

DREXEL UNIVERSITY COLLEGE OF ARTS AND SCIENCES



AGENTS *of*  
CHANGE

2016

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### FEATURE

The five CoAS alums, students and faculty featured in this issue not only possess a drive to shape our future, but also a passion to help others — from refugees and minorities, to veterans, startups and parolees.

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CATCHING UP WITH

CAN “MARTIN” ZHANG, MD, PhD '07

In 2011, I was approached by one of my faculty members to offer our students a course in a local prison — in the process of learning alongside inmates, she said, our students would gain a deeper understanding of the complexities of crime, justice, inequality and other important social issues.

I admit that I was hesitant at first, but by the last day of our very first Community-Based Learning course — Prison, Society and You — I knew we had started down the path to something big. As I sat in on a small “graduation” ceremony for the course, listening to the profound insights of both Drexel students and prison inmates, I saw firsthand the deep appreciation they had gained for the “gray areas” of life — for the things you can’t teach within the sheltered walls of a traditional classroom. I understood then that we

had an obligation to our students and our community to bring the opportunities and impact of experiential learning far beyond that of Drexel’s Co-op program.

Six years later, we have delivered more than 60 Community-Based Learning courses in prisons, homeless shelters, urban farms, hospice centers and

more. Through these courses, more than 1,000 students and community members have come together to explore topics as wide-ranging as poverty, war, food access and the power of writing.

Volunteer hours, community service — these are wonderful ways to engage with our local communities. But there is unique potential in the long-term experience of a community-based course, including the exploration of course material in the real world and the opportunity to understand how every discipline in the College has the ability to impact the community. This knowledge empowers our students and community members to be powerful change agents, now and throughout their lives — regardless of their career path.

I invite you to read more about the Drexel faculty, students and alumni who are leading our world forward.

Sincerely,

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



## FROM THE EDITOR

When I was in seventh grade, I took a course called “Immigrant.” It was a required course for everyone in my middle school, and it was taught jointly by our social studies and computer science teachers. The focus was the Irish immigration to the U.S. in the 1800s and early 1900s.

But it was more than a history lesson.

At the start of the first class, we were given the name of an Irish immigrant — a real person who had lived and died, and whose fate was to become our own.

In every class meeting, we learned about the culture and living conditions of Ireland, and about the joys and tragedies befalling our personas. We sat at our computer screens in our small New England town and tapped out the personal journals of our namesakes. We closed our eyes and imagined ourselves in one-room cabins, in potato bogs, in poverty, our clothes drooping as we struggled with the devastation of famine and loss, and with the profound decision of how to create a better future for our families.

The course culminated in an overnight in our school computer lab — our voyage to America. We arrived with bags in hand and walked the wooden “plank” in our pajamas. If we slept, it was on the floor, under tables, around desks. It wasn’t comfortable and it wasn’t supposed to be — instead, it was a long, dark night filled with the violent sounds of water slamming the hull, the sloshing of latrine buckets, the cries of babies and the wails of the sick and dying.

We sat there, eating hardtack, typing out our emotional journeys, stopping only for the periodic visits from our stern shipmasters (our teachers), who delivered fragments of fate on scraps of paper.

“Mary, your wife, has died of Cholera,” we read in the light of our computer screens.

And our hearts broke. Mary was real. She had become more than a name to us — she was the girl we grew up with, the woman we married, the woman with whom we had decided to risk our lives to give our child a better life. The pain we felt in that moment, in the dark New England night, was real.

Many years later, the lessons of this course remain with me — they are perhaps some of the most enduring of my youth: the immense power we possess as humans to imagine experiences separate from our own, and to feel empathy and love for people whom we may never even know.

The five individuals featured in this year’s story, “Agents of Change,” are living examples of this lesson. They are a reminder of what is possible when we live with our eyes, ears and hearts open to the experiences of those around us, and the transformation that is possible when we put our abilities to work to improve the lives of others. At a time when experiences of violence and intolerance seem to fill our newsstands and newsfeeds more than ever, these stories feel all the more important.

May we each remember our great powers of empathy and understanding as we voyage into the new world of 2017.

All the best,

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



2016

ART + SCIENCE = KNOWLEDGE

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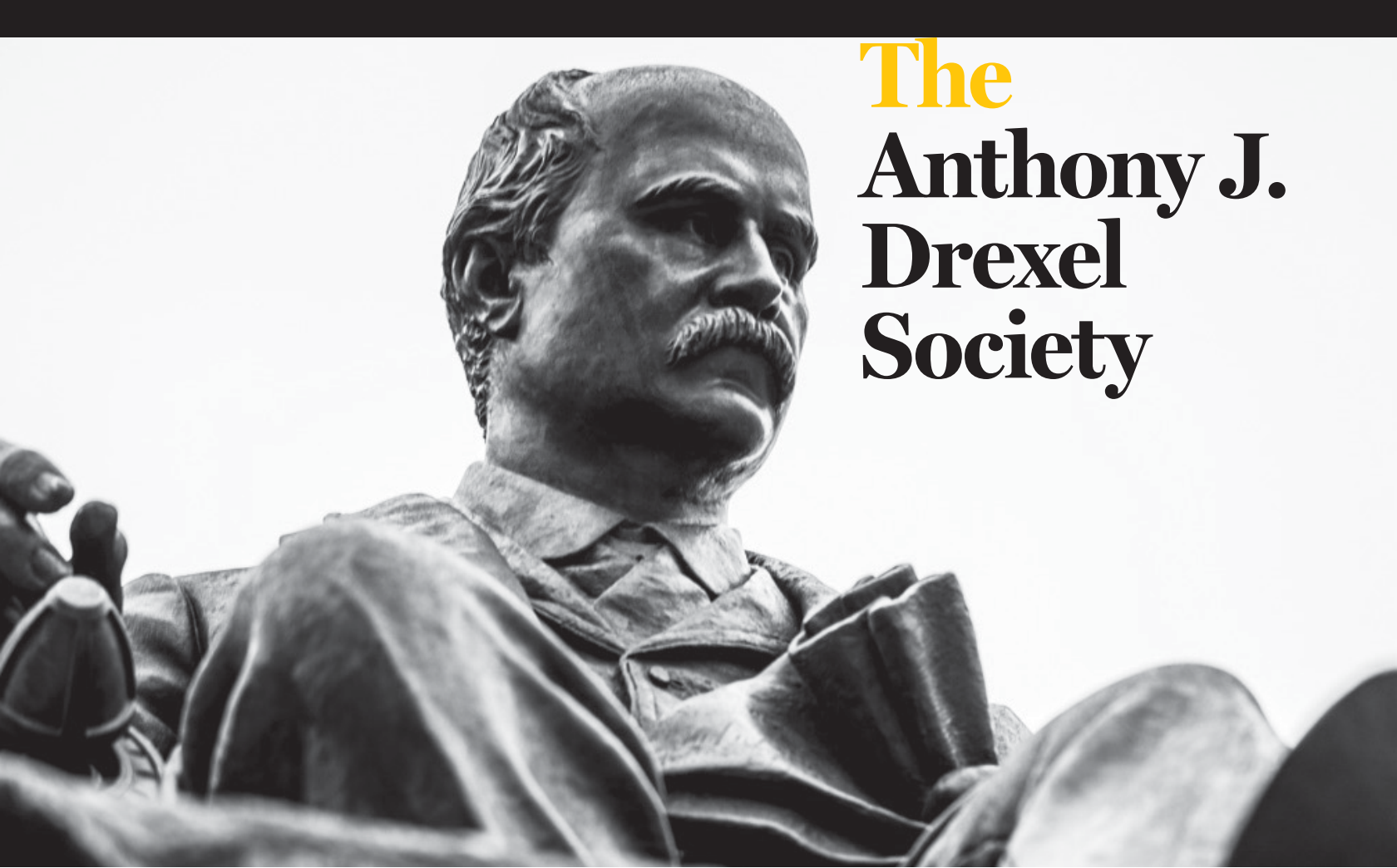
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## How to Train ‘Superhuman’ Geoscientists



AVI COHEN NEHEMIA/THINKSTOCK PHOTOS

BY RACHEL EWING

The radiologist interpreting your MRI scan and the geologist assessing our natural resource reserves have one important thing in common: They are both exceptionally skilled at perceiving important cues in an image or vista that the rest of us are almost certain to miss.

“These are almost superhuman perceptual abilities,” says Chris Sims, PhD, an applied cognitive and brain scientist and assistant professor in the Department of Psychology at Drexel.

While researchers in medical fields have invested time and effort into understanding the nature of these abilities, Sims is focused on discovering how people develop perceptual expertise in the context of STEM (science, technology, engineering and mathematics) disciplines.

Above: To a naive observer, this photo of Paria Canyon-Vermilion Cliffs Wilderness in Arizona offers a beautiful landscape of undulating and vibrantly colored waves. But to a geologist, much more is visible. Among other features, the image illustrates “aeolian cross-bedding,” indicating that the formation was caused by wind currents accumulating sediment rather than a deformation of the earth. Visually detecting the points at which the rhythmic flow changes directions can provide clues into the periodic changes in the local climate, such as changes in prevailing winds.

In geoscience, these visual skills are essential for answering key questions shaping humanity's future welfare, from identifying climate patterns that will shift with climate change, to better predicting earthquake activity. Answering these geological questions is rarely achievable with automated laboratory tests or electronic scans; it takes an expert who can see and understand the visual features of the landscape.

But how do you become an expert in this type of perceptual ability?

"Right now, there's very limited understanding in pedagogy or educational psychology about how you train someone to become a perceptual expert," Sims says. "Currently, it's kind of trial by fire; you just do it until you get good at it. Some people get better at it than others."

Sims aims to find out how that learning process works and use those insights to improve perceptual training in STEM fields with a new collaborative grant from the National Science Foundation. Awarded to Sims and two co-investigators at the University of Rochester — cognitive scientist Robert Jacobs, PhD, and geologist John Tarduno, PhD — the five-year grant totaling more than \$740,000 will allow them to develop and experimentally test computational models of this learning process.

"We think we can help develop a theory that will accelerate learning and acquiring perceptual expertise," Sims says.

The work begins with developing theories in the form of computer code. Traditional theories in psychology are essentially verbal descriptions of a phenomenon in the mind. Sims and Jacobs specialize in computational cognitive modeling, which is a newer and far more precise way of describing a psychological process like perception by actually building its elements into a computer program. They are building a computational model that mimics the perceptual system of a novice geologist. Using that model, they will program different types of training experiences and use the model's performance to generate predictions about what type of training may work best for real, human geologists.

Then, they will put those predictions to the test with undergraduate geoscience students at Drexel and the University of Rochester. In a laboratory learning environment, students will learn to distinguish important visual elements in digital elevation images of geological features

using one of four different visual training regimens that Sims and colleagues are developing. Each training method reflects a different theory of how visual memory processes change as a person develops expertise.

The team will enroll both first-year geoscience majors, who are relatively novice, and upperclassmen, who may have logged hundreds of hours of fieldwork and are comparatively expert, in hopes of showing that their models reliably predict how non-experts learn.

If one of the training regimens proves more effective than the rest at helping inexperienced geoscientists learn faster, it would show promise for use in applied educational environments to improve perceptual learning.

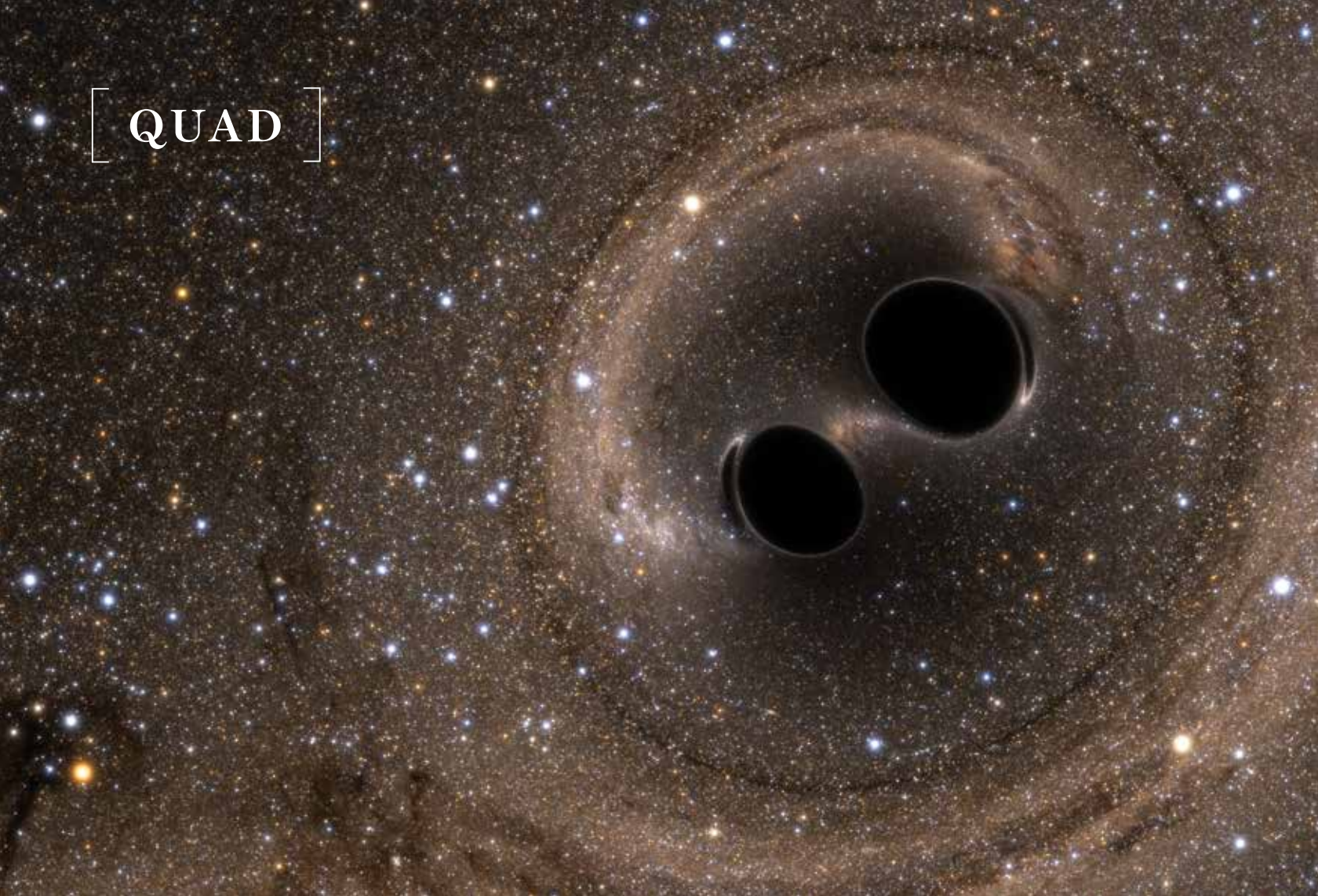
"We want to develop a science of perceptual training in STEM disciplines," Sims says. "It's exciting because we're among the first to have a really strong approach that's based on both theory and computational modeling."

CHARLES SHAN CERRONE



Chris Sims, PhD





# Building Toward Discovery

A Drexel Professor's Role in Finding Gravitational Waves

BY FRANK OTTO

When talking about his contributions to science, Isaac Newton said, "If I have seen farther, it is by standing on the shoulders of giants." The quote refers to the process that makes up the backbone of scientific study: The steady building of research that eventually leads to game-changing discoveries.

With the February 2016 discovery of gravitational waves by the LIGO Scientific Collaboration, the group's scientists confirmed one of the predictions made by Albert Einstein decades ago when he set out his theory of relativity. But while LIGO certainly stands on Einstein's shoulders, there's another scientist whose shoulders helped the group "see farther": Stephen McMillan, PhD.

McMillan, professor and department head of physics at Drexel University, published a paper in *The Astrophysical Journal* back in 2000, when LIGO was first constructing its antennae to search for the waves. In the paper, co-authored by Simon F. Portegies Zwart, then of Boston University, a procedure was laid out for calculating how many black hole binaries could be created in star clusters. That number could then be scaled up to determine the number in galaxies and the universe.

"Back in 2000, the gravity wave community was pretty desperate for something they'd be able to observe. We wrote this paper when the LIGO people were grasping at straws," McMillan recalls. "We looked at neutron star mergers and black hole mergers, which are most likely to occur in star clusters. We developed the procedure to make estimates for scale. We put together the methodology that a lot of other papers used."





SXS LENSING

When they began their work, McMillan says he wasn't sure if there would even be anything measurable, even by LIGO. But they set out to just "improve our understanding" of the science of black hole binaries.

As it turned out, their work gave the LIGO group an idea of what signals they could look for to record the existence of the waves, and the 2000 paper was cited in LIGO's 2016 paper confirming their discovery.

The discovery of gravitational waves is exciting to everyone in physics, McMillan says, and he's happy to have been a part of the process that began with Einstein.

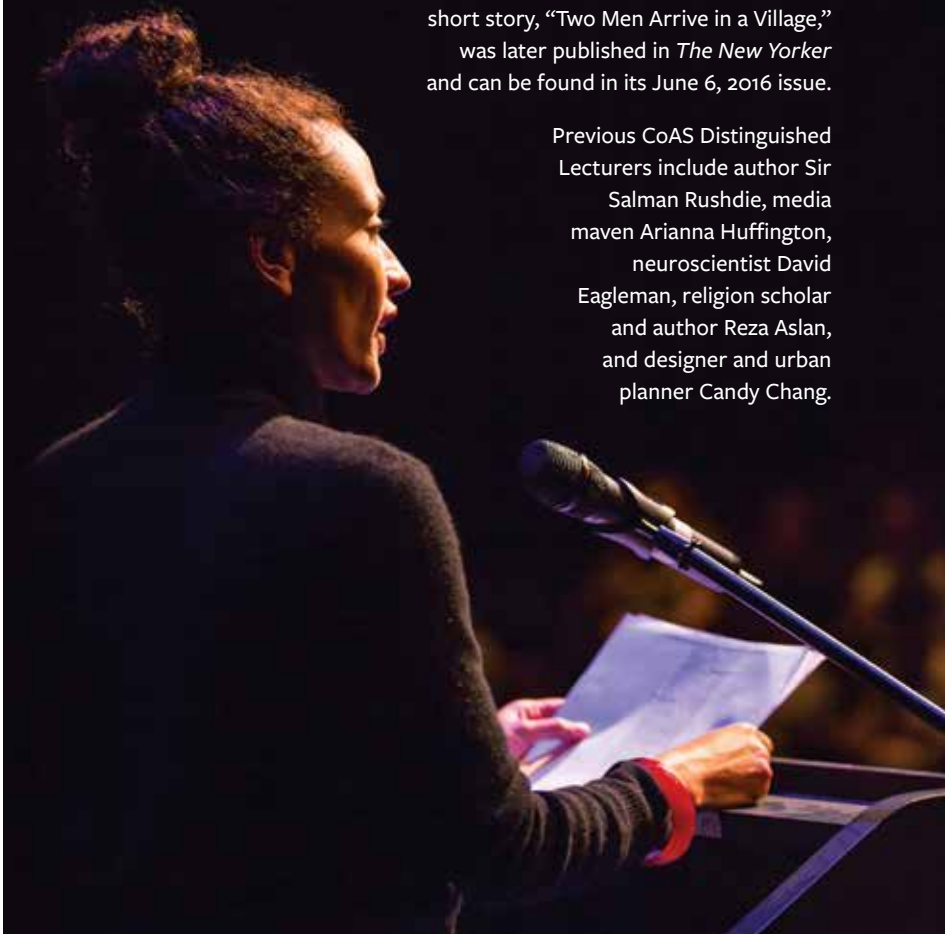
"This is a whole different type of radiation," McMillan said. "This is an alternate way of viewing the universe. Any time you have a new type of medium, it's remarkable how much information can be extracted."

## AN EVENING WITH **ZADIE SMITH**

All eyes were on Zadie Smith this spring as she read an unpublished short story to a packed Mandell Theater. The novelist, essayist and author of the critically acclaimed novel "White Teeth" was the sixth lecturer in the College's Distinguished Lecture series. Smith's short story, "Two Men Arrive in a Village," was later published in *The New Yorker* and can be found in its June 6, 2016 issue.

Previous CoAS Distinguished Lecturers include author Sir Salman Rushdie, media maven Arianna Huffington, neuroscientist David Eagleman, religion scholar and author Reza Aslan, and designer and urban planner Candy Chang.

CHARLES SHAN CERRONE

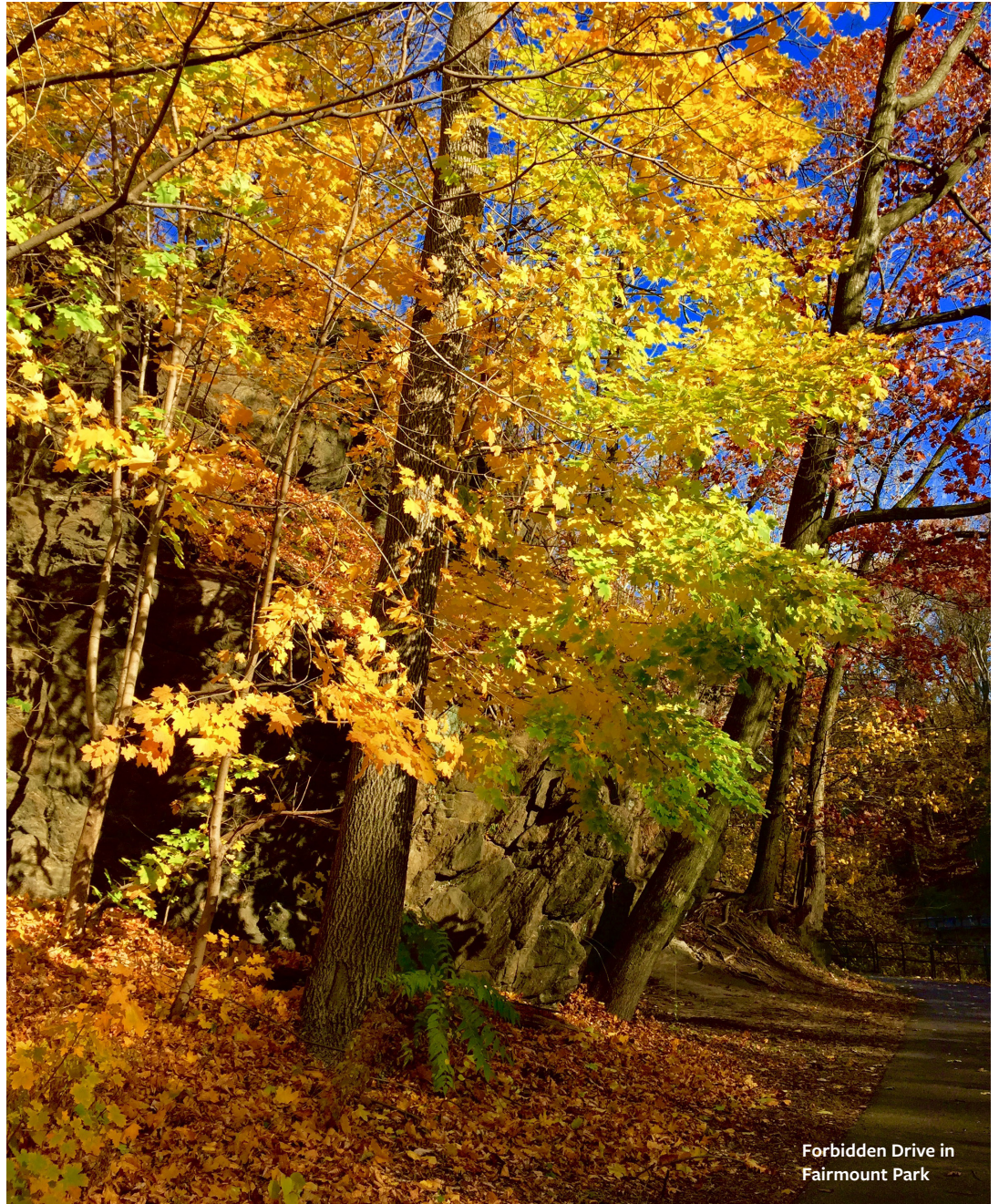


Mark your calendars for the seventh Distinguished Lecture on April 12, 2017, featuring **Robert Sapolsky, PhD**, biologist, neuroscientist and stress expert. Free tickets are available now at [Drexel.edu/coas/distinguishedlecture](http://Drexel.edu/coas/distinguishedlecture).



## NATURAL CURIOSITY

Aside from being a stone's throw away from Fairmount Park — one of the largest urban parks in the nation — Drexel University is deeply connected to the natural world. The University's partnership with the Academy of Natural Sciences gives unprecedented access to the oldest natural sciences institution in the Western Hemisphere, and the College's Department of Biodiversity, Earth and Environmental Science (BEES) provides students countless opportunities to live out its "Field Experience, Early and Often" motto. Taking the department's mantra to heart, BEES students Vaughn Shirey '17 and Karly Soldner '17 founded the Drexel Naturalists Association for students of any major who are interested in learning more about the environment both in and outside of the city. The organization boasts more than 40 members from across campus who meet to discuss research, partake in outdoor excursions, and connect with faculty and research groups. Students interested in joining can contact current president Ashleigh Jukan at [ashleigh.a.jukan@drexel.edu](mailto:ashleigh.a.jukan@drexel.edu).



Forbidden Drive in  
Fairmount Park



# Going for the Gold

The 2016 Summer Olympics made for quite the decorated year for athletes all over the world. Competing on the academic stage, Drexel University students took home victories of their own.

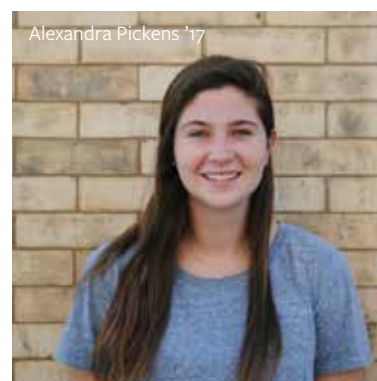


Vincent O'Leary '18

DREXEL FELLOWSHIPS



Julianna Frangos '16



Alexandra Pickens '17

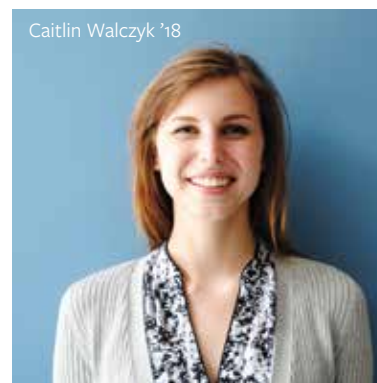


Nicholas Barber '18

ANDREW PELLEGRINO



Matthew Parsons '15



Caitlin Walczyk '18

## GREEN LAURELS

Geoscience student Nicholas Barber '18, and dual geoscience and environmental science major Vincent O'Leary '18, were the first Drexel students to receive the Ernest F. Hollings Undergraduate Scholarship from the National Oceanic and Atmospheric Administration (NOAA). The award recognizes the nation's top undergrads interested in research, public service or teaching careers in the oceanic and atmospheric sciences. Hollings Scholars receive academic assistance for two years of full-time study, as well as a 10-week, full-time internship position at a NOAA facility. O'Leary hopes to become an active university researcher and educator, and Barber plans to pursue a PhD in geochemistry, focusing his research on trace element geochemistry. Barber also received the Barry M. Goldwater Scholarship, which supports a portion of tuition expenses for students who plan to pursue STEM careers or research.

## THE RINGS OF RESEARCH

Julianna Frangos, international area studies '16, and Matthew Parsons, physics '15, were presented with the prestigious Fulbright award. Frangos, who has minors in both French and German, traveled to Luxembourg to gain classroom experience teaching young adults on an English Teaching Assistant Grant. Parsons, who currently works at the Princeton Plasma Physics Laboratory (the site of his first co-op), explored the alternative energy source "fusion energy" at the ITER project in Southern France — an international collaboration of researchers from 35 different countries. Parsons is studying fusion energy as a means to rectify the planet's growing energy crisis.

## GLOBAL GOLD

International area studies student Alexandra Pickens '17, and dual international area studies and political science major Caitlin Walczyk '18, received the National Security Education Program David L. Boren Scholarship, which provides funding for students studying abroad in areas critical to U.S. interests. Pickens headed to Jordan to study Arabic and work as a co-op with SADAQA, a nongovernmental organization that advocates for a work-friendly environment for Jordanian women, while Walczyk traveled to Kazakhstan to study post-World War II politics at the Al-Farabi Kazakh National University in Almaty.





DENNIS VAN DEN ELZEN/THINKSTOCK PHOTOS

## BEATING THE HEAT

A Drexel University study found that temperature, not lack of food, will be the biggest threat to giant pandas reintroduced to China's wilderness following a large-scale bamboo die-off during the 1980s. The team of researchers, including James Spotila, PhD, L. Drew Betz Chair Professor in the Department of Biodiversity, Earth and Environmental Science, and graduate student and lead author Yuxiang Fei, tested the metabolic rates of pandas in captive breeding programs to determine if they could live off today's bamboo supplies in natural reserves. Though there is currently enough bamboo for both native and reintroduced pandas, unchecked climate change will ultimately eliminate vast amounts of bamboo and cause undue health risks to the pandas.

## THE SEARCH FOR NEW MATTER

There are new fashion trends, new movies, new iPhone apps to distract you from where you're walking, but it's not every day you hear about a potential new form of matter. Drexel University physicists Michelle Dolinski, PhD, and Russell Neilson, PhD, are part of a team of 68 researchers called PROSPECT on the hunt for "sterile neutrinos" — hypothesized, non-charged, subatomic particles that could represent a new form of matter. So, how'd they learn of this hypothetical particle? Scientists have noticed that nuclear power plants' reactors often emit fewer subatomic particles than expected. PROSPECT is looking into whether there is a particle that exists outside of our current understanding of physics that might account for that deficit. "Sterile neutrinos would be a huge discovery in fundamental particle physics," says Dolinski. "...[it] would open up a whole new field of inquiry and experimentation."



GENEVEVE MARTIN/ORNL

Refueling of the High Flux Isotope Reactor (HFIR). The PROSPECT experiment will detect neutrinos emitted by nuclear reactions in the HFIR, observing whether some of those neutrinos disappear by transforming into sterile neutrinos.

# Moving On Up

Eighty million years ago, the ancestors of tropical army ants relocated underground, living out much of their lives in the dark. The ants that remained underground lost most, if not all, of their vision — their eyes and vision-processing brain regions evolved to become very small in comparison to surface-living ants.

This devolution of brain investment is commonly observed in species that are exposed to simpler or reduced environments, explains Sean O'Donnell, PhD, professor in the Department of Biodiversity, Earth and Environmental Science at Drexel University and co-author on the study published in *The Science of Nature* journal.

“Classic examples are cases of light-living surface species giving rise to dark-living cave dwellers. These are frequently — almost always — associated with reduced vision-processing brain regions,” says O'Donnell.

But 62 million years after the ants' relocation, one genus of ants known as *Eciton* moved back to the surface and appear to have *regained* their eyesight. The *Eciton* ants also have larger olfactory brain regions and larger brains overall compared to the species that remained underground, suggesting that the complexity of the environment — not just the reintroduction of light — played a role in their transformation.

The *Eciton*'s regrowth of brain tissue is a rare evolutionary phenomenon. Brain tissue loss in simpler environments is common, but the *Eciton* brain changes suggest that more challenging environments can promote evolutionary reignition of parts of the brain that have gone inactive.



SEAN O'DONNELL



## BEST OF THE BEST — NATURALLY

The Academy of Natural Sciences of Drexel University was ranked No. 2 among the nation's best higher education natural history museums by *Best College Reviews*. Sandwiched on the list between Yale and Harvard's natural history museums, the Academy boasts more than 18 million specimens — including a seven-and-a-half-ton *T.Rex* — and more than 250,000 volumes in its library dating back to the 1500s.



JEFF FUSCO

## Tased and Confused

Though more than 2 million U.S. citizens have been Tased by police, little was known about how — or for how long — the 50,000-volt shock affects the brain.

A study by Drexel University's Robert Kane, PhD, professor and head of the Department of Criminology and Justice Studies, in collaboration with researchers at Arizona State University, revealed that the burst of electricity from a stun gun can temporarily impair a person's ability to remember and process information. In the randomized control trial funded by the U.S. Department of Justice's National Institute of Justice — the first major randomized trial completed outside the purview of Taser International — a quarter of each Taser group of healthy, young adults had the cognitive functioning of a 79-year-old adult after receiving a

five-second shock. The exposure also significantly affected participants' stress levels and ability to concentrate.

"There are plenty of people in prison who were Tased and then immediately questioned," says Kane. "Were they intellectually capable of giving 'knowing' and 'valid' waivers of their Miranda rights before being subjected to a police interrogation?"

The researchers are suggesting a public dialogue about how to best use Tasers while protecting individuals' due process rights, ensuring their decision-making abilities, and maintaining police officers' safety.



EGUDIN KA/THINKSTOCK PHOTOS



# IMPRESSIONS

MEDIA HIGHLIGHTS

“The neighbor didn’t understand how joy could exist in the midst of tragedy. To be honest, neither do I. But it can. It did. And we were grateful.”

— **KATHLEEN VOLK MILLER**, teaching professor of English, on healing after the loss of her husband, *O, The Oprah Magazine*.

“If you try to live your life to be only based on science, you are probably not going to be very happy...we need to have a little more give-and-take and realize that the meaningful things in life come from a variety of perspectives...of which religion is one.”

— **FRASER FLEMING, PhD**, head of the Department of Chemistry, on the value of embracing both scientific and religious perspectives, *Geekadelphia.com*.

“All life is bound together in a complex web of interdependent relationships among individuals, species and entire ecosystems. Each of us borrows, uses and returns nutrients. This cycle is what permits life to continue. Rich, black soil is so fertile because it’s chock full of the composted remains of the dead along with the waste of the living.”

— **ANDREW SMITH, PhD**, associate professor of philosophy, on the interconnectivity of plants and animals and why it’s impossible to be a vegetarian, *Houston Chronicle*.

“Promoting the right kind of fire — and smarter development — is safer and more cost-effective than fighting a losing battle.”

— **SCOTT KNOWLES, PhD**, head of the Department of History, on the economic issues behind America’s wildfire problem, *The New York Times*.

“...When we see a character who looks like us, or a writer or an artist who looks like us, then it offers us a chance to do things in real life that we think are impossible, and to imagine what we could do if things were different.”

— **ANDRÉ CARRINGTON, PhD**, assistant professor of English, on the power of black characters in science fiction to inspire black fans, *Philadelphia Tribune*.

“Images catalyze resistance and offer striking turning points, from Emmett Till to Rodney King to the present.”

— **GEORGE CICCARIELLO-MAHER, PhD**, associate professor of politics, on the live-streamed videos that captured the killings of African Americans Philando Castile and Alton Sterling by police officers, *Christian Science Monitor*.

# PERSPECTIVES

ONE ISSUE, MULTIPLE VIEWS



ANADOLU AGENCY/GETTY IMAGES

According to the White House, more than 10,000 Syrian refugees were admitted to the United States this past fiscal year, along with tens of thousands more from El Salvador, Iraq and Somalia, among other countries. While war and civil unrest have displaced millions of Syrians, there are countless reasons why people migrate to other countries.

We asked four Drexel University professors to discuss, in 200 words or less, the factors of human migration and how their field is impacted by or reacting to the recent influx of refugees and immigrants.

SHIVANTHI ANANDAN, PhD  
*Associate Professor of Biology*

Civil unrest and war cause the destruction of health care facilities, and thus, significantly disrupt a country's health care monitoring systems. The war in Syria has destroyed most of the facilities and monitoring systems in the country, including clinics, physician records and data-collection systems that monitor infectious diseases. The migration of citizens out of countries experiencing civil unrest and war into "safer" countries is impacting the health care systems of the countries accepting these people. An example of this is Jordan, a country that has a strong and effective monitoring and treatment system for the disease tuberculosis, which successfully helped keep the incidence of this disease at a very low level. Tuberculosis is transmitted in the population by airborne droplets of saliva from the infected to the uninfected. Health monitoring of the Syrian nationals fleeing into Jordan revealed that the incidence of tuberculosis was high in that group. There is concern in my field that this situation could happen in the United States as well. The case study from Jordan has alerted us to this outcome, and the United States should be able to institute a vigilant monitoring and treatment system for this purpose.





AMELIA HOOVER GREEN, PhD  
*Assistant Professor of Politics*

Scholars in American politics often ask: “What drives public opinion about immigration to the United States?” Those in comparative politics — my subfield — might explore how and why certain countries become major receivers of refugees and/or migrants. International relations scholars often consider migration through the lens of globalization or membership in the international community. Political theorists ask how states and individuals *ought* to behave toward migration and migrants.

Here at Drexel, Zoltán Búzás, PhD, assistant professor of politics, writes about how some countries evade international law, including refugee law and treaty arrangements about citizenship. Bill Rosenberg, PhD, professor of politics, teaches a popular course on the politics of immigration in the United States.

My own course, *Civilians in Armed Conflict*, explores issues of forced and voluntary migration from violent settings. My students learn that there are actually more internally displaced persons (people who relocate within their own country) than refugees, and that both local and global contexts matter. Genocide seems to drive refugee flows, while civil war is associated more with internal displacement. War-torn countries surrounded by dictatorships and poverty produce lower refugee flows than those surrounded by rich and/or democratic countries. But one of the primary messages of my course — given the danger and difficulty of migration — is the importance of protecting civilians who stay behind.



ROGELIO MIÑANA, PhD  
*Head of the Department of Global Studies and Modern Languages*  
*Professor of Spanish*

The Department of Global Studies and Modern Languages examines migration and displacement in the context of larger issues such as inequality and war. As migrants and refugees move around the globe, they create linguistic and cultural flows that traverse countries and enrich local communities. Language learning has thus evolved from memorization to a dynamic field of groundbreaking teaching practices, including community engagement. Not only do we study foreign cultures abroad, but we must also work with transnational communities here at home.

Our courses often use technology to connect language students with native speakers. Through our Global Classrooms program, our Spanish- and Chinese-language learners hone their skills in joint projects with English-language students at top universities in Chile and China. Recently, I developed with my students and two community partners a digital storytelling workshop for young Central American migrants. Using the power of video-making and personal testimony, my students learned Spanish and conducted rigorous research while migrants improved their English and technological skills. Thanks to our migrant and refugee communities, language learning is closer to our social realities than ever.



MIMI S HELLER, PhD  
*Director of the Center for Mobilities Research and Policy*  
*Professor of Sociology*

It is important to distinguish between our national (and I would argue ethical) obligation to accept refugees and asylum seekers under the United Nations Convention for Human Rights, versus the question of U.S. immigration policy and debates about how many migrants we think the country should accept. These are two distinct bodies of policy and law, but they are often confused in the media and in popular debates. My field of mobilities research is committed to developing critical perspectives on migration that can help us avoid the kind of xenophobic and exclusionary backlash that we have seen in many countries where attacks on migrants, refugees, and ethnic and religious minorities who are citizens are on the rise.

As a mobilities scholar, I think we need to inject into policy debates the concept of a human right to mobility and the obligation to protect refugees and asylum seekers who are fleeing wars and violence. More broadly, my field is developing new approaches to “mobility justice,” which seek to extend and deepen more inclusive democratic political deliberation around issues of migration; strengthen procedural justice around issues such as residency rights, migrant detention, and deportation; and reflect on our own epistemic assumptions concerning issues of human movement and national borders.



# A DAY IN THE LIFE

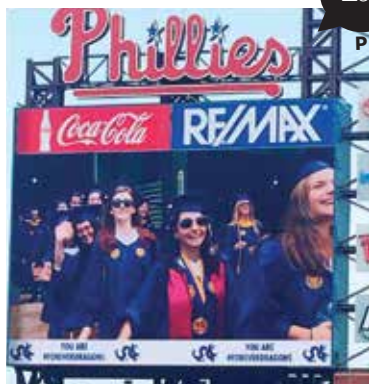
INSTAGRAM CONTEST

Throughout the year, our CoAS Dragons share their favorite college moments — and we have to admit, we're always a little jealous of the posts: selfies with celebs, study abroad trips to exotic locales, the specimens of the Academy of Natural Sciences up close and, well, dead. Oh, and those 15 seconds of fame on the Citizens Bank Park Jumbotron? They make us wish we were students again.

Jealousy aside, what we love about these images is that no two submissions are ever the same. The proudest, happiest, most exhilarating CoAS adventures are as unique as our Dragons. Their research experiences, cross-country field trips and enviable co-ops (seriously, can someone get *us* a job at Marvel Comics?) make us proud to be part of such an inspired community.

Included here are the three winners from our recent #CoASPicOfTheYears contest, chosen by the College community, as well as some of our favorite moments that have been shared throughout the year.

We invite all of our CoAS Dragons to continue sharing their memories using #drexelcoas. Be on the lookout for future contests and make sure to follow us on Instagram: @drexel\_coas.



1st  
PLACE

Look Ma, I made it! #foreverdragons  
#drexel #graduation #classof2016

Julie Casciato, BA English '16  
@jules\_326



2nd  
PLACE

That time @paulscheer stopped by the  
@Marvel office on my first day for a  
#CosmicChallenge

Josh Weiss, BA Communication '17  
@joshweiss1994



3rd  
PLACE

Chronicles of a commuter. A kind  
stranger who also happened to be  
taking the train this morning came up  
to me and said "Something bright for  
you on this dreary day" and then just  
walked away!! How darn cute??? We  
could totally use more people like that.

Simal Ruhishta Ali, BS Biological Sciences '19  
@simal\_Lali

Opposite page, left to right, top to bottom: **Neeharika Simha**, BS Custom Designed Major (Communication and Comedy) '19 @simhahahaha; **Elisabeth Sulger**, BS Biological Sciences '16 @sulgzai0; **Karly Soldner**, BS Environmental Science '17 @karlymoon999; **Gianna Spigonardo**, BS Environmental Science '16 @giannaspigs; **Vanessa Peralta-Mitchell**, BS Communication '03 @vcpmitchell; **Ted Daeschler, PhD**, associate professor, Department of Biodiversity, Earth and Environmental Science @teddaeschler; **Sarah King**, BS Environmental Science '16, @sarahsight\_; **Emily Ostrow**, BS Environmental Science '18 @emilyo341



"In the joy of others lies our own."



Another day in the field, enjoying the view 5,000 feet above sea level at the continental divide #drexelbees



Conceptualized and created by none other than the great Chris Bauer and his Apple Watch



Good morning Philly #philadelphia #xoxo #30thstreetstation #theporch



Sometimes at the doorway of discovery, those first steps are into the unknown. #bebrave #dizzydez



Investigating New Jersey coastal plain rocks and fossils at Big Brook. #geo103rocks #drexelcoas #acadnatsci



What you think, you become. What you feel, you attract. What you imagine, you create. #buddha #cambodia



This beautiful male American Redstart (*Setophaga ruticilla*) was brought in this morning by @von\_iferous on one of our specimen preparation days. During migration many birds fly into the windows in the city and die, but they can be salvaged and used to help us understand more about them. #science #ornithology #nature #birds #americanredstart #philadelphia #birdsofinstagram

# A DAY IN THE LIFE



University City love. #universitycity  
#philadelphia #home #reflection



Curiosity



Nothing brings me more joy  
than Holi! #happyholi #tbt



Insect drawer on display for  
member's night last month  
#insects #museums #drexelbees



Interviewed Michael Nutter today  
about his new executive position at  
Drexel. It's incredible to be able  
to meet your heroes. Look for the  
Triangle Talks in @drexeltriangle next  
week. #Drexel #Philadelphia



ethereal

Left to right, top to bottom: **Drexel University College of Arts and Sciences** @drexelcoas; **Drexel University Photography Club** @drexelphotoclub; **Neeharika Simha**, BS Custom Designed Major (Communication and Comedy) '19 @simhahahaha; **Vincent O'Leary**, BS Geoscience and Environmental Science '18 @vjoleary; **Alexandra Jones**, BA Global Studies '18 @lexxall; **Elizabeth Kwong**, BS Biological Sciences '16 @lizkwong





“ I’VE ALWAYS LOVED NATURE,  
BUT I NEVER THOUGHT I COULD  
TURN THAT PASSION INTO A  
**CAREER.**”

JILLIAN ADAIR, BS/MS ENVIRONMENTAL  
SCIENCE '16, DREXEL UNIVERSITY

When Jillian Adair enrolled in Drexel’s Environmental Science program, she was exposed to a **world of possibility**.

Her classes were taught by renowned faculty and scientists from the Academy of Natural Sciences of Drexel University. Her **three co-op positions** allowed her to gain 18 months of full-time work experience — before graduation. She not only learned how our cities affect our waterways, but also helped protect the ecological health of the Delaware River Basin. With **study abroad** trips to New Zealand and Costa Rica rounding out her experience, Jillian’s eyes were opened to the many facets of conservation, from biological restoration and monitoring to international law and development. Today, she works for the Environmental Protection Agency, ensuring that states monitor their waterbodies and develop strategies to keep them healthy.

Experiences like Jillian’s abound in the Department of Biodiversity, Earth and Environmental Science.

See where your passions can take you at [Drexel.edu/BEES](https://drexel.edu/BEES).  
Questions? **215.571.4639** or [bees@drexel.edu](mailto:bees@drexel.edu)



DREXEL UNIVERSITY  
Department of

**Biodiversity, Earth  
and Environmental Science**

# SIX DEGREES

OF SHARI MOSKOW

There's probably some fancy math formula that shows to what degree Mathematics Department Head **Shari Moskow, PhD**, (SM) is connected to every member of the College community. But rather than postulate on the possibility, we'll just show you by connecting her to every department in the College and every feature story in this issue.



Geller and PhD student **Mona Elgohail** study reproductive health — Geller addresses postpartum depression, while Elgohail studies the infertility experiences of Muslim women. [Learn more on pages 32 and 38.]



Murasko and **Pamela Geller, PhD**, hold dual appointments in Drexel's College of Medicine.



SM and **Dean Murasko, PhD**, love to hit the tennis courts in their spare time.



SM and alumnus **Andrew Damron, JD**, speak fluent French. Moskow held a visiting appointment at École Polytechnique, while Damron studied at the historic Sorbonne in Paris. [Read more about Damron on page 29.]

CHARLES SHAN CERRONE



Dolinski and **Sean O'Donnell, PhD**, are both UC alums — Dolinski of UC Berkeley, and O'Donnell of UC Davis (as a postdoc). [Read about O'Donnell's army ant research on page 11.]



Neilson and **Michelle Dolinski, PhD**, are part of the PROSPECT research team searching for sterile neutrinos — a potential new form of matter. [Learn more on page 10.]



Russell and **Russell Neilson, PhD**, have a thing or two in common. We won't name them all here though...



SM and **Jake Russell, PhD**, have each worked at Drexel University for a decade.

KEY: **Anthropology** **Biodiversity, Earth & Environmental Science** **Biology** **Chemistry** **Communication** **Criminology & Justice Studies** **English & Philosophy** **Global Studies & Modern Languages** **History** **Mathematics** **Physics** **Politics** **Psychology** **Sociology**



SM and **Naomi Goldstein, PhD**, are both parents of twins.



Goldstein has been working on a diversion program to address the school-to-prison pipeline. The work of **Jordan Hyatt, PhD**, focuses on corrections and program evaluation; his most recent project investigates the efficacy of an anti-addiction drug on former inmates. [Learn more on page 24.]



Hyatt and prof **Frank Ferrone, PhD**, competed in the 2016 annual CoAS Raft Debate (a battle of the disciplines) where Ferrone rapped his way to victory.



Ferrone shares a love of wordplay with **Rachel Wenrick**, the director and founder of Drexel's Writers Room.



Wenrick co-organized the NEA Big Read Festival honoring Zora Neale Hurston's book "Their Eyes Were Watching God." **Fraser Fleming, PhD**, published a book exploring the truth about religion and science. [Read more on page 37 and 40.]



SM was born in Philly. **Scott Knowles, PhD**, has contributed to the Encyclopedia of Greater Philadelphia, a civic project to increase understanding of the City of Brotherly Love.



Knowles co-authored the book "Building Drexel: The University and Its City 1891-2016" with **Richardson Dilworth, PhD**, in honor of Drexel's 125th anniversary. [Learn more on page 40.]



SM studies applied partial differential equations; **Steve McMillan, PhD**, studies something else we don't quite understand: gravitational waves. [Learn more on page 6.]



McMillan received his PhD from Harvard. **Susan Bell, PhD**, was a postdoctoral research fellow at Harvard Medical School.



Bell and **Anthony Glascock, PhD**, recently published books. [Discover more CoAS authors on page 40.]



SM received the Association for Women in Mathematics inaugural AWM Service Award. **Christina Love, PhD**, was named president of the Philadelphia Chapter for the Association for Women in Science.



Love and **Jennifer Stanford, PhD**, both specialize in STEM education research.



Stanford shares her name with the heavy-hitter university where alumnus **Pinkesh Patel, PhD**, conducted his postdoc. [Learn about Patel on page 27.]



SM's first job was selling bagels at Philadelphia's Famous Delicatessen. Speaking of famous foods, instructor **Scott Tattar** is the co-inventor of the hot dog launcher featured at every Phillies home game.



Tattar received the PRSA's DeAnn White Award for Excellence in Community Service. Alumna **Anne Marie Dougherty** was named Nonprofit Marketer of the Year by the American Marketing Association. [Learn more about Dougherty on page 25.]






# AGENTS *of* CHANGE

There are people who accept things the way they are, and there are those who demand more. Those people — the action takers, change makers, innovators and leaders — are exactly what the world needs to make those “better tomorrows” a reality.

The five CoAS alums, students and faculty featured in this issue not only possess a drive to shape our future, but also a passion to help others. No matter their mission, they are powerful reminders of what is possible when empathy meets action.





**JORDAN HYATT, JD, PhD**, assistant professor of criminology and justice studies



# Breaking the Cycle

BY TIM HYLAND

PHOTO BY JARED CASTALDI

It is one of our nation's most pressing and persistent public health crises. It is responsible for more than 25,000 deaths each year nationwide, and as many as 3,500 annually in Pennsylvania alone. It reaches from the inner cities to wealthy suburbs and out into the countryside, and its recent growth has been described by officials at the Centers for Disease Control as "unprecedented."

The "it" is opioid addiction, and Jordan Hyatt, JD, PhD, is working to find a much-needed solution to this epidemic in perhaps the most challenging context of all: our nation's jails and prisons.

Hyatt, an assistant professor of criminology and justice studies at Drexel, has established himself as one of the region's leading experts in what he calls "the back end of the criminal justice system." With research focused in areas such as probation and parole, sentencing and community corrections, Hyatt aims both to understand what happens to individuals after they leave the system and to find new and better ways to make sure they don't fall back into old habits — and end up right back behind bars.

"My research is really all about program evaluation — what works, what doesn't work and why," explains Hyatt. "I aim to generate the most rigorous evidence so that agency heads and decision makers can make the most informed decisions possible regarding all of these issues."

While there are any number of issues that can draw former offenders back into a life of crime, addiction is one of the most persistent — and the extent of the problem among the nation's prison population is staggering.

According to the Pew Charitable Trusts, approximately 65 percent of the nation's 2.3 million inmates are addicted to either drugs or alcohol (compared to just 9 percent of the general population). Unfortunately, Hyatt says, most of the programs aimed at curbing these numbers — and the high recidivism rates caused by addiction — have fallen far short.

But now, in ongoing research conducted in partnership with the Pennsylvania Department of Corrections, Hyatt is investigating the efficacy of an anti-addiction drug called Vivitrol in curbing addiction — and, by extension, helping ex-inmates live fuller, more productive lives. The research is notable not only because of its great promise, but also because it represents a radical shift in how corrections officials are working to solve this difficult problem.

"If someone comes into the emergency room or has an interaction with a police officer or is identified in school, we need to plug them into the treatment infrastructure," says John Wetzel, secretary of the Pennsylvania Department of Corrections. "I think this is so different for us as a country, and it signals a difference

in philosophy to focus on identifying the root cause of the crime to put someone on the path to be less likely to commit a crime."

Unlike two other common opioid-treatment medications — methadone and buprenorphine — Vivitrol is not a narcotic. Rather, it is in a class of drugs called "antagonists," which work by essentially blocking the brain and body from attaining a drug-induced "high." Administered by injection, the drug can block drug-induced highs for a month at a time.

"Methadone has been the common treatment for opioid addiction, but it's not an ideal solution at all," Hyatt says. "First, it requires individuals to take a pill every day. And more importantly, it's not a fit for correctional facilities because, as a narcotic, it can be abused as well. With Vivitrol, the participating inmates — all of whom are soon to be released — get a shot once a month and for the rest of the month, they are immune to what they consider the 'positive' experience of using heroin or other drugs."

Numerous trials have already shown the drug to be effective in a variety of contexts, but, Hyatt explains, his study goes beyond Vivitrol alone. As well as voluntarily receiving the drug treatment, inmates in the program also receive support and counseling to help steer them in the right direction. The goal is to provide a more thorough, holistic experience, Hyatt says.

Though the results of the study aren't yet final, Hyatt says early indications are that his work will generate a strongly positive outcome. "We would certainly expect to see a reduction in positive drug tests once they are back in the community, as well as an associated reduction in recidivism ... simply because they will be less likely to be under the influence."

Of course, Hyatt does not believe this particular line of treatment, even if implemented across the justice system, will be the silver bullet to solving the imposing problem of opioid addiction; it's simply too massive of a problem to be solved in any single way.

But in the world of corrections, at least, it would represent a potential key win — and an important change in philosophy — in a much broader battle against the perils of addiction.

"This is a growing crisis that has become a very significant issue in the public health discourse," he says. "And it goes without saying that this is one of our most at-risk populations. These individuals enter the system, and for those who have an addiction history, it is very common for them to return to their old ways when they get out — and then they cycle right back in. What we're trying to do with our research is find a way to help these individuals break that cycle." ●



ANNE MARIE DOUGHERTY

# Healing the Wounded

BY MARIA ZANKEY | PHOTO BY JARED CASTALDI

**D**uring the peak of the Iraq war, ABC News Anchor Bob Woodruff was struck by a roadside bomb in Iraq. The man known by millions of viewers across the country suffered a traumatic brain injury that nearly killed him.

It was 2006, and for many service members who suffered the same catastrophic wounds, Woodruff became an inspiration.

But it wasn't just the military community who followed his recovery. The entire nation was captivated, including Drexel global journalism graduate Anne Marie Dougherty.

Dougherty was married to an active duty Marine and fellow Drexel graduate, and the reality settled in that there was a possibility that her husband, Kevin (pictured above), or one of his fellow Marines, could suffer the same fate as Woodruff. She was driven to take action.

As Woodruff healed, his family became motivated to help other veterans and their families gain access to the network of resources and support the Woodruffs had received. They founded an organization to do just that.

Through Dougherty's network of Marine spouses, she came into the Woodruff family's circle and soon became involved with the Bob Woodruff Foundation.

First as an early volunteer and later as an employee, Dougherty was fascinated by the Woodruffs' ability to galvanize the tremendous outpouring of support and attention their story garnered to build a national brand. They had started a public awareness movement, and made a meaningful difference in the lives of veterans and military families.

"At the time, not many people were talking about traumatic brain injury or combat stress, which are now known as signature injuries of these wars," Dougherty says. "Service members are surviving injuries that would have been fatal in earlier wars, thanks to better safety equipment and the ability to quickly evacuate casualties to higher echelons of care. The impact of that has been profound."

Dougherty's early work at the Foundation centered



around her ability to help tell the Woodruff's story and build the brand. Her efforts took the organization from a kitchen table operation to the boardrooms of some of the biggest corporations in the world.

When her husband deployed to Marjah, Afghanistan in 2010, her work helping injured veterans and their families took on a whole new meaning — it became personal.

"What if this happens to my family?" Dougherty wondered. "It was even greater motivation for me to use the platform and goodwill surrounding the Woodruffs and Bob's story to help others."

Thankfully, her husband returned home safely and, shortly thereafter, Dougherty took on the Executive Director role of the Bob Woodruff Foundation. She immediately went to work to focus the organization's mission and ensure the highest levels of performance and accountability.

"The veterans landscape was changing drastically — after a decade of war, the needs of injured veterans were staggering, but the number of veterans' charities was equally as daunting, with more than 46,000 veteran nonprofits across the country," she says.

She knew that to effectively address the issues, the Foundation had to become the industry standard for high-impact investments and meaningful outcomes. This ethos under her leadership helped transform the organization into one of the most highly regarded military- and veteran-serving organizations in the country.

The Foundation is credited with the vision and financial support that built some of the most successful networks and solutions in the veteran community and they have invested more than \$33 million in programs reaching more than 2.5 million service members, veterans and their families.

Dougherty's work has helped fund and develop programs like Team Red, White and Blue, an initiative that focuses on reintegrating post-9/11 veterans into civilian life through exercise and social activities; and the Farmer Veteran Coalition, which provides veterans the opportunity to succeed in farming and as agricultural leaders through education, training and collaboration. The organization has also partnered with Student Veterans of America to help veterans navigate the transition from combat to college.

These are just a few of the 300 programs the Foundation supports — and Dougherty has been recognized by the *NonProfit Times* and American Marketing Association as Nonprofit Marketer of the Year for her role in making it happen.

The Foundation recently wrapped up its annual Stand Up for Heroes fundraising event, now in its 10th year. Started by the Woodruffs in collaboration with the New York Comedy Festival, the event is a star-studded night of hope, healing and laughter, with

performances from A-list comedians and headlined by Bruce Springsteen.

The 2016 event raised a record \$6.3 million.

"Over 100 injured service members and their families join us each year," says Dougherty. "They sit in the front rows, while best-in-the-business comedians and musicians perform for them. It creates a special energy and connectedness that everyone in the audience can feel."

While she says progress has been made in certain realms of



PINKESH PATEL

veterans' support, the issues she faces in her role at the Foundation haven't necessarily lessened — they've evolved.

"A decade later, the American public is weary. This nation is very patriotic, but there's certainly a sense of fatigue," Dougherty says. "So we make it our job to continue to engage and keep the public's attention on this issue. We don't want people to feel pessimistic about the future of the military — we want to remind them that when you take care of veterans when they come home, they will recover, and they will become more resilient than ever." ●



## Investing in Progress

BY TIM HYLAND

PHOTO BY ERIC MILLETTE

**P**inkesh Patel's academic credentials simply can't be questioned.

He received a bachelor's degree from Drexel University in physics (with honors) before completing a graduate degree at Caltech, where he dove into the just-developing field of research surrounding gravitational waves. He then went on to a postdoc at Stanford, where he branched out into the world of bioengineering.

But after years of hard work, not to mention a good bit of soul-searching, he decided that life in academia simply wasn't for him. What he needed, he says, was a broader, bigger challenge.

With that goal in mind, he moved on to the fast-paced world of Silicon Valley, where he served in key roles at both Facebook and Instagram. The work was exciting, urgent and at the very cutting edge of the world of technology. But even at those two tech powerhouses, Patel said he felt somewhat limited. He had gone into that industry seeking a greater challenge. He still hadn't found it.

Now, he says, he has. If you ask Patel to explain exactly what it is he is doing today, here's what he'll tell you: "I think the most succinct way to describe my work is to say that I currently help people who are solving some of the world's biggest problems solve them even better."



And here's the thing: he's not exaggerating in the least.

As a data scientist with Palo Alto-based Social Capital, Patel finds himself working alongside some of the brightest minds in the world of venture capital, and that alone makes the work fulfilling, exciting, even exhilarating. And because of the company's unique structure and singular mission, he does more than just "work." Indeed, the goal of Social Capital is not just to make money; it's to make money while funding businesses that matter.

"The overall goal of our fund is to invest in companies that are trying to solve the most difficult problems," he explains. "We invest in education, and in health care, and in environmental issues. And of course, we need to invest in things that make money, because we can't fund ourselves without money, but it also goes beyond that. We aim to invest in companies that offer more than just a good business plan, ones that are also tackling problems that are non-trivial."

Such talk may sound lofty, but Patel and his colleagues at Social Capital back up the company's mission statement — "to transform society by using technology to solve the world's hardest problems" — with actual action. Among the group's portfolio companies are socially conscious startups like HomeHero, which seeks to provide a higher and more holistic brand of home care to seniors in need; Collective Health, which aims to change the way companies provide health care coverage to their employees; Saildrone, which captures ocean data to monitor such issues as climate change and over-fishing; and Neurotrack, which is working to help individuals track their brain health — and even catch early signs of cognitive decline.

Some might assume, Patel says, that issues as massive as health care reform, climate change and others might be best solved by governments or specialized nonprofits.

But that thinking is flawed, he says. Private enterprise — and yes, venture capital — has a major role to play as well. For instance, he explains, climate change is more than just an environmental issue; when ocean temperatures change, not only are coastal communities impacted, but the world's fishing industry is as well. So why not get the major players and best thinkers from that sector involved in the pursuit of a solution?

**"I think the most succinct way to describe my work is to say that I currently help people who are solving some of the world's biggest problems solve them even better."**

"Some of these problems are things that we can't just leave to governments," he says. "There are commercial aspects to be considered as well."

The firm's focus on funding companies that matter is one big draw for Patel. But it's not the only one, he says.

Unlike other venture firms that may back promising startups with money but little else, Social Capital actually commits its own staff's expertise to the companies it invests in. The idea behind the strategy is simple: Social Capital has some really smart, really accomplished people who have done some really amazing things in their careers. They are the kind of people who make an impact at Social Capital every day. And so, of course, they are also the kind of people who can make an impact working somewhere else.

For Patel — someone who is always seeking a new experience, greater knowledge and a new problem to solve — this makes the experience of working there nothing short of inspiring.

He sought a career that was truly challenging and ever-evolving; at Social Capital, that's what he's found.

"What I feel that we do well is enable these smart young men and women to do what they want to do with their companies, and we do that by helping them as much as we possibly can," he says. "Now, all venture capitalists can say that, I suppose, but here I get the opportunity to actually go out and work with these companies. I become a part of their team. I help them solve their problem. It's very satisfying and it scratches that itch I have — to go out and explore and try different things." ●

A man with short brown hair and a light beard is walking towards the camera on a busy city street. He is wearing a dark grey cardigan with a white geometric pattern, a white shirt, and a blue and orange plaid tie. A brown strap is slung across his chest. The background is a blurred city street with many people and buildings.

AGENTS *of*  
CHANGE

# Protecting the Persecuted

BY ALEX McKECHNIE

PHOTO BY JARED CASTALDI

“**W**hy are you afraid to go home?” he asked. Without speaking, the two children answered in unison, lifting their shirts to reveal raw, pink scars stretching like spider webs across their torsos. It is an image that will haunt Andrew Damron, JD, forever.

Damron, a 2009 graduate of Drexel's International Area Studies program, was working as a volunteer legal advocate for Asylum Access Thailand at the time. The young siblings had been sent to Bangkok by their parents to seek refugee status after their home in Pakistan was set on fire by a mob — while the children were trapped inside. The family's crime? Practicing Christianity, a minority religion in the primarily Muslim country.

The siblings cried and shook as they recounted their hellish story.

"It was a lot for me to process," says Damron, who received his JD in international human rights law from Hofstra University School of Law in 2013. "They definitely don't teach you how to deal with situations like that in law school."

As a legal advocate, he wasn't supposed to show emotion during meetings with clients. He'd had to step out of the room, pretending to make copies in order to collect himself.

While the experience was difficult, it helped prepare Damron for the many other cases of pain and trauma he would hear throughout his career.

Now an asylum officer with the Department of Homeland Security, Damron screens applications from people seeking asylum or refuge in the U.S. He interviews two or three individuals per day at the DHS's New York office, as part of a rigorous vetting process that also includes screening by the FBI, State Department and the National Counterterrorism Center.

"I sit down face-to-face with each applicant, and they tell me their story," he says. "I only get a small glimpse of their life, but it's so important for them to be able to paint a picture of why we should grant them protection — and for them to be heard by someone who can make a big impact on their life."

Damron must then make a legal determination as to whether the facts of the case qualify the individual for protection.

"They have to show that they have been persecuted or have a 'well-founded fear' of future persecution based on their race, religion, nationality, membership in a particular social group or political opinion," says

Damron. "These are considered 'protected grounds.'

"If we go through their testimony and the evidence — like human rights reports or news articles that corroborate their stories — and we see that their fear is well-founded or reasonably objective, then we can grant them protection and they can eventually become [U.S.] citizens."

Religious persecution cases are some of the most frequent. Damron saw the complexity of these cases firsthand in the two years he spent as an immigration attorney prior to coming to the DHS. Many of the asylum-seekers that came through the door were from China or Egypt, where Coptic Christians are a religious minority targeted by other majority religious groups.

"Some were afraid of being attacked for simply walking down the street while holding a Bible," says Damron. "It's horrifying how many times the government in those situations is not willing to help its citizens, and, in essence, condones the acts by turning a blind eye."

Sometimes, however, the government is unable to protect its citizens, especially in countries like Syria where ISIS dominates, or in regions where insurgent groups like Al Qaeda are in control.

And sometimes, it is the government itself that they are afraid of, with many asylum-seekers fearing that they will be arrested or unlawfully detained for long periods of time.

"When I can grant someone protection from situations like this — and I know that one day they will be a great American — it feels good," Damron says.

He doesn't get to see the faces of the people he's interviewed when they receive their verdict, but he did get a taste of the experience last spring, when he spent a few months serving asylum decisions in New York.

"When you hand an applicant their approval letter, you see an instant change in their face," Damron says. "The first time I did it, I got chills up my spine. Their life is completely changed the second the paper passes from my hand to theirs. They don't have to go back to their country where



“When you hand an applicant their approval letter, you see an instant change in their face. ... They don’t have to go back to their country where they could be killed or thrown in jail for something that we consider a human right.”

they could be killed or thrown in jail for something that we consider a human right.”

But the people who fall just below legal threshold?

“It’s tricky, especially when you see kids who have family here, who go to school here, and who are already part of a community,” says Damron. “It’s always a difficult thing to grasp. But there may be other legal protections or legal grounds for them to stay in the U.S., which eases the burden of not being able to grant their case.”

Many of those who are denied asylum can be referred to immigration court, says Damron, which gives them another chance to be heard. “We reassure them that there is still hope, that they can try again,” he says.

In addition to cases of religious persecution, Damron has seen a significant number of individuals fleeing persecution because they are gay, lesbian, bisexual or transgender.

“Being gay is still criminalized in more than 70 countries around the world,” says Damron. “Not every country enforces those laws, but those laws tell society that it’s okay to attack someone in the street because of their sexual orientation or gender identity.”

Damron has been advocating for LGBT rights since his days at Drexel.

In 2008, he became president of a social organization on campus called FUSE (Foundation of Undergraduates for Sexual Equality), which met weekly to discuss issues in the LGBT community.

While the group was started several years earlier, Damron helped to revitalize it. By the time he graduated, nearly 50 students attended each weekly meeting. The group is still active today.

“FUSE inspired me to go to law school and to

start working with LGBT immigrants, which led me to where I am today,” he says.

It also inspired him personally. “When I started at Drexel, I didn’t identify as gay,” he says. “But I started to see the visibility of LGBT people at Drexel, and it gave me the strength and support I needed.”

Damron came out to his family and friends after spending time away on his first co-op, where he found the time and space to explore truly being himself.

“It worked,” he says. “People weren’t throwing stones at me when I told them I was gay. In fact, it was quite the opposite. That was reaffirming.”

“They call it ‘coming out,’ but it’s really ‘coming in’ to yourself and understanding yourself,” Damron says. “I felt like I could finally be the person I am.”

He continued his journey of self-discovery during his final co-op as a research assistant to the late Anne-Marie Obajtek-Kirkwood, PhD, a Drexel French professor and Damron’s mentor, who was writing a book on Osama bin Laden and Al Qaeda. The experience — looking up country conditions and human rights reports in French and English — was good preparation for his current job.

Obajtek-Kirkwood also encouraged Damron to study abroad in France. He spent a full academic year in Paris, where he had a rare opportunity to study at the historic Sorbonne.

“It’s an experience I can carry with me to better understand what an applicant might be experiencing: to be in a country that is unfamiliar to them, speaking a language that is not native to them,” says Damron.

Damron’s diverse experiences led him to his current role at the DHS in April 2016, a job he finds deeply rewarding.

“I feel proud every day when I come to work at such a great organization that saves thousands of lives every year,” says Damron. “I get to represent the United States — in my limited capacity — when I am speaking to an applicant. I am the face of our country in that moment.”

Damron credits the United States with developing a strong and powerful humanitarian protection program. In fiscal year 2016, the U.S. admitted nearly 85,000 refugees, according to the Pew Research Center, and granted protection to thousands of asylum-seekers who were already present here.

It is slated to admit even more — 110,000 refugees — in 2017.

While there are some who say accepting so many refugees poses an economic burden, or even increases the likelihood of a terror attack, others feel the U.S. could do more.

“The worldwide refugee crisis is at dangerously high levels,” says Damron.

According to the United Nations High Commissioner for Refugees, an unprecedented 65.3 million people around the world have been forcibly displaced, including 21.3 million refugees, half of whom are children.

While Damron believes that the international community needs to come together to tackle this daunting humanitarian crisis, he is proud to be able to do his part to help provide protection to individuals and families in need.

“I am not naïve. I understand that we still have many problems that we need to work on here in the U.S. — you can turn on the TV and see that any night — but oftentimes it doesn’t compare to the countries these people are fleeing. As far as human rights and protections that we can offer refugees and asylum-seekers, we’re really leading the world.” ●

Note: The content of this article is the personal opinion of Andrew Damron and does not reflect any position of the United States government or of the Department of Homeland Security.

# Speaking the Unspoken

BY MARIA ZANKEY

PHOTO BY JARED CASTALDI

**M**ona Elgohail grew up in a tight-knit, all-American family of six in Monmouth County, New Jersey.

Her supportive parents encouraged her to speak her mind — and she often did.

“As long as topics were discussed in an appropriate manner, we could discuss anything,” she says.

But the candor Elgohail experienced within the walls of her childhood home was the exception among many other American-Muslim families.

“Growing up, discussions around sexual health, reproductive health, and mental health were essentially nonexistent in the American-Muslim community,” Elgohail says.

But it’s not religiosity that stymies these types of discussions, she says.

“I purposely use the phrase ‘cultural taboos’ and not ‘religious taboos,’ because religiously, it is permissible to discuss these subjects.”

So, it was somewhat natural for Elgohail — an outspoken Muslim woman with a fervent curiosity for social justice issues — to make breaking down these cultural barriers a part of her life’s work.

“People have a right to be educated about these topics, and I want to be a part of that process,” Elgohail says.

It’s that drive that attracted her to Drexel.

While completing her bachelor’s degree in neuroscience and behavior at Barnard College of Columbia University, her studies focused on the ways in which biological, psychological and social factors interact and influence individuals’ physical and mental health.

She came to Drexel to pursue her PhD in clinical psychology with the aspiration to alleviate human suffering through practice and research.

It was at Drexel that she hit her academic stride — and promoted social justice advocacy from a personal interest to



**MONA ELGOHAIL**



## “If discrimination doesn’t kill you immediately, it can kill you slowly...”

a professional goal. She was even elected by the American Psychological Association of Graduate Students to serve as the Member-at-Large, focused specifically in the area of diversity, for the 2016-2018 term.

“It really wasn’t until I began my clinical training in graduate school that I gained a more complete understanding of the impact of social factors on an individual’s wellbeing,” Elgohail says. “I naively believed that therapy would be enough to help my clients overcome the problems in their lives, but I learned that many psychological problems are the result of systemic failures.”

Systemic problems, Elgohail believes, require systemic solutions.

“It is critical that as psychologists and psychologists-in-training, we use our expertise, privilege and authority to challenge and dismantle the systems of oppression in which many of our clients are undoubtedly embedded,” Elgohail says.

As a hijab-wearing Muslim woman, Elgohail speaks from experience.

She recalls visiting a friend in an apartment complex, where the doorman asked, “Are you a terrorist?” before chuckling and letting her in.

She tells the story of a 9-year-old family member whose third-grade classmate told him that she wasn’t allowed to be friends with Muslims.

There are many more examples of discrimination experienced by minorities across America, she says, and they’re not only morally unconscionable — these experiences are detrimental to their health.

“Minorities, particularly people of color, are more likely to be seen and treated as criminals, terrorists, second-class citizens — the list goes on,” Elgohail says. “A significant amount of research details the harmful effects of discrimination on mental and physical health, such as suicidal ideation, low self-esteem, anxiety, depression, hopelessness, pain, fatigue, obesity and cardiovascular disease.

“If discrimination doesn’t kill you immediately,” she adds, noting the recent high-profile cases in which black men have been killed by police officers, “it can kill you slowly, or significantly decrease your quality of life through these long-term mental and physical health consequences.”

In Drexel’s Women’s Health Psychology Lab led by her mentor and thesis adviser Pamela Geller, PhD, Elgohail focuses on women’s reproductive health issues with an emphasis on minority women’s infertility and pregnancy experiences.

The two are currently collaborating on a research study that examines the impact of faith on the mental health and coping of Muslim women with fertility issues — it’s a project Elgohail expanded to include the long-term goal of establishing a national support group for Muslim women.

She launched the study, dubbed the Muslim Fertility Project, in January 2016 with a Facebook video exposing the lack of resources for Muslim women struggling to become pregnant or carry a pregnancy to term, and encouraged individuals to take an anonymous study survey.

The survey poses questions not only about their fertility struggles — whether conceiving or carrying to term — but also about their identity as a Muslim.

Knowing the cultural taboos within the Muslim community, Elgohail feared her effort would be met with whispers.

But almost instantly, people clicked, shared, viewed and commented — to the tune of nearly 3,000 views a day within the first week.

Through the Muslim Fertility Project’s Facebook page, Elgohail watched women form regional support groups, share their infertility struggles publicly, and even engage with others through the #MuslimFertility hashtag.

Almost 1,600 individuals have completed the study survey to date — half of whom completed the survey within the first 10 days — and many participants have shared that they found the process of completing the anonymous survey to be therapeutic.

Even the White House took notice. Elgohail was invited to DC for the launch of the Know Your Neighbor Coalition, a campaign created to increase interfaith dialogue in America, especially in light of surging Islamophobia after the Paris and San Bernardino tragedies.

“Their inspiring and unexpected response to the study, Facebook page and video really speaks to the fact that many Muslim women are silently struggling with infertility, and often without proper support,” Elgohail says.

Unfortunately, academics have conducted very few research studies on Muslims’ infertility experiences.

Elgohail hopes her research will lay some of the groundwork needed to develop interventions that will ultimately benefit infertile Muslim women physically and mentally, as well as continue to expand the dialogue on reproductive health issues within Muslim communities.

“The video shattered the wall of silence around infertility in the Muslim community,” Elgohail says. “Since the launch of the study, I’ve been inundated with touching messages from Muslims worldwide who are struggling with infertility. Many women — and men — have expressed their support and gratitude for the Muslim Fertility Project, and affirmed that this is a conversation they have needed and wanted for so long.” ●



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## Navigating the Social Services Landscape

BY ALEX McKECHNIE

While Philadelphia is plagued by a 26 percent poverty rate, it is also home to hundreds of programs, agencies and organizations that help low-income and marginalized people find housing assistance, job training, legal help, food access, college planning support and more. Accessing these resources and opportunities, however, can be a challenge due to the complexity of the social service landscape.

An initiative from Drexel University's College of Arts and Sciences and the Lindy Center for Civic Engagement is addressing this issue through a service called UConnect, which trains members of the Drexel community to act as navigators to help connect local residents with a range of services and opportunities. Based at the Dornsife Center for Neighborhood Partnerships, UConnect serves Drexel's neighboring "Promise Zone" communities of West Philadelphia.

"Creating and cultivating interpersonal connections is in many ways at the heart of how we approach civic engagement at Drexel," says Cicely Peterson-Mangum, executive director for the Dornsife Center.

"The UConnect model lets our students, faculty and staff work in collaboration with residents to facilitate access to important resources, and it gives members of the Drexel community an opportunity to act as advocates for our neighbors."

The urban extension center functions as a navigational referral system. Students and other trained volunteers, including Drexel alumni, meet with community members one-on-one to assess needs, set goals — from finding employment to securing housing and education — and then connect them with vital community resources. But the service doesn't stop there — the navigators continue to track clients' progress until their needs have been met.

The outcomes of the program are measured and evaluated to provide evidence for grants and support. The effort tracks the program's effectiveness, including the number and quality of referrals as well as progress toward achieving community members' goals. It will also glean community member and partner feedback to continually monitor and improve UConnect's services.

The backbone of staffing for the center is provided by students from the criminal justice course Justice in our Community, a

Community-Based Learning course offered each term in the College of Arts and Sciences. The class is taught by Cyndi Rickards, EdD, senior assistant dean for community engagement and assistant teaching professor in the Department of Criminology and Justice Studies.

"The College's Community-Based Learning courses are the perfect vehicle for helping to address the issues that impact our local communities," says CoAS Dean Donna Murasko, PhD. "By training our students to work proactively with our neighbors who are facing these issues, students learn not only the theoretical principles underlying social change, but also the practical skills needed to make these changes and, importantly, the equally powerful skills of empathy and understanding."

To date, the organization has received \$40,000 from the Service Year + Higher Ed Innovation Challenge, taking home both the private university category and the audience choice

award. Finalists were invited to present program concepts that promote the integration of learning and service during college. CoAS students Awurama Agyei '18 (one of the first trained navigators) and Amelia Fisher '17 (UConnect's first co-op student) were both integral parts of the pitch.

Gina Gendusa, associate director in the Lindy Center and former program director for LIFT Philadelphia, oversees UConnect's community programmatic elements, while Rickards directs the academic components.

"Students learn first-hand, in a very personal and human way, about knowledge application and real and pervasive issues of social justice," says Rickards. "We hope that students will take the UConnect experience with them back into their homes, classrooms and professional lives, becoming the civically engaged change agents our communities need."

FOR MORE INFORMATION OR TO MAKE AN APPOINTMENT, PLEASE CALL 215-571.4860.



# WORDS TO LIVE BY

BY FRANK OTTO

A person's words can inspire, and the words of two women born decades apart sparked a whole seven-week-long festival this past fall.

In a reflection piece written as part of Drexel University's Writers Room literary arts program, Mantua resident Carol Richardson McCullough explored why she writes and the inspiration she's found in the work of author Zora Neale Hurston.

"I would love to turn my journals into memoir because there is a story I have to tell," wrote McCullough. "Much has happened. Zora Neale Hurston wrote a book in seven weeks to pay her rent. Perhaps I will do that, too."

Hurston, born 125 years ago — the same year as Drexel University, coincidentally — wrote "Their Eyes Were Watching God," a semi-autobiographical novel featuring a black, female protagonist. Published in 1937, the novel has become a classic in American literature and was on the list of potential books to choose for the National Endowment for the Arts (NEA) Big Read grant program.

Writers Room Director and Founder Rachel Wenrick was moved by McCullough's piece to use the novel as inspiration for a dozen linked events for which the literary arts program received a Big Read grant.

"The NEA has 34 different books you can choose from. When we saw 'Their Eyes Were Watching God,' we said, 'It has to be that one,'" says Wenrick. "That quote from Carol, that's the heart of it — how Hurston's genius and subject matter continue to inspire."

An initiative of the College of Arts and Sciences and Dornsife Center for Neighborhood Partnerships, Writers Room is designed to bring Drexel and its neighboring community together to explore the power of the written word. NEA programming was put together chiefly by Wenrick and Kirsten Kaschock, PhD, an assistant teaching professor of English and assistant director of Writers Room. Faculty across Drexel and community partners Philadelphia Reads and the Free Library of Philadelphia also contributed to the programming, which fittingly lasted seven weeks.

"The famous lore is that the novel was written in seven weeks, so we wanted to see what we, as a community, could produce in the same timeframe," Wenrick says.

In late September, the festival kicked off with much fanfare. McCullough introduced the event's keynote speaker, Cheryl Wall, PhD, Zora Neale Hurston Professor of English at Rutgers University,

who spoke about Hurston's life and work. Following the keynote, a New Orleans-style second-line parade — led by the West Powelton Drummers, the official drumline for the Philadelphia 76ers — made its way through Drexel's campus and the Mantua and Powelton Village neighborhoods, ending at the Dornsife Center, where Writers Room is housed. There, the progressive funk band Darla, composed of Drexel students and alumni, performed to commemorate Hurston's work with African-American folk music.

Events in the weeks following included literary panels, a performance workshop, soul food cooking with chef Brian Lofink '03 (Dornsife community chef-in-residence and chef at The Sidecar Bar & Grille and Kraftwork), poetry slams, children's programming and, of course, book discussions and writing sessions. At the end of the programming, Writers Room hosted a closing party to read, watch, hear and savor what they had created in response to Hurston's book.

The goal of the NEA Big Read program was to further the goals of Writers Room: to bring together a wide range of people through the experience of writing and art.

"I hope it continues to show us that we are more the same than we are different," Wenrick says. "Things like the Big Read and Writers Room, where we take time out of our daily existence to share an experience with someone else, those moments are transcendent. You find your folks, that's what art does. And that's what we come together at Writers Room to do."





# Nurturing Motherhood

BY DIANE KETLER

According to the Centers for Disease Control and Prevention, approximately one in eight women experience postpartum depression. Despite their suffering, many new mothers do not seek treatment, says Pamela Geller, PhD, associate professor of psychology and research associate professor of OB/GYN in the College of Medicine.

“[This is] due to limited recognition of the severity of their symptoms, limited options for specialized care, and the stigma surrounding their condition,” she says.

Drexel University’s new Mother-Baby Connections program provides a safe space for new mothers to obtain holistic care at Parkway Health & Wellness in Drexel’s College of Nursing and Health Professions. The program offers individual, couples and mother-baby therapy sessions, as well as group therapy sessions for women to share their experiences with other new mothers.

Founded by Geller and Bobbie Posmontier, PhD, CNM, PMHNP-BC, associate professor in the College of Nursing and Health Professions — and in collaboration with Thomas Jefferson School of Nursing’s June Horowitz, PhD, RN, CNS-BC, FAAN (now at the University of Massachusetts Dartmouth), and Drexel CNHP faculty Lisa Chiarello, PT, PhD, PCS, FAPTA, and Ting Liu, PhD — Mother-Baby Connections serves pregnant and postpartum women experiencing depression and anxiety up to one year after childbirth.

The clinic provides patients with four to 12 weeks of intensive therapy (shorter than traditional treatment programs), allowing mothers to feel better faster before resuming therapy at their own pace.

Based on clinical models in Europe, Canada and other countries, Mother-Baby Connections is the only intensive outpatient clinic of its kind in the mid-Atlantic region, and just one of a handful in the U.S. The program focuses on a woman’s transitional role to becoming a mother, interpersonal communication, mental health symptoms and social isolation. And unlike other postpartum programs, Mother-Baby Connections uses an attachment-based model in which mothers are encouraged to bring their baby and partner with them to therapy, allowing them to improve their relationships and attachment bonds with their partner, child and family as a whole.



Left to right: Bobbie Posmontier, PhD, CNM, PMHNP-BC, and Pamela Geller, PhD

“We believe that healing from postpartum depression will be more effective when the woman, infant and family are involved in the therapy,” says Posmontier.

Mother-Baby Connections goes beyond traditional treatment, offering creative arts therapies (including dance, art and yoga), mother-baby interaction therapy, cognitive behavioral treatment, and other evidence-based approaches including couples counseling.

Geller, Posmontier and Horowitz hope to use the research from the clinic to better understand postpartum depression.

“We can look at behavioral markers like impaired mother-infant interactions and reports of depressive symptoms, but we don’t yet have an objective, physiological marker to say that a woman has postpartum depression and to measure whether she is getting better,” says Geller.

The co-founders are working with Meltem Izzetoglu, PhD, from Drexel’s Biomedical Engineering program to develop a neurological marker to objectively determine the presence of postpartum depression and impaired mother-infant interaction, and to monitor treatment progress. They’re also working with a number of multidisciplinary graduate and postdoctoral students, with the goal of training new mental health care professionals through experiential learning.

*Those interested in the Mother-Baby Connections program can contact co-directors Pamela Geller ([pg27@drexel.edu](mailto:pg27@drexel.edu)) and Bobbie Posmontier ([bp98@drexel.edu](mailto:bp98@drexel.edu)), or call Mother-Baby Connections at 267.282.1455.*

# “GOOD MORNING, NEIGHBORS”

Drexel University’s new biweekly radio show, “Good Morning, Neighbors,” possesses the genial essence of “Mister Rogers’ Neighborhood,” minus the zip-up cardigan and blue sneakers. The five-episode pilot season, hosted by Drexel Edits Director Lawrence Souder, PhD, aired this spring on WKDU, Drexel’s student-run radio station. The episodes feature interviews with local nonprofits, focusing on each organization’s challenges and successes, history and mission.

“A lot of nonprofits don’t have the expertise or the resources to mount any kind of outreach,” says Souder. ““Good Morning, Neighbors’ helps these organizations’ voices and concerns be heard beyond their current sphere of influence.”

Guests on the pilot have included representatives from the Wright Recreation Center, ACHIEVEability, Habitat for Humanity Philadelphia, Urban Tree Connection, and West Philadelphia Action for Early Learning Initiative. The program is a collaboration between Drexel’s Lindy Center for Civic Engagement, WKDU and Drexel Edits, a group that offers communication support to local nonprofits. Keep an ear out for new episodes this winter on WKDU 97.1FM and mixcloud.com.



Left to right: Rob Jackson of the Wright Recreation Center; Lawrence Souder, PhD; and Nick Surgent, Drexel Community Scholar



MARI ART/THINKSTOCK

## The Gift Horse

Compassion comes in all shapes and sizes. For Jorge Armando López Pocol, it stands 15 hands tall.

Six Drexel University students met Pocol during an intensive course abroad in Guatemala, where they explored environmental and global health issues with the local community. Pocol, who started the Chico Mendes Reforestation Project in honor of the slain Brazilian environmental activist, encourages people to fight with their minds.

His latest act of political protest involves planting thousands of trees on a hillside to lure protected birds in an attempt to thwart the privatization of land and water by a transnational mining company. Moved by his actions, the students launched a GoFundMe campaign to buy Pocol a horse to haul the trees. He says he’s always dreamed of a horse, but it’s never been financially feasible — until now. Thanks to the students’ compassion — and a successful campaign — Pocol now has the help he needs to continue his peaceful protest.

# READING LIST

A GOOD BOOK CAN MOVE, MOLD AND INFORM YOU. ALLOW OUR FACULTY-WRITTEN PUBLICATIONS TO TRANSPORT YOU TO 19TH CENTURY BRITAIN, INSPIRE YOU TO EXPLORE THE CONNECTIONS BETWEEN SCIENCE AND RELIGION, AND PROMPT YOU TO QUESTION THE VALIDITY OF VEGETARIANISM (JUST READ IT BEFORE YOU START THROWING TOMATOES AT US, OK?).

## **BUILDING DREXEL: The University and Its City 1891-2016**

*Richardson Dilworth, PhD, and Scott Gabriel Knowles, PhD* |

POLITICS AND HISTORY

“Building Drexel” chronicles the University’s 125-year history from its founding by Anthony J. Drexel through to the present day. Richly illustrated chapters cover the architectural history of notable Drexel buildings, the role of the University in Philadelphia’s modern history, Drexel Greek life, sports — particularly Drexel’s history in the Big 5 — and each of the University’s schools and colleges. The book also documents the civil rights history of Drexel and its urban planning history in relation to the racially diverse neighborhoods it borders.

## **BUILDING THE COMMUNE: Radical Democracy in Venezuela**

*George Ciccariello-Maher, PhD* |

POLITICS  
Since 2011, a wave of popular uprisings has swept the globe, taking shape in the Occupy movement, the Arab Spring, 15M in Spain, and the anti-austerity protests in Greece. The demands have been varied, but have expressed a consistent commitment to the ideals of radical democracy. Similar experiments began appearing across Latin America 25 years ago, just as the left fell into decline in Europe. In Venezuela, poor barrio residents arose in a mass rebellion against neoliberalism, ushering in a government that institutionalized the

communes already forming organically. In “Building the Commune,” Ciccariello-Maher travels through these radical experiments, speaking to a broad range of community members, workers, students and government officials.

## **SPECULATIVE BLACKNESS: The Future of Race in Science Fiction**

*André Carrington, PhD* |

ENGLISH  
In “Speculative Blackness,” Carrington analyzes the highly racialized genre of speculative fiction — including science fiction, fantasy and utopian works, along with their fan cultures — to illustrate the relationship between genre conventions in media and the meanings ascribed to blackness in the popular imagination. Carrington’s argument about authorship, fandom and race in a genre that has been both marginalized and celebrated offers a black perspective on iconic works of science fiction. He examines the career of actor Nichelle Nichols of the original “Star Trek” television series (who later became a recruiter for NASA), mines the productions of Marvel comics and the black-owned comics publisher Milestone Media, and interrogates online fan fiction about black British women in “Buffy the Vampire Slayer” and the “Harry Potter” series.

## **A CRITIQUE OF THE MORAL DEFENSE OF VEGETARIANISM**

*Andrew Smith, PhD* |

PHILOSOPHY  
Drawing on research in plant science,

systems ecology, environmental philosophy and cultural anthropology, Smith shatters the distinction between vegetarianism and omnivorism. The book outlines the implications that these manufactured distinctions have on how we view food and ourselves as eaters.

## **ATTENTION-DEFICIT/HYPERACTIVITY DISORDER IN CHILDREN AND ADOLESCENTS**

*Brian Daly, PhD, and Aimee*

*Hildenbrand '12* |

PSYCHOLOGY  
Attention-Deficit/Hyperactivity Disorder (ADHD) is a common childhood disorder that can have serious consequences for academic, emotional, social and occupational functioning. However, when properly identified and diagnosed, there are many interventions for the disorder that have established benefits. This volume is both a compact “how to” reference for use by professional clinicians in their daily work, and an ideal educational reference for practice-oriented students.

## **THE TRUTH ABOUT SCIENCE AND RELIGION: From the Big Bang to Neuroscience**

*Fraser Fleming, PhD* |

CHEMISTRY  
Religion has influenced the development of science over the past two millennia. “The Truth about Science and Religion” tells the story of their interaction, examining the origin of the universe, evolutionary processes, Christian beliefs, the history of science, what it means to be human, and what science and religion have to say about these ideas. The book provides the historical and scientific



background and the philosophical insight needed to think through issues of science and religion and their influences on personal beliefs.

**REIMAGINING (BIO)MEDICALIZATION,  
PHARMACEUTICALS AND GENETICS:  
Old Critiques and New Engagements**

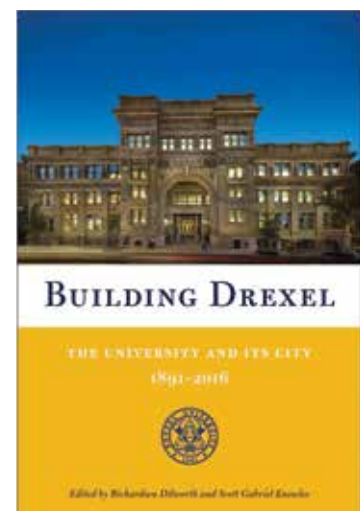
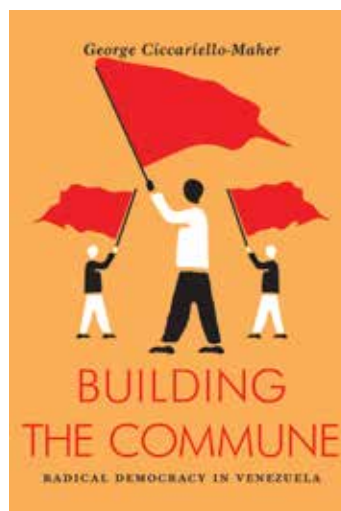
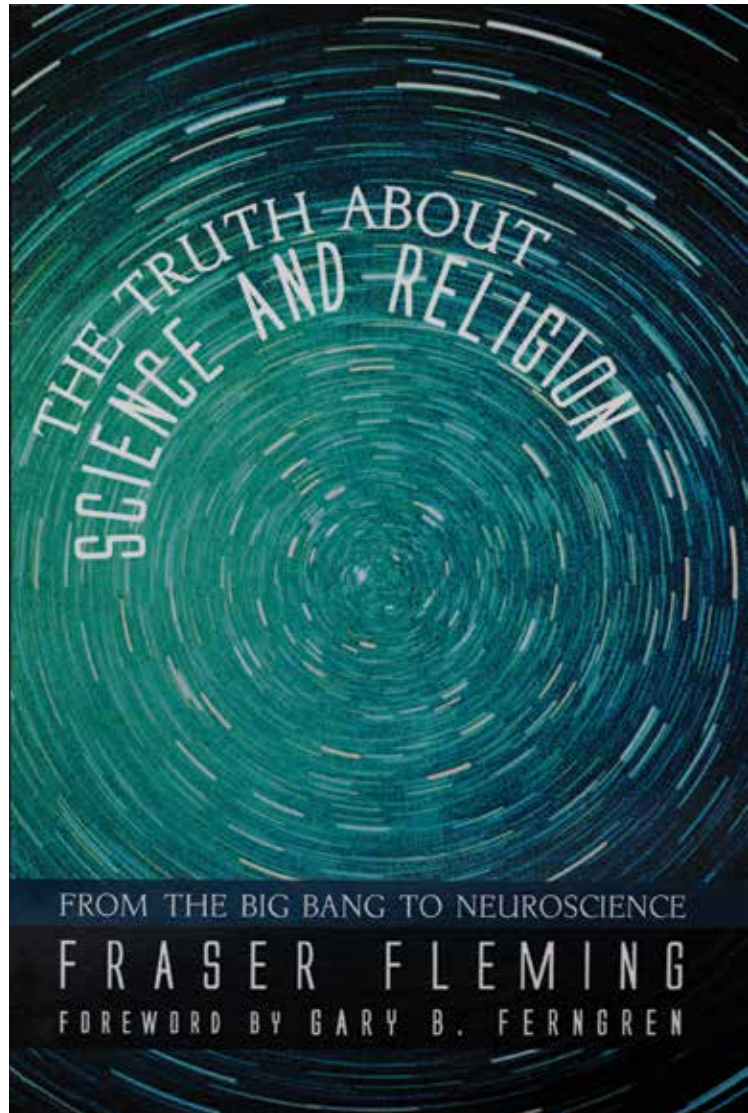
*Susan Bell, PhD* | SOCIOLOGY

In recent years, medicalization — the process of making something medical — has gained considerable ground and a position in everyday discourse. In this multidisciplinary collection of original essays, the authors consider how issues around medicalization have developed, ways in which it is changing, and the potential shapes it could take in the future. They develop a unique argument that medicalization, biomedicalization, pharmaceuticalization and geneticization are related and co-evolving processes, present throughout the globe.

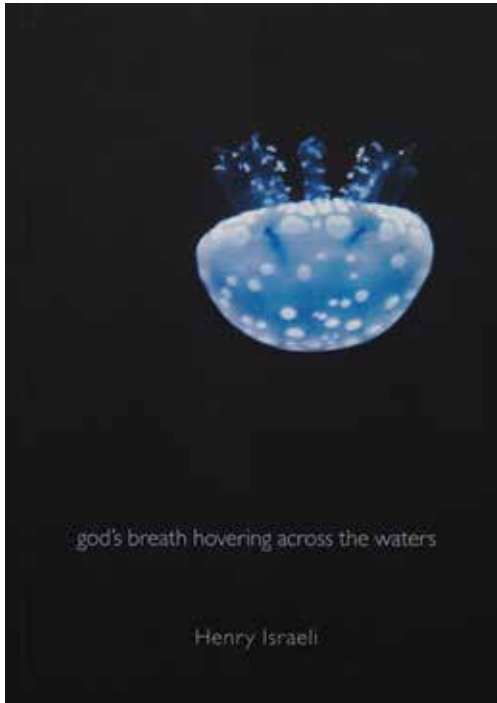
**A DEAD COW, MILKSHAKES,  
HYPER-MASCULINITY AND JINN:  
Stories from Fieldwork in Somalia**

*Anthony Glascock, PhD* | ANTHROPOLOGY

Anthropology is a narrative discipline, and Glascock has always used stories from his research to illustrate important points in class. The problem is that students often remember the stories, but not always the point the story illustrates. In this book, Glascock starts with the stories from his research in Somalia and uses them to draw out the important points, rather than the other way around. It's a different approach, but one that is quite effective.



## READING LIST



### GOD'S BREATH HOVERING ACROSS THE WATERS

Henry Israeli | ENGLISH

"god's breath hovering across the waters" begins with the story of Arthur Penzias's discovery of the echo of the Big Bang through a cryogenic microwave receiver and from there explodes into a meditation on the untimely and tragic death of the author's mother. Memories, history, war, science, horror movies, space exploration and the RCA dog are just some of the subjects that expand and contract, intersect and repel, throughout the arc of this poetry collection.

### THE OBJECTS AND TEXTURES OF EVERYDAY LIFE IN IMPERIAL BRITAIN

Deirdre McMahon, PhD | ENGLISH

Focusing on everyday life in 19th-century Britain and its imperial possessions — from preparing tea to cleaning the kitchen to packing for imperial adventures — the essays in this collection share a common focus on materiality, the nitty-gritty elements that helped give shape and meaning to British self-definition during the period. Each essay demonstrates how

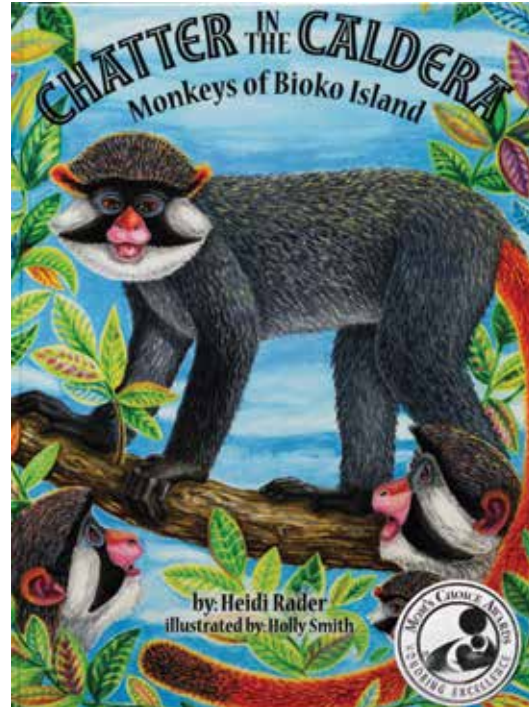
preoccupations with common household goods and habits fueled contemporary debates about cultural institutions ranging from personal matters of marriage and family to more overtly political issues of empire building.

### THE CQ PRESS GUIDE TO URBAN POLITICS AND POLICY IN THE UNITED STATES

Richardson Dilworth, PhD |

POLITICS AND PUBLIC POLICY

If the old adage that "all politics is local" is even partially true, then cities are important centers for political activity and for the delivery of public goods and services. U.S. cities are diverse in terms of their political and economic development, demographic makeup, governance structures and public policies. Yet, there are some durable patterns across American cities, too. Despite differences in governance and/or geographic size, most cities face similar challenges in the management of public finances, the administration of public safety, and education. And all U.S. cities have a similar legal status within the federal system.



This reference guide will help students understand complexities such as how American cities have developed over time; how the various city governance structures allocate power across city officials and agencies; how civic and social forces interact with the organs of city government and organize to win control over these organs and/or their policy outputs; and what patterns of public goods and services cities produce for their residents.

### CHATTER IN THE CALDERA: Monkeys of Bioko Island

Heidi Rader | BIOLOGY

The forests of Bioko Island, Equatorial Guinea, have become strangely quiet. For weeks there has been no monkey chatter. In this children's book, forest guard Cirillo and his father guide an expedition team on an adventure through the Gran Caldera Scientific Reserve to unravel the mystery of why the monkeys of Bioko Island have disappeared — and why we need to save them before it is too late.





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# Alumni Travel Program

## 2017 DESTINATIONS

As part of its commitment to lifelong learning, Drexel University partners with reputable luxury travel agencies to offer unique group travel opportunities to its graduates. These alumni travel programs combine educational forums and excursions to places of historical and cultural interest, with the opportunity to enjoy unplanned experiences and meet local people. To learn more about the spectacular slate of trips planned for 2017, visit the Drexel alumni website at [drexel.edu/alumni](http://drexel.edu/alumni).

### **Palms in Paradise** **April 24 – May 10**

From palm-fringed beaches to man-made wonders and majestic colonial architecture, experience some of the best of Central America on this luxury cruise.

### **Flavors of Northern Italy** **May 20 – 28**

Visit picturesque vineyards, discover local varietals and enjoy exclusive tastings and presentations, schools and community projects.

### **Vineyards and Vignettes** **May 23 – June 1**

From Lisbon to London, encounter the cultural riches of Oporto, La Coruna, Bilbao, Saint-Jean-de-Luz and Bordeaux.

### **Croatia's Adriatic Coast** **June 5 – June 16**

Explore Croatia's captivating cities, lush landscapes and romantic Dalmatian Coast.

### **Canadian Rockies** **June 9 – 17**

Stand in awe of sweeping mountain vistas on this active journey through the Canadian Rockies.

### **Cruise the Rhine River** **June 26 – July 4**

From Amsterdam to Basel, this journey through the heartland of Europe is designed with families in mind.

### **National Parks of the Old West** **July 25 – Aug. 3**

Discover the storied sights and monuments of Badlands National Park, Custer State Park, Spearfish Canyon, Yellowstone National Park and Grand Teton National Park.

### **Scotland, Stirling** **August 14 – 22**

Local guides provide fascinating insight into Scotland's legendary history and beauty.





## Can “Martin” Zhang

'07

MD, PhD

**OCCUPATION:** ASSISTANT PROFESSOR AND INVESTIGATOR,  
MASSACHUSETTS GENERAL HOSPITAL AND HARVARD MEDICAL SCHOOL

CAN “MARTIN” ZHANG IS A LEADING researcher in the fight against one of our nation’s fastest growing, incurable diseases: Alzheimer’s. After earning his MD at Weifang Medical University in China, Zhang became interested in understanding and regulating disease pathology at the molecular level. He earned his PhD in molecular biology with an emphasis on neuroscience under Drexel’s Aleister Saunders, PhD, and then went on to postdoctoral training in the Genetics and Aging Research Unit of Massachusetts General Hospital. Today, as a researcher and assistant professor at MGH and Harvard Medical School, his work focuses on identifying the mechanism of neurodegeneration in Alzheimer’s disease. His goal is to uncover molecular targets and biomarkers that will aid in developing new therapeutic strategies to treat this devastating disease.

**Favorite two books right now?** “The Three Kingdoms” and “Decoding Darkness”

**Who are your heroes?** My parents and my wife

**Last time you did something for the first time?** This past Halloween. Carved a Jack-O’-Lantern designed by my daughter

**Best mistake you ever made?** This question kept me thinking. I wavered between “went to medical school” and “pursued biomedical training” — they are very closely related but different career paths. I think medical school is the “best mistake” because I can understand and further develop some exciting biomedical projects through my formal medical training, even though I did not end up practicing medicine.

**Favorite Drexel memory?** Building friendships and connections within the inclusive Drexel community (e.g., in Dr. Saunders’ laboratory and the Department of Biology, at the basketball court — we played almost every Friday evening — and in the Alternative Spring Break program).

**Current event you wish people knew more about?** Alzheimer’s disease and healthy aging. We are working hard to develop a deeper and better understanding of Alzheimer’s disease through global and multidisciplinary collaborations and integrative networks.

**Proudest accomplishment so far?** Elucidated the roles of genes and pharmacological agents in Alzheimer’s disease. The results were published in reputable journals, *Nature* and *Science*, and were highly evaluated.

**What is your favorite of the five senses and why?** Sight. It works better together with other senses, but it appears to last longer and seems to be the first one I reference when I recall events.

**If you had the time to learn any skill, what would it be?** Acting. I enjoy watching movies and am impressed by good actors.

**If you could communicate using only Twitter or Instagram, which would you choose (i.e., words or pictures)?** Pictures. 95% pictures and 5% words.

**How do you “give back”?** By inspiring people through education and training to build a more inclusive community

**What makes the world go ‘round?** Caring, effort and purpose.



**Alumni Offer:**

Save \$5 at [ansp.org](http://ansp.org).

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