 3-and-a-half-year-old bear since she was only 6 months old.

Owens and Drexel grad student Wenlei Bi found Qian Qian injured in the forest — too weak to move after being attacked by a predator. Despite her injury, she was nursed back to health and is awaiting her release to a more appropriate location.

+ more

To learn more about Qian Qian's adventures and Drexel's collaboration with the Chengdu Panda Base, catch “Pandas,” narrated by actress Kristen Bell, in IMAX theaters nationwide. For showtimes, visit imax.com/movies/pandas.



DREW FELLMAN



New Clinic Opens for Eating Disorders & Weight Management

The well-intentioned goal of “eating less and exercising more” is often met with psychological hurdles and hard-to-break habits. Among the most effective solutions for weight loss is evidence-based treatment: an approach that encourages mindful decision-making and equips patients with the skills needed for success in their daily routines.

Drexel University’s new WELL Clinic launched this summer to provide people in the Philadelphia area with access to evidence-based treatment at the outpatient level — something that is often difficult to find in the region.

In addition to treating patients for weight management, clinicians provide services for eating disorders and conduct pre-operative bariatric surgery evaluations.

Under the direction of psychology faculty Evan Forman, PhD, Meghan Butryn, PhD, and Adrienne Juarascio, PhD, the clinic is an offshoot of Drexel’s WELL Center, which aims to develop new behavioral and technological treatments for obesity and disordered eating.

+ more | For more info, visit drexel.edu/wellclinic.

The Ethics of Algorithms

BY KYLIE GRAY

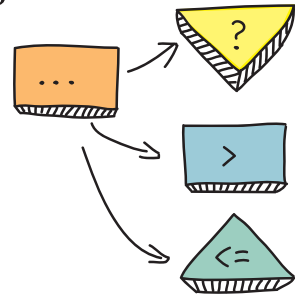
Computer algorithms influence many aspects of modern life, from shopping lists to first dates and even job offers. But who writes algorithms and code, and how do their personal values find their way into these sequences?

That's what Drexel Sociologist Kelly Joyce, PhD, wanted to find out in her National Science Foundation-backed study, "The Ethics of Algorithms."

"Any time you automate a process, you are going to have the potential for bias. We don't know the decisions that were made about what to include or exclude in an algorithm; we just encounter the effects of them," Joyce says.

These effects, she says, reflect a lack of training around the range of ways that big data can affect human subjects.

To fill this gap, Joyce and a former colleague in Drexel's College of Computing & Informatics spent four years studying teams of computer scientists and engineers who build big data sets. After interviews and dozens of meetings in which they noted when and how ethical considerations arose, the researchers translated what they learned to create data-driven scenarios, designed to engage future computer scientists in ethical problem solving.



"Any time you automate a process, you are going to have the potential for bias."

Three Drexel master's students in Science, Technology and Society — Kendall Darfler '17, Dalton George '17 and Jason Ludwig '17 — wrote the scenarios to evoke the voice, terminology and real-life ethical dilemmas of computer scientists and engineers.

The scenarios were tested in five universities, where STEM classrooms debated issues like data validity and sensitive information. The scenarios were then refined and made available on the project's website. Four were featured in the National Academy of Engineering's Online Ethics Center, increasing accessibility to educators and practitioners of STEM ethics.

Joyce believes in the importance of training STEM students to recognize the complexity of human-based data — but ultimately, she says, product design and implementation require the deep expertise provided by a range of fields.

"A lot of universities are starting data science programs, and if you look at who is considered an expert, there are computer scientists, mathematicians, but rarely social scientists," she says. "We are making a case for training students in STEM to think about these issues, but also in terms of research teams, to really think about who is at the table."

DRIVING WITH AUTISM



A new study from Drexel University and the Nationwide Children's Hospital found that young people with autism are capable of safely operating a motor vehicle — with gradual practice.

Led by Kristina Patrick, PhD, an alumna of Drexel University's Clinical Psychology doctoral program, the study looked at 100 participants, ages 16 to 26. Of the 100 young people, half had autism and half did not; 14 percent had their driver's licenses.

The group participated in a series of tests using a virtual reality driving simulator in the Applied Neuro-Technologies Lab at Drexel. Simulations progressed from simple tasks, like driving

on rural roads, to more complex tasks, like changing speeds or carrying on a conversation while driving.

While both groups mastered the basic tasks, the unlicensed drivers with autism had more difficulty maintaining speed and staying in their lane as the scenarios became more complex.

However, there was no difference in performance between the participants — with and without autism — who had their driver's licenses.

The study concluded that, while young people with autism may take more time to get the hang of driving, they are capable of driving at the same skill level of neurologically typical individuals, with extended practice.

PSEUDODAE/MON/STOCK PHOTO



LAUREN LOWE

NEIGHBORHOOD NARRATIVES

Drexel Writers Room, a university and community literary arts program housed in the Department of English and Philosophy, teamed up with Canon Solutions America to create a unique model for creative expression in Philadelphia's Mantua and Powelton Village communities.

The yearlong project, "TRIPOD: People, Places, Portraits," brought together 18 writers and photographers-in-residence from multiple generations: Drexel undergrads, high school seniors and older neighborhood residents.

The participants collaborated throughout the year in triads, using writing and photography to tell stories about their lives and their neighborhoods.

"TRIPOD is designed to explore and embrace imaginative approaches to documenting and responding to the past, present and ongoing changes in our shared communities from multiple and diverse perspectives," says Rachel Wenrick,

associate teaching professor of English and director of Writers Room. "This work has the potential to generate profound inter-generational learning."

A reading and gallery exhibition was held at the Free Library of Philadelphia to showcase the works produced by each group. With the support of Canon Solutions America, all pieces were published in Writers Room's 267-page "Anthology" and celebrated with a release party at the Dornsife Center for Neighborhood Partnerships.

"Working with people different from me was the best thing I experienced as a student," says Lauren Lowe, BA English '17, who continued her involvement in Writers Room as an ArtistYear AmeriCorps Fellow at Paul Robeson High School. "This is civic engagement in the strongest sense, where relationships are fostered in lasting and meaningful ways."

TRIPOD at Writers Room will run for a second year and continue to grow through the partnership of Canon Solutions America, Drexel and the West Philadelphia community.

PICTURED ABOVE: Natasha Hajo, senior English major at Drexel, and Patricia Burton, West Philadelphia resident and Writers Room member



CHRISTOPHER TYLER SIRACUSA

ENGINEERING A BETTER BRAIN

BY LAUREN INGENO AND AMY WEAVER

Drexel University Psychologist John Medaglia, PhD, and colleagues at the University of Pennsylvania are trailblazing a new field of research called “cognitive neuroengineering.”

As head of the Cognitive Neuroengineering & Wellbeing Laboratory, Medaglia is the principal investigator on a recent study uncovering new insight into the correlation between brain networks and language — and how noninvasive brain stimulation could be used to repair cognitive function.

Effective verbal communication depends on one’s ability to retrieve and select the appropriate words to convey an intended meaning. For many, this process is instinctive, but for someone who has suffered a stroke or other brain damage, communicating even the most basic message can be arduous.

Scientists know that a brain region called the left inferior frontal gyrus (LIFG) is critical for language production and word processing.

However, it remains unclear exactly how the LIFG interacts with the brain’s complex networks to facilitate controlled language performance, or how these interactions might go awry in a damaged brain.

Medaglia and his colleagues have taken a novel approach to understanding how networks in the brain interact to make word-choice decisions using two techniques: transcranial magnetic stimulation, which uses an external magnetic field to induce currents in parts of the brain, and network control theory, which applies engineering and network science to brain systems. Their results, published in the *Journal of Neuroscience*, pave the way for the treatment of aphasia, or language loss, and other language disorders.

“Our ability to understand neural systems is fundamentally related to our ability to

control them,” says Medaglia. “This research provides direct evidence that how we choose the words we want to say in natural language is related to the capability of the brain to integrate and segregate activity across major networks.”

Twenty-eight study subjects were asked to complete two different language tasks while the team administered the noninvasive brain stimulation. In the first task, study participants were asked to complete open-ended sentences such as, “They left the dirty dishes in the...” In the second task, study participants were asked to name specific images or numerals presented to them.

The researchers found that boundary controllability — the theoretical ability of a brain region to guide distinct brain networks to communicate with each other — was important for responding to the open-ended language tasks, when participants needed to retrieve and select a single word in the face of competing,

alternative responses.

By contrast, modal controllability — the ability of a brain region to drive a network into “difficult to reach” states — was closely related to closed-ended language tasks, where subjects had only to read a number off a computer screen.

“With further research, we can begin to uncover which areas of the brain are likely to be utilized if there’s an injury to the language system.”

Medaglia says his group was surprised to find this very clear distinction between how the brain responds to two similar language tasks.

“There are debates about how unique these processes truly are, and now we have evidence that you can make a clear

distinction between them,” Medaglia says. “It was also surprising to me that you could find this effect when studying the whole brain, whereas a lot of traditional views on language would have you focus on a much more specific area.”

Next, the research team is using the same type of techniques with stroke patients to see if stimulating certain areas of the brain can help them improve speech.

Study co-author Roy Hamilton, MD, of the University of Pennsylvania, suggests that these findings may someday benefit patients with aphasia due to stroke. For patients with aphasia, partial language recovery is often associated with the reorganization of the language system in the brain — essentially, when language functions performed by damaged areas of the brain shift to new areas that had not previously been involved in language processing.

“This study gives us new insight into the underlying properties of areas like the LIFG that enable the brain to process language,” Hamilton says. “But there are still questions we’re looking to answer. With further research, we can begin to uncover which areas of the brain are likely to be utilized if there’s an injury to the language system. This approach may provide exciting new targets for treatment with focal therapies, including neuromodulation.”

Earlier this year, the team also published the first research to link brain network anatomy and function to find correlates of mental flexibility — another type of cognitive control — in *Nature Human Behaviour*.

“In language and other functions like divided attention and focused perception, we’re combining brain anatomy and function to find the best targets for brain stimulation treatments in patients,” Medaglia says. “The idea behind cognitive neuroengineering is to take the best that cognitive neuroscience has to offer and approach treatments like an engineer.”

Students Find ‘Sanctuaries’ of Learning in Spanish-Language Course

BY BETH ANN DOWNEY AND KYLIE GRAY

In the South Philadelphia restaurant El Compadre, students in the Drexel University Spanish-language course “Sanctuary Spaces and Practices in the U.S., 1982-Present” shared a meal with chef-owner and activist Cristina Martínez.

Martínez made a splash in the Philly food scene when she and her husband opened South Philly Barbacoa, named one of America’s best new restaurants in 2016 by *Bon Appétit* magazine. She was also recently featured on the Netflix show “Chef’s Table.”

Despite having built a community through food, she says a true “sanctuary” doesn’t exist for her in the United States because of her status as an undocumented immigrant.

Martínez is one of a few speakers who shared their perspectives with the students throughout the term. Created by Steve Vásquez Dolph, PhD, an assistant teaching professor of Spanish, the course capitalized on Drexel’s strong focus on community-based learning to explore Spanish language and culture in the context of current issues, such as immigration and the role of both official and unofficial “sanctuary cities” like Philadelphia.

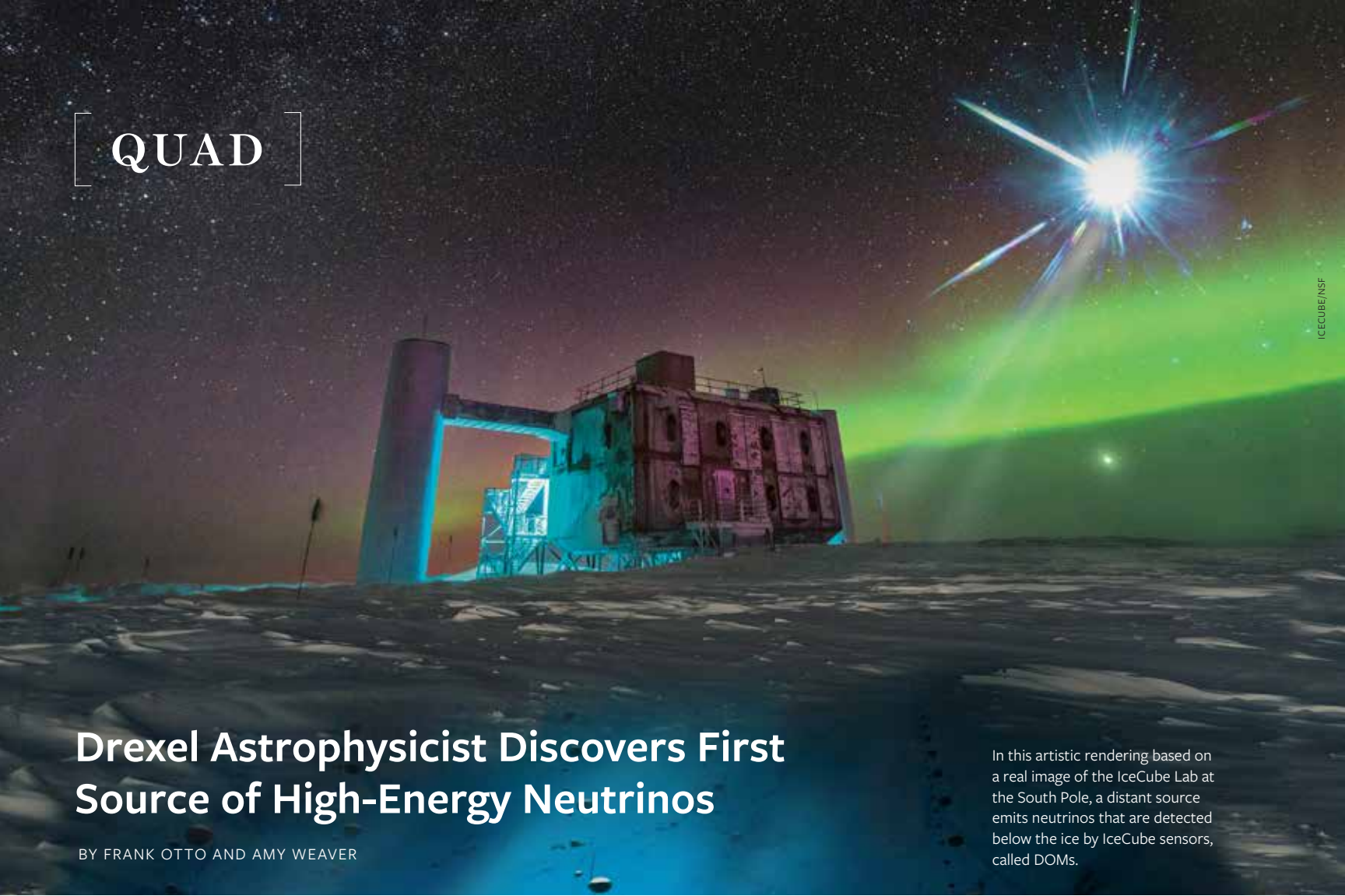
Anaís D’Ottavio, a senior global studies student in the class, describes the trip as a “mini study abroad.” She says she enjoyed the chance to delve into interesting readings and modern situations while honing her Spanish-speaking skills.

“Going to the restaurant and hearing [Martínez’s] story — taking in her mannerisms and expressions — was so much more powerful than reading a text or watching a video,” she says.

Martínez speaks to Drexel students about her immigration and advocacy experiences.



CHARLES SHAN GERBONE



Drexel Astrophysicist Discovers First Source of High-Energy Neutrinos

BY FRANK OTTO AND AMY WEAVER

In this artistic rendering based on a real image of the IceCube Lab at the South Pole, a distant source emits neutrinos that are detected below the ice by IceCube sensors, called DOMs.

There's a new way to look at the universe — using high-energy particles called “neutrinos” — thanks to the work of Drexel Astrophysicist Naoko Kurahashi Neilson, PhD, and her colleagues on the IceCube Collaboration.

In July 2018, the Collaboration released two papers in *Science* magazine that describe a high-energy neutrino event. Detected on September 22, 2017 via the IceCube particle detector at the South Pole, the incident coincided with the direction and time of a gamma-ray flare from a blazar. Blazars are giant, oval-shaped galaxies theorized to have spinning, supermassive black holes at their center that blast out radiation, including light.

“A lot of people thought blazars emitted neutrinos, but no one ever saw it,” Neilson says.

The second paper, for which Neilson served as lead author, reviewed the previous nine-and-a-half years of IceCube neutrino observations. The data showed strong evidence of other neutrinos coming from that specific blazar, which can be seen in the night sky just off the left shoulder of Orion.

The discovery identifies the first-known source of high-energy neutrinos, which can provide a glimpse

into how far-away galaxies are formed and even how they evolved, Neilson says.

“All of astronomy is light. You see a star because photons — which are light — hit your eyes,” she says. “It’s all different frequencies of light.”

Right now, Neilson says, “everything we know about astronomy is photons.” Getting better acquainted with neutrinos — where they come from, especially — opens up a whole new range of what’s possible to see and understand.

“If I shine a light on a table, you won’t see the light on the other side because the table blocks it,” she explains. “But if I had a neutrino flashlight, the light would go right through and you could see it on both sides, because neutrinos can’t be blocked by anything.”

The IceCube team is now working to build upon their latest discovery.

“We’re trying to look for more neutrino sources and more correlations between neutrinos and photons,” Neilson says.



In this artistic rendering, a blazar emits both neutrinos and gamma rays that could be detected by the IceCube Neutrino Observatory, as well as by other telescopes on Earth and in space.

THE MIRACLE OF INDOOR PLUMBING

Weaving together music, video and storytelling, Jad Abumrad encouraged audience members to break from their daily routines, embrace silence and pay attention to the small stuff in the 2018 Drexel College of Arts and Sciences Distinguished Lecture. Abumrad — co-host of the Peabody Award-winning “Radiolab” podcast and a former MacArthur Fellow — made the same changes in his own life. In doing so, he found himself creating a new podcast and, well, marveling at the miracle that is indoor plumbing.

In need of your own enlightenment? Take a different route home, listen before speaking, and maybe you, too, will see the world with fresh eyes, says Abumrad.



next > Mark your calendars

The College’s ninth Distinguished Lecture on Wednesday, April 10, 2019, will feature “Fresh Air” host Terry Gross. Free tickets will be available on March 4 at drexel.edu/coas/distinguishedlecture.



PHILLY’S FIRST LOW-RESIDENCY MFA IN CREATIVE WRITING

Aspiring fiction and screenwriters take heart: There’s a new MFA in town.

Launching fall 2019, Drexel University’s MFA in Creative Writing — the only low-residency MFA in the city of Philadelphia — promises a unique focus on craft, career and community.

Offered jointly by Drexel’s College of Arts and Sciences and Westphal College of Media Arts & Design, the online degree allows students to concentrate in either fiction or screenwriting, while gaining experience in both areas.

The program includes three in-person residencies: two craft-focused residencies on Drexel’s campus in Philadelphia, and an intensive professional development residency in New York for fiction writers, or Los Angeles for screenwriters. *New York Times* best-selling author Chris Bohjalian will be the featured writer at the first craft residency.

MFA students will receive regular critiques from accomplished authors, take part in supportive workshops, and gain the skills to pursue production and publication. From writing courses in Philadelphia prisons and hospitals, to study-abroad experiences in Haiti and Bioko Island of Equatorial Guinea, students will have numerous opportunities to write and find inspiration in our local and global communities. Teaching assistantships are also available.

+ **more** | [Learn more at online.drexel.edu/MFA](http://online.drexel.edu/MFA).

Reversing the Symptoms of Alzheimer's Disease

BY FRANK OTTO

Researchers from Drexel University reversed symptoms of Alzheimer's disease in fruit flies by restoring the balance between two epigenetic enzymes that regulate gene expression.

Early in the progression of Alzheimer's disease, cognitive impairment, such as difficulties with learning and memory, may be tied to the presence of elevated levels of the enzyme HDAC2. HDAC2 helps control how genes linked to learning and memory are expressed. When HDAC2 overwhelms the

enzyme it is paired with, called Tip60 HAT, it appears that it represses genes and leads to problems with neuroplasticity — the brain's ability to adapt to new stimuli or recall reactions to stimuli it already encountered.

But a Drexel research team led by Felice Elefant, PhD, an associate professor of biology, found that if they added extra Tip60 HAT in the brain of flies that displayed symptoms close to Alzheimer's disease, the balance between the enzymes could be restored. When that balance came back, behaviors the team had taught the flies were able to be learned again and remembered. Elefant's PhD student, Priyalakshmi Panikker, was lead author on the study, which also included other Drexel graduate and undergraduate student collaborators.

"Our findings strongly support the concept of exploring the efficacy of specific Tip60 HAT activators, as well as identifying and manipulating additionally misregulated Tip60 target genes," Elefant says.

For the study — part of a five-year, \$1.96 million grant awarded to Elefant from the National Institutes of Health — flies were conditioned to move toward a certain odor associated with sucrose, a positive reinforcement for them. After



Felice Elefant, PhD

CHRISTOPHER TYLER SIRACUSA

being exposed to the scent paired with sugar, the flies learned to move toward the scent even without the sugar present.

Flies that modeled Alzheimer's disease later showed no reaction to the smell, demonstrating that their ability to remember the association was negatively affected.

But once Tip60 HAT was introduced in the brain to correct the Tip60 HAT/HDAC2 imbalance, these flies showed a reaction time comparable to the control population. This indicated that they recovered their ability to learn and remember after the epigenetic balance was reintroduced. The added Tip60 HAT also restored function in nine out of 11 brain function-related genes that were repressed by the elevated HDAC2 levels.

"Many researchers who study Alzheimer's disease utilize human post-mortem samples, and thus, they are not looking at what is happening during the early progression of neurodegeneration, including whether we can correct what is happening during these early stages," Elefant says.

The results of the study, which were published in the *Journal of Neuroscience* and promoted by publications like *Newsweek*, were encouraging. Elefant's goal is to find new avenues for gene therapy.

"When people age, they have a loss of memory, but it's not because there are mutations in their genes," Elefant says. "It's the way the genes are packaged. They're distorted. And we're seeing non-invasive ways we might be able to prevent that early on."

Fossil Fuel Industries Outspend in Climate-Related Lobbying Efforts

BY EMILY STORZ

Outside of political circles, the practice of lobbying — and its influence on issues like climate change — can be shrouded in mystery. Helping to clear the air is Robert J. Brulle, PhD, a Drexel environmental sociologist who conducted the first peer-reviewed, comprehensive analysis of climate change lobbying data.

The study, published in Springer's journal *Climactic Change*, found that lobbyists spent more than \$2 billion influencing climate change legislation in U.S. Congress between 2000 and 2016. The fossil fuel, utilities and transportation sectors — known for being tight-lipped on the subject of climate change — accounted for more than half of that amount, eclipsing the 6.1 percent spent by environmental groups and the renewable energy sector.

"Control over the nature and flow of information to government decision-makers can be significantly altered by the lobbying process," Brulle says. "This process may limit the communication of accurate scientific information in the decision-making process."

The study also showed that the amount spent on climate change lobbying varied depending on the timing of proposed legislation and congressional hearings. While \$50 million was spent between 2000 and 2006, that amount increased significantly in the following years, peaking at \$362 million in 2009.

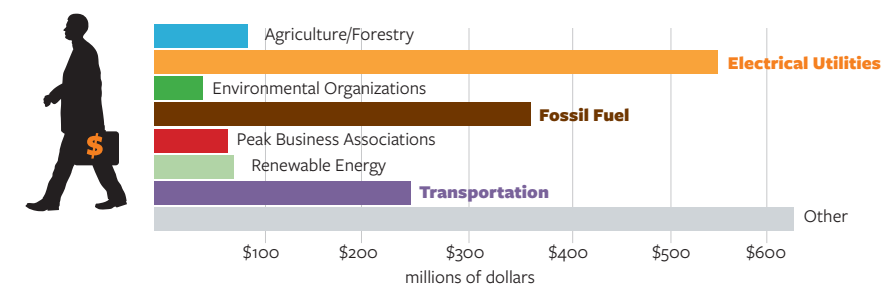
"The Waxman-Markey Bill, formally known as the 'American Clean Energy and Security Act,' barely made it past the House in June 2009, by a vote of 219-212," Brulle says. "It's clear that when the greatest threat presents itself — like when Congress and the executive branch are aligned and favorable to recognize climate change as a major issue — corporations that engage in the supply and use of fossil fuels work the hardest to upend legislative efforts."

Brulle says that this has important implications for the outcome and nature of future climate legislation, which is largely determined by intra-sector and inter-industry competition. He found that the activities of environmental and nonprofit organizations often constitute one-time, short-term mobilization efforts — a shortcoming, given the vast expenditures and continuous presence of professional lobbyists.

"Legislative outcomes fuel change, and to not address the lobbying imbalance or ignore this factor is shortsighted," says Brulle. "A more efficacious strategy will consider this lopsided representation in lobbying, as well as focused efforts, mobilization of citizens and rallying public opinion."

U.S. national climate change lobbying expenditures

BY SECTOR 2000 TO 2016



77SCH/ISTOCK PHOTO



TONY RINALDO

ENGLISH PROF NAMED RADCLIFFE FELLOW

André Carrington, PhD, associate professor of English, will take a deep dive into the world of radio plays as one of 50 fellows accepted into Harvard University's Radcliffe Institute for Advanced Study. The highly selective program, which accepted less than 3.5 percent of applicants this year, brings together individuals from 11 countries and a range of disciplines in its 2018-2019 class. During his yearlong tenure, Carrington will continue his research on "Audiofuturism," analyzing science fiction radio plays based on the works of black authors to better understand the connection between race and genre.

QUAD



UNITED STATES

1 Emily Ostrow
 BS/MS Environmental Science '18
 PhD student, University of Kansas
 > Conducting research on avian phylogenomics, avian parasites and biogeography
 AWARD: NSF Graduate Research Fellowship



IRELAND

2 Sara Aykit
 BA English '19
 > Studied creative writing and literature
 AWARD: Benjamin A. Gilman International Scholarship

ENGLAND

3 Nicholas Barber
 BS Geoscience '18
 PhD student, University of Cambridge
 > Pursuing fully funded degree exploring volcanology
 AWARD: Gates Cambridge Scholarship

GERMANY

4 Annette Kang
 BS Biological Sciences '19
 > Studied ant-parasite communities; recognized for leadership and commitment to the environment
 AWARDS: DAAD Research Internship in Science & Engineering + Udall Scholarship



Tarita Roy Choudhury
 BA Environmental Studies & Sustainability + MS Urban Strategy '19
 > Studied climate change adaptation and environmental impact assessments of urban areas
 AWARD: DAAD Research Internship in Science & Engineering



CAMEROON

5 Ian Nichols
 PhD candidate, Biological Sciences
 > Studying primates in agroforestry habitats
 AWARD: Fulbright Study/Research Grant



MOZAMBIQUE

7 Tara Densmore
 BA Global Studies '20
 > Studying Portuguese at the Universidade Eduardo Mondlane
 AWARD: Boren Scholarship



UNITED ARAB EMIRATES

8 Amna Khalafalla
 BA Sociology '22
 > Studying Arabic and Middle Eastern studies at American University in Dubai
 AWARD: Benjamin A. Gilman International Scholarship



CHINA

9 Sophia Courtney
 BS Environmental Science '20
 > Performed vegetation surveys in panda reserves; recognized for leadership and commitment to the environment
 AWARDS: NOAA Hollings Scholarship + Udall Scholarship



SOUTH KOREA

11 Gianna Manela
 BA Global Studies + BS International Business '22
 > Studying Korean history and foreign politics at Seoul National University
 AWARD: Freeman-ASIA Scholarship

Global Laurels

Students and alumni of Drexel's College of Arts and Sciences are taking their scholarship and research around the globe with international awards from the National Science Foundation, the Fulbright Program, the University of Cambridge and more.

LEOPARDINATREE, SHAVESY, SBORISOV/STOCK PHOTO

Stepping into a position of leadership requires a certain fearlessness — a willingness to pursue an idea passionately, to risk and fail and risk again, to set aside ego and self-doubt to rally others toward a common goal. ¶ There are libraries full of how-tos and handbooks, but there's no one leadership formula that works for all. These Drexel College of Arts and Sciences alumni are writing their own rulebooks — inspiring change and building strong teams to forge new paths ahead.

*follow
my lead*



HOW SIX
DREXEL
ALUMNI
ARE MOVING
THE WORLD
FORWARD

JARED CASTALDI

Madelyn Caltabiano, PhD

MADELYN CALTABIANO

PhD

BS BIOLOGICAL
SCIENCES '80

SENIOR VICE PRESIDENT,
GLOBAL PROJECT & ALLIANCE MANAGEMENT,
MERCK RESEARCH LABORATORIES



JARED CASTALDI

For 37 years, Lyn Caltabiano has been a leader in the field of pharmaceutical research and development (R&D) at two of the top pharma companies in the world — GlaxoSmithKline and Merck & Co. From leading operations for GSK's early phase clinical development and oncology R&D to strengthening project and alliance management at Merck, she has sought one challenge after the next, never allowing herself to get too comfortable. Underlying it all is a supreme respect for the work and her colleagues, and a passion for the field that began long before she ever stepped into a lab.

AS TOLD TO AMY WEAVER

I knew I wanted to do research

probably from the time — it's silly — but from the time I was in middle school, all because of a series of Tang commercials. I kid you not.

There was a series of three, maybe four of them. Each one highlighted a woman scientist who was also a mother. One was a marine biologist, another was a physician, another was a developmental biologist.

And I remember watching those commercials and thinking, "I want to do that." It's funny where your inspiration comes from. I was always interested in science, and they were the only female scientist role models I had at the time, but it made a lasting impression.

When I got to Drexel, I did two of my three co-ops at Fox Chase Cancer Center. I was working in the lab of a Nobel Prize winner, Dr. Barry Blumberg, researching hepatitis.

I think it was partly because of my co-op that I got my first job as a bench scientist at what was then SmithKline & French Laboratories, and that started my whole career. The rest goes pretty quickly —

10 years in the lab, the first five of which I was working toward my PhD in pathology at the University of Pennsylvania; then 10 or so years in drug development, first as a project manager, and eventually leading development projects.

In my last decade at GlaxoSmithKline, I was offered a number of opportunities to step into what I would call R&D organizational leadership roles. One of the accomplishments I'm most proud of is creating the Alliance Management group.

Alliance managers are meant to be unbiased partnership experts, accountable for ensuring that collaborations between partner companies achieve their goals, adhere to contractual terms and are effectively governed. They also play a critical, integrative leadership role.

When I was creating the AM group, I had two important mentors who encouraged me to build a diverse team — a lesson I took with me into future leadership roles. It's far too easy to hire people like yourself, when what you really need are leaders who have different perspectives and experiences, who can challenge not only your thinking, but also the thinking of the group.

When I was recruited to Merck in 2014, it was for the role I had always aspired to: to lead project management, and subsequently have accountability for alliance management, in an R&D organization. The challenge was to enhance the group's leadership capabilities and to develop an integrated leadership team.

I enjoy and pride myself on building leaders, so I knew I wasn't going to bring in a whole new team. I wanted to give myself time to get to know everyone, to understand their strengths, and to determine what I could and couldn't shape.

Throughout my career, I've been fortunate to have had great bosses who were invested in my development. I've also observed the behavior of leaders around me — the good and the bad — and from there, developed my own philosophy on effective leadership.

One of the key attributes, I believe, is the ability to build high-performing teams and future leaders, to bring priority and focus to staff development and empowerment — and to know when to get out of your staff's way. You need to give yourself and your team permission to stumble, make mistakes, but then learn from those mistakes and move forward.

“
It is absolutely critical for employees to understand why our work matters, the role they have to play in it, and why achieving our vision is important.”

NUMBER OF VACATION DAYS
I TOOK LAST YEAR: 30 days,
my full allotment

MY BOOK RECOMMENDATION
FOR ASPIRING LEADERS:
“The Power of Positive
Leadership” by Jon Gordon

ON WORK-LIFE BALANCE: It's
not a balance; it's a matter
of continual prioritization.
You can't be a perfect
parent, a perfect scientist, a
perfect leader. But be clear
about the things you won't
compromise on.

This requires the ability to give — and receive — honest, constructive feedback. I've seen too many of my colleagues struggle with this, but this kind of honesty is vital to individual and team growth.

Finally, a strong leader must be able to create and consistently communicate a clear, inspirational vision for the future — and be committed to its achievement. It is absolutely critical for employees to understand why our work matters, the role they have to play in it, and why achieving our vision is important.

Most people rally around that. I've found that the vast majority of people who commit their careers to pharmaceutical research and development do so because they want to make a difference. Pharma has had some bad press over the years and a few bad players who make it difficult for all of us — and I'm

not saying the industry is entirely without blame — but I've seen how hard people work and what they give up to do the work that they do.

In 1977, when I was working in Dr. Blumberg's lab at Fox Chase Cancer Center, I never imagined I would see the medical achievements that have been made in the last 40 years.

Back then, I was testing for what we called “non-A, non-B hepatitis,” a third hepatitis virus that could infect the liver and lead to chronic disease and subsequent death.

It didn't have a definitive name then — it hadn't even been isolated or sequenced — but it later became identified and known as hepatitis C.

I have a very good friend whose husband died 15 years ago from liver failure caused by hepatitis C.

Today, thanks to the efforts of many, hepatitis C patients can be cured.

To be at this point in my career and to have had the privilege of working with and leading passionate teams in an industry making these things happen — it's incredible. ●

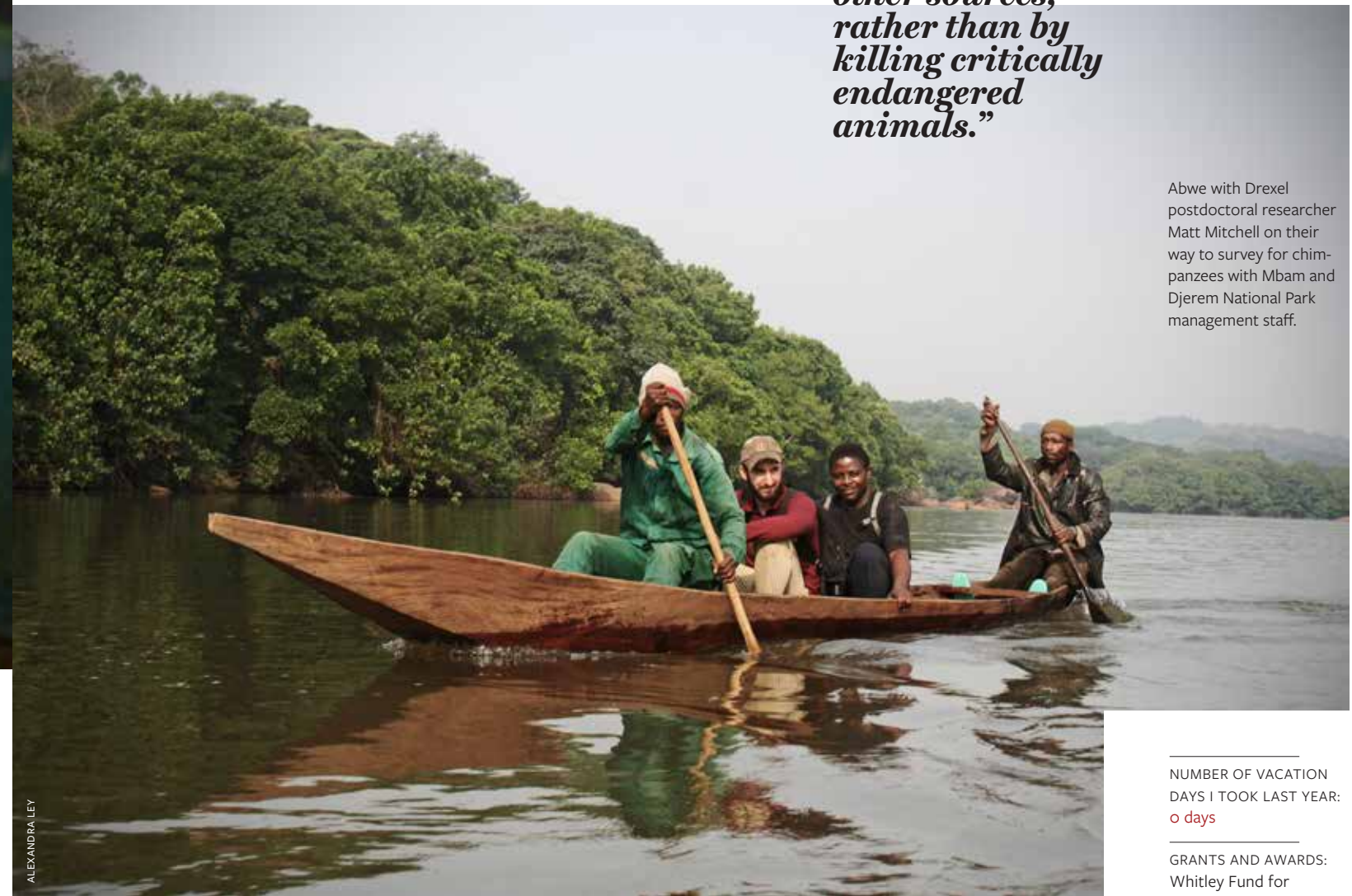


EKWOGGE
ABWE
PhD

DAVID MONTGOMERY

PhD BIOLOGICAL SCIENCES '18 | MANAGER, EBO FOREST RESEARCH PROJECT

Ekwoge Abwe has a gift for rallying others to the cause of conservation. From hunters to farmers to local community members, he has worked for two decades to empower the citizens of Cameroon to protect the country's fragile ecosystems and its numerous endangered and endemic species. Abwe believes that meaningful leadership — the kind that motivates people to transform their lifestyles in the name of biodiversity — starts at the grassroots. It's a cause he continued to champion as a doctoral student at Drexel University, and now, as manager of the Ebo Forest Research Project. **BY DIANE HOLLIDAY**



ALEXANDRA LEY

“
We want them to know they can earn an income and acquire protein from other sources, rather than by killing critically endangered animals.”

Abwe with Drexel postdoctoral researcher Matt Mitchell on their way to survey for chimpanzees with Mbam and Djerem National Park management staff.

NUMBER OF VACATION DAYS I TOOK LAST YEAR:
0 days

GRANTS AND AWARDS:
Whitley Fund for Nature Award; Leakey Foundation Grant; Primate Conservation, Inc. Grant; Primate Habitat Country Scholarship from Oxford Brookes University

REASON FOR CHOOSING DREXEL: My mentor, Dr. Katy Gonder, who has studied chimpanzees in Cameroon and Nigeria, and made an enormous contribution to the field

It's been more than 15 years since Ekwoge Abwe, PhD, first stepped foot in West Cameroon's Ebo Forest, but he can still hear the dense canopies of hardwood evergreens vibrating with the grunts and crows of drill monkeys. He had never seen or heard anything like it before: the colorful birds, rich plant diversity and resident population of 11 primate species. But the most unforgettable sounds he recalls hearing that day — the day he first witnessed a chimpanzee

nest and came face-to-face with a gorilla — are the sounds of gunshots. “Whenever you hear gunshots, you know it's a monkey or another species going down in the forest,” Abwe says. Local and commercial bushmeat hunters are just one of the threats to the Ebo Forest, a biodiversity hotspot that's three times the size of Philadelphia. Miners, loggers and farmers are also responsible for the endangerment of the numerous species that can only be found in this part of the world.

“There’s a local saying that Cameroon is ‘Africa in miniature’ — it contains every ecoregion on the continent,” he says. “But the sad thing is, local people don’t really value its biodiversity.”

This lack of appreciation stems from a lack of awareness of alternative foods or ways to earn money. Abwe, who grew up in Cameroon, says that for the many people who live close to the forest, bushmeat hunting is all they know. They consume the meat for protein or sell it at nearby markets as their main source of income. It’s a lifestyle that can be traced back multiple generations.

So how do you change such a deep-seated tradition?

Abwe and his colleagues at the Ebo Forest Research Project believe that engaging community members in conversations and educating them about alternative, sustainable lifestyles is the only way to make a lasting change.

Hunters, for example, have a wealth of knowledge about native plants and primates — often teaching researchers about animal behaviors, including habitat occupation and dietary patterns. By educating them about the importance of the local ecosystem and species, Abwe has been able to open their eyes to the impact their actions have on the environment. In return, he has applied their knowledge to the scientific world, even offering some of the hunters positions as field assistants at the EFRP’s field stations.

“We need to empower these communities to earn a living through other, more sustainable lifestyles,” says Abwe. “For instance, if they need capacity in animal husbandry or developing fish ponds, we bring in an expert to teach them how to do that. We’ve also supplied seeds, including high-yielding cocoa beans, for farming. We want them to know they can earn an income and acquire protein from other sources, rather than by killing critically endangered animals.”

The EFRP also spearheads citizen-science initiatives like the Clubs des Amis des Gorilles, or Gorilla Guardians, which empowers community members to monitor gorilla habitats, map their ranging patterns, and take measures to prevent threats to their safety. With an estimated population of only 25 Ebo gorillas — a possible new subspecies of western gorilla — inhabiting the northeastern part of the forest, it’s critical that all stakeholders play a part in conservation efforts.

The Gorilla Guardians are working to create a “no-go” zone in the forest, which will restrict access to the 25-square-kilometer region where the gorillas can be found. They also plan to present a memorandum of understanding to engage a wide range of stakeholders, including local and traditional authorities, for the successful implementation of the project.

Since the creation of the Gorilla Guardians in 2012, there have been no known killings of gorillas, chimpanzees or elephants in the monitored area.

“What sets Ekwoje apart from other conservation activists is his uncanny ability to rally local leaders to this cause,” says Katy Gonder, PhD, associate professor of biology at Drexel and Abwe’s PhD adviser.

For more than 10 years, Abwe has worked tirelessly with local officials and traditional leaders to classify the Ebo Forest as a national park. If reclassified, the park will be eligible for much-needed government funding and resources to further protect the forest’s biodiversity.

Abwe’s numerous appeals to local officials were finally heard in 2013, when the leaders agreed to petition the national government to finalize the protection of the forest. Although the government has yet to do so, Abwe remains optimistic and committed to his cause.

“Change doesn’t happen overnight. It takes time to change attitudes and ways of living, but we’re getting there,” he says.

Abwe will continue his conservation work in Cameroon as a postdoc with San Diego Zoo Global’s Central Africa Program starting in January 2019, extending his research to new areas of the country, and continuing to be a champion for the environment.

“The present generation has a responsibility to future generations to take care of what we have,” says Abwe, the father of five young boys. “If we do not, we are destined to break our generational chain.” ●



NICHOLAS BARBER

BS GEOSCIENCE '18

PHD STUDENT,
THE UNIVERSITY
OF CAMBRIDGE

For recent alumnus Nicholas Barber, science doesn’t end with discovery. A good scientist, he believes, uses research to inform policy, improve communities and mitigate harm to our planet. After five years at Drexel University — a journey brimming with awards, mentorship experiences and research — Barber is now studying earth science on a full scholarship at the University of Cambridge as the second Gates Cambridge scholar in Drexel history.

Q What motivated you to pursue a career in science?

A The world is in a difficult position, owing to issues in politics, climate and resources. For me, the biggest motivator to pursue leadership in my field is the potential harm natural disasters can inflict



NICK SAFFELL

on society. As Kendra Pierre-Louis noted in *Popular Science*, natural disasters are not natural — they are products of the decisions humans do or do not make in the event of a natural hazard. In the end, the scale of a disaster depends on whether scientists have accurately monitored and studied the hazard, whether engineers can plan and implement controls to mitigate the event, and whether policymakers implement the right protocols to ensure public safety. When any link in this chain breaks, the results can be catastrophic. Good science can inform good policy and can make a seemingly “natural” disaster preventable. I want to be part of a generation of scientists working to better understand volcanic behavior and improve our methods of predicting eruptions.

You have an impressive resume of co-ops, leadership positions and awards. How did your time at Drexel shape you as a leader?

I had a unique opportunity at Drexel to experience leadership in research settings. My research adviser, Dr.

Loïc Vanderkluysen, allowed me to take on a leadership role in our lab for the past three years. I have mentored high-school-aged research students volunteering in our lab, as well as younger undergraduate researchers as part of an international project. I think this is an opportunity many undergraduates don't get at other universities, and it makes my time at Drexel a standout experience as I begin my PhD.

Which of your accomplishments are you most proud of?

I would be lying if I didn't say it was receiving the Gates Cambridge Scholarship to study earth science at the University of Cambridge. The application process was one of the toughest tasks I've taken on in my academic life. After I received the award, I met with several passionate Drexel undergraduates to talk about opportunities in research, and how a process like Gates works. Not only receiving the award, but also being able to use it as a mentoring tool, has made it one of the highlights of my young life.

How do you define success? Successful people are those who recognize that their personal successes mean little if they don't bring others along, or don't try to translate their success into societal progress. These efforts can be small, but I believe personal achievements carry with them a duty to improve the world, using all the resources at your disposal.

What is one issue you are truly passionate about outside of your work? I am incredibly passionate about historical and political literacy. In my free time, I read widely on world history and politics. I consume this information through books and, to a lesser extent, through social media. I want to make sure I can put global events related to my research in the proper context. If we hope to better understand how the world got to the state it's in, *all* people need to have a baseline understanding of civics and global history. For me, this is an effort allowed by my great fortune to have free time, but for the millions of people without such luxury, our public schools and universities should mandate a more nuanced and stringent historical education.

In your opinion, what are the top three traits of a good leader?

First, the ability to listen and understand employees and collaborators. Second, a willingness to teach-by-doing and delegate. And third, a careful balance between being a friend and cheerleader, while still maintaining professionalism and authority.

For me, the combination of these traits allows a leader to be productive while collaborating effectively with members of their team. Giving your team permission to fail, and then constructively discussing what went wrong, allows individuals to grow at their own pace and internalize lessons far better than lecturing.

A full ride to Cambridge is no small feat! What's next? What do you hope to accomplish in your career?

I want to spend my life studying volcanic systems, researching new methods and techniques to improve our ability to predict when and how eruptions might occur. I want to focus my efforts on volcanoes in Southeast Asia, Africa and South America, where the impact of volcanoes on large population centers is so acute.

At the same time, I want to bring up a new generation of volcanologists who seek the same career goal, with the added motivation of rooting our field work in the communities in which we work. It does the world no good to make a prediction about when a given eruption will occur without working to share and disseminate such information with the communities and governments that may be affected. ●

NUMBER OF VACATION DAYS I TOOK LAST YEAR: **3 to 4 weeks**, including university breaks

FAVE WEBSITES FOR STAYING ON TOP OF JOB TRENDS: Feedly, Twitter, Stack Exchange and Stack Overflow

AWARDS I'VE RECEIVED: Goldwater Scholarship, NOAA Hollings Undergraduate Scholarship, **Gates Cambridge Scholarship**, Fulbright Study/Research Grant (declined to attend Cambridge)

ANTHONY DESIMONE

PhD

BS PHYSICS '98, MS PHYSICS '01, PhD PHYSICS '05

VICE PRESIDENT AND CHIEF ENGINEER,
INTEGRATED WARFARE SYSTEMS & SENSORS DIVISION,
LOCKHEED MARTIN

JARED CASTALDI



No matter the day or season, Anthony DeSimone's mornings start the same: a 4 a.m. wakeup and quick email check, followed by a one- to three-hour run. The discipline required to maintain these morning rituals weaves its way through every aspect of DeSimone's life, allowing him to tackle the pressures of leading more than 2,000 engineers and a unit that brings in \$5 billion in revenue annually.

Recognized within the missile defense community as a subject matter expert for ballistic missile defense and radar discrimination, DeSimone takes pride in supporting the next generation of scientists, often speaking at universities in the region. These interactions are a source of inspiration for his own work, and provide an opportunity to share what he's learned along the way — lessons that transcend industries and lay the groundwork for effective leadership. **BY JACOB HARTE**

LESSON one

Everything in life is about setting priorities and managing risk.

After graduating from college with a degree in music, DeSimone had every intention of becoming a musician. But when his priorities shifted to family, he decided that studying physics at Drexel would provide more of the stability he needed. Many would consider it a daunting career shift, but DeSimone saw an opportunity.

“Any time you make a big change, walk into the unknown, you have to face yourself, as well as what you are setting out to accomplish,” says DeSimone.

“At work and in my personal life, I have a set of priorities, a road map of where I want to go. It doesn’t always work out, but it allows me to manage my life in a particular way. Sometimes you have to make sacrifices, but when you know what you want and base your lifestyle around that, everything else falls into place.”

LESSON
two

A bad decision is better than no decision. With his background in the arts, DeSimone is familiar with the criticism that can lead to self-doubt.

“I’ve seen ‘analysis paralysis’ hold some managers back from being great leaders: You need to amalgamate all the information at your disposal and decide where you want to go — sometimes that means making a decision with only 80 percent of the data,” says DeSimone.

“I grew up with this philosophy: There are good decisions, there are bad decisions, and there are no decisions. And it’s in that order. It’s better to make a bad decision than to make none. Without a decision, your team is wandering around doing nothing, when they could be learning and growing.”

LESSON
three

Embrace teamwork.

DeSimone’s team knows that at the end of the day, he’s the one who has to make the final decision. But, more importantly, he says, they know they each have a voice at the table.

“As a leader, you have to realize that you won’t always be the smartest person in the room — there are going to be people who are much smarter than you in different areas,” DeSimone says. “You have to be open-minded, listen, and understand that your intuition may not be right. A strong leader knows when it’s time to say, ‘I was wrong; we need to change course.’”

LESSON
four

Give your employees room to fail.

When you’re making the transition from being an individual contributor to a leader, it’s common to feel like you’re losing control, says DeSimone. But delegating is about shifting your perspective on *what* you control.

“A lot of people I mentor struggle with delegating. I struggled with it at first. But I don’t have the bandwidth to micromanage every situation. Learning to delegate and hold people accountable gives me a sense of accomplishment, as opposed to being someone who just knows how to get stuff done. You have to set the expectations and let your employees fail or succeed. That’s how everyone learns,” says DeSimone.

LESSON
five

Listen and empathize.

With the responsibility of overseeing such a large department, DeSimone’s time is understandably limited. But, he says, making time for your employees is crucial for them and for the organization.

“As the vice president of a company, I understand that people spend a lot of time and effort to get a half-hour meeting with me. I try to schedule two to three one-on-ones a day,” says DeSimone.

“When your employees come for that time, you’ve got to be an avid listener. You’ve got to be responsive, and you’ve got to show empathy. I think it’s a quality that makes a good leader great. It’s hard. For me, it’s damn hard. I’m naturally introverted, but I’ve realized how important it is. It’s disrespectful not to give your employees the time that they deserve.”

LESSON
six

Maintain a wonder for the world.

DeSimone finds a great sense of accomplishment in acquiring a better understanding of the world, whether it’s the physics behind a phenomenon or tricks for becoming a better runner.

“I’m a ferocious reader. I read books, news articles, all the time. I try and get as much information as I can, because I think you need to absorb and integrate all that information to decide where you want to go,” DeSimone says.

“Know where you want to be in a few years, find people who exhibit the skills you need to get there, and go spend some time with them. No one can make your career happen, but knowing what to expect certainly helps.” ●

“

At work and in my personal life, I have a set of priorities, a road map of where I want to go. It doesn’t always work out, but it allows me to manage my life in a particular way.

NUMBER OF VACATION DAYS I TOOK LAST YEAR:
At least 2 weeks, plus holidays

MY FIRST JOB: Paperboy for the *Philadelphia Bulletin*

GOING THE EXTRA MILE:
I once ran 53.5 miles in one day for charity.

JARED CASTALDI

AMBER RACINE

Esq.

BS HISTORY AND
POLITICS '04

ATTORNEY, RAYNES
LAWN HEHMEYER

Stumbling upon personal injury law during her co-op as a history and politics student and A.J. Drexel Scholar at Drexel, Amber Racine has since become a rising star of the field. Her accolades range from “Lawyer on the Fast Track” from *The Legal Intelligencer* to being named chair of the Philadelphia Bar Association Board of Governors for 2019. Her successes aside, Racine is most grateful for the chance to make a difference in people’s lives. **AS TOLD TO MARIA GARDNER**

Growing up in Harlem, New York, my mom made it very clear to me and my brother that we had a lot of things that other people didn’t have.

They weren’t extravagant things — a house, food to eat, warmth. But we were lucky kids. And we had a responsibility to lead by example, to give back.

In that same house, I was also lucky enough to watch — probably too much — “Matlock” and “The Cosby Show.” At some point when I was 7 or 8, watching one of those episodes, I made the decision that someday, I would become a lawyer.

And I did. Today, I’m a plaintiff’s attorney. Unlike for a lot of little kids, my career ambitions somehow stuck, and so did the lessons from my mother.

When I choose to take a leadership position for any organization, whether it’s my full-time job or a volunteer role, I do it with the goal of serving others.

But now, I give back for more reasons than “because mom said so.”

I grew up working part-time jobs, whether paid or volunteer, since I was 12. When it came time to pick a college, I picked Drexel so that I could continue to work through the co-op program.

I landed a co-op at a law firm that represents victims of negligence. I thought I would do the co-op for six months

and continue my studies, but this work changed that plan. At a personal injury firm, I realized I could help people when they needed it most.

So instead of being a full-time student who worked on the side, I became a full-time paralegal who fit in classwork on my lunch breaks and in the evenings. It took me an extra year to graduate, but I continued at that same firm after undergraduate and through law school, when I was hired there full time as an attorney.

I still represent the catastrophically injured, but now for the firm Raynes Lawn Hehmeyer.

Personal injury law is unlike any other sector of law. You’re working with people when they’re at their lowest point — usually, because of something they never saw coming. A daughter who lost her mother to a drunk driver. A woman instantly paralyzed after an accident at a resort. The family of a volunteer firefighter who fell from a helicopter to his death.

Helping these families is rewarding work, but it’s hard not to notice that there are very few women of color who do what I do. In a courtroom among 140 attorneys, I’m often one of maybe five people of color. And as a woman, I’m often the only black woman in the room.

Diverse perspectives are critical, and giving back means offering my voice to help people in more than one way.

I’m involved with the Barristers’ Association of Philadelphia, a bar association focused on the black community. We go into schools to talk to minority students, often black and Hispanic, about careers in law.

We’re there to let the students know we support them and to teach them the importance of networking.

These kids see “Law and Order” — like I once did in my “Matlock” days — and think all lawyers are criminal attorneys. But there are so many different fields of law; they can discover their own niches, just like we did.

As attorneys, we’re not rock stars. We’re not athletes, and we’re not glamorous. But I like to think that we’re giving these students another example of a way to make both a living and a positive impact.

We tell them that none of us are perfect, and your past doesn’t have to dictate your future. You can use your skills and education to start making a difference today.

Leadership means service. It isn’t selfish, and it isn’t short-sighted. It’s about thinking of long-term solutions for problems that affect people beyond yourself.

If you’re going to lead people, accomplish something. ●

“
**Leadership means service...
If you’re going to lead people,
accomplish something.**

NUMBER OF VACATION
DAYS I TOOK LAST
YEAR: 10 days

MY BOOK
RECOMMENDATIONS
FOR ASPIRING LEADERS:
“The Alchemist” by
Paulo Coelho and
“Strategize to Win”
by Carla Harris

MY FIRST JOB:
Teacher Assistant,
Dance Theatre
of Harlem



JARED CASTALDI

MAGGIE

DEPTOLA

A drive to address economic inequalities — and a less-than-engaging high school experience — led Maggie Deptola to Coded by Kids, a local nonprofit that aspires to make technology education accessible to all middle and high school students. Her work caught the eye of professional networking giant LinkedIn, which featured Deptola in its #InItTogether campaign. Her likeness has since been featured on billboards throughout Philadelphia and even in a commercial that aired during the 2018 Winter Olympics — a fitting nod to her Olympian determination to transform education. **AS TOLD TO KYLIE GRAY**

i grew up going to public school in Pittsburgh. My parents spent their whole lives in public service. They raised me with the “radical” notion that everyone deserves the same opportunities.

In high school, I went from being a straight-A student to a frequent underachiever. A lot of it was because I was disengaged. I was at the top of my class sophomore year, and then I had 60 absences in my junior year. I was bored out of my mind. So many kids are bored. I had every opportunity growing up middle class, but I never found that *thing* in the K-12 setting to keep me interested and make me feel that I was working toward something.

A lot of the work I do now is aimed at addressing that: How do you design engaging programs for students to explore opportunities they may not come across in a normal school day? How do you give high school students more information to make better decisions when they graduate?

More than anything, Drexel taught me what kind of learner I am. Co-op clicked for me — I found I needed things to be hands-on to engage. It helped me be savvier with my time and select courses that would be relevant and interesting.

My last co-op was in resource planning at the Philadelphia Water Department, and I was hired as a consultant there after graduation. I was doing a lot of writing and research for these huge annual reports. They documented the progress of hundreds of projects in a \$2 billion infrastructure program for the state and U.S. Environmental Protection Agency. We needed a system to make writing the reports easier.

That’s how I started learning about database design and management. For a while, I was basically a professional nag, asking for project updates and overseeing an elaborate system of spreadsheets. Then I got plugged into coding meetups, and that was my entry point into tech.

I liked working with data, so I left the city job and jumped into a tech startup. The trial-by-fire

startup pace was excellent preparation for what came next, when I connected with Sylvester Mobley, the founder and CEO of Coded by Kids.

I knew Mobley through colleagues at the Water Department. He was

ready to scale the organization, but he needed a team to take his idea to the next level.

Technology is a field that is changing rapidly. A programming language can go in and out of relevance in two years, and there is no “magic bullet” webinar to get teachers up to speed. We wanted to show that we can set the bar higher by bringing in industry mentors as teachers, and structuring curricula around the demands of the industry.

When I started working for Coded as an operations manager three years ago, we had programs in one recreation center and maybe three schools. Now, we have 35 program partnerships in Philadelphia, New Jersey and Delaware, many of which I’ve facilitated.

There are so many other locations nationally that are interested in our work — but we have to jump on opportunities when they make sense for the business. We grew a little too quickly in the past because there was so much enthusiasm for our programs.

Working at a startup, I’ve learned to be comfortable with uncertainty. There were times in the beginning when friends questioned my

JARED CASTALDI



path, but I saw the impact that we were having on students, and that I was part of it. Even the difficult times at Coded have made me feel that I’m becoming a better employee and a better leader.

When I became a manager, I had so many ideas about how I would manage differently than others had managed me. But now I can see the other side. Not many

people are trained in leadership, and it is hard to be consistently under a microscope. Your staff feeds off your energy.

As a manager, I’ve learned to accept a certain amount of failure. My role is to help build procedures to minimize miscommunications. But there will always be messes to clean up. We are trained from kindergarten to associate failure with negativity. In reality, it is a necessary part of learning and growing.

I’ve stayed in education because I believe in what it can accomplish. The problems our society is facing are systemic. And the decisions we make about what students learn drive many of those systemic failures.

The kids who do well in our classes are not always the math and science kids. They are the artists and musicians — the ones who know that they will need to establish an online presence. Students can build projects that are thoughtful, creative and complex with the right support and motivation.

There is a whole world of technology out there connected to everything students do. We want more kids to understand, with real-world context, that technology is something they can pursue. ●

“
We are trained from kindergarten to associate failure with negativity. In reality, it is a necessary part of learning and growing.”

NUMBER OF VACATION DAYS I TOOK LAST YEAR: 4 weeks. **Vacation is important!**

MY FAVORITE PODCAST FOR PROFESSIONAL DEVELOPMENT: “How I Built This with Guy Raz”

HOW I RECHARGE: **Camping** sans technology for a week or two



Create.
Build.
Define.
Do.

How can a 19-year-old know if she truly wants to be a doctor? Or a children’s television script writer?

In Drexel’s College of Arts and Sciences, she takes a Story Medicine course, producing and performing two original, live-broadcast shows for hospitalized children every week. “This course allowed me a glimpse into my future, solidifying my desires to be a physician. What happens... really is magical.”



Read the whole story at drexel.edu/futureCoAS

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 THE FUTURE IS A PLACE WE MAKE. THE CAMPAIGN FOR DREXEL

How to be More Creative at Work



Research by cognitive psychologists
and neuroscientists reveals that a
vacation could do the trick.

BY JOHN KOUNIOS, PhD >

“When your visual perception expands, your scope of thought expands as well to encompass nonobvious, remote associations — the stuff of creativity.”

Vacations help reduce stress and its negative effects on cognition.

Anxiety narrows our scope of attention to the most prominent features of a situation, limiting us to the most obvious strategies or ideas. This kind of mental tunnel vision can be effective for familiar, circumscribed problems — if you’re a surgeon performing an appendectomy, it’s better for all concerned if you do it by the book rather than by an untested procedure. However, if the surgery should happen to derail, this heightened focus will inhibit the flexible, creative thought needed to improvise an innovative strategy.

Vacations put you in a good mood.

When you’re upbeat, there is more activity in the anterior cingulate cortex, which monitors other brain areas for alternate possibilities — particularly, the nonobvious, long-shot ideas that are the basis for creative thought. When this part of the brain detects a potential insight, attention switches to it, and the idea pops into awareness as an “aha” moment. Thus, a positive mood opens the mind to a multiverse of possibilities that are ordinarily beyond the reach of the anxious mind.

Vacations distract us from bad ideas.

The doorway to the multiverse can be blocked by a bad idea. As economist John Maynard Keynes wrote, “The difficulty lies, not in the new ideas, but in escaping from the old ones...” One reliable way to purge a bad idea is by diversion. This allows the bad idea to dissipate in a process cognitive psychologists call “fixation forgetting.” The diversion of a vacation allows bad ideas to wither on the vine and good ones to ripen.



RYAN J. LANE/ISTOCK

Vacations expose us to new experiences and environments.

When you tackle a problem, but fail to solve it, you become sensitized to things in your environment that are related to the problem. Changing your routine and your surroundings exposes you to a variety of new stimuli. Any seemingly irrelevant thing — a pet, a street lamp, a hat in a store window — can spark sudden insight by pinging an unconscious idea into consciousness. Cognitive psychologists call this “opportunistic assimilation.”

Vacations often involve spending time outside.

Expanses of sky and ocean, even the open spaces of a golf course, encourage your attention to spread out to take in the scenery. This broadening of perceptual attention is closely linked to the broadening of *conceptual* attention: When your visual perception expands, your scope of thought expands as well to encompass nonobvious, remote associations — the stuff of creativity. As many nature-loving creatives have attested, when you see far and wide, you think that way, too.



LOULOU VONGLUP/ISTOCK

Vacations allow us to catch up on sleep.

Many people have received ideas or solutions to problems in a dream or upon waking in the morning. Sleep helps creativity in several ways, from reducing stress to improving our mood. By restructuring our accumulated memories, knowledge and experiences, it also highlights obscure details and nonobvious associations, which can lead to creative insights.

Vacations have staying power.

Worried that you’ll lose your new-found mojo when you go back to the grind? Fear not — creative insights are typically born of an unconscious incubation process that can extend over months, even years. Even if you don’t have breakthrough ideas during your vacation, the experience still serves as fertilizer for previously planted seeds of thought that can sprout long after the trip is over.



FISCA FEINE/ISTOCK

Need a vacation now but can’t take one?

Do the next best thing: Incorporate micro-vacations into your daily routine to encounter new stimuli. Go to new places and do enjoyable things, especially outdoors. And of course, sleep more. ●

John Kounios, PhD, is coauthor of “The Eureka Factor: Aha Moments, Creative Insight, and the Brain,” published by Random House. He is a professor of psychology and director of the doctoral program in Applied Cognitive and Brain Sciences at Drexel University.

RISING

They've testified for criminal justice reform, assisted with refugee resettlement and advocated for sustainability. These Drexel student leaders are already empowering and improving the lives of others — imagine what they'll do after they graduate.

LEADERS

BY KYLIE GRAY
PHOTOS BY CHARLES SHAN CERRONE



SUMITA GANGWANI

BA ENVIRONMENTAL STUDIES & SUSTAINABILITY '20
MS SCIENCE, TECHNOLOGY & SOCIETY '20
MINOR IN ECONOMICS

Sumita Gangwani has taken her passion for sustainability into diverse roles — studying green energy in Iceland, researching the politics of energy development in Philadelphia, and influencing sustainable retail policies on co-op in Washington, D.C. As an on-campus leader, she has advocated for Drexel to remain committed to its environmental initiatives and has helped empower new Dragons as a student ambassador and mentor.

leadership highlights

PRESIDENT, Science, Technology and Society Graduate Student Association (STS Collective)

CO-FOUNDED Drexel's Climate Reality Project chapter

OVERSAW implementation of IKEA's Sustainable Living app while on co-op

ON WHY SHE TOOK A COMMUNICATIONS CO-OP AT IKEA:
"With sustainability, helping people understand the problem is the first step. If you can't communicate the science, you're never going to be able to make a difference. I wanted to understand the consumer mindset — what consumers do and do not value in regards to sustainability."

ON THE ROLE OF MENTORS:
"Many of the opportunities I have had were the direct result of people I have met and been shaped by. Dr. Kelly Joyce of Drexel's STS Center, for example, has been a mentor to me since week one, and invited me to conduct research as her STAR scholar. She has pushed me on an intellectual level and taught me that there is always another perspective to consider. The benefits of people who will advocate for you are immeasurable."

ON HER MOTIVATION:
"People are the driving force of change. If I am able to inspire someone to take a small step toward environmental stewardship and sustainability, I'm happy knowing I made a difference."

HOW SHE PLANS TO CHANGE THE WORLD:
Promoting sustainability and environmentally friendly retail practices through innovation and policy-related change

POON WATCHARA-AMPHAIWAN



leadership highlights

FOUNDER, Drexel Black Action Committee and Rotaract Club of Drexel University, which organize charitable and humanitarian projects

TESTIFIED at Philadelphia City Council on criminal justice reform and implicit bias training

ORGANIZED nationally televised prom dress giveaway for underprivileged girls in Philadelphia

SHAHMAR BEASLEY

BA POLITICAL SCIENCE & BA ANTHROPOLOGY '19

Shahmar Beasley is a community leader in the truest sense. His internship experience — with two Pennsylvania state representatives, a Philadelphia judge and a criminal defense attorney — is matched only by his civic engagement. Between fundraising for underserved communities and studying for the LSAT exam, he also organized the Thomas R. Kline School of Law's first District Attorney candidates debate as the past president of Drexel Democrats.

ON HIS MOTIVATION:

"Coming from a lower socioeconomic background, I know that it is not the norm for people in my community to receive the opportunities I have received. My goal is to expand the opportunities available to individuals from similar backgrounds, and to change their lives as others have changed mine."

ON HIS PROUDEST ACCOMPLISHMENT:

"Being named a *Forbes* Under 30 Scholar felt like the perfect culmination of my efforts in volunteerism and political organizing. It reinforced that the work I am doing matters and has made a difference in others' lives."

ON HIS LEADERSHIP STYLE:

"A leader's job is to elevate individuals to perform at their best. After running three student organizations with over 300 students in total, I developed the self-awareness to know that I cannot do everything on my own. Empowering the group produces not only the best outcomes, but also enhanced group synergy, future leadership and overall morale."

HOW HE PLANS TO CHANGE THE WORLD:

By promoting equitable opportunities as a criminal attorney and justice reform advocate

SARA AYKIT

BA ENGLISH '19

MINOR IN CREATIVE WRITING

Sara Aykit has harnessed the power of storytelling to celebrate diversity and the common experiences that unite us. A Benjamin A. Gilman International Scholar, she has attended writing workshops in Ireland and served as a memory writer for people with Alzheimer's disease. Her focus on community building has led her to become a student advocate with Drexel's Student Center for Diversity and Inclusion and to assist with refugee resettlement while on co-op at the nonprofit Hebrew Immigrant Aid Society Pennsylvania.

ON FOUNDING THE QUEER STUDENT UNION:

"We wanted to create a club that was intersectional and inclusive to all kinds of people — in terms of race, gender, ability, majors and more. We are the only student organization on campus that caters to queer people, so making everyone feel welcome is important."

ON THE IMPORTANCE OF STORYTELLING:

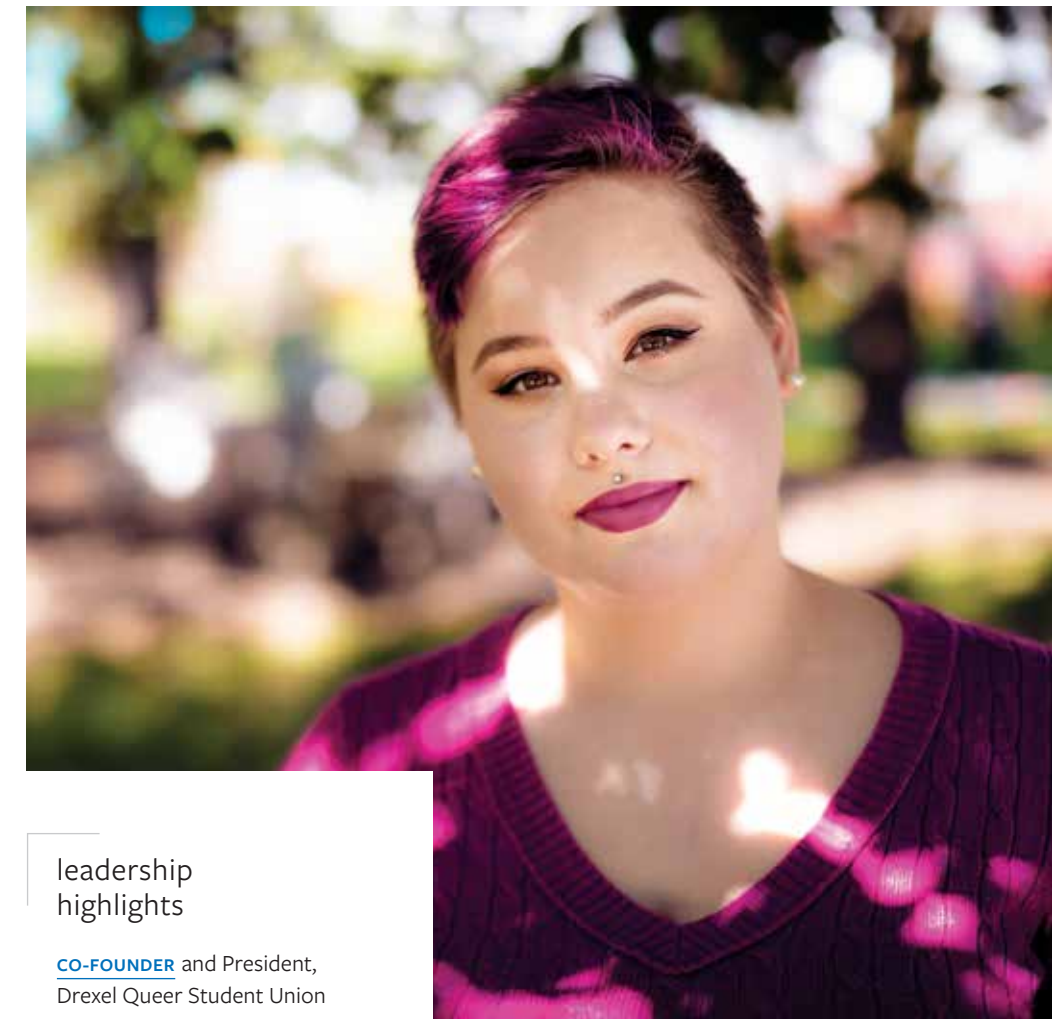
"Stories preserve our humanity. They are one of the best ways to learn about a different world or group of people. Every individual is important, and stories can help to capture and reveal that."

ON HER LEADERSHIP STYLE:

"I am an optimist, so I try to see the best in people. It's an important quality as a leader — if you see the best in your team and in the people you're trying to help, you work harder to maximize everyone's potential."

HOW SHE PLANS TO CHANGE THE WORLD:

By promoting diversity and supporting marginalized populations at a university or nonprofit



leadership highlights

CO-FOUNDER and President, Drexel Queer Student Union

CREATED student guide and panel discussion on the risks of being "out" while abroad

CO-CREATED computer literacy class for immigrants and asylum seekers

ANTHONY PEREZ

BA GLOBAL STUDIES '20
MINOR IN SPANISH

Anthony Perez is an advocate for underserved populations. He's written grants for nonprofit funding, worked as a human rights intern in Argentina, and helped raise money for disaster relief in Puerto Rico. At his most recent co-op, he assisted immigrants and asylum seekers in attaining permanent residency and public benefits in the U.S.

ON HIS CO-OP AT BECKY'S FUND, A NONPROFIT THAT FIGHTS DOMESTIC VIOLENCE:

"Domestic violence and the topic of masculinity strike a chord with me. I have known a handful of women who were victims of domestic abuse; I wanted to do what I could to aid those who face similar problems."

ON A LEADER'S DUTY TO LISTEN:

"It's important to make others feel that they are in a comfortable environment to speak their mind. If they're feeling attacked for their opinion, they won't be able to consider another perspective. Both of my parents were immigrants, and I have friends who are anti-immigration, which makes me uncomfortable. But I try to understand their fears and perspectives and work from there."

ON TAKING INITIATIVE:

"There are many ways to be a leader. You can speak up about something that other people won't. You can demonstrate it in your actions by doing more for the community. For example, my neighborhood is littered in trash. I don't have to wait for anyone to tell me how to fix it; I can start with myself and my actions."

HOW HE PLANS TO CHANGE THE WORLD:

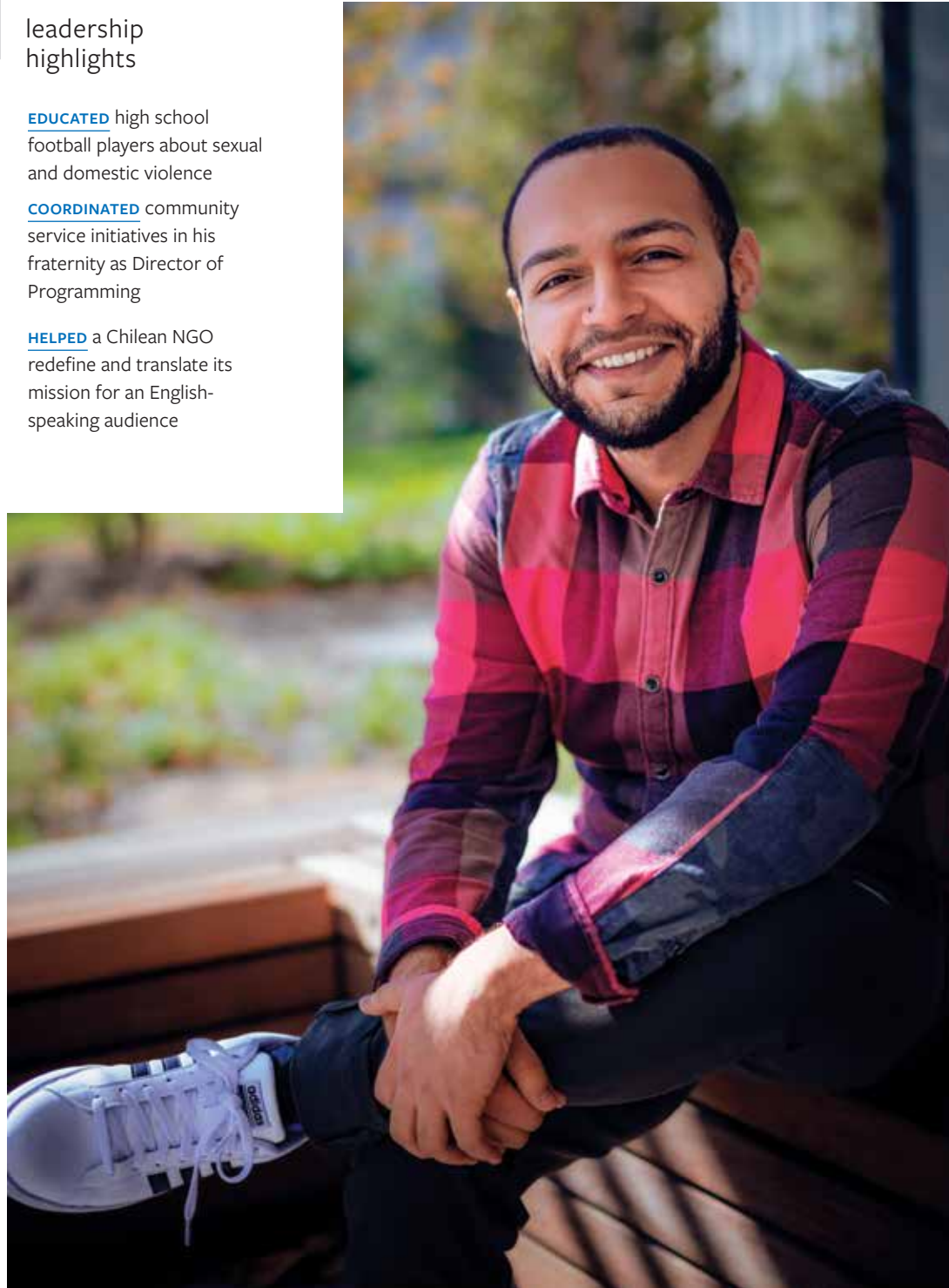
Connecting individuals to resources as a social worker at a nonprofit

leadership highlights

EDUCATED high school football players about sexual and domestic violence

COORDINATED community service initiatives in his fraternity as Director of Programming

HELPED a Chilean NGO redefine and translate its mission for an English-speaking audience



leadership highlights

PRESIDENT, Drexel African Fusion Dance Team

CONDUCTED research at the Massachusetts Institute of Technology as an HHMI Exceptional Research Opportunity Program Fellow

DEVELOPED education and dance programs aimed at improving neurocognition in Alzheimer's patients



KIANA WILLIAMS

BA CHEMISTRY '19
MINOR IN BIOLOGICAL SCIENCES

Kiana Williams has conducted research on cancer-causing enzyme misregulation, engaged patients in programming at a children's hospital, and cared for infants with severe medical conditions. A mentor to underprivileged middle school students, Williams is a strong believer in inspiring people to work together — a motivation that underlies her goal of becoming a medical doctor.

ON EXPANDING DIVERSITY IN STEM:

"There are not many people of color in my major. I try to get others interested in STEM by volunteering for departmental open houses and by serving as a mentor to young students of color. If we introduce these students to STEM now, we will have more underrepresented minorities at the forefront of scientific research and medical innovation in the future."

ON STEPPING UP AS A LEADER:

"I took on my first leadership role toward the end of my freshman year when I was approached to help reestablish Drexel's West Indian Student Establishment (WISE) as secretary for the organization. Three years later,

WISE is stronger than ever, revitalized as a home away from home for Drexel students who identify as West Indian, Caribbean, Caribbean-American, and lovers of the Caribbean."

ON A LESSON LEARNED AT DREXEL:

"Drexel has taught me to remain self-motivated in the face of stress and obstacles. I've learned to take charge of my education and manage my time to optimize what I am able to accomplish."

HOW SHE PLANS TO CHANGE THE WORLD:

By providing high-quality medical care to children in underserved communities as a pediatrician or pediatric surgeon



Ashley Howard

'04

BA COMMUNICATION

OCCUPATION: MEN'S BASKETBALL HEAD COACH, LA SALLE UNIVERSITY

STEVE BELKOWITZ

LA SALLE'S NEW HEAD COACH Ashley Howard has a slew of wins under his belt, from five Big 5 and three Big East championships, to two NCAA national championships — and that's just from his tenure as assistant coach for the Villanova Wildcats. The Philadelphia native began his basketball career as a student athlete and student assistant coach at Drexel University before joining La Salle University for four seasons in 2004. He then went on to assistant coaching roles at Xavier University and Drexel, before returning to La Salle as head coach in 2018.

Favorite Drexel memory? Completing my senior project, a website that covered college and high school basketball in the Philadelphia area for the duration of my senior year.

Proudest career moment so far? Seeing my players reach their dream of being drafted into the NBA.

Best place the job has taken you? To the White House to meet President Obama when Villanova won the National Championship in 2016.

Best mistake you ever made? Trying to give my opinion as a young coach. I was told to be seen and not heard, and that was when I learned how to become a great listener.

What would you name the autobiography of your life? "It Starts with Believing!!"

How do you prep for a big game? Watching film of our opponent while riding the stationary bike.

What would people be surprised to learn about you? I love cooking breakfast.

In your experience, what mistakes or qualities keep individuals from being good leaders? Not being a good listener and not being decisive.

Who has been the biggest influence on your career and life? The biggest influences on my coaching career are Bruiser Flint, former head coach at Drexel, and Jay Wright, head coach at Villanova. The biggest influence on my life was my grandfather, Eddie Howard.

What do you want people to remember about you? That I was an individual who lived to help others become the best version of themselves.

What's the hardest lesson you've learned? As a leader, you will not always reach an individual when you want to reach them, but in time, your message will get across.

What's something you've had to unlearn? I had to unlearn watching the game of basketball from a fan's perspective.

What keeps you up at night? Thinking of ways to make our team and program better.

Best way to start the day? Waking up next to my wife, kissing my daughter on the forehead, a hot cup of coffee with cream and sugar, riding to work listening to my Jay-Z playlist uninterrupted.

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