

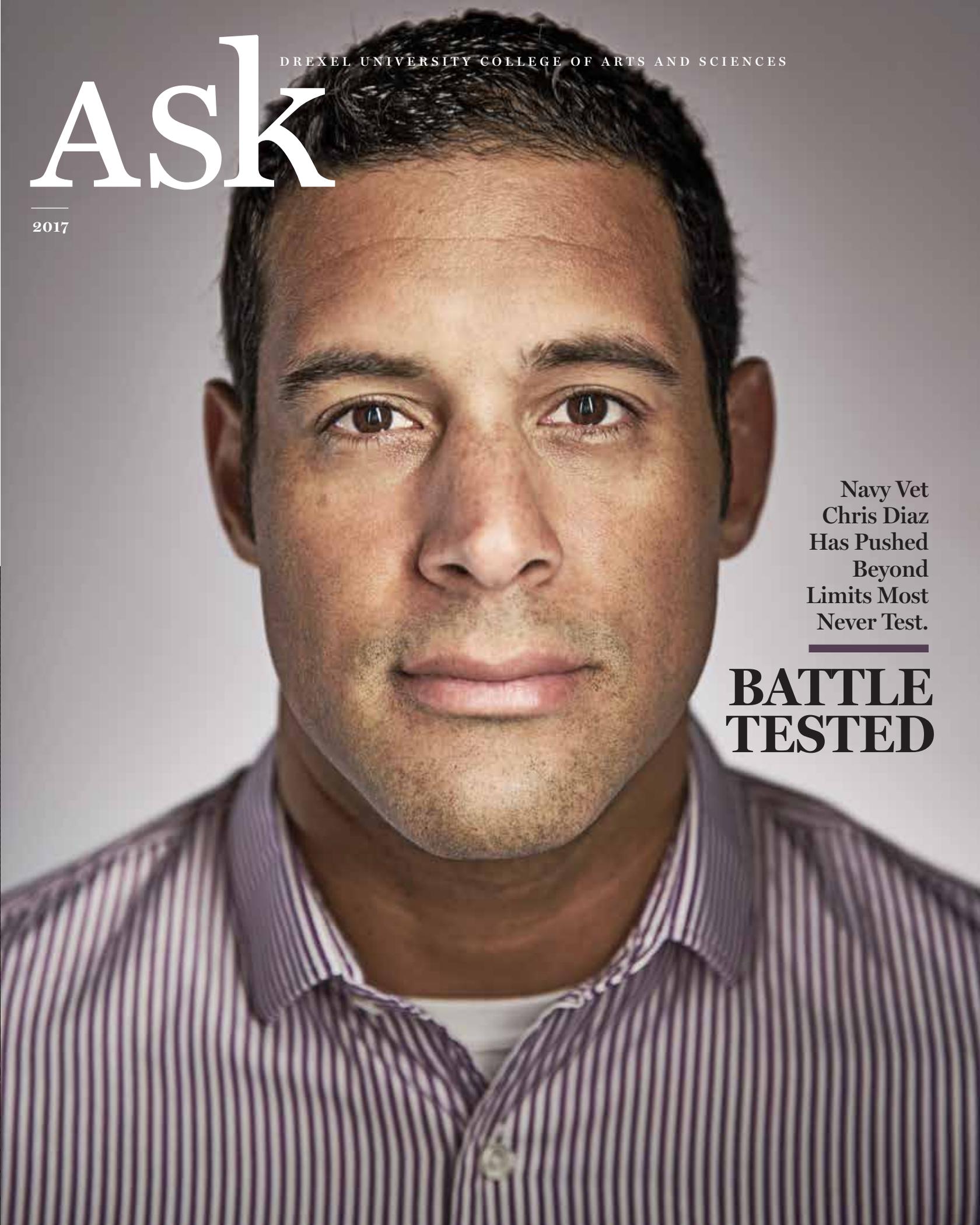
DREXEL UNIVERSITY COLLEGE OF ARTS AND SCIENCES

Ask

2017

Navy Vet
Chris Diaz
Has Pushed
Beyond
Limits Most
Never Test.

**BATTLE
TESTED**





FEATURES

20

CALM AMID THE STORM

It takes a certain fearlessness to buy a one-way ticket to Bermuda and rise the ranks of the high-stakes, high-pressure reinsurance industry, but that's exactly what alumna Kathleen Reardon did.

24

COVER: BATTLE TESTED

From the front lines of Afghanistan to the peak of Mount Kilimanjaro, psychology PhD student and Navy veteran Chris Diaz has pushed beyond limits most never test — and harnessed the link between mind and body. Today, he's helping veterans, athletes and high performers achieve more than they ever dreamed possible.

30

FRAME OF MIND

To understand street photographers, Drexel anthropologist Brent Luvaas, PhD, became one. It's a journey that has led him to reimagine our shared spaces and focus on the accidental harmonies of the urban world.

38

CARVING A NEW PATH

At 19 years old, Cutler Whitely '18 had achieved every snowboarder's dream — corporate sponsorships, thousands of fans, a spot on the world stage — until a routine trick sent him to the emergency room and down an unexpected new path.

Cover photo by Jared Castaldi

DEPARTMENTS

4

QUAD

COLLEGE NEWS

12

FIELD NOTES

UNTOLD TALES OF DREXEL RESEARCHERS

18

PERSPECTIVES

ONE ISSUE, MULTIPLE VIEWS

42

NEIGHBORHOOD

COMMUNITY CONNECTIONS

46

WINNING WORDS

UP YOUR SCRABBLE GAME

47

IMPRESSIONS

MEDIA HIGHLIGHTS

48

GRAD LIBCATCHING UP WITH
IAN MICHAEL CRUMM '16

FROM THE DEAN

As Dean, I am fortunate to hear inspiring stories about Drexel students, faculty and alumni on an almost daily basis. *Ask* magazine gives us the opportunity to share these stories and celebrate the accomplishments of our community more broadly.

What strikes me about the feature stories this year is each person's ability to use their experiences to change direction. That is what a Drexel education is all about, after all.

Some students come to Drexel knowing exactly what they want to accomplish. Some stay the course. Others decide



after a co-op or two, or a few months in the lab or in class, that their major or career ambition is no longer the right path for them. So, they change direction.

This is the true value of an academic institution that embraces experiential learning. There are countless avenues for pushing personal boundaries,

for testing out possible futures. In co-op, students explore the different industries and roles of professional life; they see if reality measures up to expectation. They do the same in the research lab and out in the field, delving deeper into areas that intrigue them. And in our community-based learning courses, they work alongside community members to confront difficult societal issues — terminal illness, homelessness, poverty, incarceration — gaining a more nuanced understanding of the world, their place within it, and the impact they can make today and into the future.

The Drexel approach to education, as the stories in this issue highlight, empowers students to evolve. These experiences allow students the space to shape not only who they are, but also who they want to become.

Enjoy the issue,

Donna M. Murasko, PhD, Dean
College of Arts & Sciences
Drexel University

Discover the Wonders of the Natural World.

FROM THE EDITOR

I took a circuitous route through college — three schools, six majors, time off in four different states. It wasn't the typical post-high-school path, but, despite what my parents may have thought, it wasn't an aimless wander either.

I share the sentiment of Chris Diaz (p. 24) and Cutler Whitely (p. 38) that there's a connectedness to things, a flow, that unfolds over time. But they're being modest. I don't think the path just unfolds; along the way, we have to make some choices. And if we whittle our lives down to those choices, I believe they say more about us than the path itself.

Many people experienced the events of 9/11; not everyone was moved to enlist, like Diaz. Many face the challenge of a dream unfulfilled; not all have the courage to reinvent themselves, like Whitely. Many are presented with opportunity; not all have the vision to embrace it, like Kathleen Reardon (p. 20). And though many find themselves on a path that no longer feels right, few are willing to redirect, like Brent Luvaas (p. 30).



JEFF FUSCO

It's not only our experiences that make us unique, but also how we respond to them.

I kept coming back to Robert Frost's "The Road Not Taken" as we were putting this magazine together: "Two roads diverged in a wood, and I ..." Those defining moments in life when we pick one path and say goodbye to another — those moments intrigue me. We do this on a smaller scale almost daily. We make a choice about who we want to be, how we want to treat people, how much we want to give. Those small choices — the way we walk the path — they matter too.

It turns out, Robert Frost wasn't trying to write an inspirational poem about free will and destiny. He laid two paths, "worn really about the same," and we saw in the poem, in the moment, what we wanted to see: inspiration. And that makes all the difference.

All the best,

Amy M. Weaver
Executive Director, Marketing & Communications
College of Arts & Sciences
Drexel University

Ask 2017
ART + SCIENCE = KNOWLEDGE

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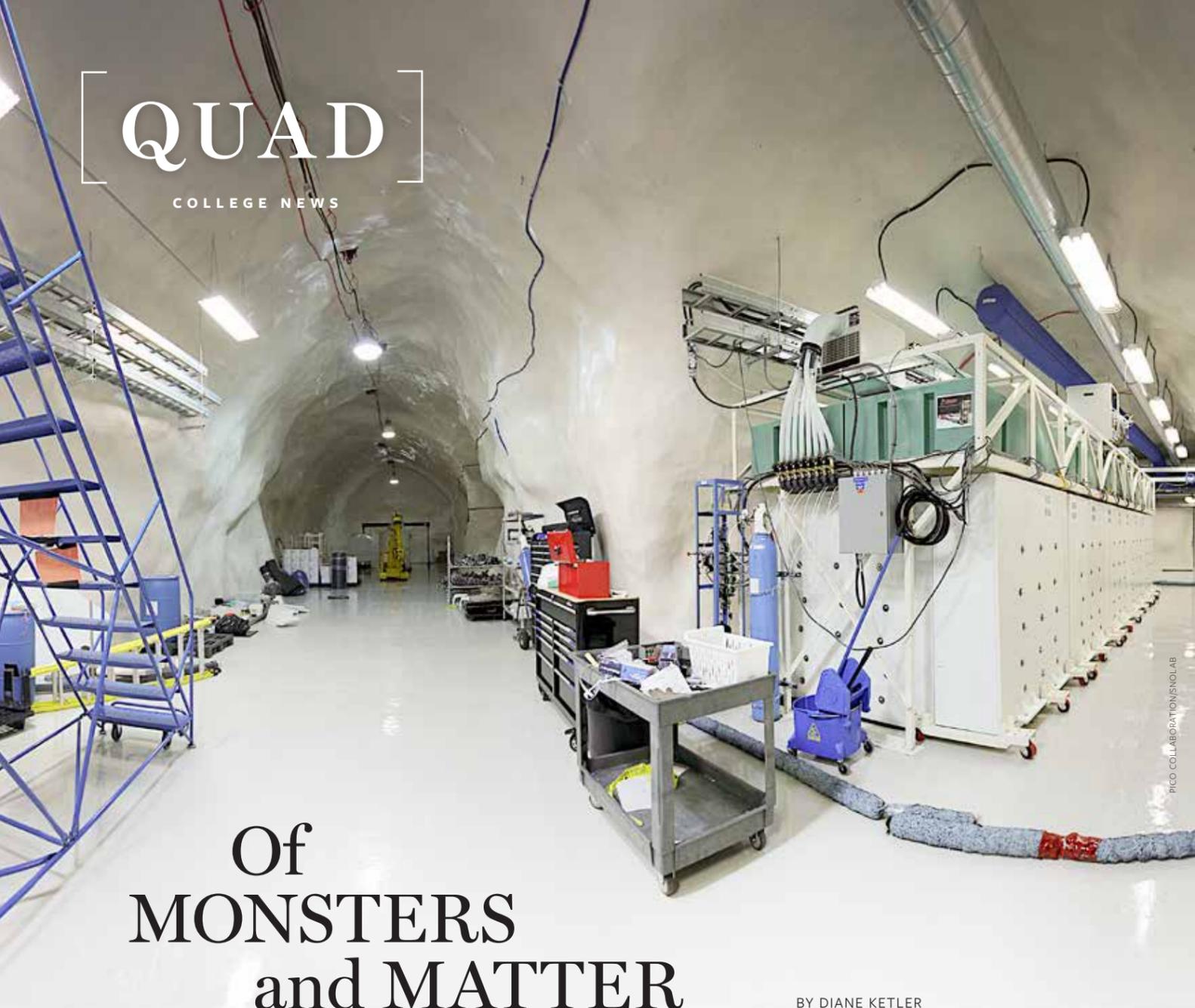
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Of MONSTERS and MATTER

BY DIANE KETLER

Dark matter is sort of like the Loch Ness monster of the physics world — sure, we’ve all heard of the mythical sea creature, but have you ever *seen* her? Russell Neilson, PhD, assistant professor of physics at Drexel, is on a quest for proof (of dark matter, that is). Neilson is a member of the PICO collaboration, a multinational team conducting ultra-fine experiments to find just one particle of dark matter.

The team administers their experiments more than a mile underground in Ontario’s SNOLAB (pictured above), an astroparticle physics research facility located in the Vale Creighton mine. With digital cameras in tow, the scientists superheat a “target fluid” to its boiling state using the PICO-60 dark matter bubble chamber. Once the fluid bubbles, the acoustics and

images captured improve the team’s ability to distinguish between dark matter particles and, well, everything else. Though still on the hunt, their latest published experiment was the closest anyone has ever come to catching a glimpse of dark matter.

“This experiment was 20 times more sensitive than all previous experiments looking for one particular class of dark matter particle,” says Neilson.

He explains that their advances will lead to even more sensitive experiments and, one day (hopefully), dark matter.

“The discovery of dark matter would resolve the mystery over what most of the universe is actually made of and could usher in a new era of discovery in particle physics,” he says.

A BREATH OF FRESH AIR

BY EMILY STORZ



JEFF FUSCO

If you live in a town or city like Philadelphia where industrial facilities are emitting chemicals into the air, there is plenty of reason to wonder: How is this affecting me? Few communities have access to ambient air-monitoring data, and those that do rarely use it because it is complicated and lacks context.

Gwen Ottinger, PhD, associate professor in Drexel’s Department of Politics and Center for Science, Technology and Society, along with colleagues at Carnegie Mellon University, is helping to address this challenge with the Air Watch Bay Area website and reporting app. The digital suite allows three communities in the San Francisco Bay Area, which are located near oil refineries and have access to real-time measurements, to view historical data and annotate it with their own observations.

“The monitoring data were publicly available, but not truly accessible,” says Ottinger. “By putting qualitative and quantitative data in one place, we hope to better understand the impact of refinery emissions on communities and help affected communities hold refineries accountable for their pollution.”

There was already one case of this in 2012, when a big hydrogen sulfide release caused residents of Rodeo, California, to get sick at 12 parts per million, despite the level of 15 ppm designated safe by the Community Warning System. Residents worked with the county government to lower the CWS level to 10 ppm.

The website and app have expanded to include a fourth Bay Area town and are poised to be models for other communities across the country, as real-time air quality monitoring becomes more common.

A Bigger Window for Fragile X Treatment

BY FRANK OTTO

A study led by Michael Akins, PhD, assistant professor of biology at Drexel, shows that the treatment window for Fragile X syndrome likely remains open well beyond childhood, when previous studies indicated it might close. This new information could become valuable as therapeutic treatments for Fragile X syndrome — the most common autism-related disorder — are still being developed in clinical trials.

The team found structures called Fragile X granules in the hippocampus (the part of the brain that controls memory) well into maturity in both rat and human specimens. These granules, which Akins helped discover in 2009, are thought to contribute to Fragile X syndrome when they become decoupled from a gene called the Fragile X mental retardation protein, or FMRP.

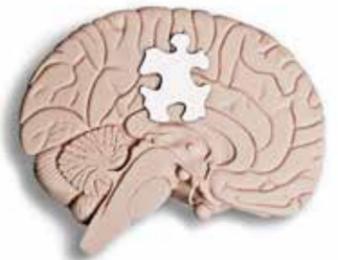
While Fragile X granules were found in the brains of adult rats and humans, they seemed to disappear in the brains of mice when they reached maturity. As a result, most previous studies would have missed the evidence of these granules in adulthood because the studies focused on mice.

Finding that Fragile X granules linger in the hippocampus of adult humans could expand the age range for treatment. In Akins’ study, one human brain sample from a 57-year-old person showed evidence of the granules, suggesting that treatment could be applied into adulthood.

The team also found that treatment may need to target the nerve cells that house FMRP and Fragile X granules more broadly.

Akins and colleagues found that FMRP in axons, which are the information transmitters in neurons, shares some unexpected similarities to the FMRP in dendrites, which are the information receivers and the focus of most research. This means that therapies that target those similarities might fill in for the lost FMRP in both parts of the cell.

“We’re still trying to understand what the FMRP is doing in the axons — and how its absence from axons contributes to Fragile X — but this is a major step forward,” Akins says. “We have some new leads.”



Fragile X syndrome affects roughly 1 in 4,000 males and 1 in 6,000 females.

PHOTO-DAVE/THINKSTOCK IMAGES

New Startup Proves *You Can Catch Flies With Sugar*



PHOTOSIBER/THINKSTOCK IMAGES

BY KYLIE GRAY

A sixth-grade science fair project in 2011 led to the discovery that erythritol, the main component of Truvia, is a natural insecticide. Today, that discovery is the basis of a new Drexel-backed startup, BioLogic Insecticide.

Simon D. Kaschock-Marenda, now a freshman at Drexel in the College of Engineering, was 11 when he noticed that *Drosophila melanogaster*, commonly known as fruit flies, died much quicker when they fed on Truvia than on other sweeteners. His father, Daniel Marenda, PhD, professor of biology in the College of Arts and Sciences, was unconvinced at first.

“As scientists, we are trained to be skeptical. So, we did what scientists do, which is to repeat the experiment,” Marenda says.

Marenda enlisted the help of Sean O’Donnell, PhD, a professor of biology and environmental science at Drexel and an expert on insect biology. While the first iteration of the experiment took place in Marenda’s closet, controlled settings in the

lab confirmed that Truvia drastically decreased the longevity of the flies compared to other non-nutritive sweeteners. Follow-up chemical analyses showed erythritol was the active component in reducing fly longevity. The discovery is exciting because, unlike most pesticides, erythritol is nontoxic to mammals and safe for human consumption.

Since being published in *PLOS ONE* in June of 2014, the discovery has led to a flurry of research citing the original

study and an untold amount of “gray literature” — pamphlets and documents that are not peer-reviewed, but are used by government agencies, businesses and nonprofit organizations.

Marenda and O’Donnell have since worked with the University to patent the use of erythritol as an insecticide through BioLogic Insecticide. The startup is currently in stage two of three of the patent process, with help from Academic Technology Ventures, a firm that specializes in commercializing new cutting-edge technologies.

This year, the experiments moved beyond the lab to the field, with erythritol tests on raspberries in Texas and blueberries in Wisconsin. The results have been promising: Erythritol outperformed the current leading insecticide in at least one case.

Meanwhile, O’Donnell and Marenda have continued their efforts in the lab to provide proof of concept. One recent study showed that erythritol not only shortens the lifespan of fruit flies to a few days, but also renders them largely sterile during that time.

“What most people don’t realize is that pest insect population growth is driven mainly by rapid reproduction, so this is a really exciting development,” O’Donnell says.

Marenda and O’Donnell have also started targeting other insect species, including ants, the crop-ravaging spotted wing drosophila, and mosquitos that carry the West Nile and Zika viruses. Next up for testing are pests like termites, roaches and beetles that consume grain in silos.

Over the next few years, Marenda and O’Donnell hope to get the product to market for use with select insects.

Beyond commerce, their discovery has the potential to impact human health. A 2017 United Nations report estimated that pesticides, which form a \$10 billion industry, kill 200,000 people globally each year. Despite its effects on insects, erythritol is approved by the Food and Drug Administration and is harmless to humans. It is widely used in reduced-calorie foods like diet sodas and can be found naturally in fruits like pears and grapes.

For Marenda and O’Donnell, the accessibility of their findings has been especially gratifying.

“When we tell friends and family about it, they get it instantly,” Marenda says. “Science can be incredibly nuanced, but not this study. The data and the importance are crystal clear.”

HUMAN HEALTH IMPACT



A 2017 United Nations report estimated that pesticides kill 200,000 people globally each year. Unlike most pesticides, erythritol (the main component of Truvia) is nontoxic to mammals and safe for human consumption.

RETHINKING INCARCERATION

What do little girls dream of? Four-year-old Emma Nolan dreamed of becoming a sharp-shooter in the CIA.

Not much seems to have changed for the senior criminology and justice studies major, who recently interviewed Norwegian prison officials for research inspired by an intensive course abroad in Norway and Sweden. The 11-day course, led by criminology prof Jordan Hyatt, JD, PhD, provided a cross-cultural exploration of criminal justice systems, culminating in a tour of maximum-security prison Halden Fengsel.

Nolan approached Hyatt after the trip about conducting further research at Halden, and spent the next two months developing a proposal to uncover why the criminal justice world has taken notice of Norway’s second largest prison.

Dubbed “the world’s most humane prison” by *TIME* magazine, Halden is internationally recognized for its innovative reform techniques and award-winning facilities. The institution’s guiding principle is to treat inmates as you would your neighbors because one day, they just might be.

“Emma was able to conduct international field research in a very challenging environment,” says Hyatt, who helped Nolan design the research protocol and accompanied her return to Norway. “Her work exceeded our expectations.”

Nolan conducted 14 interviews over two days and says the officials “rolled out the red carpet” in an effort to bring the public into the institution. From security guards to the warden, employees spoke of the “neighborly” attitude at the core of their policies.

The differences between the correctional systems in the



U.S. and Norway are stark: The U.S. incarcerates at almost nine times the rate of Norway, and yet Halden spends annually about three times more per inmate than the average U.S. prison.

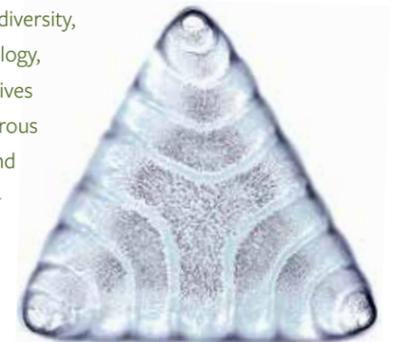
While Nolan and Hyatt say that direct transplantation of Halden’s policies into the U.S. system would not work, they do believe the U.S. could take elements of its approach.

“Emma’s work could inform conversations about how inmates and staff could interact in other, less-innovative facilities,” Hyatt says. “Her project underscores the basic philosophical differences between the Norwegian and American correctional systems.”

Nolan and Hyatt played an integral role in bringing Are Hoidal, Halden’s warden, to the annual meeting of the American Society of Criminology this fall, where they presented their research along with their co-researcher Synove Andersen, PhD, of Statistics Norway.

A LIFETIME OF EXCELLENCE

For more than 45 years, Susan Kilham, PhD, professor in the Department of Biodiversity, Earth and Environmental Science, has been a leading figure in the field of phycology, or the study of algae. Specializing in diatoms — a unicellular form of algae that lives anywhere water is found — Kilham has advanced the field as a mentor to numerous scientists and as the author of nearly 100 publications in high-profile journals and books. Her groundbreaking research on the relationship between species’ coexistence and resource utilization led to fundamental advances in community theory. In honor of her record of sustained scholarly activity, teaching and service, Kilham was presented with the Phycological Society of America’s career achievement award, the PSA Award of Excellence.



Methane Emissions Have Risen in Marcellus Shale Region

BY BRITT FAULSTICK

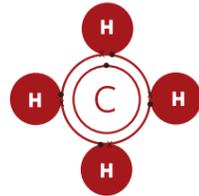
Despite a slowdown in the number of new natural gas wells drilled in the Marcellus Shale region of Northeast Pennsylvania, a study led by Drexel University researcher Peter DeCarlo, PhD, finds that atmospheric methane levels in the area are still increasing.

“Methane is increasing globally, but the rate of increase for this region is much more rapid than global increases,” says DeCarlo, an associate professor who studies atmospheric chemistry in Drexel’s College of Arts and Sciences and College of Engineering. “The rapid increase in methane is likely due to the increased production of natural gas from the region, which has risen significantly over the 2012 to 2015 period. With the increased background levels of methane, the relative climate benefit of natural gas over coal for power production is reduced.”

In contrast, the Pennsylvania Department of Environmental Protection’s 2015 Emissions Inventory (PADEPEI) report for unconventional natural gas emissions estimated a *decrease* in emissions from 2012 to 2015.

“Our measurements indicate that emissions of methane rose by roughly 300 percent,” says DeCarlo. “Thus, it is important to identify where in the PADEPEI there are flaws in estimating emissions, and how to address them.”

Since the first shale gas wells were drilled in the Marcellus Shale Basin, a region that diagonally bisects the state from the northeast to the southwest, there have been concerns about what unlocking the new stores of fossil fuel by an unconventional method, called hydraulic fracturing, could mean for the environment. Though it has been around since the mid-20th century,



“Our measurements indicate that emissions of methane rose by roughly 300 percent.”

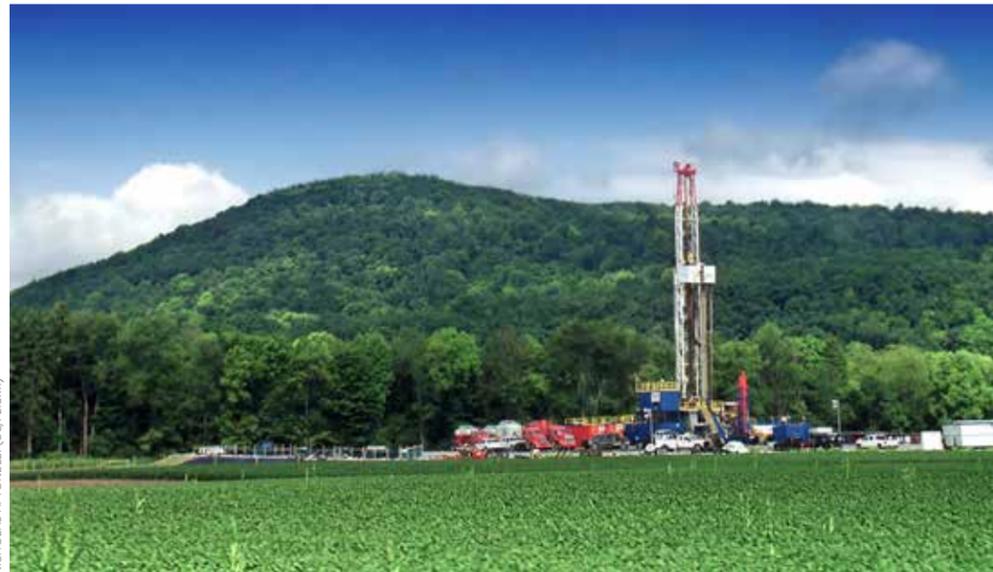
hydraulic fracturing is highly controversial. Maryland became the first U.S. state with gas reserves to ban the practice in March of 2017.

Overall, natural gas production from the Marcellus Shale region has climbed to 16 billion cubic feet per day, which is twice as much as any other unconventional natural gas resource in the country, according to the researchers.

“Though the rate at which new wells are being drilled and completed has slowed down, the overall infrastructure and production has increased,” DeCarlo says. “That means that the volume of gas moving through pipelines, compressor stations and processing plants is increasing. Since pipeline emissions are not

included in the PADEPEI, this is one area where methane leakage may be significant and is being overlooked.”

This finding could suggest that measures taken by natural gas producers to decrease leakage from well completions, while still necessary, are not sufficient to reduce methane leakage in the Marcellus Shale region. And with the bulk of environmental protection regulations from the Pennsylvania Department of Environmental Protection focusing on ground water contamination, it is possible that atmospheric emissions from the natural gas infrastructure could persist until research can more clearly identify the source of the leaks and the effect of specific emissions on public health.



NICHOLAS A. TONELLI (CC/FLECK)



TED DAESCHLER

TO THE ENDS OF THE EARTH

BY DIANE KETLER

For most people, the thought of camping conjures images of leisurely hikes and starry nights cozied up to a campfire. For geoscience prof Ted Daeschler, PhD, it resembles something more like a two-day flight, followed by a noisy jaunt via military cargo plane, culminating in a 100-mile helicopter ride into the remote terrain and sub-freezing temperatures of Antarctica’s McMurdo Dry Valleys.

“I never imagined that I would utter the words ‘I’ll be camping in Antarctica for a month,’” says Daeschler, “but there I was!”

Through a multi-year expedition funded by the National Science Foundation, Daeschler and a team of scientists traveled to the polar desert in search of Late Devonian-age fossils, which are accessible via the region’s exposed bedrock. Though much of Antarctica is covered in glaciers, the Dry Valleys provide a unique glimpse of the streams that flowed 375-385 million years ago, a time that pre-dates dinosaurs.

Daeschler and crew hiked 3 to 4 miles a day, resting at night in windtight tents and sleeping bags capable of withstanding minus 50 degrees Fahrenheit. In their weeks of travel, the scientists collected a slew of fossils, from primitive shark teeth to the tiny bones of sarcopterygians (lobe-finned fish) and agnathans (jawless fish).

With their findings back in Philadelphia, Daeschler worked with Drexel co-op student Kelly Rozanitis, BS geoscience '19, to organize, catalog and label the more than 500 fossil specimens from the expedition, with the ultimate goal of piecing together paths of evolutionary change.

In December of 2018, the team will head back to Antarctica, about 50 miles away from the Dry Valleys, for part two of their expedition.



CHARLES SHAN CERONE

The Root of Good and Evil

Biologist, neuroscientist and stress expert Robert Sapolsky, PhD, explored the science behind our best and worst behaviors as the seventh lecturer in the College’s Distinguished Lecture series last spring. Drawing on the latest research from a range of disciplines, Sapolsky provided a nuanced perspective on why we ultimately do the things we do. It turns out human behavior is complicated and often contradictory. Who knew?

To hear it from the biologist himself, check out Sapolsky’s TED Talk “The Biology of Our Best and Worst Selves,” at TED.com.



Mark your calendars

for the College’s next Distinguished Lecture on April 25, 2018, featuring **Jad Abumrad**, founder and co-host of NPR’s “Radiolab.” Free tickets will be available March 1 at drexel.edu/coas/distinguishedlecture.

Scholarly Adventures

With awards from the National Science Foundation, the Fulbright Program, the National Institutes of Health and more, students and alumni of Drexel's College of Arts and Sciences are tackling pressing issues across the globe.



PHILADELPHIA, PA

1 Eva Karasmanis
PhD candidate, Biology
> Investigating the role of septins, a group of proteins, in the development and treatment of cancer
AWARD: NIH Ruth L. Kirschstein National Research Service Award

2 Coralie-Michele Francois
BS Biological Sciences '17
Drexel Dance Performing Arts Scholar
> Working with high school faculty to integrate dance into local high school curriculum
AWARD: ArtistYear AmeriCorps Fellowship

3 Lauren Lowe
BA English '17
> Helping high school students tell their stories through creative writing
AWARD: ArtistYear AmeriCorps Fellowship

4 Mark McCurdy
PhD candidate, Clinical Psychology
> Researching social competence in youth with Neurofibromatosis Type 1
AWARD: NIH Ruth L. Kirschstein National Research Service Award

5 Vincent O'Leary
BS Environmental Science '18
> Recognized for leadership and commitment to public service and communication in the sciences
AWARDS: Udall Scholarship + Drexel's first Truman Scholarship

CHAMPAIGN, IL

6 Matthew Parsons
BS Physics '15
PhD student, University of Illinois
> Applying computational science techniques to fusion research
AWARD: NSF Graduate Research Fellowship

NEW HAVEN, CT

7 Jeremy Gaison
BS Mathematics + Physics '15
PhD student, Yale University
> Conducting research for the Precision Oscillation and Spectrum Experiment (PROSPECT)
AWARD: NSF Graduate Research Fellowship

COSTA RICA

8 Kourtney Walter
BA International Area Studies '18
> Honed her Spanish-speaking skills through courses abroad
AWARD: Benjamin A. Gilman International Scholarship

GALAPAGOS ISLANDS

9 Nathaniel Shoobs
PhD student, Environmental Science
> Studying the feeding apparatus of the Naesiotus genus of air-breathing land snails
AWARD: NSF Graduate Research Fellowship

BIOKO ISLAND

10 Kacy Reitnauer
BS Environmental Science '20
> Studied tropical ecology and conservation through the Bioko Biodiversity Protection Program
AWARD: Benjamin A. Gilman International Scholarship

VIETNAM

11 Ashleigh Jugan
BS Environmental Science '18
> Rescued endangered pangolins, the world's most trafficked mammal
AWARDS: Benjamin A. Gilman International Scholarship, Udall Scholarship + Freeman ASIA Award

CHINA

12 Elizabeth McHone
PhD candidate, Environmental Science
> Investigating the evolutionary link between the dogbane beetle and milkweed
AWARD: McLean Fellowship

FINLAND

16 Vaughn Shirey
BS Environmental Science '17
> Analyzing citizen science data at the Finnish Museum of Natural History
AWARD: Fulbright Study/Research Grant

EUROPEAN UNION

13 Greg Niedt
PhD candidate, Communication, Culture and Media
> Researching how residents of different ethnolinguistic backgrounds use texts to claim and contest space
AWARD: Fulbright Study/Research Grant

GERMANY

14 Jason Ludwig
BA History + MS Science, Technology and Society '17
> Immersed in a yearlong academic, cultural and professional exchange
AWARD: Congress-Bundestag Youth Exchange for Young Professionals Fellowship

CHINA

15 Kaitlin Thaker
BA International Area Studies '17
> Teaching English and American studies at pre-university institutions
AWARD: Fulbright English Teaching Assistant Award

ITER TOKAMACK: ITER ORGANIZATION. THINKSTOCK IMAGES. CREATIVE WRITING (STOCK-EYE); BRAIN POLYGON (BANNOSUKE); GALAPAGOS (DC_COLUMBIA); HELSINKI (SCANRAIL); MILKWEED (INGRAM PUBLISHING); FLICKR: PANGOLIN (ADAM TUSK).

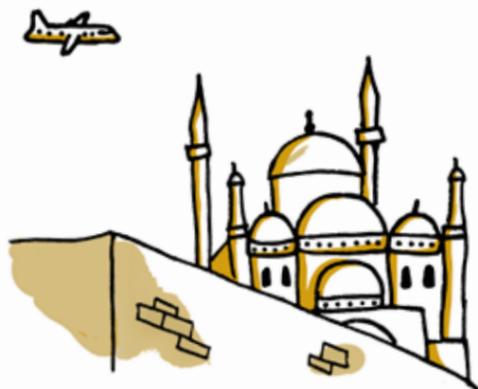
FIELD NOTES

THE UNSUNG, UNPUBLISHED
ADVENTURES OF DREXEL
RESEARCHERS IN THE FIELD

ILLUSTRATIONS BY NATALIE VAUGHN '18

THE TALE OF THE MYSTERIOUS MANUSCRIPTS

Alden Young, PhD
HISTORIAN



DESTINATION:
CAIRO, EGYPT

RESEARCH SITE:
**BOOKSHOP OF
MUSTAFA SADIQ**

RESEARCH SUBJECT:
SUDANESE HISTORY

Sometimes the best gifts arrive in the mail. In the spring of 2015, just as I was attempting to revise my dissertation into a book — “Transforming Sudan: Decolonization, Economic Development and State Formation” — three Arabic manuscripts arrived in the mail. They were perfect for the project. Each one of the manuscripts was about a series of lectures on the Sudanese economy that was given in Cairo from the late 1930s to the late 1950s. A fellow researcher had posted them in the mail — but where had they originally come from?

Archival research in the Middle East and much of Africa can be immensely frustrating. I was lucky to have conducted much of the research for my dissertation in Sudan where, unlike in Egypt or Syria, the state archives are relatively open. However, I had hit a snag that will be all too familiar to researchers working in postcolonial countries. While the National Records Office was well equipped, I soon discovered that the list of books I had brought with me from the U.S. — the references I needed to complete my work — was useless. Years of budget cuts and devaluations had left the library completely underfunded, and slowly, the collections had been sold off one by one.

When I received the mysterious manuscripts, it was a clue that the texts I needed were out there somewhere. So, armed with half-remembered instructions from my fellow researcher, I traveled to Cairo in November of 2015. Conflict and a lack of funding have transformed the used booksellers of Cairo and Damascus into the literary storehouses of the Arab world, but unlike formal archives, the old bookstores can only be found through word of mouth.

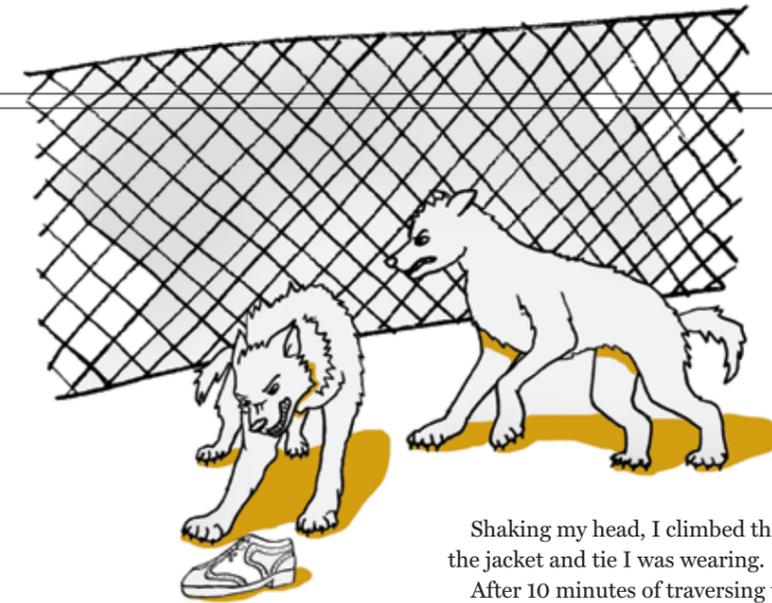
With the guidance of my colleague, I made my way to the Sultan Mahmud’s Takiyya (a large complex in old Cairo) and eventually, to the basement bookshop of Mustafa Sadiq. There, and in the dozens of shops like his spread across the city, one can find 19th-century books on Egyptian agriculture and geography, George Orwell’s “1984” and even medieval books of magic. Mustafa was at first skeptical, believing that I was just another curious person off the street, but I passed his test when I gave him the name of my colleague. He opened his shop to me and displayed his collection, one of the many that provide the archives for our histories of the Arab World — exactly what I needed to finish my book.

CAIRO : FOUNDED 969 AD

POPULATION: 9.6 MILLION

WILD DOGS IN THE CITY

Robert Kane, PhD
CRIMINOLOGIST



My day as a field researcher began like most others at that time: I caught the 4/5 train at 86th and Lexington for my morning commute to 1 Police Plaza in Lower Manhattan. As I made my way above ground, I felt my cell phone vibrate. The caller was John, a veteran detective I employed on his days off to help me collect data for my historical study of police misconduct in the NYPD.

“Rob, we have a problem,” John said. “We’re missing a bunch of records from the 1980s that we need to complete the files.” He speculated they’d been moved to a warehouse on the outer edges of Brooklyn.

“How do we get them?” I asked.

“We need to take a ride,” he said.

Ten minutes later, I was cruising with John and Todd (another detective who worked for me) across the Brooklyn Bridge in an unmarked police car. When we finally pulled to the curb about 40 minutes later, we were in Sheepshead Bay.

The area was vaguely industrial, with a huge vacant lot fenced in by chain link that was at least 6 feet high. As we locked up the car, I saw John and Todd both check their weapons, which immediately made the hair on my neck stand up.

“Gangs out here?” I asked.

“Wild dogs,” Todd said casually.

Not wanting to appear the rube, I didn’t ask for clarification. I thought maybe there was a gang that my research had missed called the Wild Dogs.

Next thing I knew, Todd and John had scaled the chain-link fence and were looking at me from the other side. When I protested, one of them said, “It would have taken too long to get permission.”

LOCATION:
NEW YORK CITY

RESEARCH SUBJECT:
POLICE MISCONDUCT

FOLLOW-UP PROTOCOL:
RABIES VACCINATIONS

Shaking my head, I climbed the fence and quietly cursed the jacket and tie I was wearing.

After 10 minutes of traversing the weeded, crumbling blacktop surface, we came to the warehouse. Or rather, the dilapidated Quonset hut with broken windows and no lock on the front door. Our experience inside that hut, rummaging through water-damaged boxes and fighting off rats the size of raccoons, is its own story. Suffice it to say, after about two hours, the three of us were hauling a box of old personnel files back to the car when I heard the barking.

“Here they come!” one of the detectives shouted.

“Run!” the other yelled.

In a flash, we were galloping toward the fence, though I didn’t know why. John was leading while Todd and I tried to keep pace, straddling the large, heavy box. The barking turned to snarling, and over my shoulder I saw a pack of dogs closing in on us.

“I thought you were talking about a gang!” I screamed at John between heavy gasps of air.

John scaled the fence in a single stride, but Todd and I were too weighed down to accomplish the same feat. We hurled that nasty box of personnel files over the fence while John drew his pistol and yelled at us to hurry up. As Todd tumbled to safety and I threw one leg over the fence, one of the dogs leaped after me and clamped down on the heel of my shoe, ripping it from my foot and sending a searing pain through my entire leg. I made it over and fell to the sidewalk just as the remaining dogs — five of them — crashed into the fence, all head and fangs, using every bit of strength to get at us.

It wasn’t until the last one of them finally trotted off — the one with my shoe clenched in its teeth — that Todd and John began laughing. Partly at the situation, but mostly at me.

“Welcome to the NYPD, Professor!” they exclaimed.

Fourteen rabies shots and one new pair of shoes later (a gift from Todd and John), I was just beginning to see the humor in what had happened.

VELOCITY = DISPLACEMENT / TIME

MONKEY BUSINESS

Debjani Bhattacharyya, PhD
HISTORIAN

DESTINATION:
DELHI, INDIA

RESEARCH SUBJECT:
BRITISH RAJ

FILE REQUEST:
PENSION SCHEME FOR GRAY LANGURS, 1942



As a historian focused on the British Raj in India, I spend many hours in dusty archives poring over old documents, from intriguing tales of treachery to mundane budgetary debates. I have spent countless hours in such dusty rooms across continents from London to Delhi. On one such trip, a file popped up on the records: “Pension Scheme for Gray Langurs, 1942.”

Langurs, for those who have not visited South Asia, are a variety of monkey found across Pakistan, India, Nepal and Bangladesh.

Well, this was curious, I thought. So, I ordered the file.

It seems then that, as the British colonials were tearing down the forests to build New Delhi, they depleted the habitat of the local monkeys. Some of these displaced monkeys found a new home on the campus of Delhi University. Young students, absent-minded professors and monkeys tried living and learning together — but not for long.

Soon it turned into pure monkey business and the education board took matters into their own hands. The monkeys had to be chased away — and who better suited for the job than their fellow primates, the great gray langurs?

Delhi University employed langurs to chase away the other monkeys, and when the first batch of these professional langurs in the service of the British Empire was about to retire, a pension scheme was devised. After all, they had dutifully served the world’s largest empire.

As I turned the last page of this curious entry from 1942, I heard a commotion coming toward the reading room of the National Archives of Delhi. People were running out, and I picked up my laptop and followed the crowd. Soon, I saw I was being chased out of the archive by none other than two little monkeys! And there I was, witnessing history repeating itself — rather farcically!

GRAY LANGURS : AVERAGE WEIGHT: 36.9 LBS

LIFESPAN: UP TO 30 YEARS

YOUR SPACE OR MINE?

Jason Orne, PhD
SOCIOLOGIST

LOCATION:
CHICAGO

OBSERVATION SITE:
JACKHAMMER BAR

RESEARCH SUBJECT:
URBAN SOCIOLOGY AND SEXUALITY



It’s so dark when you reach the basement at the bottom of the stairs at Jackhammer, a gay bar on Chicago’s North Side, that it takes a few minutes for your eyes to adjust. When I was doing fieldwork on urban sociology and sexuality in Chicago’s gay bars and clubs, I had to follow the rules just like other patrons. On reaching the bottom of the stairs, I would take off my shirt and don a leather harness. Sometimes the others, and therefore me, had on even less.

The scene across town at Cocktail, another gay bar in Chicago’s Boystown neighborhood, was quite different. I once sat around a high-top table of straight women there for a bachelorette party. The straight male stripper came over to our table, rubbing himself along the bride-to-be’s body and leaning his beefy arm over her shoulder as the women giggled and slipped a few dollars in his underwear. Some gay bar, right?

As gay people become more accepted in American society, the bars and clubs that we go to change. Straight people come in looking for a good time and change the dynamics of the space. Gay men flee out. As an alternative culture that has different views of sex and unique communities built around sexual spaces, gay neighborhoods are losing some of their sexual vibe as straight people come into them.

At the bottom of the stairs at Jackhammer though, in the back hallway, past the freezer and the boiler, I would see, in the flickering lights, gay men connecting in the dark. Using sex as a way to have fun, but also to bridge boundaries and form communities. Once, in the corner under one of the dripping water pipes, I also saw a straight couple. The woman, topless, her long brunette hair falling around her shoulders, was swinging in time to the thumping music overhead.

Perhaps, I thought, we can even have these spaces in common.

LET SLEEPING BEASTS LIE

Lojç Vanderkluisen, PhD
VOLCANOLOGIST

Yellowstone is a place that has long captured the public’s imagination for its spectacular landscapes, pristine ecosystems, wildlife, geysers and other geothermal features. For a volcanologist like myself, the oldest national park in the U.S. offers countless opportunities for research.

In September 2016, our team traveled to Yellowstone to conduct a survey of volcanic gas emissions under a research permit from the National Park Service. Over

the course of our field campaign, we rapidly grew accustomed to encounters with wildlife on the roads, particularly elks and bison. Indeed, we spent hours blocked in what park staff affectionately call “bison jams” while attempting to reach our field sites.

On the last day of our campaign, we set out to study gas released by Lone Star Geyser, only to discover a large bison already there. It was a cold day, and bison often seek the warmth and comfort of such geothermal areas at those times. Luckily, the animal was resting in the grass at a safe distance, and we were able to set up our instruments and start collecting data.

As the morning turned to afternoon, however, the beast awakened and developed a growing sense of curiosity for our equipment, slowly creeping toward us. We backed away, abandoning our tools and field site to the animal’s good graces.

Fortunately, the bison was soon distracted by tourists and decided to leave our infrared spectrometer unscathed. It still amazes me, though, that I have grown more fearful of the wildlife that inhabits volcanoes than of the volcanoes themselves.



LOCATION:
YELLOWSTONE

PERMIT AUTHORIZED BY:
U.S. PARK SERVICE

RESEARCH SUBJECT:
VOLCANIC GAS EMISSIONS

UPSTREAM WITHOUT A COMPASS

Mary Katherine Gonder, PhD
BIOLOGIST

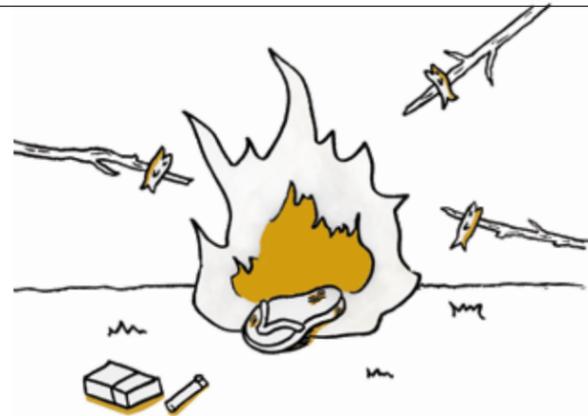
During my PhD dissertation research, I spent a lot of time in Cameroon in Central Africa. On my first field excursion, I went out with my project assistant and several other researchers to study chimpanzee nests. We set camp about six hours into the forest and headed out on the trail with our assigned eco-guard. He marked our path using a hip chain and spool of thread, which he let out behind us over the course of several hours. When the sun started to set, we began to make our way back following the trail of thread — only to find about 100 meters in that the thread was no longer attached to anything.

Lost in the bush, we decided we could make our way back to camp if we could find a stream. At the time, I didn't appreciate how much streams wind in tropical forests, and as it turned out, we couldn't use this as a navigational method. By sheer luck, we managed to find our way back the next morning, and the eco-guard convinced us that the broken thread had been a freak accident. Foolishly, I believed him.

We went out again that day only to have the exact same thing happen. I knew we couldn't follow the streams, so we went to the highest point to get a GPS reading — to no avail. Now completely lost, we walked for three days without food, water or camping supplies.

Fortunately, one of the researchers was a smoker, so when we stumbled upon a flip flop in the forest, we were able to cut off little pieces to start a fire each night. We cooked up tiny, 3-inch fish that we killed with rocks, and slept on leaf beds like gorillas.

By the end of the third day, I was so exhausted I didn't think I'd be able to walk in the morning. As I lay on the ground, a group of driver ants (the ones with giant claws) got into my clothes, and I had no choice but to jump in a nearby stream. I quickly pulled off my shirt, not realizing my



DESTINATION:
CAMEROON, AFRICA

TERRAIN:
TROPICAL FOREST

RESEARCH SUBJECT:
CHIMPANZEES

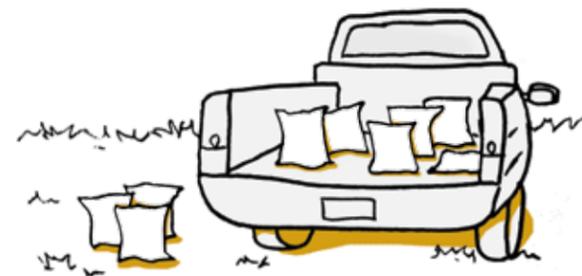
compass was in it — and there went our last navigational tool, downstream with the ants.

At about 2 a.m., I saw the bright light of a hunter's headlamp in the forest. I jumped up and yelled for help, fully aware that a white woman in the forest was a pretty unusual sight in Cameroon. The hunter came to our rescue and agreed to take us back to his village — another 12 hours away by foot. At this point, we were starving. The villagers fed us cocoa yams when we arrived, and we gratefully indulged. They told us we'd have to cross a large river to get back to camp, but fortunately, they had inner tubes and graciously pushed us across the river as we sat feasting on yams.

On the other side of the river was a cocoa and coffee bean farm. Once or twice a month, a truck picked up their shipments, and miraculously, it was there when we arrived. We hitched a ride back to the Wildlife Conservation Society headquarters, holding on to giant sacks of beans in the back of the truck.

It was Thanksgiving Day when we finally arrived at WCS. I called my mom to wish her a happy holiday, and didn't tell her about my near-death experience for another 15 years.

I learned a lot about myself in those six days. I realized how dedicated I was to my fieldwork, which is probably why I still do it today. But most importantly, I learned that, even in the most difficult moments, when there seems to be no way past a particular hurdle, if I can find a way to work through the problem calmly, there's almost always a solution.



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Avery Young
Online MS in Communication Student

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PERSPECTIVES

ONE ISSUE, MULTIPLE VIEWS



Trigger warnings and safe spaces have made headlines in recent years and become hot topics on college campuses nationwide. While “safe spaces” once referred mostly to centers for marginalized groups, the term has broadened to become a pivot point for fierce debate on academic freedom and the means of creating vibrant, inclusive intellectual communities.

What does it mean to create a safe space for our students, and is it a goal we should be striving toward? In 200 words or less, four Drexel University professors share their perspectives on the debate.

MESHAGAE HUNTE-BROWN, PhD
Teaching Professor of Biology

Our classrooms should be “satellite locations” of the safe space as it was originally intended, the difference being that classrooms should foster inclusivity. Both must work together to have the desired outcome: For students to be confident participants in inclusive intellectual communities, they must first have a place where they feel safe. The former can happen without the latter, but that makes building a culture of inclusivity more challenging.

I have heard it said that these issues are of less concern in STEM classrooms. However, I recall a conversation with a student who was uncomfortable with my coverage of sex determination in humans. We talked about the meaning of biological sex, and I explained that the role of the class wasn’t to explore gender identity, but the effects of chromosomal behavior on biological sex. I now fold some of that language into my courses because I would hate for a visceral response related to a personal experience or struggle to become a barrier to learning. I don’t believe my student would have felt confident approaching me, let alone in the respectful, non-combative way that they did, had I not fostered openness and inclusivity. Safe spaces are as important in STEM disciplines as in the broader community.



JEFF FUSCO



JEFF FUSCO

CHRISTINE MAGUTH NEZU,
PhD, ABPP
Professor of Psychology

One initial attempt to create a safe space was reportedly conceived by a college senior who was a member of the sexual assault task force, and was concerned that a campus event had been organized to debate the topic of campus sexual assault. It was intended to give people who might find comments triggering a protected place to engage in conversation. Safe spaces now represent an expression of the conviction, prevalent among college students, that their schools should keep them from being bombarded by discomforting or distressing viewpoints.

As a psychologist, it is easy to see why there is a strong debate about these issues. Our ethical principles require that we respect, protect, attempt to benefit, seek justice for, and do no harm to our patients, students and trainees. This supports the creation of safe spaces for individuals who may be psychologically or emotionally discriminated against or victimized by public dialogue, even when not ill intended.

Our ethical principles also indicate that competency requires self-reflection and facing challenging and uncomfortable encounters as part of our professional development. This suggests that in providing a liberal arts education, we should welcome opportunities for our students to grow their capacity for critical thinking and open-mindedness. In order to do so, we should carefully weigh both concerns and continue to create safe spaces for the reason that they were intended, but reject the view that any opinion with which we disagree is immoral or unsafe.



JEFF FUSCO

SCOTT TATTAR
Instructor of Communication

I like to think of college as a “Wonderland.” In other words, students should be encouraged to wonder — to ask questions, to maximize their curiosity. There will be plenty of time to follow the rules when they are entrenched in their careers. In the college classroom, students should feel safe to think out loud and challenge the norm. Within the field of communication, there are many opportunities to challenge, question and wonder. Whether it be through persuasive writing or public speaking, the opportunities to speak up and speak out are plentiful.

I believe teachers have an obligation to encourage disruptive — even radical — thinking. They need to push students to plant their seeds of interest and let them blossom in the classroom. Students also have responsibilities when it comes to creating and nurturing safe expression. First, they must be willing to find their inner rebel and release it. Many are conditioned to just stay quiet and keep the peace. As a result, they end up stifling their sense of wonder. Secondly, students must be open to hearing opinions that they may not share. They need to respect their fellow students and their points of view.

This collaborative partnership between college students and faculty is the perfect catalyst for building a provocative but safe Wonderland.



JEFF FUSCO

ABIOSEH PORTER, PhD
Professor of English

Both temperamentally and professionally, I have always tried to make people feel that they are in the safest spot they can ever be if they are around me. Also, as someone who studied and has degrees in comparative literature — defined roughly as the study of literatures across borders and disciplines — I find myself almost always engaged in discussions that may be controversial to some people. I have thus made a point of making it clear to colleagues, students, and friends and foes alike that, while I don’t fool myself into thinking that there is unlimited freedom of speech, people around me should never hesitate to express themselves as freely as they possibly can. Safe spaces for me, then, are locations where people want the best ideas and most valid arguments to win.

In the classroom, for example, I make it clear to students that the validity of the positions we take, as opposed to our opinions, is what really counts. That means that there is zero tolerance for verbal or other forms of abuse during our, at times, robust discussions. One final point: I don’t believe in the weird notion that to create safe spaces is to be “politically correct.”



CALM AMID THE STORM

BY TIM HYLAND

AS HURRICANE IRMA BARRELED TOWARD SOUTH FLORIDA IN EARLY SEPTEMBER, KATHLEEN REARDON GATHERED HER STAFF TO GIVE THEM SOMETHING AKIN TO A PEP TALK.

The situation in the Caribbean looked truly frightening that morning, with Irma devastating island chain after island chain with a ferocity that left meteorologists astounded. There was talk, too, that the just-developing Hurricane Jose might turn northward and put Bermuda — the headquarters for Reardon and her team at global reinsurance firm Hamilton Re — in harm's way as well.

For Reardon and her staff, it was an understandably stressful time. But in that pep talk, she reminded her team they had a job to do.

She recalls: “We called a town hall, and I told them, “This is what we do for a living. This is how we make a mark. Let’s go do this.”

That ability to maintain laser focus, even in a time of serious crisis, is a big reason why Reardon '96 has made such a name for herself in the high-stakes, high-pressure reinsurance industry — essentially, the industry from which the insurance industry buys *its* insurance. As CEO for Hamilton Re for the past three years, Reardon has overseen a company charged with nothing less than helping to make the entire insurance industry — and, by extension, the entire business world — work.

Without firms like Hamilton Re providing the financial backstop for insurers, the world could not manage or recover from catastrophes such as Irma.



GABRIUS/THINKSTOCK IMAGES

ANN SPURLING

It's a huge responsibility, and one that Reardon takes seriously.

"As much as the news can be focused on the devastation, what we need to be focused on is the recovery," she says. "Unfortunately, a lot of what we cover in the reinsurance industry is catastrophic events like these. But at those moments, we as a company have to be able to immediately say, 'OK, what do we need to do to keep businesses moving forward?'"

Pursuing that next step forward is something that Reardon has always been able to do, as she's leveraged her intellect, work ethic and willingness to learn to become one of the most influential women in her field.

It was as early as high school that Reardon was identified as a future insurance-industry star. A college counselor called her in one day and said she believed Reardon had the right kind of mind — and the right kind of mindset — to succeed as an actuary, the critically important, behind-the-scenes insurance professionals who help their firms evaluate and mitigate risk. Her interest piqued, Reardon found a career guide and read about the field's supposed perks — great job security, high earnings and, allegedly, low stress.

"I still need to write to those people and ask about the 'low stress' part," she jokes.

By the time she enrolled at Drexel University, she knew enough about the field to know that she was interested. But to keep her options open, she decided to major not in actuarial science, but in mathematics. That focus in mathematics expanded her intellectual footprint, while her co-op opportunities allowed her to gain a deeper understanding of the day-to-day realities of working at a big-time insurance firm. She landed at Cigna in Philadelphia, and it wasn't long before her superiors took note of her potential.

Importantly, though, Reardon says that her bosses weren't just supportive; they were also honest. And though Reardon may not have always liked what they had to say, she realized the importance of listening to — and acting upon — their input.

"During one of my co-ops, I remember that my manager gave me some feedback about my communications skills," she says. "Look, I grew up in Philly. I used a lot of colloquialisms. And she basically said, 'Hey, this could be an area of improvement for you.' I went home that evening a bit annoyed, but then I went in the next morning and immediately decided I would make some changes."

The years that followed would see Reardon steadily climb the ladder and take on a series of increasingly challenging roles. She continued with Cigna for five years in Philadelphia, and when the company's property and casualty business was acquired by ACE Group, she seized the opportunity to relocate to the island

of Bermuda, one of the world's premier reinsurance industry hubs. Working for ACE Financial Solutions International, she moved from assistant vice president to vice president of underwriting, and in 2005, she was named chief underwriting officer for international property and senior vice president at ACE Tempest Re.

From there, Reardon was poised to make her next big move. In 2012, she joined a start-up reinsurance company, which became Hamilton Re, as the firm's founding chief underwriting officer for property. Less than two years later, she was promoted to CEO by Hamilton Insurance Group's then-CEO Brian Duperreault, who lauded Reardon as "a consummate professional who has earned the respect and admiration of our clients, shareholders and employees for her astute business acumen, deep industry knowledge and collegial working style."

In the years since, Reardon has focused her efforts on growing her firm's reputation and expanding its client base. She keeps a keen focus not just on the occasional crises that are a hallmark of the industry, but also on the bigger-picture approach to the company culture. It's a perspective she gained through her own experiences.

As a woman working in a STEM field, Reardon is open about the fact that she, like many other young female profes-

"AS MUCH AS THE NEWS CAN BE FOCUSED ON THE DEVASTATION, WHAT WE NEED TO BE FOCUSED ON IS THE RECOVERY."

sionals, faced "roadblocks" as she advanced up the corporate ladder. But she also says she takes pride in the fact that she viewed each of those roadblocks as a learning opportunity.

She advises young women to take the same approach — even as she acknowledges that doing so is often easier said than done.

"The starting point is deciding whether this is where your passion lies," she says. "If it is, then don't let anything deter you. The lessons you will learn in navigating what is currently a male-dominated terrain, and the confidence you will build, are invaluable."

She adds: "As a result of having to try harder, I learned more. I developed my capability of stepping up to the challenge."

Her belief in the importance of helping women succeed in STEM is not where her commitment to diversity ends,

however. Diversity and inclusion are a major focus of her efforts, and she believes strongly that every business in every field stands to benefit from welcoming a broad variety of perspectives from staff who may have wildly different backgrounds.

At Hamilton Re, she says, she seeks out diversity in all of its forms — not only in ethnicity and gender, but also in professional background, personal experience, global understanding and generational view. Through focused and intentional recruiting efforts, many of which are aimed at getting young people and early-career professionals excited about an industry that is often perceived as stodgy, she strives to create a culture in which, for instance, millennials and baby boomers can learn from each other.

Building a diverse workforce just makes good business sense, she says; after all, the world is more complex and more global than ever before, and companies need multiple and varied perspectives to solve their problems.

"This isn't a kind of token approach where we say, 'Look, we have diversity!'" she says. "Here, I want to have a culture that says, 'You have a voice at my table, and it's going to be heard. If you have the best idea here, we're behind you, and we're implementing it and moving forward.' It's a culture that is open to ideas and willing to change."

Reardon is committed to making her firm one of the leaders in its industry. Though still relatively young at just five years old, Hamilton Re is poised for a breakthrough, she believes.

She looks forward to leading the charge and seeing where the future takes her.

"I have put in place several initiatives to take us to the next level," she says. "It's a natural development for our company. We're out of the startup phase, but now we have a great opportunity for growth."

"I have plenty yet to achieve, to execute and to grow into." ●



ANN SPURLING

"AS A RESULT OF HAVING TO TRY HARDER, I LEARNED MORE."



BATTLE *Tested*

From the front lines of Afghanistan to the peak of Mount Kilimanjaro, psychology PhD student and Navy veteran Chris Diaz has pushed beyond limits most never test — and harnessed the link between mind and body. Today, he's helping veterans, athletes and high performers achieve more than they ever dreamed possible.

BY TIM HYLAND
PHOTO BY JARED CASTALDI

Like many of his fellow Americans, Chris Diaz was profoundly affected by the tragic events of September 11, 2001.

Quite simply, he says, it was the day that forever changed the trajectory of his life.

“On that Tuesday morning, I felt moved to join the military,” recalls the New York native. “And yet, at the same time, I had a newborn son and felt that I couldn’t leave, at least not right at that time.”

And so he waited. He spent the next few years helping to raise his young child, and then, just after turning 25, he fulfilled what he considered his obligation to his country and enlisted in the United States Navy.

That decision began a journey that would see Diaz travel the world as a Navy flight specialist and thrust him onto the front lines in Afghanistan as a corpsman, fundamentally changing his worldview and ultimately driving him toward a career that, back in 2001, he never would have imagined — working his way toward a PhD in psychology at Drexel, with aspirations of helping veterans, athletes and others.

Diaz originally enlisted with the idea that he would “jump out of airplanes and go after bad guys,” but he found out during boot camp that he was legally blind in his left eye, which took some of the military’s special programs off the table.

Instead, he found himself assigned to an aircraft carrier, where he served as aviation boatswain’s mate, charged with coordinating airspace and helping to manage all activities on the flight deck. His time aboard the ship offered a new and more expansive perspective of his place in the world, and of his responsibility to others.

“The experience of living on a floating city with 5,000 other people is unique,” he says. “You learn how insignificant you are when you’re floating around in the ocean for months and months at a time. You get placed in this artificial environment, with people from all over the country, and you have to learn to work together toward a common purpose.”

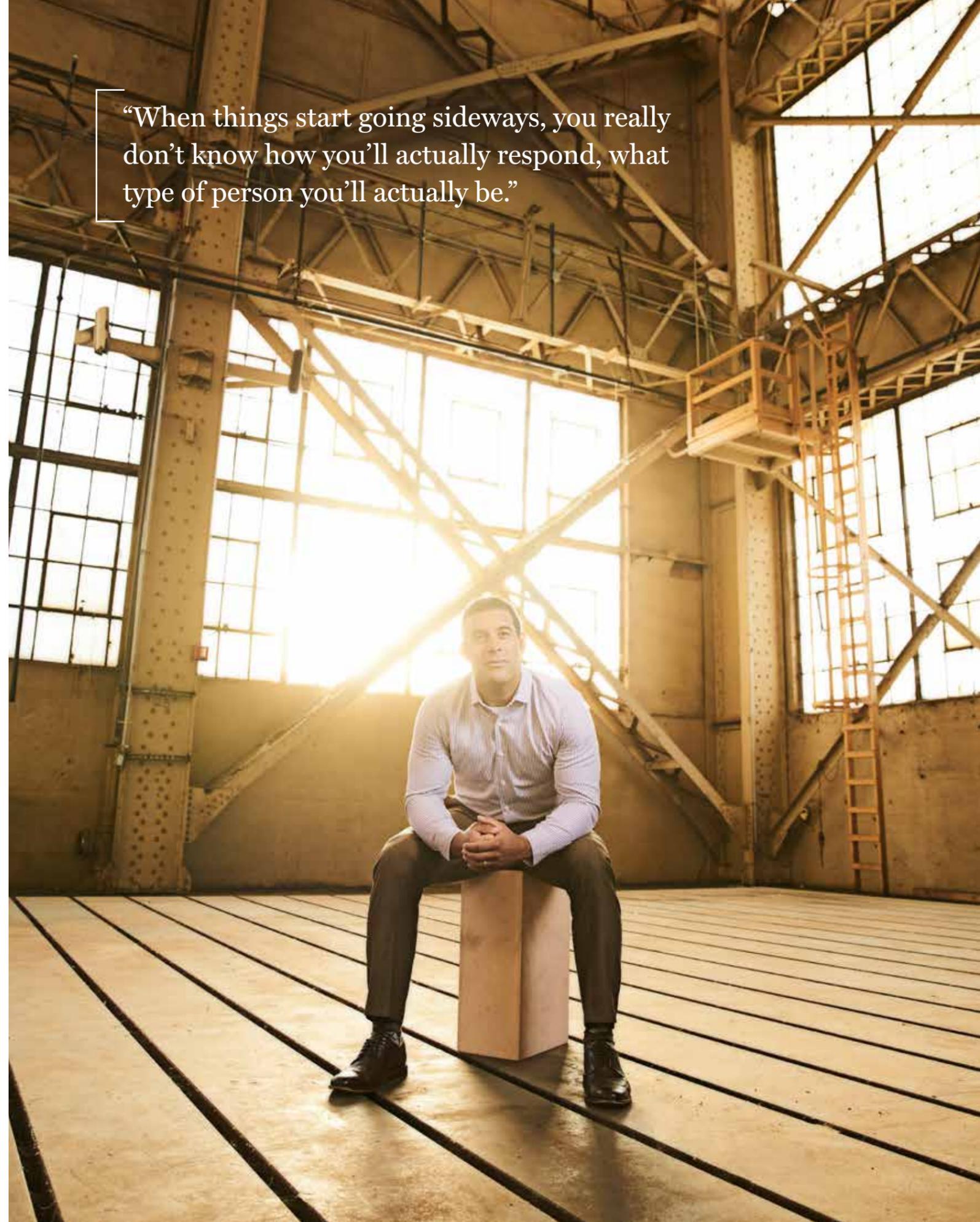
It was during the rare moments when Diaz wasn’t on duty that he discovered what would become two life passions: the field of psychology, through an introductory college course, and Brazilian jiu-jitsu, a form of martial art that helped Diaz maintain focus and sharpen his mind during the long months away from his family. He discovered the latter almost by accident, after hearing that

Diaz gives a piece of candy to a local boy while on patrol to discuss quality of life with Afghans in Marjah, Afghanistan.



U.S. MARINE CORPS

“When things start going sideways, you really don’t know how you’ll actually respond, what type of person you’ll actually be.”



an officer was teaching a class. And though Diaz was a complete novice, he took to it almost immediately.

“Many people view martial arts as violence,” he says. “But it couldn’t be further from that. What jiu-jitsu did for me was help me connect my body and my mind. The mental discipline that is required tied in very closely with my developing passion for psychology.”

His immersion into both of these worlds — both so tightly focused on the power of the mind, and the mind’s power over us — pushed him for the first time to contemplate a career as a sport psychologist. Indeed, as his second tour ended, he fully intended to leave the military, his obligation met, and enroll as a full-time psychology student at Drexel.

That plan changed, however, when a Navy chief asked Diaz to reconsider. If he truly wanted to pursue a career in psychology, the chief said, a new experience as a Navy medical corpsman — working as a medic on the front lines of our nation’s most vicious arenas of war — might prove to be of enormous value. After consulting with his family, and weighing the risks associated with another tour during wartime, Diaz agreed. He remained in the military, this time in a front-line role, and was eventually sent to Afghanistan.

Just as his chief had suggested, the experience was transformative. He found himself in combat for the first time, supporting his fellow Marines — responsible for their lives — in the most difficult conditions imaginable.

“Nothing can prepare you for the experience of combat,” Diaz says. “It’s a test that so few people actually experience: When things start going sideways, you really don’t know how you’ll actually respond, what type of person you’ll actually be. But now, having been tested in that way, I can move forward with an incredible amount of confidence, knowing who I am at my deepest core. When people were relying on me, and when my life was being threatened, I knew how to respond.”

“We are people of action who have a demonstrated track record of utilizing our skills and relationships to get things done.”

When his third and last tour ended, Diaz finally did move on, enrolling in Drexel’s undergraduate psychology program. As a junior, he became the University’s first Pat Tillman Scholar — a national honor that provides support for high-achieving military veterans. He also delved headlong into research, becoming a key member of the Nezu Stress and Coping Research Lab, working under Professors Arthur Nezu, PhD, and Christine Maguth Nezu, PhD.

His career goal, broadly speaking, is to develop and employ effective methodologies to help athletes and high performers achieve more than they could ever dream, and to help veterans fulfill their life’s ambition, even after enduring the trials of wartime.

Now pursuing his PhD in clinical psychology at Drexel, Diaz continues to work in the Nezu lab, exploring the use of problem-solving therapy to treat chronically ill populations, including veterans and active service members.

“There are a whole host of issues facing our serving members, veterans and families,” Diaz says. “We aim to give people the skills to better cope with stress and overcome psychological difficulties.”

The lab is focused on battling a range of issues, from suicidal ideation to substance abuse, and also trains clinicians to better understand the experience of military life.

“I believe that in all of our lives there’s a thread that ties our experiences together in some way — that there’s an interconnectedness to those experiences,” Diaz says. “If I had not had my time in the military, I would not be able to speak about these issues. There aren’t many combat veterans walking around at Drexel pursuing their PhD in clinical psychology. So, to be able to teach my colleagues and share this knowledge, it feels like that thread has finally been tied.”

His work with veterans doesn’t end there, however. In the spring of 2017, he helped launch a nonprofit coalition called Action Tank, which brings local military veterans together to take on civic and social problems. The aim, Diaz says, is two-fold: to make a positive impact on the city, while also changing the way society looks at veterans. Too often, he says, veterans are considered damaged in some way, or vulnerable. It’s an unfair stereotype, and one that Action Tank intends to dismantle.

“We are people of action who have a demonstrated track record of utilizing our skills and relationships to get things done,” he says. “Now we’re putting those ambitions in the service of others.”



Diaz is also extending his service and knowledge to Drexel’s student athletes. Through a partnership with the University’s Department of Athletics, he has played a key role in launching the Drexel Performance Center, where he and a multidisciplinary team of specialists are helping athletes tackle the mental side of sports. Diaz says his time in the Navy and experience with jiu-jitsu have convinced him that it is often our brains, and not our bodies, that stand in the way of athletic achievement. With the proper coaching and skills, those mental blocks can be overcome.

“We have the unique opportunity here to serve Drexel athletes, and that’s something I am incredibly passionate about,” he says. “This multidisciplinary team can help our students understand and define their psychology and succeed in life far beyond the academic and athletic settings.”

ABOVE: Diaz and members of his nonprofit, Action Tank, volunteer at Prevention Point, a harm-reduction program in the Kensington neighborhood of Philadelphia.

His new initiatives both on campus and off are not small undertakings, and given that Diaz already has so much on his plate — his ongoing work toward his PhD, his research in the Nezu lab, his family at home, not to mention the occasional adventure like climbing Mount Kilimanjaro — one might wonder why he would take it all on.

For Diaz, though, the answer is simple: The only moment that’s guaranteed is the present, and he intends to make the most of it — by helping as many people as possible.

“I don’t see ‘work,’ ‘school’ and ‘home’ as separate, as I think a lot of people do,” Diaz says. “I see them as one, joined by the same purpose. And I think that allows me to be involved in so much, because I know it’s all connected. When you know your purpose, when your goals are aligned, it all flows together. I know my purpose is to use my skills in the service of others.” ●

FRAME OF MIND

BY KYLIE GRAY

PHOTOS BY BRENT LUVAAS, PhD

Street photographer and Drexel anthropologist Brent Luvaas, PhD, has a way of blending in as he walks city streets. If he's lucky, a certain slant of light will catch his eye and he will set the exposure for maximum depth of field, waiting patiently for the right subject to walk in front of the lens. Most often, however, the typical elements of a photographer's labor — setup, composition and lighting — happen almost instantaneously. *Continued on page 35 >*



Smoker. PARIS, FRANCE



Emergence. CITY HALL, PHILADELPHIA



Crêpe maker. MONTMARTRE, PARIS



18TH STREET, PHILADELPHIA

For Luvaas, there is a kind of mindfulness implicit in the craft.

“The more I do street photography, the more I see it as a life practice rather than a visual practice. It’s about being in the world more fully,” he says.

Followers of his Instagram account @streetanthropology know that Luvaas has a talent for capturing the rich diversity and subtle interactions of people in urban spaces. The subjects he photographs — the complexity of their expressions — suggest solitude, throwing light onto the internal worlds we often inhabit.

Luvaas first made a name for himself in the photography world as the street-style blogger behind Urban Fieldnotes and later as author of the book “Street Style: An Ethnography of Fashion Blogging.” He adheres to an approach known as “autoethnography”: In order to understand the perspectives of street-style photographers, he became one.

Luvaas was drawn to fashion as the domain of outsiders — creative people who felt disenfranchised, even alien. Street-style fashion bloggers widened the conversation; suddenly, he says, kids in Cape Town and people of all body types were having an impact on mainstream fashion.

Embracing this “radical inclusivity,” Luvaas built his Urban Fieldnotes blog as a space to document his street-style photography from around the world. In between teaching classes at Drexel and publishing in scholarly journals, he jostled with photographers at Jakarta, Singapore and New York Fashion Weeks, and shot photo collections for BET and Refinery29.

Urban Fieldnotes had amassed press and thousands of followers by February of 2016, when Luvaas decided to walk away from the project of five years, overwhelmed by the reductive perspective he found himself directing at others and even himself.

URBAN FIELDNOTES



Same streets, different style: Street-style photos from Luvaas’ Urban Fieldnotes speak to his earlier aesthetic.



On the boardwalk. ATLANTIC CITY, NJ

“If you are training yourself to recognize coolness from the perspective of the fashion industry, it means that you’re going through this massive checklist when you’re walking down the street, and you’re crossing most people off,” he says.

The disparate yet interwoven elements and coincidences that happen within an urban space drew Luvaas to a broader form of street photography, without the focus on street fashion.

His @streetanthropology posts are influenced by the classic street photography of Paris in the '30s and '40s, he says, and the grittiness and heavy shadows characteristic of New York street photography in the '60s and '70s. While his work is not always completely candid, his portraiture has become a means of getting to know local fixtures.

“Street photography has always been a practice of wandering aimlessly,” he says. “It’s a reimagining of what it means to move through the city. You engage with different people than you would ordinarily.”

It is a practice of detail, nuance and sometimes humor. Luvaas’ photos illustrate the “accidental harmony that happens within an urban space” as strangers are brought together for a moment in time.

“It’s not about looking at the ‘other’ from a distance,” he says. “Street photography forces you to deal with environments from within. It’s a position of involvement.” ●



ROBERT HORTON

Brent Luvaas, PhD

“Street photography forces you to deal with environments from within. It’s a position of involvement.”



MARKET STREET, PHILADELPHIA



CARVING A NEW PATH

Cutler Whitely felt the tender spot where his head hit the ice and tried to remember his teammate's name. His snowboard had slipped out during a routine trick on the rail, sending him hurtling head-first onto the icy Colorado mountain. His brain lurched with the effects of his third concussion — temporary memory loss that day, and migraines and light sensitivity in the days that followed. Recovering in the hospital, Whitely called his mother and told her he was going to leave professional snowboarding.

“I was angry,” he says. “I had been so close to achieving childhood dreams and reaching the top level of competition. It was disheartening to lose it all so abruptly.”

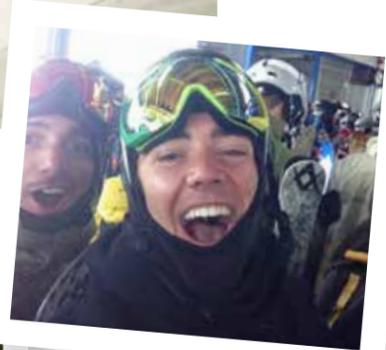
Whitely's snowboarding skills had earned him spots on the world tour and at a prestigious snowboard academy in Breckenridge, Colorado, as well as sponsorships from companies like Quiksilver and Victory Brewing, trips to Switzerland and Australia, and shots at the U.S. and European Opens.

But after a torn Achilles tendon, two broken collarbones, three fractured vertebrae and now three concussions, Whitely decided his career was no longer worth the risk to his health. He affirmed his decision when, only two weeks later, he overestimated a backflip off a 50-foot jump and fell, crumpling to earth, his goggles breaking from another head-on collision with the ice.

Though the fall didn't send him to the hospital this time, his brushes with medical institutions around the world already amounted to something akin to medical tourism. There was the doctor's visit in Germany, the hospital stay in

By Kylie Gray

Photo by Jared Castaldi



ABOVE: From the mountains of Colorado to the glaciers of Austria, Whitely's snowboarding career took him to gorgeous locales across the globe. OPPOSITE PAGE: Whitely with the Drexel chapter of Phi Delta Epsilon International Medical Fraternity.

Australia, and numerous encounters with physical therapists and physicians. He marveled at the different medical practices and dosing regulations in each country, not knowing then that his doctors and therapists would one day become his mentors. Now, five years later, Whitely is a senior biology major at Drexel University, approaching injury and illness from a different side of the hospital bed.

FROM FRESH SNOW TO A FRESH PERSPECTIVE

The drive home from Breckenridge to Elverson, Pennsylvania, was a grueling 30 hours. But Whitely, carting his belongings from the past two years at the academy, appreciated the time to reflect. He'd spent the last two weeks settling finances, wrapping up mentoring sessions with younger riders and convincing his coach that he was really leaving the tour.

As he drove away from it all, he watched his Instagram following dwindle, the encouraging messages from fans disappear. He recalled the glamour of the sport he was leaving: performing jumps in front of thousands of people, receiving the VIP treatment at after-parties and feeling like a local celebrity. Though his health concerns helped him come to terms with his decision, more difficult to overcome was the crisis of identity that followed.

Whitely started snowboarding at age 4, reaping sponsorship deals at 16 and living in Breckenridge at 19, where he spent half of the year training and the other half traveling. He bunked with Olympic medalists and other athletes who understood the flow that happens when you ride every day — how easy it is to get in the zone when you're doing something you love.

Now, as he approached his family's farm, where the barn still housed the skateboard park he built with his father, he faced the glaring question of what he would do next.

RIDING THE RAIL

Over the months that followed, Whitely began tinkering in his father's mechanic shop and reading voraciously, spending whole afternoons in the bookstore, where he gravitated toward textbooks on organic and general chemistry. He had seen friends suffer a range of traumatic brain injuries — multiple concussions, hemorrhages, and an accident that put one friend at risk of stroke at age 25. Although he hadn't put much energy into his high school classes, the realization of what he could have lost spurred him back to the books.

Whitely continued to explore his interests and identity as a student at Delaware County Community College (DCCC), and it wasn't long before he decided he wanted to become a doctor.

At the suggestion of his mother, he contacted family friend Paul Kim, MD, a leading plastic surgeon at Plastic & Reconstructive Surgery of Chester County. He also connected

"I REALIZED THAT WHAT I LOVED MOST ABOUT BEING AN ATHLETE WAS INSPIRING PEOPLE AND SHOWING THEM THAT ANYTHING IS POSSIBLE."

with a longtime customer of his father's shop, John Reidell, MD, a Drexel College of Medicine graduate and surgeon in Glenmoore, Pennsylvania. In reaching out to Kim and Reidell, Whitely, a first-generation college student, began two of the most fruitful mentoring relationships of his life.

"The first thing Dr. Reidell said to me was, 'I hope you're not becoming a doctor to make money.' But I had learned my lesson with snowboarding: Don't be superficial," Whitely recalls.

THE BEST MEDICINE

Time and reflection had already started to transform Whitely's thinking about his snowboarding days, and about his life's purpose.

"I began to realize that I wasn't using my gifts selflessly, but selfishly," he says. "I accepted money from sponsors and only focused on my own goals. I wanted to make myself 'the athlete.' From this failure, I learned two lessons: to be humble and to be more selfless. I realized that what I loved most about being an athlete was inspiring people and showing them that anything is possible."

It was with this mindset that Whitely, after a year at DCCC, transferred to Drexel, which he chose because of the co-op program. He embraced the change like every snowboarding run he'd ever attempted: "I was willing to try and fail," he says.

His doubt gave way to a sense of belonging after only a few days, he says, noting with appreciation the open-door policy of many of his professors and advisers. Since then, Whitely has amassed diverse research and co-op experiences and more than 400 hours of volunteer work, taking full advantage of the opportunities presented by Drexel and Philadelphia. These days, he spends his time volunteering, studying for the MCAT exam and co-opping as a clinical research assistant at Thomas Jefferson University's Marcus Institute of Integrative Health.

He has honed his career interests over the past three years at Drexel, setting his sights on the field of plastic surgery. Like his mentor Kim, he is motivated by a desire to help people heal both mentally and physically. A psychology minor, Whitely believes that the psychological effects of injury and illness are often underestimated.

"I have learned that practicing medicine is not just about making the sick better," he says, "but also about being emotionally present with the individual. Nothing beats the feeling of making people smile; that motivates me."

This same spirit drives his many volunteer activities. Whitely has volunteered for numerous organizations, including Drexel's College of Medicine, the Salvation Army, the Ronald McDonald House and the Children's Hospital of Philadelphia. In each of these roles, he has focused on being open and approachable, he says. The pain and worry he experienced years ago have given him an enhanced sense of empathy.

"Cutler cares deeply about patients and doing his part to support the health care staff at the various places he volunteers," says Mary Beth Davis, PhD, a pre-health adviser at Drexel who works closely with Whitely. "He once told me that the role of a physician is 'to keep people playing in the game of life in the best way possible.' His dedication to that goal is heartfelt."

Whitely is a strong supporter of his peers on campus as well. As a sophomore, he joined the founding class of Drexel's chapter of Phi Delta Epsilon, an international medical fraternity. After noticing that some chapter members were close to failing classes, he helped turn the focus back to academics by forming a peer-mentor program. The fraternity is like a family, he says, helping younger members through the more challenging courses and participating in community service activities.

THE FUTURE UNFOLDS

Despite his successes, Whitely carries with him the spirit of the underdog. As a volunteer at the Salvation Army, he encourages kids to consider going to college by sharing his personal experiences.

"I was a snowboarder from Amish country who competed on the world stage," he tells them. "I didn't take rigorous science classes in high school, and I wasn't a star student. You don't have to be the most intelligent. Persistence is key. If you do something enough, you'll become good or great at it."

Whitely will apply to medical school this June, and will use a post-Drexel gap year to further grow his résumé. He plans to complete an internship in the pharmaceutical industry, continue with his research involvements at Drexel or Jefferson, and embark on medical volunteer trips to the Dominican Republic or Guatemala.

"I never expected everything to work out this way, so perfectly," he says. "There was no need to force anything."

Over time, he says, "it just unfolds." ●





PUZURIN/THINKSTOCK IMAGES

Tackling Philly Food Deserts

with 3D-Printed Hydroponic Systems

In a city known for its exploding restaurant scene, many low-income Philadelphians struggle daily with limited access to fresh, affordable food. Elise Krespan, a dual master's student of biology and design research at Drexel, is working with colleagues in the URBN STEAMlab to alleviate widespread issues of food inaccessibility using 3D-printed hydroponic systems that grow produce without soil.

The development of hydroponic systems using cyanobacteria is currently the principal project of the URBN STEAMlab, a transdisciplinary, sustainability-focused laboratory directed by Drexel faculty Shivanthi Anandan, PhD, of the biology department, and D.S. Nicholas, RA, AIA, NCARB, of the design research program.

Krespan unites her unique pairing of disciplines in the project, for which she

develops and performs testing on the prototypes for two separate theses.

"Hydroponic systems make gardening easier in urban environments and could help people grow food for themselves," she says. "That's where the design research comes in — talking to people to see if they're open to it."

Urban farming using low-cost materials to provide self-sustaining fruit and vegetable gardens may be one of many solutions to fill the gap between consumers and food markets.

The URBN STEAMlab team is currently experimenting with different systems, and has created interlocking, countertop and hanging gardens. They are also exploring how best to share the final product with the public, which they hope to accomplish in the upcoming academic year. In the meantime, they have attended community dinners at Drexel's Dornsife Center for Neighborhood Partnerships to get feedback on some of their prototypes.

"By attending the dinners, we get to directly engage with the community," Krespan says. "We get to learn from them, and we get to bring what we learned back to our work."



BRIGHTER FUTURES FOR PHILADELPHIA YOUTH

Robert L. Listenbee, Esq., former Administrator of the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention under the Obama administration, has joined Drexel as a Stoneleigh Foundation Visiting Fellow in the University's Juvenile Justice Research and Reform Lab (JJRR).

The JJRR lab, directed by Drexel Psychology Professor Naomi Goldstein, PhD, targets the intersection of psychology, law and public policy, with particular emphasis on forensic psychology and juvenile justice. As a Stoneleigh Fellow, Listenbee will lend his national expertise to improve outcomes for vulnerable young people involved with the juvenile justice and child welfare systems. Among other objectives, he will look at ways to improve employment opportunities for at-risk and homeless youth.

"The city of Philadelphia has served as an incubator of cutting-edge reform in juvenile justice, and the Stoneleigh Foundation's fellows have been involved in advancing a number of those innovations," says Listenbee, who led the Juvenile Justice Unit of the Defender Association of Philadelphia for 16 years before joining the Obama administration. "I'm excited and honored to be returning to Philadelphia as part of the Stoneleigh team."

BOILING DOWN WARMING TEMPERATURES

Weather changes, such as the unseasonably high temperatures in Philadelphia this fall, can have serious impacts on health, says Drexel's Ali Kenner, PhD, assistant professor of political science and of science, technology and society — especially for senior citizens, who are at higher risk for climate-related health complications.

As the director of Drexel's Philadelphia Health and Environment Ethnography Lab (PHEEL), Kenner co-hosted a series of workshops this summer called "Staying Cool in a Changing Climate." Held in local libraries and senior centers, the workshops offered tips for making homes more energy efficient, and provided basic information on climate change and its effects on health.

"Seniors can be more vulnerable to climate change impacts in a variety of ways," says Kenner. "These vulnerabilities may be related to existing health conditions, mobility limitations or access to fewer resources to cope with extreme weather events, like heat waves. In our workshops, we try to provide a

range of in-home strategies and local resources that can help folks get through the height of summer."

The workshop series is part of Kenner's broader research on environmental health problems. She has studied asthma care across the United States for the last eight years and has more recently focused on the community health impacts of scrapyards and transportation infrastructure in Philadelphia. Her current project on climate change and home environments investigates community understanding of climate change and health through educational workshops that prompt a dialogue between citizens, local organizations and Drexel researchers.

Kenner has organized these workshops for the last four years in collaboration with the Clean Air Council, Energy Coordinating Agency, Liberty Lutheran and National Nurse-Led Care Consortium, with funding from the Franklin Institute's Climate and Urban Systems Partnership. This is the first year they've been joined by the Philadelphia Department of Public Health in explicitly making the connection between excessive heat and health complications.

"We're fortunate to be working with the PDPH team on this project. They've added layers of public health expertise and resources to the workshops," says Kenner. "The hope is that the data we're collecting can be useful to PDPH as they continue building public health infrastructure that responds to climate change."

For upcoming workshops, resources and project findings, visit pheel.info.

From Mind to Mouth

By Lauren Ingeno

Drexel University's new Center for Weight, Eating and Lifestyle Science (called the WELL Center for short) seeks to untangle Americans' complicated, often problematic relationships with food. Its launch comes at a critical time, says Center Director and Professor of Psychology Evan Forman, PhD, when 70 percent of Americans are considered overweight or obese and half of the country is considered sedentary due to limited physical activity.

An expansion of Drexel's Laboratory for Innovations in Health-Related Behavior Change, the Center addresses obesity and other eating disorders by developing, testing and sharing new behavioral and technological solutions. Joining Forman on staff are Assistant Professor of Psychology and WELL Center Director of Training Adrienne Juarascio, PhD, and Associate Professor of Psychology and WELL Center Director of Research Meghan Butryn, PhD. This interdisciplinary research center will allow for collaboration with more scientists and disciplines, encouraging new advances in evidence-based methods to create lasting lifestyle changes.

The WELL Clinic is slated to open to the public in 2018. For information on research studies and how to participate, visit drexel.edu/WELLCenter.



GOKCEMIN/THINKSTOCK IMAGES

People on the Move

The Department of Global Studies and Modern Languages has launched its second annual Global Passport Series this year under the theme "People on the Move." Drexel GPS events seek to facilitate global conversations at Drexel and in Philadelphia to build rich student engagement and strong partnerships with local communities. Last year's inaugural series on "Global Civic Engagement" attracted more than 600 attendees and featured events such as "Voting on the Brink: Gender, Race and Citizenship in a Divided America" and "The Rise of Global Extremism and the Rights of Religious Minorities."



SPRING 2018 GPS EVENTS

Climate and the Environment: People on the Move

11th Annual Student Conference on Global Challenges

Thursday, March 1, 2018, 8:30 a.m. – 5:30 p.m.

> Multidisciplinary panels on climate change and its effects on mobility.

People Forced to Move: Sanctuary Cities, Human Rights and Religious Freedom

Thursday, May 3, 2018, 5:30 – 7 p.m.

> Panel discussion featuring Miriam Ticktin, PhD, chair of anthropology at the New School for Social Research, on current U.S. policies and attitudes toward immigration, refugees, internment, detention and sanctuary cities.

All events are free and open to the public. For full details, visit drexel.edu/globalstudies/GPS.

LIGHTS, CAMERA, MEDICINE

BY MARIA ZANKEY

Fifteen Drexel students stood bright-eyed and eager to entertain in front of cameras rolling at the Children's Hospital of Philadelphia.

Part of a Drexel community-based learning course dubbed Story Medicine, the students were there to engage sick and disabled children through live broadcast programming, using skits to infuse laughter with a little education.

The lesson of the day was "helping." Through the camera, a student asked the youngsters viewing in the studio, the lobby and even from their hospital beds: "Have any of you ever helped anybody?"

One little girl looked up from her coloring page in the studio: "Can I answer?" she wondered out loud.

She stood proudly as she was brought in front of the camera. "I'm helping my brother right now," she said. "He needed a bone marrow transplant, so I gave him one."

The students, along with course instructor Nomi Eve, listened in awe of the little girl's bravery.

"I'll never forget that beautiful moment — the learning experience it provided for our Drexel students about their place in the world, the ways they can have an impact, how they can help," says Eve, an assistant teaching professor in the Department of English and Philosophy.

Eve says the touching moment is one of many she's experienced since she began teaching the course in the spring of 2016.

Twice a week throughout the quarter, the students produce and perform a half-hour broadcast for CHOP patients. They have only a half hour to prepare the show at the Seacrest Studios, a broadcast media center provided by the Ryan Seacrest Foundation to help pediatric patients explore creative media.

"On the second day of class, I ask students to look around the atrium of CHOP, and I speak to them as a fiction writer," says Eve, a novelist by trade. "I tell them, 'This place is a nexus for stories. Can you sense the stories taking place here? This is a living, breathing place — and what you will learn here will be immeasurable.'"

Story Medicine, while touching on subjects ranging from acting and production to digital media, is, at its core, a writing course.

Eve breaks the course into two components. First, there's the in-class portion, where students are in the studio, working the teleprompter, performing on camera and helping patients in the studio with arts and crafts while they watch.



Story Medicine students prepare to perform a skit for CHOP patients.

Second, there's the out-of-class portion, when students collaborate on scripts, workshop their classmates' ideas and reflect on the core principles of the course.

They learn to work collaboratively and improvise. They learn to deliver a product — their script and performance — to a real client under a deadline.

And often, they learn to go outside of their comfort zones.

Students are encouraged, even required, to let their imaginations run wild. They don Batman costumes and write scripts with titles like "Sneezy Princess" and "Evil Donut."

"Every student has an interaction that changes them — an interaction with a child that forces them to confront difficult circumstances," says Eve.

That has been especially true for Victoria Milano, a sophomore psychology major who plans to go to medical school. She says her experience in the course has been "nothing short of profound."

Her aspirations to become a doctor stem from personal experience; having undergone multiple heart surgeries while growing up, she says she knows too well what it's like to spend days in a hospital bed.

"To be an undergrad and have the ability to brighten not only a child's experience at CHOP, but also their family's, was eye-opening," Milano says. "Walking out of the hospital, I had a refreshing sense of confidence in my choice of major. This course has allowed me a glimpse into my future, solidifying my desires to be a physician. What happens at CHOP really is magical."

This quarter, the course is taking student-patient engagement one step further. CHOP has identified three patients with long-term hospitalizations to work directly with veteran Story Medicine students to develop their own original stories. With the help of Westphal's Nick Juschyshyn, program director for animation, visual effects and immersive media, the scripts will be brought to life in animations that will be broadcast throughout the hospital.

"These patients have amazing ideas, and my students end up being such sophisticated storytellers," Eve says. "The questions they ask these kids are questions a good editor would ask of a writer. I've been able to watch my students step into a different role than they're used to, and do it with real intelligence and grace to create amazing stories."

WINNING WORDS



Up Your Scrabble Game

Best your Scrabble buddies — or just become a more interesting dinner guest — with these vocab nuggets and conversation starters.

- 1.) **Luciferin** (n.) 2.) **Recidivism** (n.) 3.) **Stuxnet** (n.) 4.) **Pangolin** (n.)

Match the *word* to the *definition/sentence* below!

A.)

DEFINITION:

A tendency to relapse into previous behavior, especially criminal behavior

USED IN A SENTENCE:

Jordan Hyatt, PhD, assistant professor in the Department of Criminology and Justice Studies, is a leading expert in what he calls the “back end of the criminal justice system.” He evaluates corrections programs with the goal of reducing high _____ rates caused by addiction.

B.)

DEFINITION:

A nocturnal mammal native to Africa and Asia that is sometimes called a “scaly anteater”

USED IN A SENTENCE:

Ashleigh Jugan, BS environmental science '18, traveled to Vietnam to help protect the gentle _____, widely considered to be the most trafficked mammal in the world. Scientists are still uncovering whether the prehistoric creatures are most closely related to armadillos, bears or some long-lost Pokémon.

C.)

DEFINITION:

A malicious computer worm that targets industrial computer systems

USED IN A SENTENCE:

Janine Bower, MS science, technology and society '18, presented her original research at the STGlobal Consortium. She used the '09-'10 _____ attack on Iranian organizations like the Natanz Nuclear Facility to compare the digital space to the **Panopticon** prison design of 18th century social theorist Jeremy Bentham.

Bonus Word!

Panopticon (n.) — a radial building in which all interior parts are visible from a single point. Some scholars believe Philadelphia’s Eastern State Penitentiary was influenced by Bentham’s ideas.

D.)

DEFINITION:

A protein substrate that helps bioluminescent organisms, like fireflies, light up

USED IN A SENTENCE:

Fireflies use their _____-based light signals for mating and even “light-chatting” between males and females, says Sean O’Donnell, PhD, professor in the Department of Biodiversity, Earth and Environmental Science, who schooled readers of *Philly Voice* in “Infrequently Asked Questions: How do fireflies light up?”

JUAN MONINO/THINKSTOCK IMAGES

ANSWERS: 1D, 2A, 3C, 4B

IMPRESSIONS

MEDIA HIGHLIGHTS

“The history of humanity is really a refugee narrative. And the perpetrators may vary, but these stories have been repeated since Adam and Eve being expelled from the garden.”

— **HARRIET LEVIN MILLAN, MFA**, associate teaching professor of English, on her book “How Fast Can You Run,” based on the true story of South Sudanese refugee Michael Majok Kuch, *Aspen Public Radio*.

“They were doing this because they felt that these things had meaning — they weren’t just random natural phenomena.”

— **JONATHAN SEITZ, PhD**, associate teaching professor of history, on how Mesopotamians tracked solar eclipses as far back as 700 BC, *Popular Science*.

“How we view ourselves affects our ability to have an impact on the world.”

— **ART NEZU, PhD, DHL, ABPP**, Distinguished University Professor of Psychology, on changing negative views of oneself and the world at large through psychotherapy, *US News & World Report*.

“Because the climate is changing and ecology is changing, people who have lived with asthma their whole lives may be unprepared for new environmental conditions.”

— **ALISON KENNER, PhD**, assistant professor of politics and of science, technology and society, on communicating the health implications of climate change to local senior citizens, *Plan Philly*.

“Catch-22 in paleontology: How do you know to go there if no one has ever been there before or found anything significant?”

— **TED DAESCHLER, PHD**, associate professor of biodiversity, earth and environmental science, on his 2016-2017 Antarctic expedition in search of fossils from the Devonian period, *WHYY’s “The Pulse.”*



Ian Michael Crumm

BS IN COMMUNICATION, MINOR IN MARKETING
OCCUPATION: DIGITAL ENTREPRENEUR

'16

IAN MICHAEL CRUMM HAS BUILT an enviable career out of traveling to gorgeous locales, staying in posh hotels and donning luxury brands. A natural networker, he's made a name for himself as a social media influencer, lifestyle expert, creative consultant and blogger, partnering with mega brands like Lacoste, Google, Bloomingdale's and American Express.

Favorite food/restaurant? I always have the best time and diverse dishes at Boku Supper Club in Philadelphia.

Your heroes? My mom, my Glamie, my sister, and of course, Lady Gaga. I have this thing with surrounding myself with strong, loving women.

Last time you did something for the first time? This summer, I went to Iceland with my sister. We went ice hiking on one of the largest glaciers in Europe.

Best mistake you ever made? Deciding not to go pre-med my senior year of high school, even though I had taken AP Calculus and a plethora of science classes. Instead, I listened to the creative voice inside, declared Communication as my major at Drexel and ventured into the digital content world.

Favorite Drexel memory? Seeing life come full circle. I met my friend and content partner Mollie Snyder our first day of freshman year in Professor Ron Bishop's class. Mollie and I work together now (although she lives in Shanghai) and I've come back to campus to speak in Ron's various classes.

Best place the job has taken you? In 2015, I went to Beijing to visit Mollie. I was featured in an editorial shoot at the Four Seasons Beijing hotel to profile my website and fashion channels.

What are the best qualities a person can have? Kindness, empathy, groundedness, great personal hygiene.

What gives your life meaning? What gives meaning to my life is constantly changing, and as a creative, I'm continually on the search! But in this moment, I enjoy taking things that come naturally to me, such as grooming and fashion, and making a positive change in other people's lives — using what could be seen as superficial to create a new strength and confidence in others.

What is your favorite of the five senses and why? Smell. The brain's ability to associate smell with memory is incredible. From the crisp air atop a glacier in Iceland to the vanilla perfume my Glamie wore when I was a child, certain smells stick with you and conjure up fond memories.

If you had the time to learn any skill, what would it be? I'd love to dedicate time to learning three or more languages.

What would you name the autobiography of your life? "Click Link in Bio: The Days & Nights of a Digital Dynamo"

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