

ask
2012
art + science = knowledge

IN THE THICK OF IT

ATLAS EMBRACED

IMMERSED

THE HUMAN ELEMENT

LET THEM PLAY





Dear Alumni and Friends,

This year, I've had the opportunity to speak about the importance of supporting young female scientists in the pursuit of their dreams—whether those dreams

lead to medical school, to the lab, or elsewhere. The same is true for all of our students, male or female, English major or physics student. Our role as educators, as parents and friends, is to listen without judgment to the dreams of our students, our children and our colleagues, to gently guide and encourage them on their path to greatness, wherever it may lead.

The stories featured in *Ask* remind us of this lesson and many more. These are the lessons taught—in word and in action—by our community of students, staff, faculty and alumni.

Find your passion and pursue it with vigor.

Stay true to your principles.

Play.

Read.

Turn your attention inward and creativity will follow.

Be open to the wisdom of others; no issue can truly be understood from only one perspective.

Be mindful of your impact on others; we all have the power to change someone else's life.

Over the course of the year, we have experienced a great deal of change, some wonderful, some difficult. The Papadakis Integrated Sciences

Building, now LEED Gold certified, continues to exceed our expectations, drawing audiences of students, educators and architects from all over, even passing families who have heard about the “cool biowall.” Each time I pass through, I find myself awed by the architecture, at how the space retains its calming stillness despite the bustling of our active campus—and inevitably I find myself standing beside another passer-by who has stopped, as I have, to take it all in.

Along with the new space, our community has expanded with new faculty and students, as well as a brand new department (Biodiversity, Earth and Environmental Science) made possible by Drexel's partnership with the Academy of Natural Sciences. As we grow, some spaces remain, left by beloved colleagues who have passed on. Both the growth and the loss present challenges, but every story, every individual, teaches us something, encouraging us to learn and to dream and to reflect.

I hope you enjoy the stories in this year's magazine, that you find in them something that enriches your perspective, that inspires you, that makes you feel proud to be connected to this community. I know I am.

Here's to another transformative year,

Donna M. Murasko, Ph.D.

Dean, College of Arts and Sciences

Ask magazine is published annually by Drexel's College of Arts and Sciences. Each issue celebrates the accomplishments achieved by the College's talented faculty, students and alumni over the past academic year.

ask art + science = knowledge



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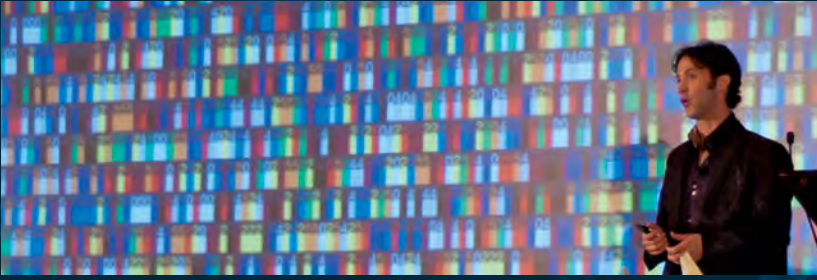
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"Some of my colleagues did a study where they asked people to rate their political opinions and they had one of two conditions: either they stand over here, or they stand on this side of the room near a hand sanitizer—just coincidentally, they're standing near a hand sanitizer. And it turns out, your political opinions become more conservative when you're standing near a hand sanitizer."

"If you were to just take a cubic centimeter of brain tissue, there are as many connections in there as there are stars in the Milky Way Galaxy."

"If you're holding a mug of warm coffee, you will describe your relationship with your mother as being closer than if you're holding iced coffee—strange but true!"

"You open your eyes and there's the world...and vision seems effortless, right?...But that's actually an illusion. The only reason vision seems effortless is because of the massive effort that's going into it; about a third of the human brain is devoted to constructing vision."

"So if you look in the brain, essentially what it's like is a neural parliament up there. You've got all these political parties, and they're all battling it out to steer the ship of state. And just like the Democrats, Republicans, and Libertarians, and so on, all these different political parties love their country, right? They just have a very different way of going about it. And that's what happens with these different subpopulations in your brain."

Know Thyselfes

"What's on your mind?" is a pretty loaded question if you ask **David Eagleman**, renowned neuroscientist and international bestselling author. On **May 2, 2012**, the College of Arts and Sciences welcomed the brain buff as the second annual lecturer in the College's Distinguished Lecture Series.

Photos by **SEAN CORBETT**

"When I was younger I played baseball and our coach used to say 'I want you guys to think out there.' And I would say 'actually you don't want us to think out there. You want us to train a sufficient number of hours so that it's all automatized so we don't have to think about anything.' But he never bought it, so I had to write a book on it eventually."

"The legal system that we have rests on two main assumptions. The first is that we are practical reasoners—that's the term of art in the legal profession. And what it means is that we are free to choose how we act. And the second related assumption is that all brains are equal. Now these are very charitable assumptions, but they're demonstrably false."

"When the brain changes, you change too. And it's not something you get to choose."

EAGLEMAN EXPLORED "The Secret Lives of the Brain," divulging how little we really know about the intricate organ that informs our every behavior and decision. His most recent bestseller, *Incognito*, explores the topic in greater detail, delving into questions like: "Why is it so difficult to keep a secret?" "Do we have control over who we find attractive or repulsive?" "How is it possible to get angry at yourself: who, exactly, is mad at whom?"

Eagleman's other works include *Wednesday is Indigo Blue*, *Why the Net Matters*, and the forthcoming *Live-Wired: How the Brain Dynamically Reconfigures*. He is a regular contributing writer for the *New York Times*, *Wired*, *Discover*, *Slate* and *New Scientist*, and is often featured on NPR discussing both science and literature. He holds joint appointments in the Departments of Neuroscience and Psychiatry at Baylor College of Medicine

"We're discovering that we are not the ones at the center of ourselves, instead we're sort of far off in a distant galaxy, as far as the conscious mind goes. But as we sail into this inner cosmos, what we're finding are all sorts of alien life forms, and planets and things that we never could've imagined. And so the bottom line is that we have discovered the most wondrous and complex and subtle thing in the universe, and it is us."

"So there's this Greek injunction to 'know thyself'; and I would say, in the light of modern brain science, it's probably something more like 'know thyselfes.'"



in Houston and is the founder and director of the Initiative on Neuroscience and Law. In 2011, he was named a Guggenheim Fellow, and his 2010 novel *SUM* was named "Best Book of the Year" by Barnes and Noble.





No Looking Back

If you're a licensed driver, you know that checking your **blind spot** is as routine as buckling your seatbelt—or *so we hope*. Now, thanks to the mathematical genius of **Dr. R. Andrew Hicks**, looking over your shoulder may be a thing of the past.

FOR YEARS, Hicks has been developing a driver's side mirror that eliminates the pesky "no visibility zone" known as the blind spot. His revolutionary prototype, which was generated using a complex mathematical algorithm, was awarded a U.S. patent this past spring.

The relatively flat mirror delivers 45 degrees of visibility, compared to just 17 degrees in a traditional driver's side mirror. What's unique about Hicks' design is the lack of distortion that comes with the wider view.

Curved mirrors, like those seen on trucks and buses, provide a more expansive picture of what's approaching, but the images are warped, affecting the size and depth of reflected objects. The flat mirrors that come standard on most vehicles remedy the distortion dilemma, but their field of view is limited.

Hicks' solution? Combine the best of both worlds.

"Imagine that the mirror's surface is made of many smaller mirrors turned to different angles, like a disco ball," says Hicks. "The algorithm is a set of calculations to manipulate the direction of each face of the metaphorical disco

ball so that each ray of light bouncing off the mirror shows the driver a wide, but not too distorted view of the scene behind him."

The cutting-edge mirror has received quite a bit of buzz recently—and not just from the car and tech folks, either. Popular late night talk show host Jay Leno mentioned the mirror in his show's opening monologue in June, joking that the discovery would be great if people actually used their mirrors.

Whether you use them or not (you should), don't expect the new mirror to be on 2013 models just yet. U.S. regulations currently require all new vehicles to come with traditional flat mirrors—though you can change them out post-sale. So for the time being, Hicks' mirror will likely be an aftermarket add-on.



The Truth, the Whole Truth, or Whatever It Is You Think You Remember

We've all been in this situation: you could've sworn something happened when in fact **it never did**. Maybe you thought you emptied the trash, sent that email, or locked the front door? But there they sit: **un-emptied, unsent, unlocked**. Sound familiar?



FALSE MEMORIES: it's a concept that famed psychologist Dr. Elizabeth Loftus has been studying for decades. On February 24, 2012, the memory expert discussed her work on the pliability of the human mind at the Department of Psychology's Annual Spring Colloquium.

Loftus' research focuses on our ability to recall details from the past, but what she's really interested in is the malleability of those details. Thinking you locked the front door when you didn't is one thing—it isn't hard to believe when you do it all the time. But believing that a completely fabricated or implausible event happened is a whole different story.

Yet sure enough, Loftus has been cooking up these fabricated memories in unsuspecting minds for

years: convincing people they got lost in the mall as children, that they had an adverse reaction to a certain food when they were younger, or that they met Bugs Bunny, a Warner Bros. character, at Disney World. She does it all by posing leading questions and providing deceiving information.

What she's found is that people don't just go along with the fabrications, they actually "remember" the events in detail, often embellishing with the specifics of the incident. Once these "rich false memories" are accepted, they take on the psychological characteristics of true memories and affect subsequent thoughts and actions.

Loftus' findings have had major implications on the credibility of eyewitness testimony and recovered or repressed memories. She's been an expert witness on a number of high-profile court cases, including the trials of Michael Jackson, O.J. Simpson, Martha Stewart and Ted Bundy. She's also appeared on *60 Minutes* and *The Oprah Winfrey Show*.

It's All About the Wordplay

With a flair for **fiction** and a propensity for **prose**, readers, writers and spoken-word spectators gathered for the Department of English & Philosophy's **Week of Writing (WoW)**, held annually in May.

THIS YEAR'S LINEUP included reading marathons, open mics, student and faculty readings, poetry slams, panel discussions and more.

Throughout the weeklong affair, attendees heard from speakers like Pulitzer-Prize-winning investigative journalists Barbara Laker and Wendy Ruderman, and from literary movers and shakers at *Philadelphia Weekly*, *Esquire*, *APIARY Magazine*, and *The Washington Post* (just to name a few).

The event roster also boasted the *Painted Bride Quarterly's* third Literary Death Match, which pitted top-notch Philadelphia writers in a fight to the literary death at the World Café Live. All-star judges included *Philadelphia Weekly's* Tara Murtha, *Philadelphia Inquirer* book editor John Timpane, and acclaimed visual artist Zoe Strauss.

Mark your calendar for WoW 2013 next May. Check the Drexel Publishing Group website this spring for more details: drexelpublishing.org.



A Cosmic Celebration

Over 900 people packed into Drexel's Main Auditorium on March 1, 2012 for the Department of Physics' 17th Annual **Kaczmarczik Lecture**, a series established in honor of late physics professor Paul Kaczmarczik. Astronomer **Dr. Brian P. Schmidt**, 2011 winner of the Nobel Prize in Physics, lectured on "**The Accelerating Universe**" to a standing-room-only audience of Drexel faculty, students and alumni, as well as high school students from across the Philadelphia area.

Photos by **SEAN CORBETT**

AFTER TAKING the crowd on a gripping tour of the cosmos, Schmidt, a distinguished professor and laureate fellow at the Australian National University, succinctly stated: “The universe seems to be speeding up by some unknown force.”

This neatly packaged declaration is the outcome of a research project that began in 1994, when Schmidt and a team of 20 astronomers set out to trace the expansion of the universe back over 13 billion years.

Using distant exploding stars, the High-Z SN Search Team, as they were called, worked for four years across five continents to ultimately discover that the universe is expanding at an accelerating rate. This unexpected conclusion was a shock to the physics community; up until then it was believed that the expansion was actually slowing down. Their findings also suggested that more than 70% of the cosmos is contained in a previously unknown form of matter called Dark Energy.

The team’s discovery was named *Science Magazine’s* “Breakthrough of the Year” in 1998 and Schmidt went on to receive numerous awards, including the Australian Government’s inaugural Malcolm McIntosh Prize for Achievement in the Physical Sciences, the Shaw Prize for Astronomy, the Gruber Prize for Cosmology, and the 2011 Nobel Prize in Physics.

In further celebration of Schmidt’s achievements, alumni, friends and faculty gathered at the conclusion of the lecture for an intimate dinner in his honor, and to celebrate the life’s work of accomplished Drexel alumnus Dr. Lee S. Schroeder, B.S. Physics ’61.

Schroeder, who retired in 2006 from his role as senior scientist at Lawrence Berkeley National Laboratory, was awarded the College’s 2012 Alumni Lifetime Achievement Award in the Sciences in recognition of his important and widespread contributions to the fields of nuclear and particle physics, and for his efforts in founding the new research area of relativistic nuclear collisions.

“I feel very humbled to receive this award from my undergraduate alma mater,” Schroeder remarked at the event. “Drexel provided an excellent background in science and mathematics—both extremely important in helping me to succeed in my future coursework and research. The co-op experience was also an essential element of my later success.”

The CoAS 2012 Alumni Lifetime Achievement Award in the Sciences



DR. LEE S. SCHROEDER

B.S. Physics & Atmospheric Science '61

Dr. Lee S. Schroeder’s more than 45-year career has included work in research, teaching, and science policy at various academic and government levels. After receiving his Ph.D. in experimental high-energy physics from Indiana Uni-

versity in 1966, he became an assistant professor at Iowa State University, where he remained for five years before joining the staff of Lawrence Berkeley National Laboratory (LBNL).

While at LBNL, Schroeder served as the scientific director of the Bevalac Facility, as well as the nuclear science division director. In his three and a half decades with the lab, he conducted experiments in particle and nuclear physics, authored or co-authored over 120 publications and presented more than 70 invited talks.

An undoubtedly sought after speaker, Schroeder is considered one of the founders of the modern research area of relativistic nuclear collisions. He is also a fellow of both the American Physical Society and the British Institute of Physics, and served as editor-in-chief for the Institute of Physics’ *Journal of Physics G: Nuclear Physics*, among many other prestigious positions and committee memberships.

In time away from Berkeley, Schroeder was the heavy ion program manager and the nuclear physics advisor at the U.S. Department of Energy’s (DOE) Office of Nuclear Physics, and served as the assistant director for physical sciences and engineering at the White House Office of Science and Technology Policy.

Since his retirement from LBNL in 2006, Schroeder has continued to work with the DOE as a consultant to their Office of Nuclear Energy in the area of Fuel Cycle R&D.

Schroeder’s impressive body of work earned him a spot as one of the original Drexel 100 in 1992, as well as the Award for Science and Engineering from Drexel.

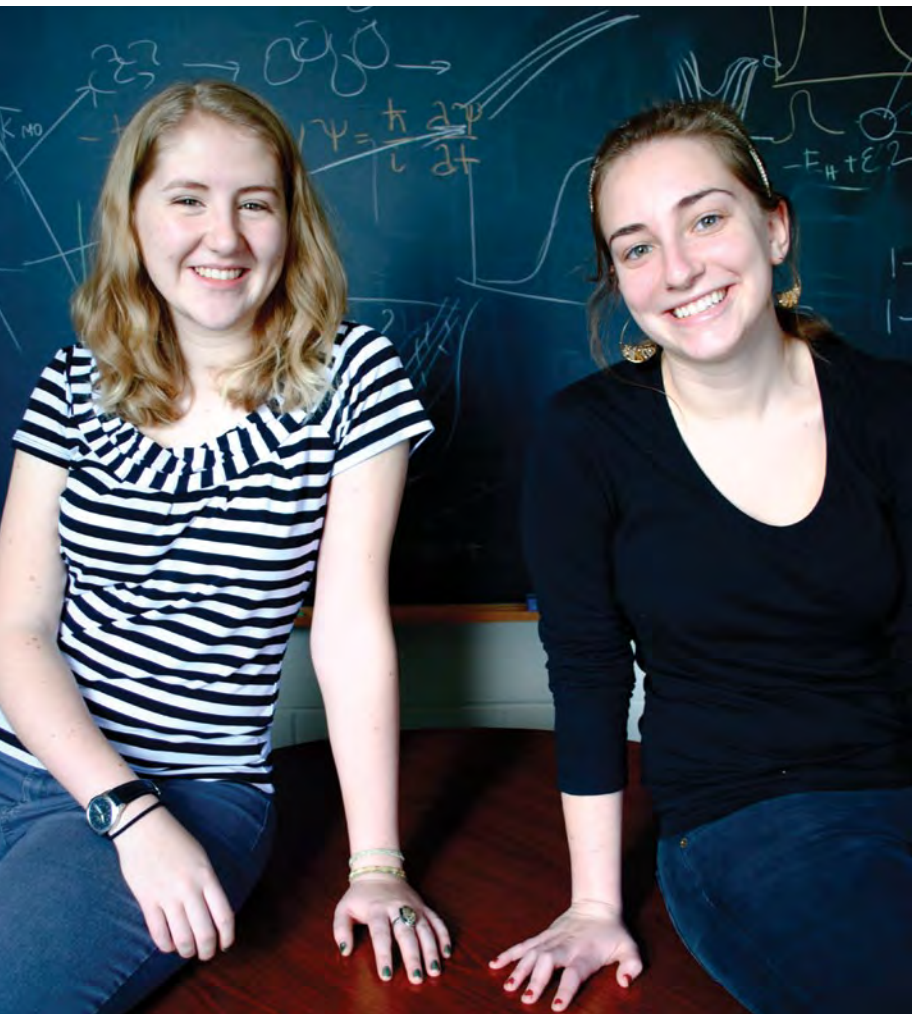


Smart as WiPS

It's no secret that the faculty seats and lab benches of physics classes nationwide are lacking female representation. But while enrollment numbers may be low, programs like the one in the [Department of Physics](#) at Drexel are turning out some truly extraordinary female physicists. Take seniors [Wendy Harris](#) and [Mary Chessey](#) for example: two promising students on a mission to put females at the forefront of physics.

by **DIANE KETLER** and **FURRAH QURESHI '12**

Photos by **WILLIAM LUKAS '15**



LAST FALL, mindful of the gender gap and eager to empower the minority, Harris and Chessey founded the Women in Physics Society, or WiPS for short. WiPS seeks to inspire female physics students, offering its members encouragement and intellectual camaraderie.

“Our goal is to become a close-knit community to support, motivate and educate one another,” says Harris, WiPS president.

The duo credits much of the organization’s success to the support they’ve received from the Drexel community, namely physics faculty members Dr. David Goldberg and Dr. Brigita Urbanc.

“When I first discussed the idea of WiPS with Dr. Goldberg, he was really enthusiastic. Before I barely got the words out, he said ‘I love the idea!’ and we immediately started brainstorming next steps,” says Harris.

She and Chessey have also found a champion and role model in Urbanc, the group’s faculty advisor, who has shared her own struggles and triumphs as a female scientist, and the lessons she’s learned along the way.

“Female physics students need to feel that it is OK to want to be physicists, and to be a woman simultaneously—that they can have a brilliant career and still find balance between their personal life and work, without major sacrifices,” says Urbanc.

This kind of guidance is exactly what WiPS intends to offer future generations. Through high school and middle school outreach, the group hopes to recruit and retain female physics majors, while inspiring a new age of self-confident scientists.

In the spring of 2012, the group presented at the Swarthmore CATALYST Conference, a forum that exposes seventh and eighth grade girls to the fields of science, math and engineering. The young students lauded WiPS members after their presentation, which included a demonstration on how to build a compass.

One student remarked that she didn’t think physics was “cool” until she attended the workshop. Another asked WiPS member Courtney Slocum to “please be a physics teacher” so she can take Slocum’s class when she gets to high school.

“We want to encourage girls to go into the sciences and let them know that they can do it,” says Chessey, WiPS vice president.

This can-do spirit is clearly a driving force behind Harris and Chessey’s own success. Both women have proven to be exceptional scholars from



the start, conducting research as freshmen in Drexel's competitive STAR Scholars Program, and subsequently publishing their work in *The Astrophysics Journal* as sophomores (no small feat for an undergrad).

The two have taken on some impressive co-op positions as well. Chessey's resume includes a stint at Harvard University where she modeled and modified the detection system in an electron microscope used for research on nanoparticles. Earlier in her Drexel career, she traveled to Spain to serve as a research assistant in the Laboratory of Optics at the University of Murcia. While there, she developed a mathematical program to extract information from images of biological samples. She has also worked for the Federal Aviation

Administration interpreting aircraft data for simulating takeoff and landing.

Harris' co-op positions have provided a diverse foundation as well. She recently returned from a position at Columbia University where she studied second cancers induced by radiotherapy. Prior to that, she worked on an international collaboration at Princeton University, helping to develop a polarization-sensitive receiver on the Atacama Cosmology Telescope in Chile. Her first co-op, which she participated in as a sophomore, was closer to home; she worked with Dr. Goldberg on theoretical astrophysics research related to strong gravitational lensing (the bending of light around objects).

As for the pair's future plans, both Chessey and Harris will pursue doctoral degrees after they wrap up their undergraduate careers in 2013. Chessey hopes to have a career in physics research, though she's not yet sure which area most excites her. Harris will continue in the vein of her most recent co-op position in medical physics research. She ultimately hopes to work in a university-affiliated hospital, providing clinical service and teaching at the university level.

To learn how you can support WiPS and other student organizations in the College of Arts and Sciences, contact Rebecca Boudwin, CoAS Director of Development, at [215-895-6481](tel:215-895-6481) or rebecca.boudwin@drexel.edu.

THE WiPS ROSTER



WENDY HARRIS, '13

WiPS President

See article for employment experience.



KATRIJN NETHERTON, '14

Conducted research at the Army Research Laboratory in Maryland on the energy structures and behavior of nuclear isomers and their potential use as energy sources for low-power devices on the battlefield.



COURTNEY SLOCUM, '14

Worked in space and defense, tuning and testing radio frequency transmitters at Aeroflex Control Components. Tested active pharmaceutical ingredients for particle size and shape in the solid-state chemistry department at Bristol-Myers Squibb.



MARY CHESSEY, '13

WiPS Vice President

See article for employment experience.



ROBYN SMITH, '15

Reduced raw data at the National Radio Astronomy Observatory to search for high redshift quasars—some of the oldest, brightest and most distant observable galaxies.



VICTORIA (TORI) TIEBEIN, '14

Wrote installation software and designed a website to promote solar forecast modeling software at Drexel, in conjunction with NASA. Helped the American Museum of Natural History's geophysics department, in conjunction with NASA, to automate NASA's Stardust project—a mission that studies the early solar system through comet track analysis.

Passing the Torch

This fall, the College has undergone some exciting administrative changes. **Dr. James Herbert**, professor of psychology and associate dean for research and graduate education, has been named the new head of the Department of Psychology. **Dr. Aleister Saunders**, associate head and assistant professor of biology, has been named Dr. Herbert's successor as associate dean.

Photos by **WILLIAM LUKAS '15**

FOR THE LAST SEVEN YEARS, Dr. James Herbert has been an instrumental and much-revered member of the College of Arts and Sciences Dean's Office. He has worked tirelessly on behalf of the graduate programs and students, ensuring improved stipends and working environments. He has helped bring the College to the forefront of University research initiatives, and in serving on numerous University committees, has aided in ensuring a coherent research infrastructure at Drexel.

Herbert's own research career includes positions as the director of the Anxiety Research and Treatment Program and as co-director of the Acceptance-Based Behavior Therapy Program in the Department of Psychology. His work on the application of new technologies to treat anxiety-based disorders has gained national and international media attention. His book *Acceptance*

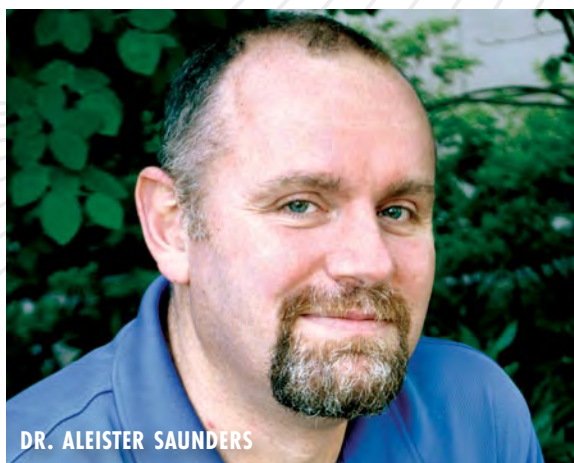


and *Mindfulness in Cognitive Behavior Therapy*, published in 2011 with colleague Dr. Evan Forman, received an endorsement from His Holiness the Dalai Lama who called it "a most beneficial and powerful method for ensuring a healthy mind and heart."

In his time at Drexel, Herbert has not only demonstrated his research prowess but also his flexibility and leadership. In 2008-2009, he assumed the role of interim head of the Department of Biology following the unexpected passing of the former department head Mary K. Howett. With his guidance, the department navigated an otherwise difficult time and undertook a number of initiatives, including revision of the undergraduate curriculum and important changes to doctoral programs, both of which set the stage for the department's current productivity and excellence. During his tenure as associate dean, Herbert also served on numerous University committees and task forces, including the search committees for the inaugural Dean of the Earle Mack School of Law, the Vice Provost for Research, and the University President.

DR. ALEISTER SAUNDERS has been an integral member of the Department of Biology and the College of Arts and Sciences for the last ten years. He holds appointments in the Department of Biochemistry and Molecular Biology and the Department of Neurology and Anatomy in Drexel's College of Medicine, and is the director and founder of Drexel's RNAi Resource Center. Since 2009, Saunders has served as the Biology Graduate Program Director and has spearheaded a number of initiatives to develop the program both qualitatively and quantitatively, placing it on a trajectory for further growth. He was instrumental in establishing the department's Graduate Student Travel Awards, supporting and encouraging students to present at national and international conferences and workshops. As a mentor to the Biology Graduate Student Association, he helped to develop the group into a highly effective and civically engaged organization.

An active researcher, Saunders leads an NIH-funded research team that seeks to understand how an amyloid precursor protein is processed into peptides that cause Alzheimer's disease. Using cutting-edge molecular and genetic tools, he is working to develop a means for preventing the onset and progression of dementia.



DR. ALEISTER SAUNDERS

Saunders' contributions have far exceeded the bounds of the Department of Biology. He has served on numerous College and University committees and played an essential role in the construction of the Papadakis Integrated Sciences Building, acting as the voice of the College throughout the project.



AS WE WELCOME Drs. Herbert and Saunders to their new roles, we extend our heartfelt thanks to Dr. Kirk Heilbrun, who has led the Department of Psychology since 1999.

Heilbrun directed the merger of the former MCP Hahnemann and Drexel psychology departments into a single coherent unit, and has overseen the department's tremendous growth over the past 13 years. Under his leadership, the department has developed truly outstanding undergraduate and graduate programs, including a renowned and highly competitive clinical psychology Ph.D. program that has been ranked 7th in the nation in research productivity, and a unique law and psychology program taught in conjunction with Drexel's Earle Mack School of Law. Heilbrun has also overseen tremendous growth in faculty research, including externally sponsored programs. Even while leading the department, he has managed to achieve a high level of scholarly productivity for himself (grants, publications, books, awards, editorships), serving as an inspiration and model for faculty, and doing so with a characteristic humility and unassuming poise.

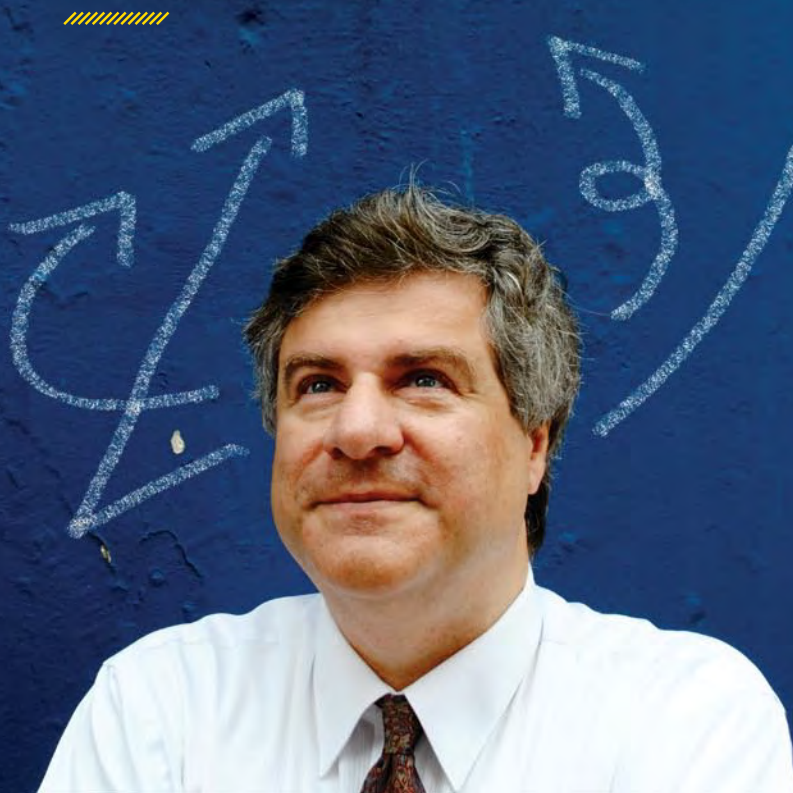
The New Neuroscience of Creative Insight

Creativity doesn't just come when we call it—like a dream, it seems to slip further away the faster we reach out. But what if we could lure back the muse? Summon inspiration when we need it? Thanks to Drexel psychologist **Dr. John Kounios**, we can.

IN HIS NEW BOOK, *Aha! The New Neuroscience of Creative Insight* (working title), Kounios and colleague Dr. Mark Beeman share the secrets of creative thinking. By observing the brain activity of subjects as they solved word problems, the two researchers were able to identify what they call the "Aha moment" (or the moment when the light bulb turns on).

One key, they say, is breadth of attention. When your attention is diffuse and inner-directed, rather than focused on tasks or objects around you, you're better able to tap into distant associations and think outside the box. And it turns out there are a lot of ways to encourage this expansive, inward focus—a whole book's worth actually—including insights about the effects of colors, spaces, deadlines, and more. (Did you know that offering large rewards could actually inhibit the creativity of your employees?)

Kounios and Beeman reveal the neuroscience behind creative insight in language accessible to all. Look for their book this winter from Random House.



No End in Sight—Thankfully

“Some say the world will end in fire, some say in ice...” But despite all the hoopla about the “end” of the **Mayan calendar**, most scholars agree the world will be sticking around for quite some time (as long as we don’t screw it up). **Five** College of Arts and Sciences faculty members explain why you have **nothing to fear** this December...

Judith Storniolo, Ph.D., Anthropology

WE COULD LEARN A LOT from the Ancient Maya. Their past provides us with a model of how a culture responds to and falls from draught, deforestation and war. The Maya also provide us with a template of a people whose vision and concept of time differs significantly from our own. We live in a culture whose perception of time is linear. The ancient Maya measured time cyclically based upon the repetitive movements and positions of the heavenly bodies and circadian rhythms of nature. The implications of this are seen in their

understanding of the yearly cycles of the flora and fauna around them.

The Maya marked events by erecting stelae in a public area of their cities (a stela is a freestanding stone monument that records

special events that occurred in the reign of Mayan kings). Most inscriptions on stelae start with what is called a Long Count, a calendric counting of days. The Long Count begins with a baktun, a period of 400 years, preceded by a coefficient from 1 to 19. Baktun 13 ends on December 21, 2012. Unfortunately, some pseudoscientists have chosen to sensationalize the end of this cycle, interpreting it as the end of the world.

UNFORTUNATELY, SOME PSEUDOSCIENTISTS HAVE CHOSEN TO SENSATIONALIZE THE END OF THIS CYCLE, INTERPRETING IT AS THE END OF THE WORLD.

However, several Mayan hieroglyphic inscriptions mention dates far beyond the end of baktun 13. In Palenque, a beautiful Maya site in Chiapas, an inscription refers to October 21, 4772 C.E. On Stela 1 in the ancient site of Coba, a date of 41 octillion years beyond the end date of 2012 far surpasses the estimated age of the universe. In addition, an astronomical table from Xultun in Guatemala predicts the movements of the moon into baktun 17. These textual references not only show that the calendar is fluid and continuing but that our sense of time leads to confusion and misunderstanding of the Mayan calendar. The world-ending event, sensationalized in the press and in spurious publications, is a hoax perpetuated by some for profit, some for New Age prophecy, and some for publicity.

-Judith Storniolo, Ph.D., is a historical and comparative linguist and anthropologist. She has done fieldwork among the Maya in Mexico, Honduras and Guatemala since 1985.

Ron Bishop, Ph.D., Communication

MEDIA CONTENT is one indicator of public mood. The glut of post-apocalyptic movies produced in recent years reflects the perception by filmmakers and studio executives that the public is living scared in uncertain times. But as sociologist Barry Glassner contends, the media also stoke our fears—of practically everything—and fail to tell us when these fears are unfounded. Similarly, ludicrous ideas like the Mayan “end of the world,” not to mention UFOs and the fear of spiked Halloween candy, fireworks, teenaged boys, and the number 13, hang around in the public’s consciousness because journalists have, over the last couple of decades, abandoned—or at least subverted—their truth-telling function. Wanting to avoid being castigated for being unfair—or worse, liberal—they permit people and groups with disproven or outlandish ideas to occupy valuable slots on the public’s agenda. Remember the Swift Boat Veterans for Truth? And how about the persistent Holocaust and global warming deniers out there? Not all ideas and claims are valid, but you wouldn’t know it from the news media’s current approach to reporting. I’m waiting for the headline, “Scientists, Activists Debate Shape of Earth.”

-Ron Bishop, Ph.D., is a professor of communication specializing in qualitative methods of research. He conducts frame, ideological, narrative, and textual analysis, primarily on the work of journalists.

James D. Herbert, Ph.D., Psychology

THE CURRENT POPULAR OBSESSION with December 2012 actually has its roots in the writings of the late Azerbaijani-born American author Zecharia Sitchin, who has sold millions of books claiming that human civilization was created by space aliens, and that a hidden planet called Nibiru will destroy the Earth in late 2012. Through hundreds of books and thousands of web-sites, the 2012 apocalyptic prophecies quickly expanded to include geomagnetic reversals, collision with a supermassive black hole, and of course the supposed end of the Mayan calendar, among others. All of these predictions have been thoroughly debunked by professional astronomers, historians and other experts.

So why do such crazy ideas flourish despite their implausibility and complete lack of evidence? Part of the answer is offered by psychological research on human cognition. The brain evolved to use “shortcuts” to facilitate rapid information processing. Although often useful, these shortcuts are frequently biased. Among the biases relevant to belief in doomsday prophecies are heightened threat perception, out-group distrust, and the confirmation bias. We are hypervigilant for signs of threat, we over-value information from those perceived to be more like us, and once a belief is formed, we seize upon information consistent with it and ignore inconsistent data. These biases are ubiquitous and surprisingly resistant to change. Psychologists are currently examining “de-biasing” strategies to help people reason more clearly.

-James D. Herbert, Ph.D., is a clinical psychologist specializing in cognitive behavior therapy (including newer mindfulness and acceptance-based models of behavior therapy), mood and anxiety disorders, teletherapy, the distinction between science and pseudoscience in psychology and related fields, and the promotion of evidence-based practice in mental health.

Don Stevens, Ph.D., History

HISTORIANS RELY on written texts to understand and interpret the past. Most of the ancient literature created by the Maya was destroyed in the sixteenth century by Spanish friars, who considered those texts the work of the devil. Relatively little survived: Mayan hieroglyphs that remained carved in stone and painted on walls and ceramics were left buried for centuries in the jungle. Only in the last few decades have scholars been able to make significant progress in deciphering and translating these hieroglyphs. Now we know much more about the history of the ancient Maya.

And, yes, the “Mayan calendar” does reach a significant turning point on or about December 21, 2012. However, almost nothing else circulating in popular culture today reflects the actual beliefs and ideas of the ancient Maya. Instead, “the end of the world” is a recurring theme in Western culture dating back at least to the early days of Christianity, specifically to the Revelation (or “Apocalypse”) of John. We have ample evidence that concern about, indeed hope for, the end of the world was imported by the Franciscan friars who supervised the conversion of Mayan people to Catholicism beginning five centuries ago.

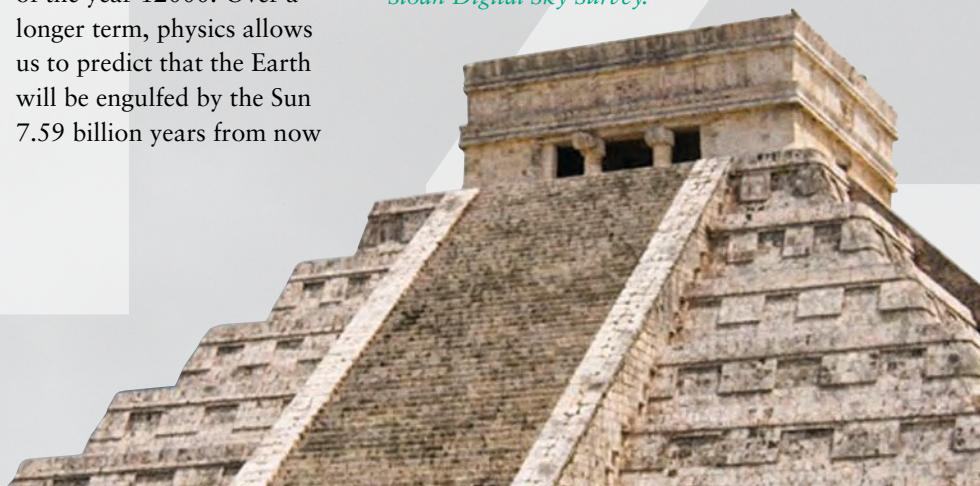
-Don Stevens, Ph.D., earned his doctorate in Mexican history. His archival research has been supported by grants from the Social Science Research Council and the National Endowment for the Humanities.

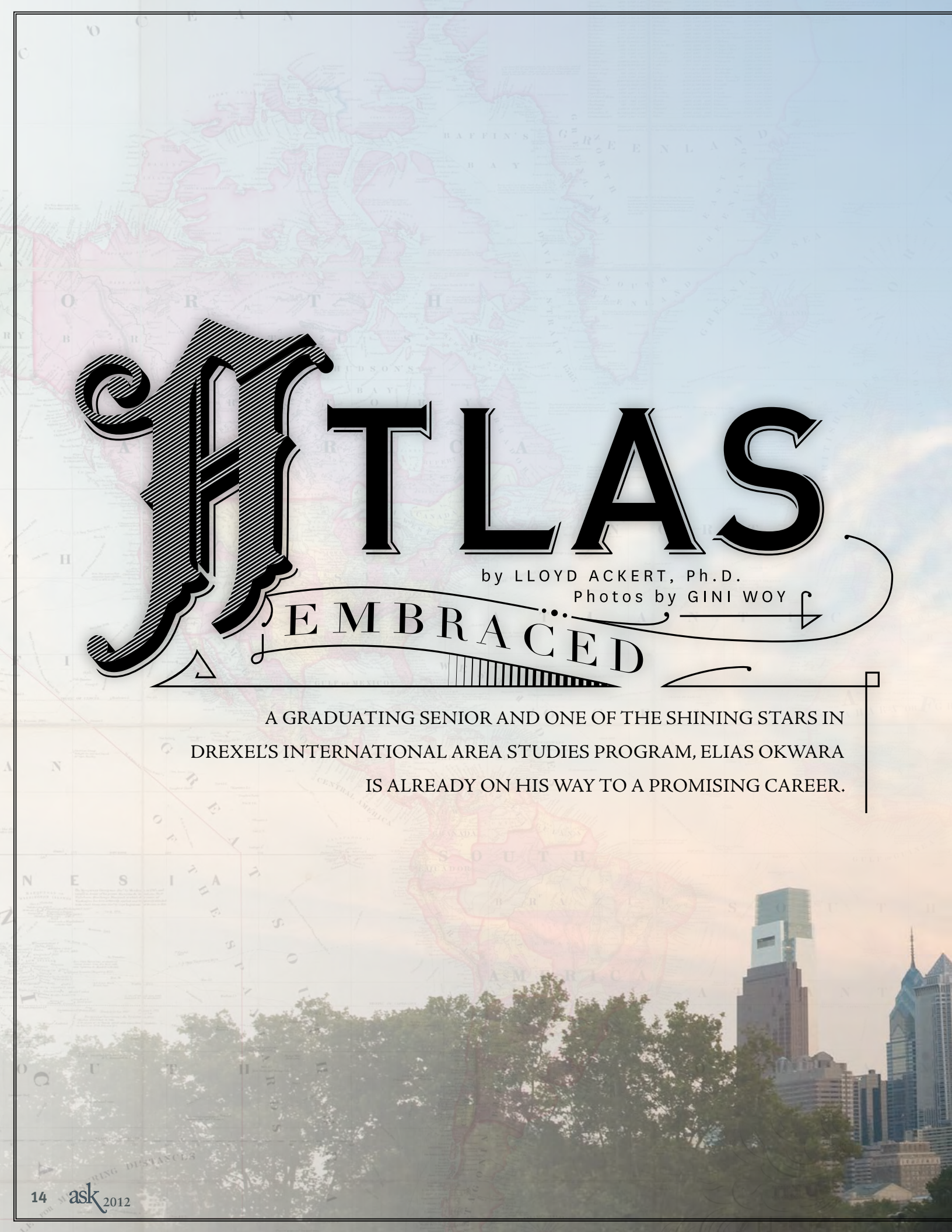
Gordon Richards, Ph.D., Physics

PHYSICS TELLS US not only what to expect at the end of 2012 (see *Discover Magazine*’s “Bad Astronomy” blog), but also reveals that there will be a total eclipse of the Sun in Miami on the 31st of May in 2812 (at 6:39pm, plus or minus just 30 minutes) and that the Summer Triangle will be prominent in the night sky at the end of the year 12000. Over a longer term, physics allows us to predict that the Earth will be engulfed by the Sun 7.59 billion years from now

as the Sun runs out of fuel in its core and balloons into a red giant star. Of course, that is assuming that the Earth still orbits our Sun after the Andromeda Galaxy “collides” with our own Milky Way in 4 billion years. In a nearer term, we can use the next generation of telescopes such as the LSST (lsst.org) to track potentially harmful asteroids, but more likely than not, our ultimate fate will be decided by the destructive nature of humankind.

-Gordon Richards, Ph.D., is an expert in the identification of quasars and active galactic nuclei (AGNs) through modern statistical methods using imaging data from large astronomical sky surveys, particularly the Sloan Digital Sky Survey.





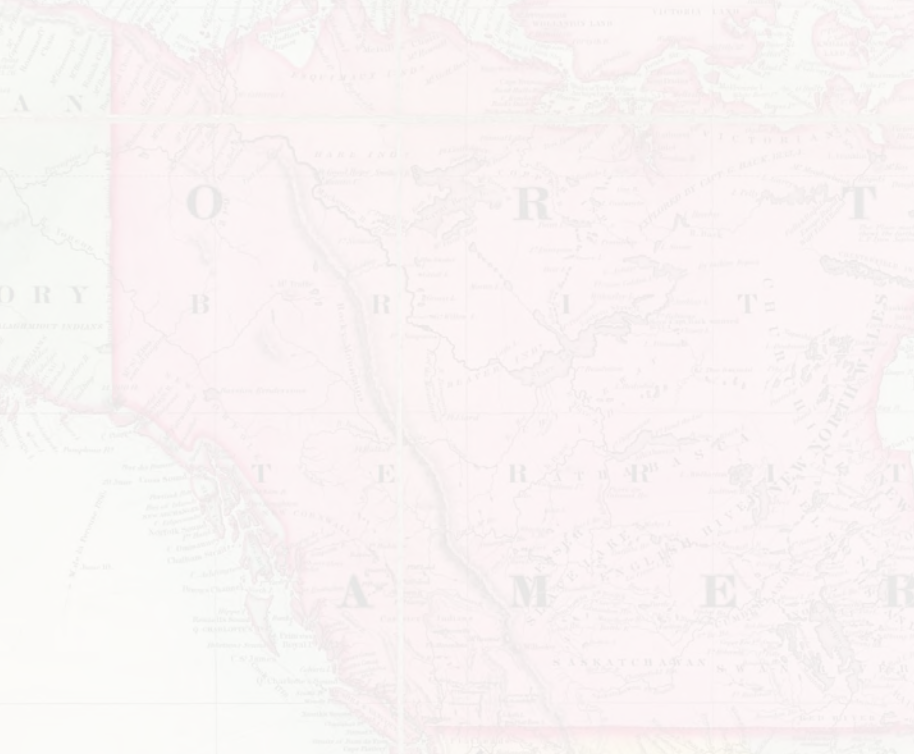
ATLAS

by LLOYD ACKERT, Ph.D.
Photos by GINI WOY

EMBRACED

A GRADUATING SENIOR AND ONE OF THE SHINING STARS IN DREXEL'S INTERNATIONAL AREA STUDIES PROGRAM, ELIAS OKWARA IS ALREADY ON HIS WAY TO A PROMISING CAREER.





CLUES TO ELIAS OKWARA'S bright future are peppered across his curriculum vitae: co-ops in security and defense, media relations and global transparency; an analyst role in an international think tank; study abroad work in conflict resolution; and scores of extracurricular involvements. He has an international perspective earned through extensive travel, from his home in Mombasa, Kenya to co-op and academic opportunities in Belgium, England, Jordan and the United States.

I met Okwara at a local Philadelphia restaurant over dinner and a beer. I switched my order of a Yuengling to match his better, and as it turned out, more appropriate choice of the Belgian Leffe. He had an easy, confident manner, and was quick to laughter even as we moved from personal, to professional, to political topics. Food provided entrée to our ranging discussion of the challenges of international study and work, and of his occasional longing for the traditions of home, particularly the sweet teas and cafés of Mombasa.

A passionate, fully engaged student, Okwara has challenged Drexel's already fast-paced culture since his first day on campus. As a freshman, fresh to the U.S. and too anxious to wait for his first co-op, he found an internship researching domestic and foreign policy issues at the World Affairs Council of Philadelphia. The position culminated in a speech given by Okwara at one of the Council's events, at the request of the Council President.

Not surprisingly, he was busy back on campus as well, applying for funded research in the STAR Scholars program at Drexel. He spent the summer alongside Dr. Christian Hunold in the Department of History and Politics, investigating the role that non-governmental organizations (NGOs) might play in the International Criminal Court.

HIS GOALS ARE SO WELL FORMED THAT EACH DECISION SEEMS AN ORCHESTRATED GESTURE IN A CALCULATED DANCE TOWARD HIS FUTURE.



LIVING IN THE PRESENT, LOOKING TO THE FUTURE

While other students might waver between majors and career paths, Okwara is confident and steadfast: his goals are so well formed that each decision seems an orchestrated gesture in a calculated dance toward his future. He moved confidently from his freshman research to a marketing co-op with the global law firm Duane Morris, and on to a study abroad at the Belgian Royal Military Academy and the European Parliament, the latter of which he expanded into his second co-op role.

He credits the support and advice of faculty in the College of Arts and Sciences in helping him to secure the international placements, namely Dean Murasko and Drs. Julie Mostov and Joel Oestreich from the International Area Studies program. It was their encouragement that led him to the EU, he says, where he worked with Anneli Jäätteenmäki, the former Prime Minister of Finland, and with then EU Parliament Vice President Libor Rouček, researching and communicating policies on security and defense.

Okwara doubled his efforts during his co-op, landing a second job as an analyst in the Peace and Security Section of a Belgian think tank, the Global Governance Institute (GGI). In his role at GGI (a position he still holds today), Okwara has continued to grow his expertise in defense, while tackling issues of crisis management and international human rights.

But in politics at every level, to the sensitive actors, frustrations are common—how one handles, for example, clashes of ideology and personal experience is telling. While working for the EU Parliament, Okwara was asked to craft an op-ed piece on the drafting of a new Sudanese constitution. As a young man living in Kenya, he had witnessed the tragic experiences of dislocated refugees during the political strife that created Kenyan-Sudanese border disputes. Striving to balance his personal history with the responsibility of representing his patrons, he stuck to his principles. That the essay, after some debate, was altered for publication—but yet was not the last he was asked to write—reflects the level of trust he had earned as a spokesperson for his homeland. Remaining true to his core beliefs was not a singular instance, but rather a lesson that will serve him well into the future.

THE PREPARED MIND

After six months of crafting speeches, interacting with press agents, and briefing the Heads of Cabinet in the EU, Okwara was primed for a rare Drexel offering: a two-part study abroad program in conflict resolution. Along with only five other students, Okwara traveled to London to examine the “Troubles”



of Northern Ireland, and to Amman, Jordan to study the conflicts of the Middle East. The group met extensively with important policy makers, including Jonathan Powell, Tony Blair's Chief-of-Staff, who negotiated the Good Friday Agreement, and Abdelsalam al-Majali, former Prime Minister of Jordan, who signed the 1994 Jordanian-Israeli Peace Agreement.

At the end of the intense study abroad, Okwara, at only 23 years of age, had gained an astute appreciation for the conflicts of today, particularly those of the Middle East: "The world does not have much time to resolve the Israeli-Palestinian question," he remarked. "I left deeply concerned that the older generation on both sides, which could easily relate to the complex history of the conflict and therefore understand the need for compromise, could be replaced by a newer generation that is

confronted by a simple narrative of 'us versus them'—and would need to exhaust violence before pursuing peace."

This maturity, and the expertise gained from his work abroad, was put to the test in the spring of 2012. With his experience at the EU bolstering his resume, Okwara was accepted to serve as a facilitator—a role traditionally reserved for doctorate and master's-level researchers—for Security Jam 2012, an online collaboration of security and defense experts from around the world. Assigned to the special focus area of "Libya: Lessons Learned," he assisted the moderators in assessing policy recommendations submitted to the G8. The resulting report, with recommendations, was later presented to global leaders at the NATO/G8 Summit in May 2012.

A DIPLOMAT THROUGH AND THROUGH

As we rounded out our meal, I reflected on the surprising complexity of Okwara's character; for such a serious student, one who has witnessed much strife and conflict, he is contrastingly approachable and good-natured. His affable appearance can be deceiving, nevertheless, as an associate of Okwara's recently learned. Frustrated by what he perceived as weakness, he recommended that Okwara "get a backbone." But, he had missed something crucial about his friend—something gained from extensive work in conflict negotiation: smiles may not always rise to the furrowed brow, and persistence requires not the heavy hand.

Okwara seems to have possessed this quiet resolve for some time; as an 18-year-old producer of a sports radio program in Mombasa, he secured the first interview ever granted by the first female governor of the Central Bank of Kenya.

"You're a very stubborn young man," she told him when she finally consented.

WHERE THE PATH MAY LEAD

We are fortunate to have Okwara back on campus—for the moment. Busy with ongoing research and advising for the EU Parliament and Global Governance Institute, he is also recapturing efforts he initiated on campus prior to his travels abroad. The Drexel chapter of the United Nations Association-USA and its sister organization the Drexel Student Alliance, both of which Okwara founded in 2009, languished during his time away. His devotions to the groups are multiple—both to foster UN ideals and to aggressively preserve his creative achievements.



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Conflict and security are again on Okwara's mind and scheduled in two different spheres: in his new role as a resident assistant at Millennium and Race Halls, and at his final co-op at the Health Market Science think tank. The issues for the former are local—dealing with emergency preparedness and enforcement of living regulations for 40 of his peers. For the latter, the concerns are global—conducting research into the global transparency of international health systems.

His plans after graduation are in flux, but they build on his extensive experiences in the U.S. and abroad. The best guess is that he will work for a year in business, likely continuing his work in global transparency. Next, a degree in law seems likely. What is certain is his desire to eventually work for the United Nations—when pressed on the seeming weaknesses of the UN to facilitate agreements in Syria, his keen eye for politics and European experiences help him remain optimistic and even infectiously encouraging. What is also certain is that he will bring his considerable talents and energies home to Kenya.

His goals are a blend of the lofty and the pragmatic, yet when he relates them, you realize he is already looking for the next, and perhaps subsequent moves. President of Kenya, maybe? He says "no." But I wasn't watching his eyes at the time.

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Lloyd Ackert, Ph.D., is an associate teaching professor in the Department of History & Politics. His expertise is in the history of science, with specializations in the history of Russian science, evolution, and genetics. In his upcoming book, Sergei Winogradsky and the Cycle of Life, he uses scientific biography to examine the relationship between microbiology and ecology at the turn of the 20th century.

THE HUMAN ELEMENT

by TOM HITCHCOCK

Photos by GINI WOY

A distinguished researcher and scientist, Dr. Lucile Adams-Campbell shifted early on from a world of periodic tables and formulas to one where the human element makes the answers far less certain.

DR. ADAMS-CAMPBELL comes from a family of achievers and strivers. Challenges were not simply accepted; they were welcomed. Academic rigor was not measured in terms of an undergraduate degree; master's level was where the bar was set. In preparation for what her parents imagined might be a budding musical career, mastering one or two instruments was not enough. The young Adams-Campbell learned four. She excelled in track and field. She just plain *excelled*.

Doggedness, an ingrained sense of duty, stellar academic credentials, plus lessons learned from the way things were then—and in some ways still are today—are threads in the narrative of Adams-Campbell: from student, to academic, to professor, to an associate

dean spearheading a research effort that may be her greatest challenge so far.

It is not research that will make the front page, yet it is research that confronts uncomfortable issues of disparities in our health care system. It examines disparities in access; in the way risk factors for disease among underserved populations are measured. It is research that is objective, clinical and dispassionate in its methodologies, yet it carries issues of basic fairness and equality in its subtexts.

To know the backstory of Adams-Campbell is to understand how a pivotal detour during her undergraduate years at Drexel took her from a world of physical certainties to one filled with ambiguities and unanswered questions.

THE CHEMISTRY JUST WASN'T THERE

For Adams-Campbell, a major in chemical engineering at Drexel seemed like the natural progression of things; she had laid the groundwork with a demanding engineering emphasis in high school. But like an arranged marriage, the relationship was loveless. “In fact,” she says, “I grew to hate it.”





ADAMS-
CAMPBELL'S
NEW DREAM
HAD A NAME:
IT WAS
EPIDEMIOLOGY.

It was also a lonely marriage. The academic grind kept her hard at work and missing out on a key facet of college: fun. What's more, back in the '70s the engineering field was almost exclusively a male domain. "I was one of very few females in the entire program," she notes, "and most certainly the only black female in chemical engineering. I was recruited to go out and give presentations to groups of younger girls to encourage them to pursue engineering fields of study and careers. I don't know how much success I had."

Still, Adams-Campbell soldiered on. The co-op portion of the engineering program took her to the Naval Ship Research Center in Annapolis. There they produced reports on such topics as "Seawater Corrosion of Fasteners in Various Structural Materials" and "Correlations Between Flexural and Direct Stress Low-Cycle Fatigue Tests." Important work, perhaps, but somehow not exactly the stuff of dream fulfillment for Adams-Campbell.

And so, inevitably, she and chemical engineering drifted apart. By the fourth year of her five-year program she knew it was time to call it quits, for she and engineering to go their separate ways. She changed her major to biology. Her co-op assignment in the new program brought her to the Fox Chase Cancer Center, where she met the discipline of her dreams.

SIGNS OF INTELLIGENT LIFE

Biology was about life, about what sustained it, nourished it, or extinguished it. "It was about unlocking mysteries," says Adams-Campbell, "peering inside DNA to see what made cells divide in a certain way, and why."

Her time at Fox Chase coincided with the tenure of Dr. Baruch Blumberg, who in 1976, the first year of her co-op stint there, was awarded a Nobel Prize for "discoveries concerning new mechanisms for the origin and dissemination of infectious diseases." Among the more notable scientists and researchers of his time, Dr. Blumberg is credited with identifying the Hepatitis B virus.

Adams-Campbell's new dream had a name: it was epidemiology.

After finishing her undergraduate degree in biology, she began work on her master's in biomedical science, also at Drexel. She wrote her master's thesis in conjunction with research then underway at Fox Chase. The operative word in Fox Chase Cancer Center is, of course, "cancer." Studies taking place there in the late '70s were laying the groundwork for the near breakthroughs seen today in cancer treatment and prevention. The science and terminology surrounding the research are complex and arcane. Yet reduced to its simplest terms, Adams-Campbell says it sought answers to questions like "Why does the genetic switch flip in some people and not in others? Why do some subgroups of people get sick, and others don't?"

Broadly speaking, epidemiology is the science of the causes, occurrence, or patterns of disease, or the absence thereof, among population groups. Following her master's training at Drexel, Adams-Campbell went to the University of Pittsburgh to pursue a doctorate in epidemiology.

Once again, she was the only African-American person in the program. And once again, this was

a fact that did not escape her notice. “Academically it made no difference,” she says, “but the seeds were sown for the directions my research would take in the ensuing years.”

After earning her Ph.D. and completing a postdoctoral fellowship, Adams-Campbell held an adjunct professor post for a time in the University of Pittsburgh’s Department of Epidemiology. Then it was on to the New England Research Institutes (NERI) near Boston. Two of NERI’s research specialties focused on epidemiology and health disparities. By this time, two things had become clear: “This was an era when disparities were not talked about so much,” says Adams-Campbell. “But not only had it become glaringly evident by then that African-Americans were underserved in access to care, they were almost invisible as subjects of clinical research. And this was true despite statistics showing that African-Americans were at higher risk for some diseases, most notably cancer.”

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NOT JUST CHANGING LIVES, SAVING THEM

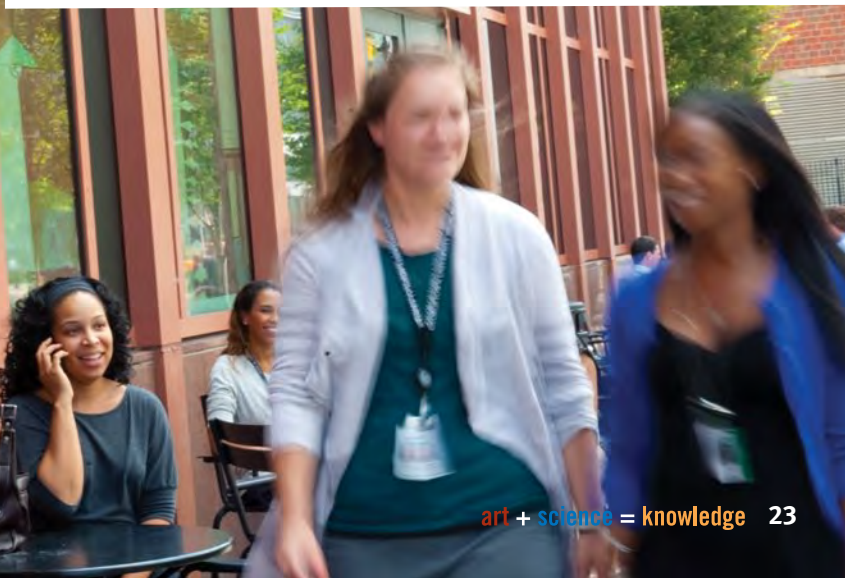
Adams-Campbell moved from the theoretical to the front lines of the battle when she became director of the Howard University Cancer Center, where she served for 13 years. “I’m a native of Washington, D.C.,” she notes. “I could see the patients who comprised the reality behind the statistics—breast cancer, colon cancer, prostate cancer. This was hitting home where I lived, where I came from, and it was costing people their lives.”

In her current position at Georgetown University Medical Center, Adams-Campbell holds dual titles: Associate Dean for Community Health and Outreach, and Associate Director for Minority Health and Health Disparities Research. Armed with a recent \$6 million grant from the NIH, she is taking aim at diseases and disorders in the African-American community: the aforementioned cancers, hypertension, heart disease, diabetes, and metabolic syndrome—a grouping of risk factors related to obesity. Her efforts will probe a constellation of social and clinical cause and effect: lifestyle issues, prevention, screening, treatment, and the molecular links among the people and the diseases.

“This is in some ways a culmination of events,” she says. “Disparities in access to care is a complex and multi-sided issue that will be resolved in arenas outside my control. But if I can help it, one thing I’m sure of: the study of life and death issues among blacks will no longer be under the radar. There will no longer be a disparity in what we know, in what our research shows us.”

A formidable challenge by any measure. But then, this is what Adams-Campbell has been aiming for, what she’s trained and prepared for and studied for all these years. Besides, she’s always welcomed a challenge. It’s when she’s in her element.

Tom Hitchcock is a freelance writer and communications consultant. He and his wife Susan, a graphic designer, live in the North Beach area of Fernandina Beach, Florida. Seeking sunnier climes, Tom and Susan moved to Florida in 2011 after having lived on the Eastern Shore of Maryland for 20 years.





IN THE THICK OF IT

PHOTOS BY ADAM MASON

Class has officially started in the College's new Department of Biodiversity, Earth and Environmental Science (or BEES, for short). Born out of Drexel's partnership with the Academy of Natural Sciences, the department takes the phrase "experiential learning" to a whole new level.



ICK OF IT



THE DEPARTMENT OF Biodiversity, Earth and Environmental Science (BEES) harnesses the super powers of both Drexel and the Academy of Natural Sciences, offering students greater access to some of the best minds, coolest field sites, and most extensive natural history collections in the world. The undergraduate environmental science major—formerly housed in the Department of Biology—has been redesigned in the spirit of the BEES motto: *Field Experience, Early and Often*.

For many incoming freshmen, this new approach meant a jumpstart on a very unique college experience. For three days prior to the start of the fall term, they bonded together on an overnight, interactive excursion at the Barnegat Bay Field Station in New Jersey. While there, they experienced Barnegat's diverse coastal and forest ecosystems: they studied terrestrial ecology while wading through brackish salt marshes; got a taste for fisheries biology while casting their nets in the bay; and gained a better understanding of climate change while canoeing along the Wading River in the Pine Barrens.

This immersive approach will continue throughout their undergraduate careers, and will include extensive field courses and co-ops. Opportunities for research and hands-on fieldwork abound, from the marshes of the Delaware River watershed to the steppes of Mongolia.

International co-ops and study abroad opportunities are nothing new to environmental science majors—they've been working with



DR. DAVID VELINSKY, vice president for environmental research at the Academy, has been named Head of the new BEES department. Velinsky's research focuses on the fate and transport of chemical contaminants in aquatic systems, particularly in urbanized areas of the Delaware River in Philadelphia, and the Anacostia and Potomac Rivers within the District of Columbia.

Drexel faculty across the globe for years, digging up fossils in Patagonia, Argentina; researching sea turtle conservation in Costa Rica; and studying biodiversity and primate conservation on Bioko Island in Equatorial Guinea. But the addition of Academy faculty introduces even more chances to explore, with field sites in spots like Mongolia, where Dr. Clyde Goulden is researching climate change; Jamaica, where Dr. Gary Rosenberg is studying the island's over 500 species of land snails; and into the arctic regions of Canada, where Dr. Ted Daeschler is uncovering fossils that bridge the evolutionary gap between fish and early limbed vertebrates.

This diversity of research has informed another important change to the major—the addition of four new concentrations that capitalize on the strengths of Drexel and Academy faculty: Biodiversity and Evolution, Earth Science, Ecology and Conservation, and Environmental Science.



FIELD EXPERIENCE, EARLY AND OFTEN.

The revised curriculum boasts exciting hands-on courses as well, like “Natural History, Research and Collections,” a course that introduces students to the over 18-million specimens of the Academy; “Tree of Life,” an examination of the evolutionary relationships among organisms; and “The Watershed Approach,” in which students monitor water quality, sample fish and invertebrates, and compare urban and non-urban stream ecosystems. Students also have the opportunity to participate in service programs at the Academy and in academic outreach projects in the Philadelphia area.

And because one of the best ways to learn is to teach, seniors taking the new 400-level course, “Cascade Mentoring in Environmental Science,” will serve as mentors to their freshmen and sophomore BEES-mates enrolled in introductory level courses. By joining beginner “bees” with the major’s most seasoned seniors, the course aims to build a sense of community and camaraderie within the program.

From field excursions *early and often*, to co-op and research opportunities around the globe, BEES students will learn firsthand about the habitats and species they’re working to preserve.



Learn more at drexel.edu/bees





I M M E R S E D



Kathleen Volk Miller has been the co-editor of the international literary magazine *Painted Bride Quarterly* for over 10 years. But her love affair with language began long before she took the reigns.

BY KATHLEEN VOLK MILLER

PHOTOS BY GINI WOY

When I was in about fourth grade, I had a severe case of walking pneumonia and was homebound for more than a month. During that time, my mother bought me book after book after book. I read all of the *Five Little Pepper* series, *The Borrowers*, *A Tree Grows in Brooklyn*, *Little Women*, and probably at least half of the *Nancy Drew* series. That was the beginning of my never-ending love of literature.

I was such a nerd that, in sixth grade, I created my own library cards for my books, complete with plot synopses, a numbering system, and so on. My class did a Pollyanna Swap for the holidays and I said my preferred gift was a bound notebook and a package of blue Bics—still a favorite pen choice. My crush picked my name and I was humiliated. The other kids were opening cassette tapes and nail polish sets and Bonne Bell Lip Smackers; my crush chose a black faux leather journal and the requested Bics. But when I

opened the package, he whispered: “I like to write, too.”

I grew up in this strange pocket of the South Hills of Pittsburgh—a tiny neighborhood called Lincoln Place, somehow classified as part of the city of Pittsburgh even though we were surrounded by other towns with their own school districts. This meant the Bookmobile came to the local A & P parking lot. The librarians loved me, of course, and would bring five or six books they had hand-selected each week.

This weird location meant a 20-minute bus ride to high school, which meant more of a sense of displacement for me, but I found my niche: I found other would-be writers and love-to-readers and in my junior year, developed a literary magazine at my high school.

When I was a high-school senior, my boyfriend was a freshman at West Virginia University. My thoughts had been Penn State, in order to follow my big

And what did I do my first week on campus? I found the literary magazine and joined up.

brother, or Carnegie Mellon University. I visited my boyfriend for a weekend—we had a terrible, dramatic scene at a freshman dance party. I literally wandered around the campus without the vaguest idea of where I was and attempted to find the only other student I knew there. Just when I was beginning to panic about where I would sleep that night, I literally bumped into her on the street.

So, to quote Steely Dan, “the weekend at the college didn’t turn out like [I] planned,” but I fell in love with West Virginia University despite that and ended up going to college there. And what did I do my first week on campus? I found the literary magazine and joined up.

I hate to fast forward through my college years here, but I must. I don’t need to tell you about the WVU football games and the aching, arching mountains and moonshine parties and pick-up bluegrass bands and cow-pie football. So, I won’t tell you those stories. I will just ask you to imagine how it felt to be cradled by those mountains, at that age, at that point of my life, and feel so tiny and so full of possibility at the same time.

In college, I had met the man who became my husband and later moved with him to Southern New Jersey. After growing up in Pittsburgh and then living in West Virginia, I felt like New Jersey was as flat as the western plains. The sudden weather changes were so odd to me too, as was what I then perceived to be constant sunny skies.

I was married at 21 but felt unfinished, to say the least. I decided to explore graduate school with *almost* a coin toss: I would apply for a graduate assistantship and if I got it, I would get my master’s degree. If I didn’t, I would get a job doing who knows what. I was interviewed on my birthday, which I hoped meant good luck, and it did: I got the assistantship.

On my very first day in graduate classes, I looked around the room. I was the youngest by about ten years. I sat taller in my seat and thought, “Bring it on.” The class was “Publishing and Editing.” The instructor immediately asked everyone to introduce the outside editorial project they would be doing and

I was the only person without one. He suggested I help a colleague edit a Civil War diary. I wanted to run from the room, screaming, but I merely nodded and tried not to cry. He noticed and suggested I speak with Lisa Zeidner, head of the Creative Writing program.

And so I started my work at the *Painted Bride Quarterly*. I will never forget sitting in Lou Camp’s Queen Village living room, drinking red wine and discussing poetry. I was desperate to work with writers who were alive and writing *right now*, and for the first time in its history, *PBQ*’s editors had decided to start looking for graduate students at schools in the area. Call it serendipity.

I felt adult and hip and very honored discussing the work of authors of all different levels, having a say in whether or not we would publish them. The editors respected my novice opinions and, when the semester was over, they asked me to stay. I still haven’t left. Others did, and as each person left, I moved up and up in the ranks until I reached co-editorship, a position I’ve shared with Marion Wrenn for the past 10+ years. In the beginning, we were editorial nomads, holding meetings around kitchen tables, at pizza places, coffee shops, in bars. We aligned ourselves with Rutgers-Camden and ran the magazine from there.

But, life has this way of happening and happening. I got pregnant the month I earned my graduate degree. I had two more kids in six more years. I won’t tell you about “the dance of the car seats” in our driveway, sleepless nights and the hours and hours of video we shot of one or the other child simply laying on a blanket, smiling at us. But I have to tell you that when my children were 13, 11





“I
will never
forget s i t t i n g i n
Lou Camp’s Queen Village living room,
drinking red wine
and discussing
p o e t r y .”



*is just as im
as the*

and 5, my husband passed away after a nine-month battle with a cancer that was not supposed to kill him.

That first year after his death I was still teaching at Rutgers, running *PBQ*, taking care of my kids, *trying*. Early that next spring, I felt like I kind of woke up, looked around, and realized that my personal life had changed so much that I needed to change my professional life as well. I realized that no matter how old I got, the folks at Rutgers were always going to perceive me as the girl I was when I first showed up there.

I remembered that Drexel University had once housed *Boulevard*, a long-running literary magazine, and I knew it was no longer there. I felt I had nothing to lose and I threw out an email to Miriam Kotzin in the English department. Six years later, I am still here.

The environment at Drexel has proven to be fertile ground for *PBQ*, as well as for me. The administration's support and respect for the magazine are in line with its place in American culture. The energy of our students has become *PBQ*'s oxygen.

Part of my *PBQ* inheritance was a democratic editorial policy, and Marion and I have remained committed to that mission—we credit the magazine's eclectic

aesthetic on exactly that philosophy. This means that it will never reflect our sensibilities alone; when student interns come to work, their votes weigh the same as mine. From the very first meeting, their voices are heard.

Taking our student interns seriously empowers them and, of course, that engages them. They don't feel their reading and comments are in vain, but that they are being taken seriously. This kind of empowerment, this kind of respect, allows them to take the *work* more seriously, to own it.

But we also laugh so much in the intern office that people stop in to see what's going on. We might be reading a *PBQ* submission out loud, or trying to fit a book into a tight envelope, or collaboratively designing a flyer for our next event. I think the laughter is just as important as the work itself.

The atmosphere of *PBQ* allows students to bond in a way the traditional classroom makes impossible: in my ten years at the helm, I've seen one marriage flower among them, along with countless long-term friendships. Students also bond over the many, many events we host. They come up with ideas for themes and venues. They come up with ideas for contests, and even the boring stuff, like tracking systems.

When I talk formally at conferences or on grant applications about *PBQ* being housed at Drexel, I always say it's a win-win situation. And it is. *PBQ* benefits from the youthful energy of the students, their enthusiasm and fresh perspectives, while the students benefit from seeing how a real-world publication operates, by reading contemporary authors, by learning the ropes of the "grown-up world" of literary publishing.

The first evening I knocked on the door of Lou Camp's home, I never could have imagined I would still be involved with *PBQ* 20 years later. I am a happy, happy teacher, the vast majority of the time. I have three engaged and amazing children, and a supportive and generous boyfriend. I am writing more than I ever have and meeting with some success. I don't think I could even have imagined then that I would have the good fortune to still be doing what I wanted to do since the fourth grade—be surrounded by books, writing in all its forms, and people who love it as much as I do.

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Kathleen Volk Miller writes essays about her life, your life, and the world as she sees it. She attempts to write fiction, but doesn't have as much luck creating realities as she does depicting the one we call "real." Her essays have appeared in places like Salon, the Philadelphia Weekly and Family Circle. She blogs weekly for The Philly Post and randomly for her own site, RampAgentParent.com, and for drexelpublishing.org. She is co-editor of The Painted Bride Quarterly, co-director of the Drexel Publishing Group, and an associate teaching professor of English at Drexel University.

“I think the laughter
important
work itself.”



LE

BY RON BISHOP, PH.D.
PHOTOS BY GINI WOY

LET THEM PLAY

We all know that today's youth are overburdened. With homework, sports, music and more, there's little time for kids to be kids. But play—that blissful, purposeless fun—was once the source of some of life's most valued lessons. In 2009, Dr. Ron Bishop wrote a book-length love letter to the seemingly long-gone days of pick-up games. He believed he might stir that wistful nostalgia just enough for parents to shoo their kids out the door and into a street game. Instead, he found himself the spokesman of the play “movement”...

AS I WROTE *When Play Was Play: Why Pick-Up Games Matter* for SUNY Press a couple of years ago, part of me secretly hoped that after reading my book, workers, farmers, freelancers, and executives across the country would band together and bolt from the assembly line, the fields, from behind the desk, and ditch the interminable meeting in the conference room to head to the nearest park or open space to revel in a national game of catch.

I also secretly hoped that mothers and fathers from far and wide would magically feel their mostly unsubstantiated and overhyped fears about our dangerous world and about their kids getting into just the right college ease just a little. Like the original Grinch with his newly functioning heart, they would lovingly implore their kids to put down their smartphones, pause their Xboxes, bid adieu to their Facebook friends and throw open the front door and fan out, explore beyond the borders of their cul-de-sacs, stare at the clouds for a while, and maybe get lost but find

their way back home in time to build a fort from a refrigerator box.

The source of my hope was the more than 150 stories about pick-up game experiences I received from folks across the country and around the world during the research for *When Play Was Play*. I am for sure an unabashed romantic about these activities. Each chapter begins with a story from my pick-up games past: my friends and I building a street hockey net out of scrap wood and metal that was so heavy we couldn't move it from in front of my house; making up games based on the short-lived but well-loved 1970s TV shows "SWAT," "Adam-12," and "Emergency!"; planning the day's mischief on the front porch of our three-bedroom colonial in Maplewood, NJ; somehow convincing my friend Chris to wear my ancient catcher's gear to play goalie in our street hockey games; games of baseball with made-up rules that would last well into many summer

nights; pretending I was New York Mets groundskeeper Johnny McCarthy while manicuring our backyard in preparation for games of running bases—the list goes on.

In rich, loving detail, the folks who submitted stories shared similar memories about kick the can, relivio, playing with dolls, catching bats, endless games of stickball and "halfball," even playing tennis under a train trestle. Rules and sometimes equipment were entirely made up. Stories told about simple fun, proving one's masculinity, about ethnic and racial harmony sometimes not seen in the behavior of the adults, about teeth chipped by errant fastballs and slap shots and windows broken by snowballs launched from behind snow fort walls. The games seemed "endless and timeless," said one respondent.



The stories were mostly about creating “a world of our own,” as another respondent said. It was—and still is—a necessary world to which we all should escape from time to time, according to the scholars whose work formed the theoretical foundation of the book. We desperately need to just go off and play. Even if we get nothing done, or learn little about the folks who play with us, we’re shaped positively by these experiences. Not that it should matter, but play helps children develop problem-solving and social skills, become more organized, become more empathetic. It nurtures their creativity, and eases their transition to adulthood. The latter attribute is added to media

coverage of play usually to assuage the fears of parents who believe that even a minute of unplanned, unpackaged, improvisational activity will irreparably damage their child’s resume.

Did I want to be some kind of pied piper, traipsing around America convincing parents to let their kids run around outside until all hours of the night?



I Hoped that folks would see the value of play,
let their kids more often experience play, but not conclude
that they now had to list it, as one respondent
said, on their kids' calendars.

It was reassuring that many of the stories came from children and teenagers. Yes, they still play. On their own—making up games like “Gerbil Hockey,” where players man scooters instead of strapping on skates, and “Tennockey,” a fascinating combination of tennis and hockey played when someone stands in the middle of the street and tries to slam a ball into a hockey net using a tennis racket. Lemonade stands are still being established; new games, like “Ghost in the Graveyard” and “Spit, Spit, You’re It,” are still being invented. Even old standbys like kickball (when it’s not being co-opted by adults in new leagues around the country), dodgeball, red rover, and capture the flag have young adherents. Of course, “it would be better if we had more time,” as one young respondent put it, echoing the concerns of scholars and professionals who try to convince Boomers that more play is needed, especially since it seems to make these kids so happy—even if (gasp!) they play with no particular goal in mind. There’s some compromise; kids aren’t allowed to just run off without sharing their destinations with their parents, like my friend Joe and I failed to do when we were 12 and rode our bikes five miles and three towns over so I could show Joe where we went to church.

Probably the most interesting part of *When Play Was Play*’s journey to press was the comment from a scholar asked to review the book. The largely positive remarks culminated in the reviewer’s pronouncement that the book could become “the Bible of the play movement.” This was a reference to the public’s recent rediscovery of the many benefits of unstructured play. I was grateful for the reviewer’s kind words, but troubled by their implication. First, I had to get my mind around the fact that there was a play “movement”—an organized effort by well-intentioned authors, parents, doctors, and public officials to, well, organize their kids’ new forays into unstructured play.

Did I want to be some kind of Pied Piper, traipsing around America convincing parents to let their kids run around outside until all hours of the night? At a time when we’ve been persuaded to be afraid of just about everything, would I end up on some kind of Peter Pan “no play” watch list, to be arrested if found with the mitts I always keep in my car, ready for a game of catch?

Did I want to someday see “PLAY” at the bottom of those overanxious motivational posters sold by Sky Mall and which festoon hallways in corporate headquarters around the world, underneath a photo of a baseball field at dawn, shrouded in expectant fog? Would I end up appearing on talk shows with the long list of important people—





including President Obama and former President Clinton—who have recently shared with America their memories of unstructured play?

I didn't want to bludgeon kids with this rediscovery. I wanted to show that not every moment has to be a teachable one, and when lessons are learned while playing "Emergency!" or running bases, they're just as valuable as those taken from a two-hour lecture by a professor. I just wanted them to know, and maybe think about the fact, that the love, the enduring friendships, the more tenuous temporary connections—even the anger, the competitiveness, the macho posturing, the sneakiness, the pettiness—shaped us. I hoped that folks would see the value of play, let their kids more often experience play, but not conclude that they now had to list it, as one respondent said, on their kids' calendars.

Leave it to a Baby Boomer raised on Woodstock and the "Summer of Love" to schedule play.

I wanted them to pass the joy of play on to their kids, not keep it to themselves. To not make play an organized affair designed to help kids achieve. To not become part of nascent movements that advocate for play—unless it's for the restoration of recess; that I agree with. To cancel the play dates, keep their kids home from camp, and let them run around the backyard, making up games on their own—or not. And to never, *ever*, write the words "play time" on their smartphones and BlackBerrys.

I just wanted parents who read the book to let their kids play—no, really; just play. The way *they* want to.

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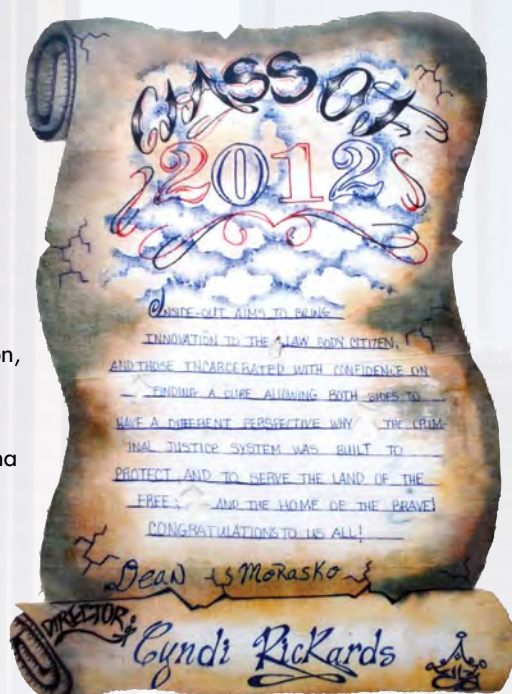
Ronald Bishop, Ph.D. (Temple University, 1997), is a professor in the Department of Culture and Communication at Drexel University. His third book, MORE: The Vanishing of Scale in an Over-the-Top Nation, was published in 2011 by Baylor University Press. His two previous books, Taking on the Pledge of Allegiance and When Play Was Play: Why Pick-Up Games Still Matter, were published by SUNY Press. His research has been published in a variety of top journals across many disciplines, including the Electronic Journal of Communication, the Journal of Popular Culture, the Journal of Sports Media, the Journal of Communication, Addiction Research and Theory, the International Journal of Progressive Education, and the Journal of Poverty.

Teaching Compassion

Professor **Cyndi Rickards** of the Department of Culture and Communication has been challenging the ways we define “**experiential learning**” here at Drexel. While traditionally the phrase has evoked thoughts of the co-op program and professional competencies, Rickards’ courses are emphasizing a whole new set of social skills. **Like empathy.**

by **WILLIAM LUKAS '15**

HAND-DYED SCROLL made by “inside” student in “Prison, Society & You” course. The surprise gift was presented by the inmate to Dean Donna Murasko during the closing ceremony for the class.



STUDENTS in Rickards’ sociology course “Culture of Poverty,” held for the first time this winter, were asked to expand their macro understanding of poverty gained in the classroom, to the very real—and often very harsh—realities of countless West Philadelphians. While half of the course was taught in a traditional academic setting, the other half was spent at LIFT, an anti-poverty agency with offices in North and West Philadelphia. The non-profit organization combats economic inequality by providing housing, employment, education, and healthcare resources to low-income individuals and families.

Students worked one-on-one with LIFT clients throughout the quarter, helping them to write résumés and cover letters, file tax returns and secure job and housing placements. The experience allowed them to gain a deeper appreciation of poverty and the needs of those it affects, as well as an understanding of the social institutions that often force individuals into destitution.

“I’ve always believed that students learn best in the field—especially in the social sciences,” says Rickards. “As we look at statistics, I encourage students to understand that there are elements of humanity and social justice behind them.”

This powerful firsthand learning approach is also found in Rickards’ “Prison, Society and You” course. Students acquire a rich understanding of the criminal justice system as they come together with incarcerated peoples in a collaborative classroom setting behind prison walls. Utilizing the Inside-Out Prison Exchange model, a program founded in 1997 by Temple professor Lori Pompa, the course encourages transformative thought and social change through experiential learning.

A truly immersive experience, “Prison, Society and You” allowed 15 “outside” students from Drexel and 15 “inside” students from Curran-Fromhold Correctional Facility (CFCF) in the Holmesburg area of Philadelphia to meet face-to-face under Rickards’ guidance this spring. Over the course of the term, the group engaged in meaningful discourse, critical thinking and creative projects surrounding the history of mass incarceration, the war on drugs, victimization, racial profiling, the school-to-prison pipeline, and America’s current prison binge.

Despite the continued proliferation of social and economic disengagement in Philadelphia, and the world at large, the unison between inside and outside students offered a glimmer of hope. As a



PROFESSOR Cyndi Rickards (far left) with students from her “Prison, Society and You” course, taught for the first time this Spring.

group, the students exhibited humanity, solidarity, and most notably, bravery, as they worked to break down prejudices and challenge notions of crime, justice and freedom.

As one inside student stated: “They say ‘land of the free and home of the brave.’ But I think the bravery comes first. Because only the brave can set themselves free.”

Moving forward, Rickards has teamed up with Drexel’s Lindy Center for Civic Engagement and will soon begin training Drexel faculty on ways to create service and experiential learning programs akin to the LIFT and Inside-Out pedagogies. Faculty members from across the University have already expressed interest in holding classes at other unconventional locations, including churches, senior centers and even a residential rehabilitation center for trafficked and prostituted women.

“These classes provide the intangible skills—like empathy, compassion, advocacy, active listening, and reflection,” says Rickards. “Skills that are sometimes difficult to gain within the insulated walls of a classroom.”

The inception of these courses provides not only unparalleled learning opportunities for Drexel students, but also accessible education for marginalized groups in Philadelphia. As Drexel continues to establish itself beyond the campus, the College of Arts and Sciences will play an important role in redefining the University’s spirit of innovation and collaboration through an emphasis on community and compassion.



A Postcard for Your Thoughts

What do 5000 strangers from all across the country have in common? Wisdom—and lots of it! Some of their advice is profound, some strange, and some downright silly, but it's all making its way into Matthew Ross Smith's "Wisdom Library."

AN ADJUNCT WRITING PROFESSOR at Drexel, Smith was inspired to start the library after his grandfather, William McNamee, was diagnosed with Alzheimer's disease. As the condition advanced, McNamee was compelled to share his stories and experiences with loved ones, so that part of him might remain after his memory had faded.

When the WWII vet passed away in 2003, Smith—an educator, writer and musician—added "story collector" to his list of designations. As a tribute to McNamee and a vehicle for raising Alzheimer's awareness, he founded the Spaces Between Your Fingers Project in 2009.

The grassroots initiative has led Smith on several trips across the U.S. to meet strangers of all ages and walks of life. To every willing participant he meets, he hands over a blank, self-addressed postcard. In return, he asks the stranger to write a story or piece of advice and sign it, not with their name, but with their handprint.

The messages range from "Take care of your teeth" (33, Oklahoma) to "Fall in love with the boy your parents warned you about" (18, Pennsylvania) and "Keep your mind busy. And your body. Work as long as you can work. And do something for somebody else every once in a while." (113, Montana).

Each card that comes back is scanned and stored in the William B. McNamee Wisdom Library, a digital archive that's set to go live in 2013. The library will connect strangers otherwise divided, whether by state lines or generational gaps, allowing them to learn from and relate to one another.

Users will also be able to access the searchable database—which will be catalogued by subject, age and location—through a "Wisdom Library" iPad app. By placing their hand on the iPad tablet, they'll be instantly connected to the prints and stories of strangers all over the world.

The digital aspects of the campaign are just one piece of the Alzheimer's puzzle. In addition to Smith's on-the-road efforts, he's also leveraged the project to advance Alzheimer's legislation. This past April, Smith met with members of the U.S. Congress to advocate for legisla-

tion supporting families struggling with Alzheimer's, and to encourage research-funding efforts. His trip to Capitol Hill resulted in co-signatures on not one, but two Alzheimer's-related bills.

But becoming the voice of Alzheimer's is not something Smith plans to do solo. By creating a Spaces Between Your Fingers storybook and corresponding program for school-aged children, he's encouraging kids to talk about the disease and create their own memories.

"Slowly but surely we are building a network of advocates, all across America," Smith says, "and what holds us all together is our love of stories."

Smith has collected thousands of stories and bits of advice over the last three years, but perhaps the most inspiring words were those of his own grandfather, written in a letter Smith received after his passing: "Any time you want to find me, you don't have to look far. Just look down at the spaces between your fingers—where my hand used to be—and instead of thinking of all that's keeping us apart, remember this great force that's holding us together, and always will."

To learn more about the Spaces Between Your Fingers Project or to find out how you can help in the fight against Alzheimer's, visit spacesbetweenyourfingers.blogspot.com.



FALL IN LOVE with the boy your parents warned you about.
—Age 18, Pennsylvania



Memory Lane

Whether from the far reaches of the **world** or the Keystone State itself, students come from all over to study in the City of Brotherly Love. And while many take advantage of **Philadelphia's rich culture**, with its great museums, restaurants and historical sites, few will ever get to know the people who have lived here their **whole lives**.

HOMEOWNERS OF 50 YEARS, great-grandmothers 12 times over, siblings, neighbors, friends—these are the individuals who have evolved with our growing metropolis and whose memories and experiences paint a picture of our local community.

Recently, through a collaborative art project and communication course, Drexel students connected with the narratives of their neighbors, learning and ultimately retelling the stories of Lancaster Avenue.

Stories like those of George Stevens, community activist, entrepreneur, family man, and one of six siblings born and raised in the area. Or Philadelphia native Ethel Briscoe, a teacher's aide in the city's school system for most of her life, mother of 6, grandmother of 25, great-grandmother of 12.

Students met with George, Ethel and other local area residents through the international education initiative "Neighborhood Narratives," also taught as a special topics course at Drexel by the project's director Hana Iverson, and College of Arts and Sciences sociology professor Dr. Mimi Sheller.

Participants shared their personal anecdotes, tracing each tale back to its corresponding location in the neighborhood surrounding Lancaster Avenue (located just north of Drexel's campus). These memories were then archived and reanimated by the students, who used cameras, smartphones and other

PHOTO COURTESY OF VINCE MASSA:

"Augmented Avenue: Memories of Lancaster" brings together Drexel students like Lizz Miller (left) with local residents like George Stevens (right) to help document stories and memories in a multimedia narrative about the neighborhood around campus. The class was led by Hana Iverson (center), director of Neighborhood Narratives, and sponsored by Drexel's Center for Mobilities Research and Policy.

recording devices to create context-rich portraits of the urban district.

The photo and sound collages were displayed on posters and maps along the avenue, accessible via phone-readable barcodes. The exhibit, "Augmented Avenue: Memories of Lancaster," was directed and managed by Blaise Tobia and Orlando Pellica of the College of Media Arts and Design, and was co-curated by Sheller.

Augmented Avenue is part of a wider initiative called "LOOK! On Lancaster Avenue," a program aimed to restore West Philadelphia's Lancaster Avenue Corridor, which is sponsored by the City of Philadelphia's ReStore Corridors Through Art program.





PHOTO BY CHRISTIAN ZIEGLER/NATIONAL GEOGRAPHIC

No Monkey Business

On the remote reaches of **Bioko Island**, off the coast of Cameroon, conservation biologist **Dr. Gail Hearn** has been protecting the endangered drill monkey and other primate species for over 20 years.

HEARN'S EFFORTS started after aggressive bushmeat hunters began depleting the dense primate population of the island (monkeys catch a high price at the local markets). In the late '90s, she founded the Bioko Biodiversity Protection Program (BBPP), a multi-faceted organization that monitors and protects Bioko's threatened wildlife, including everything from nesting sea turtles to tree frogs. ("Frogs are 'in' right now," Hearn jokes.)

Today, BBPP is part of an academic partnership between Drexel University and the Universidad Nacional de Guinea Ecuatorial, and orchestrates numerous education and conservation efforts each year. Drexel undergraduate and graduate students have been aiding in the work on Bioko since Hearn first joined the University in 2007.

"Drexel students don't just study conservation work," Hearn remarked at a recent alumni event, "they actually *do* the work."

At the same event, surrounded by primates in the Philadelphia Zoo's Rare Animal Conservation Center, Hearn discussed her team's efforts and an exciting new project led by research associate Dr. Shaya Honarvar from Drexel's Department of Biology. "The Drill Project," as it's called, is a documentary-based initiative aimed at raising awareness and resources to protect the drill monkey. With the help of Justin Jay, a biologist and videographer, Honarvar and student volunteers have captured rare footage of the elusive primate. It is the first footage of the drill ever taken in its natural habitat. Hearn's team hopes the film will ultimately garner the support needed to protect Bioko's rich biodiversity.



To support or learn more about this incredible film, visit thedrillproject.org.

For more information on upcoming events sponsored by the Drexel Alumni Association and the College of Arts and Sciences, visit drexel.edu/alumni.



Remembering Those We Lost



SHERYL P. SIMONS
*Adjunct Professor
of English*

September 11, 1954 –
December 2, 2011

Last winter, our department mourned the loss of our friend and colleague, Sheryl P. Simons, who passed away on December 2, 2011, aged 57. A 1975 graduate of NYU's Tisch School of the Arts, Professor Simons was also a Wharton MBA alumna. For all of us who counted Sheryl as a friend and colleague, she will be remembered as a quiet, dignified, and remarkable human being. What made her also quite endearing was her love and passion for genuine freedom.

A Board Member of the Abolitionist Society—an organization founded by no other than Benjamin Franklin in 1775—and a past Board Member of the Powelton Village Civic Association, Simons was also known for helping students free themselves from the yoke of bad writing and reading habits.

We continue to mourn the loss of a quiet, independent and formidable teacher whose sincere efforts helped to make our students better writers and citizens.

*-Dr. Abioseh Porter, Head, Department
of English & Philosophy*



DR. ALAN R. BANDY
*R.S. Hanson Professor
of Atmospheric Chemistry*

September 13, 1940 –
December 24, 2011

The Department of Chemistry and Drexel University mourned the death of Dr. Alan R. Bandy, esteemed researcher, teacher and colleague. Bandy was respected for his work, both locally at Drexel, and by the national and international communities of atmospheric scientists.

He obtained his B.S. and M.S. from Oklahoma State University in 1964, and went on to receive his Ph.D. from the University of Florida in 1968. He was a postdoctoral associate at the University of Maryland and served on the faculty of Old Dominion University before coming to Drexel in 1975. Bandy became a full professor in 1982 and was awarded the R.S. Hanson Professorship of Atmospheric and Analytical Chemistry in 1997.

During his career, Bandy led research efforts in large field programs using aircraft and ground sites, sponsored by the National Science Foundation, NASA Global Troposphere Program, the Office of Naval Research, and the National Oceanic and Atmospheric Administration. He also developed an experimental design—still popular today—that allows scientists to understand the fundamental processing of chemical compounds in the atmosphere (an approach that drove the better part of his research).

Bandy's contributions were vast; both an advisor and mentor, he authored or co-authored more than 100 publications and was cited more than four thousand times. In classes, he made an effort to share his enormous knowledge with students and to excite them in developing scientific and scholarly thinking.

*-Professor Emeritus James P. Friend,
Dr. Donald R. Thornton, and Chemistry
Department Head Reinhard Schweitzer-
Stenner*



VANESSA "BAILEY" ADAMS
*Administrative Assistant,
CoAS Dean's Office*

December 30, 1983 –
May 23, 2012

We often joked in the Dean's Office that Bailey Adams was hired for her baking prowess: she promised cookies and everyone knows that baked goods are vital to office morale. In truth, in the short period of an interview, Bailey had already impressed us with the qualities we now mourn today: her sarcasm and confidence, her southern kindness, her joyful energy.

Bailey changed the office from the moment she joined it: she made it brighter. She filled it with laughter, with sarcasm and sweetness. She hung jokes over the office printer to lighten the workday. She baked cakes and cookies when the term got tough. She said words like "sweetheart" and "honey" with a sincerity that comforted beyond her 28 years. She knew students by name, knew the details of their lives, and even knew their parents. One mother wrote: "[Bailey's] smile lit up the telephone when we called. Her warmth and joy of life was evident when we visited [the Dean's Office] and she shared her future plans with us as we shared [our daughter's] successes with her...She will be missed by everyone she touched."

Words fall short in times of loss. Inevitably, no matter how much you say, the real essence of a person eludes. It is, truly, an essence. A feeling. For all who knew Bailey, those feelings will one day fill the spaces she leaves behind. They are the change in us. They are the pieces of her we carry with us wherever we go—the brightness or sweetness or humor that wasn't there before.

*-Amy Weaver, Director of Marketing
and Communications, College of Arts
and Sciences*

Academic Accolades

A small **sampling** of student and faculty honors—further proof that 2012 is *indeed* the **Year of the Dragon**.

PAY IT FORWARD SCHOLARSHIP

KYLA LAFOND, B.S. Biology '15, was honored with the 7th Annual Pay It Forward Scholarship from CURE Auto Insurance and 94.5 PST for her “compassionate work.” For the last three years, LaFond has volunteered as a translator and medical assistant providing critical medical care to poverty-stricken residents of Honduras.

SOCIETY FOR A SCIENCE OF CLINICAL PSYCHOLOGY DISSERTATION AWARD

STEPHANIE RABIN, Ph.D. Clinical Psychology candidate, won the Society for a Science of Clinical Psychology Dissertation Award for her dissertation “The Interaction of Therapist Experiential Avoidance and Extraneous Clinical Information in Predicting Therapist Preference for

Exposure Treatment for OCD.” Her project was one of only seven chosen from top programs across the country. Rabin worked under the direction of psychology professors Dr. James Herbert and Dr. Evan Forman.

BOREN SCHOLARSHIP

COLBY HEPNER, B.A. International Area Studies '13, received the Boren Scholarship, which will allow him to spend the 2012-13 academic year in South Korea. Hepner will study Korean and international business at Hanyang University for five months, followed by a six-month co-op at a Korean company.

OUTSTANDING LEADERSHIP SCHOLARSHIP

SAJJAN SINGH MEHTA, B.S./M.S. Physics and Mathematics '12, received the 2011 Outstanding Leadership Scholarship from the National Society of Physics Students. Mehta also received the Chambliss Astronomy Achievement Student Award (undergraduate category) at the 218th meeting of the American Astronomical Society; **ALFRED WHITEHEAD**, Ph.D. candidate in Physics, received the award in the graduate category.

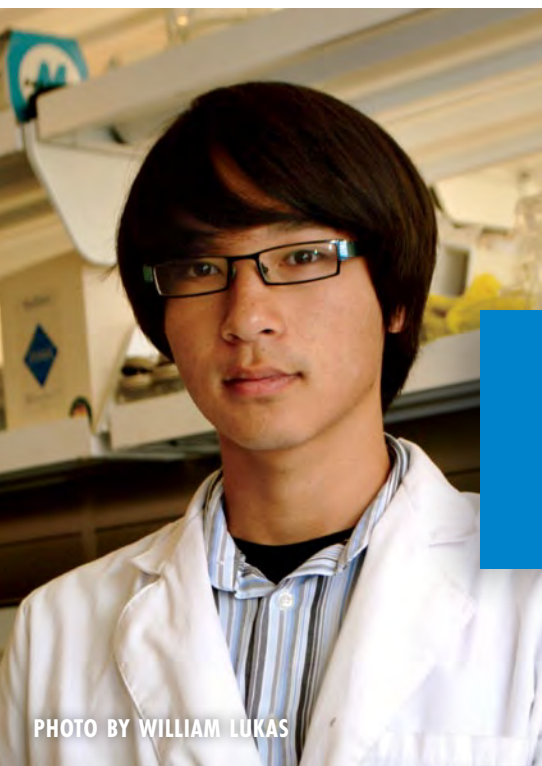
COOPERATIVE EDUCATION AWARD

AIMEE HILDENBRAND, B.S. Psychology '12, received Drexel's 2012 Cooperative Education Award from the Steinbright Career Development Center. Hildenbrand was nominated by her supervisors at the Children's Hospital of Philadelphia, where she has worked in multiple capacities since 2009. Over the last two and a half years, she has been helping to develop a web-based program that aims to prevent persistent traumatic stress and promote emotional recovery in children after acute medical trauma.

FOUR AWARDS RECEIVED

DREXEL'S SOCIETY OF PHYSICS STUDENTS

won four nationally competitive awards in 2012: the Sigma Pi Sigma Undergraduate Research Award; the Marsh White Award from the American Institute of Physics (awarded for the 6th consecutive year); the Outstanding SPS Chapter Award (awarded for the 3rd consecutive year), and the Blake Lilly Prize from the National Society of Physics Students. Many of these awards recognize the Chapter's continued outreach efforts with school children in the Philadelphia area.



UDALL SCHOLARSHIP

ELLIOTT CHIU, B.S./M.S. Biology and Environmental Science '13, was the first Drexel student to receive the Udall Scholarship, a prestigious and highly competitive award for students committed to environmental careers.

BEST SCIENTIST IN NATURE AND ENVIRONMENT

JON GELHAUS, PH.D., Environmental Science, was honored with the Best Scientist in Nature and Environment medal from the Mongolian Ministry of Nature, Environment and Tourism. The medal recognizes Gelhaus' significant contributions to Mongolian environmental science.

OUTSTANDING MENTOR AWARD

DOUGLAS CHUTE, PH.D., Psychology, received the inaugural 2012 Outstanding Mentor Award from the American Board of Professional Neuropsychology. The award recognizes Chute's research and practice contributions to neuropsychology in the areas of head injury assessment and rehabilitation, micro-computer prosthetics in rehabilitation and neurochemistry of learning and memory, and for his contributions as a mentor to young neuropsychologists.

ELIZABETH BINGHAM MENTORING AWARD

DEAN DONNA MURASKO, PH.D., Biology, received the Elizabeth Bingham Mentoring Award from the Philadelphia chapter of the Association for Women in Science. Murasko was honored for her support of women in science, most notably in the Department of Physics at Drexel, where she has been instrumental in increasing the number of female faculty members and supporting the establishment of the Women in Physics Society.

OUTSTANDING CONTRIBUTIONS TO THE SPECIALTY OF COGNITIVE AND BEHAVIORAL PSYCHOLOGY AWARD

CHRISTINE MAGUTH NEZU, PH.D., Psychology, received the Outstanding Contributions to the Specialty of Cognitive and Behavioral Psychology Award by the American Board of Cognitive & Behavioral Psychology and the Academy of Cognitive &

Behavioral Psychology. Nezu was also named Clinician of the Month by the Association for Behavioral and Cognitive Therapies.

PROFESSOR BERNARD CHOSEED MEMORIAL FELLOW

RAKHMIEL PELTZ, PH.D., Judaic Studies and Sociolinguistics, was named 2012-2013 Professor Bernard Choseed Memorial Fellow in the research field of Eastern European Jewish Studies at the YIVO Institute for Jewish Research.

HUMBOLDT RESEARCH FELLOWSHIP

GORDON RICHARDS, PH.D., Physics, received the Humboldt Research Fellowship from the Alexander von Humboldt Foundation. The fellowship allows Richards to pursue sabbatical research at the Max Planck Institute for Astronomy in Heidelberg, Germany to develop an algorithm that will identify quasars in the upcoming Large Synoptic Survey Telescope (LSST) project, scheduled for 2014.

LIFETIME ACHIEVEMENT AWARD

JAMES SPOTILA, PH.D., Environmental Science, was honored with a Lifetime Achievement Award by the International Sea Turtle Society. A pioneer in the field of sea turtle research, Spotila collaborated on a worldwide study to identify danger zones for endangered leatherback sea turtles by tracking their migration patterns in the Pacific Ocean.



PHOTO BY C. RILEY NELSON

DREXEL UNIVERSITY FACULTY AWARDS

BARBARA G. HORMUM AWARD FOR TEACHING EXCELLENCE

DARYL FALCO, Mathematics

ANTELO DEVEREUX RESEARCH AWARD FOR YOUNG FACULTY

SIMON FOUCART, PH.D., Mathematics
BRIAN DALY, PH.D., Psychology

HAROLD M. MYERS DISTINGUISHED SERVICE AWARD

SIMONE SCHLICHTING-ARTUR, PH.D., Modern Languages

ALLEN ROTHWART AWARD FOR TEACHING EXCELLENCE

REBECCA INGALLS, PH.D., English

Research Rewarded

Faculty in the **College of Arts and Sciences** continue to embark on exciting research across the globe: from Fulbright training programs and middle school outreach, to quasar surveys and turtle conservation. Below is a **sampling** of grants received over the last year.

BIOLOGY

DR. WALTER BIEN *Warren Grove Bombing Range Integrated Natural Resources Management Plan*; U.S. Army Medical Research Acquisition Activity; \$153,000

DR. JEFFERY TWISS *Using RNA Transport to Improve Axon Regeneration*; Craig H. Neilsen Foundation; \$265,000

BIODIVERSITY, EARTH AND ENVIRONMENTAL SCIENCE

DR. GAIL HEARN *Comprehensive Strategies for Marine Turtle Conservation: Research, Education and Community-Based Initiatives on Bioko Island, Equatorial Guinea*; Hess EG; \$75,000 and *Bioko Island Biodiversity Conservation Through a Capacity-Building Program of Research*; ExxonMobil Foundation; \$300,000

DR. SEAN O'DONNELL *Collaborative Research: Comparative Developmental Analysis of Brain Architecture in Social Wasps*; National Science Foundation; \$169,195

DR. GARY ROSENBERG *Digital Imaging of Molluscan Type Specimens*; National Science Foundation; \$522,000

CHEMISTRY

DR. SALLY DYM SOLOMON *Science in Motion in Middle Schools*; Commonwealth of Pennsylvania; \$50,981

DR. FRANK JI, Co-PI, *Transformation of Biomolecules by Nonequilibrium Plasma Fundamentals of Plasma Biomedicine:*

Effect of Nanosecond Plasma-Generated Species on Proteins, Enzymes, Amino Acids, and Mammalian Cells; Keck Foundation; \$1,000,000

CULTURE AND COMMUNICATION

DR. ROBERT D'OVIDIO *Educating Stakeholders About Crimes Committed Using Handheld Devices*; U.S. Department of Justice, Bureau of Justice Assistance; \$986,976; and *Real Crime in Virtual Worlds*; U.S. Department of Justice, Bureau of Justice Assistance; \$500,000

ENGLISH LANGUAGE CENTER

DR. BARBARA HOEKJE *Implement Specialized Four-Week Fulbright Pre-Academic Training Program for Fulbright Grantees*; State Bureau of Educational and Cultural Affairs (ECA); Institute of International Education (IIE); \$138,656

MATHEMATICS

DR. DAVID AMBROSE *Collaborative Research: Efficient Surface-Based Numerical Methods for Interfacial Flows in 3D Fluids*; National Science Foundation; \$124,339

PHYSICS

DR. FRANK FERRONE *Laser Photolysis-Mediated Hemoglobin Polymerization Technology as a Potential Screening*

Assay; Amgen Pharmaceuticals Inc.; \$116,580

DR. CHARLES LANE *Experimental Neutrino Physics*; U.S. Department of Energy; \$258,000

DR. GORDON RICHARDS *The Ultimate Multiwavelength Quasar Survey*; NASA; \$283,000

PSYCHOLOGY

DRS. MEGHAN BUTRYN, EVAN FORMAN, and MICHAEL LOWE *Environmental and Acceptance-Based Innovations for Weight Loss Maintenance*; National Institutes of Health; \$2,500,000

DRS. EVAN FORMAN and MEGHAN BUTRYN *Acceptance-Based Behavioral Treatment for Obesity: Maintenance and Mechanisms*; National Institute of Diabetes and Digestive and Kidney Diseases; \$2,812,483

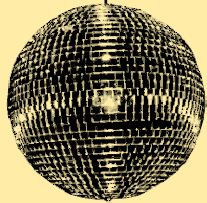
DRS. KIRK HEILBRUN and DAVE DEMATTEO, J.D. *Diversion of Individuals with Serious Mental Illness from Standard Prosecution for the PA Mental Health and Justice Center of Excellence*; Pennsylvania Commission on Crime and Delinquency; \$400,000

DR. MICHAEL LOWE *Test of Nutritional Interventions to Enhance Weight Loss Maintenance*; National Institute of Diabetes and Digestive and Kidney Diseases; \$542,361

ImPRESSions

“It is not accidental that Greeks invented tragedy, namely the exaggeration, the extravagance of life. But tragedy is not the end of the road; it leads to a cathartic new reality.”

—**MARIA HNARAKI** on the Greek debt crisis, *International Business Times*, November 9, 2011



“Imagine that the mirror’s surface is made of many smaller mirrors turned to different angles, like a disco ball. The algorithm is a set of calculations to manipulate the direction of each face of the metaphorical disco ball so that each ray of light bouncing off the mirror shows the driver a wide, but not too distorted, picture of the scene behind him.”

—**R. ANDREW HICKS, PH.D.**, on his invention of a driver’s side mirror with no blind spot, *Wired.com*, June 8, 2012



“I needed some zing in my life, and this is pure pleasure.”

—**BARBARA HOEKJE, PH.D.**, on hula dancing, *Philadelphia Inquirer*, March 7, 2012

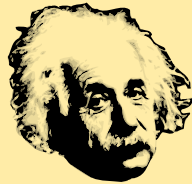


“Ironically, perhaps, it makes them very tasty to humans. They have kind of a tart lemony flavor. One of my favorite treats walking through the rainforest.”

—**SEAN O’DONNELL, PH.D.**, on sampling lemon ants in the Ecuadorian rainforest, *Nat Geo Wild’s “Animal Superpowers,”* June 26, 2012

“Scientists and scientific studies have a minimal effect on public opinion. What really drives public opinion on climate change are the ways that political elites describe the science.”

—**ROBERT BRULLE, PH.D.**, on factors that predict public opinion on climate change, *USA Today*, February 17, 2012



“Even if relativity turned out to be wrong, it’s clearly very, very close to being right.”

—**DAVE GOLDBERG, PH.D.**, on the potential existence of faster-than-light neutrinos, *National Geographic*, September 23, 2011

“It’s not just ‘Oh My God, it’s Justin Bieber, scream, scream, yell, yell.’ Each person at the rails has one or maybe ten reasons for being there, and that often gets lost in the rush to explain Biebermania.”

—**RON BISHOP, PH.D.**, on parents’ worries over teens idols, *The Wall Street Journal*, “The Juggle Blog,” June 26, 2012



“I can’t pick up a 1,100-pound femur and see how it articulates with a 400-pound tibia and 150-pound fibula; not without getting a hernia at least.”

—**KEN LACOVARA, PH.D.**, on using 3-D printing to turn fossilized bones into dinosaur robots, *Time Magazine “Techland Blog,”* February 22, 2012

“We’re moving away from the ideas of freedom and individuality we used to associate with driving, toward a rhetoric of security and safety and control.”

—**MIMI SELLER, PH.D.**, on driverless cars, *Maclean’s*, November 3, 2011



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