CONSTANTINE PAPADAKIS INTEGRATED SCIENCES BUILDING

the future is here
-see supplement inside
Dear Alumni and Friends,

It has been a year filled with milestones for the College of Arts and Sciences: from the celebration of our 20th anniversary in the fall of 2010, to Sir Salman Rushdie kicking off our inaugural Distinguished Lectureship in the spring, and finally culminating in the grand opening and dedication of our new Papadakis Integrated Sciences Building in September 2011. Along the way our community of faculty and students has impressed and inspired, garnering Fulbright, teaching and mentorship awards (including the highest teaching honor in the University, the Lindback Award), and grants to support research from biodiversity preservation and astronomy to cancer and Alzheimer’s treatment. In addition to these accomplishments, we could not be more excited about the University’s developing partnership with the Academy of Natural Sciences. As I write, we are hard at work building a new department that will capitalize on the strengths of ANS and the College’s own distinguished environmental science faculty.

As is the nature of life, these triumphs have been marked with some sorrow. As we celebrated the grand opening of the Papadakis Integrated Sciences Building, we were reminded of the loss of our beloved President Dr. Constantine N. Papadakis and former Head of the Department of Biology, Dr. Mary K. Howett. Both leaders played significant roles in the transformation of the College and the Department of Biology, which now calls the PISB home. Both would have been so proud of this magnificent building and the commitment to sustainability that it represents. Sadly, we also lost two faculty members this year, and said goodbye to another who retired. Each of these individuals embodied the essence of the College, intertwining art, science, and technology in their work and positively influencing the lives of their students and colleagues.

In a Forbes article on “The Top Ten Lessons Steve Jobs Can Teach Us,” written after Jobs’ passing, author Eric Jackson listed the following at #1: “The most enduring innovations marry art and science.” This understanding is the foundation upon which we at Drexel’s College of Arts and Sciences continue to build. From the opening of the breathtaking new home for biology to a lecture by one of the most influential literary figures of our time, the College continues to interweave the sciences and the humanities, empowering our students and faculty to make connections, to see all pieces, all perspectives. This is the fabric of the College of Arts and Sciences. Through the hard work of students, faculty, staff, alumni and friends—all from unique disciplines, all working together—the College continues to turn heads. Some of those head-turners are highlighted here in Ask. I hope you enjoy these articles and encourage you to visit campus to witness the exciting changes taking place, and to share in the pride of being part of the Drexel University College of Arts and Sciences community.

Sincerely,

Donna M. Murasko, Ph.D.
Dean, College of Arts and Sciences

Ask magazine is published annually by Drexel’s College of Arts and Sciences. All feature articles and many of the photos are the work of talented Drexel students, reflecting the University’s firm foundation in experiential learning.

ask  art + science = knowledge
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ALUMNI AND FRIENDS gathered at the Academy of Natural Sciences in Philadelphia to hear Dr. Lacovara discuss his impressive five-year journey in the remote badlands of Argentina. Over the course of five expeditions to southern Patagonia, Lacovara and teams of Drexel students unearthed 60 tons of dinosaur bones, which they then transported to the United States for further research. The bones are currently on loan from the government of Argentina and are being studied at three locations: Drexel University’s College of Arts and Sciences, the Academy of Natural Sciences and the Carnegie Museum of Natural History in Pittsburgh. Guests were treated to a private tour of the Academy’s Fossil Prep Lab and a sneak peek at the fossils.

The good times weren’t just for grown-ups: children conducted their own fossil dig in the Academy’s “The Big Dig” exhibit, masterfully wielding chisels in search of their own exciting discovery.

LACOVARA is an associate professor of biology at Drexel and has appeared on Fox News, CNN, NBC Nightly News with Tom Brokaw, A&E and the Discovery Channel. His worked has appeared in newspapers and magazines around the world, including The New York Times, The Times of London, Time Magazine and National Geographic.

To learn more about upcoming alumni events sponsored by the College of Arts and Sciences and the Drexel Alumni Association, please visit www.drexel.edu/alumni or call 215-895-ALUM (2586).

Fossil Fascination: The Kids Were Diggin’ It

On Thursday, April 28, 2011, Drexel alumni and their families got a rare peek at one of Dr. Kenneth Lacovara’s latest finds: the most complete skeleton of a supermassive dinosaur.
1. Alumni and friends enjoy a reception in Dinosaur Hall. 2. Dr. Lacovara (far right) and Dean Murasko pose with political science student Kayla Rosencrans ’12 and her brothers Zac and Connor. 3. Eager paleontologists-in-training get their hands dirty. 4. Jason Poole welcomes kids to “The Big Dig” exhibit. 5. Dr. Joseph Bolmarcich, B.S. Mathematics ’65, with his wife Cynthia Latham.
Excellence: Times Twenty
In 1990, Drexel’s College of Arts and Sciences was born from the union of the College of Humanities and Social Sciences and the College of Science. To celebrate the 20th anniversary of this historic merger, the College honored four impressive members of the Drexel community at an inaugural awards gala. Learn what makes these four honorees worthy of a celebration.
EDWARD G. RENDELL, Pennsylvania’s 45th Governor, began a second term of office on January 16, 2007, following a landslide re-election victory. His unprecedented strategic investments energized Pennsylvania’s economy, revitalized communities, improved education, protected the environment and expanded access to health care to all children and affordable prescription drugs to older adults.

Governor Rendell is in many ways responsible for the amazing growth of Drexel’s College of Arts and Sciences. When Allegheny University declared bankruptcy in 1998, it was Governor Rendell, then Mayor, who shared President Constantine Papadakis’ vision of merging Drexel University with MCP Hahnemann University (formerly owned by Allegheny), also encouraging the economic growth of the area. It was his support that won the confidence of undecided Drexel trustees and persuaded them to support the merger.

More recently, Governor Rendell provided financial support, making available $10 million to Drexel University for the Constantine Papadakis Integrated Sciences Building through the Commonwealth’s Redevelopment Assistance Capital Program.

In both principle and in action, Governor Rendell has continually supported the development of the University and the College of Arts and Sciences for more than ten years.
AN APPLIED SOCIOLOGIST since earning his Ph.D. from Princeton University in 1961, Dr. Art Shostak was an exemplary professor at Drexel from 1967 to 2003. He introduced courses in futurism, race and ethnic relations, social implications of 20th century technology, and urban sociology, and was the first to teach via Drexel Online. During his tenure, he sought and received research grants from the Ford Foundation and the National Science Foundation, and was the only social scientist to participate in Drexel’s first major effort to secure a large nanotechnology research grant.

Dr. Shostak has generously funded the Arthur Shostak Sociology Student Achievement Award, given annually to a graduating Drexel senior, and the Annual Drexel Hillel Lectureship, which he established in honor of his parents. He was the recipient of the Drexel University Christian R. and Mary F. Lindback Award for Teaching Excellence and aided in the development of the Judaic Studies and Honors Programs, serving on the Advisory Boards of both.

Dr. Shostak has held many prestigious appointments, including President of the Pennsylvania Sociological Society and Chair of the Sociological Practice Section of the American Sociological Association and of the Philadelphia Committee on Civic Policy. He was the recipient of the 2002 Lifetime Achievement Award in Sociological Practice from the American Sociological Association. Dr. Shostak also served as a consultant to the New Communities Section of the U.S. Department of Housing and Urban Development, the U.S. Department of Energy, the Philadelphia Anti-Poverty Program, and to school systems across the country.

During his career, Dr. Shostak has authored, edited or co-edited 34 books and more than 160 articles, with three more books now in preparation.
ALUMNI LIFETIME ACHIEVEMENT AWARD IN THE HUMANITIES AND SOCIAL SCIENCES

MR. JAY H. MEYERS (B.S. Mathematics, 1973)
President and Chief Executive Officer
Broadcast Management and Technology, LLC

JAY H. MEYERS received his B.S. in mathematics from Drexel University in 1973. It was here that he also began his radio career and helped to start Drexel’s radio station WKDU. From disc jockey to award-winning program director, and eventually becoming the head of many radio groups, Mr. Meyers has made an impact on more than 800 radio stations in over 150 cities across the U.S.

He was President/COO of Sherman Broadcasting Corporation and held prominent positions with Greater Media, Lin Broadcasting, Lincoln Group, Atlantic Ventures, and Command Communications. As President and CEO of Jay Meyers and Associates, he advised Bear Stearns on the 1996 purchase of ABC by Disney. For some 10 years, Mr. Meyers was Senior Vice President of Jacor Communications and its successor Clear Channel Communications. He founded Cavalry Media Services, a leading consulting and management firm, and is now President and CEO of Broadcast Management and Technology, LLC. Gerson Lehrman Group, a service used by analysts and investors, recently acknowledged Mr. Meyers as one of their most requested advisors in the media, broadcast and advertising fields.

Mr. Meyers serves on the Board of 3Cinteractive and advises e360Live. He is also CEO of Adelante Media Group, LLC, a leading Spanish radio and television broadcasting company, COO of Horizon Broadcasting of Florida, and COO of Radioactive. In 2010, he was the Trustee for Regent Broadcasting and currently operates the Fort Collins/Lafayette Divestiture Trust.
DR. JOHN W. JEWETT JR. received his B.S. in physics from the Drexel Institute of Technology in 1969 and went on to receive his M.S. and Ph.D. in physics from Ohio State University. As a teaching assistant at OSU, he developed new and effective techniques for teaching, and was awarded a Distinguished Teaching Award in 1973. After graduation, he joined the faculty at Stockton State College where his high-quality teaching was again recognized with the Stockton State College Merit Award in 1980.

In 1984, Dr. Jewett joined the faculty of California State Polytechnic University in Pomona, California. During his tenure, he and a colleague earned two major awards from the National Science Foundation for projects aimed at improving high school physics teaching in Southern California. Dr. Jewett then developed and directed the Science Institute for Modern Pedagogy and Creative Teaching at Cal Poly, using grant awards from national and local sources. He was honored with the Outstanding Professor Award in 1991, was invited to become a scholar in the National Faculty in 1996, and earned the prestigious Excellence in Undergraduate Physics Teaching Award from the American Association of Physics Teachers in 1998.

Dr. Jewett has also made his mark in print: his text Physics for Scientists and Engineers is currently the best-selling physics textbook in the country. He has published two other books and continues to be a regular contributor to The Physics Teacher, the American Journal of Physics, and the Journal of College Science Teaching. Through these articles and over 90 professional presentations, he has continued to promote creative methods for teaching physics.
Rushdie’s Rave Reviews

Globally lauded author Sir Salman Rushdie was on hand for the inaugural College of Arts and Sciences Distinguished Lecture on May 4, 2011. The Drexel student body, as well as faculty and staff, took to Twitter and Facebook to share their favorite quotes and topics from the night.

by FURRAH QURESHI ’12

“Character determines destiny’: I enjoyed the explanation of how Lucy would lose some integral part of her ‘Lucyness’ if she failed to pull the football from underneath Charlie Brown’s foot, even one time.”
– Lauren Boyle, B.A. English ’10

“This dictator removal service seems to be something I can provide.”
– Quoted by electrical engineering major Ananya Praharsh

“My favorite part of the lecture was Rushdie’s humor and perspective. He is obviously a brilliant writer. But his capacity to convey his perspective through anecdote and humor, in a way that his audience could really understand, made me appreciate his work even more.”
– Dr. Kirk Heilbrun, head of the Department of Psychology

Rushdie, considered among the most influential literary figures of our time, is author of more than 14 books, including the highly acclaimed novel Midnight’s Children. In addition to winning the Booker Prize in 1981, Midnight’s Children was awarded the Booker of Booker Prizes in 1993, and, in 2008, it was granted the Best of the Booker Prize in recognition of its status as the greatest novel among Booker Prize winners in the 40-year history of the award. In 2007, Rushdie was knighted in recognition of his contributions to literature.
Salman Rushdie stressed the importance of the connection between history and storytelling and wisely surmised during his presentation that, ‘The real fiction now may be that we say we live ordinary lives.’ He is a brilliant author and an insightful speaker.”
– Junior English major Dan Savage

“The human self is not one thing. We are all fragmented, many-sided, and contradictory.”
– Quoted by Dr. Eva Thury, Department of English and Philosophy

“Let me just say, I’m not at all sure that Donald Trump’s hair was born in America.”
– Quoted by Jamie Thomson, recent Drexel iSchool graduate and former editor in chief of The Triangle

DR. JENNIFER YUSIN, assistant professor in the Department of English and Philosophy, was largely responsible for organizing the event with the generous support of Drexel’s Good Idea Fund. Yusin met Rushdie when she was a graduate student at Emory University and now teaches his work in her courses. She reflected on the success of the event: “What continues to resonate as strongly today as it did the day of the lecture is the enthusiasm experienced among the students. Many students left that evening with an invigorated interest in reading, in critically thinking about the connections between our private and public lives, and with a genuine excitement about being a Drexel student at a time when the College of Arts and Sciences is moving in new directions that highlight the humanities. I hope the enthusiasm of this inaugural event will grow to all parts of Drexel’s far-reaching community and campus, and carry us into the second lecture.”

“I entered that event with very little capacity to appreciate the novel and left that place wanting to write one of my own. Very inspiring! Favorite quote? How about the desire to ‘open the universe a little more.’”
– Cory Rohlfen, recent biological sciences graduate
Sounds of the Sixties (The 1860s)

The College of Arts and Sciences’ Kathryn Steen, associate professor of history, and undergraduate Hannah Bennett collaborated with faculty and students from the Westphal College of Media Arts & Design to compile a 14-song, 2-disc CD to mark the Civil War’s 150th anniversary.

by FURRAH QURESHI ’12
field," she continued. "For example, with the exception of buglers, most musicians were acting as stretcher-bearers, surgeon assistants, and first responders (like modern corpsman) during battle. I found this connection most interesting; I never once thought that a musician would be given the responsibilities of helping the sick and wounded."

To research and draft the text for the history booklet that accompanied the CD, Bennett applied skills learned in the classroom, particularly the ability to conduct original research in historical archives and to access the growing array of technological tools available to historians.

“Dean Murasko created the Humanities Fellowship program in part to give students the experience of ‘real’ research—that is, students learn skills and knowledge from the hands-on approach of research projects," Steen said. “I suspect that years down the road, Hannah will have strong memories of what she learned on this project—largely because of the context in which she learned it.”

For Steen, the greater purpose of the project was to share the history of Philadelphia’s involvement in the Civil War in an engaging way: “I don’t care if people remember that Philadelphia’s industry, hospitals, and transportation network played critical roles in the war; that a fancy-dressing brass band from Germantown got captured; that Philadelphia provided soldiers from all of its races and ethnicities; or even that General George Meade’s horse is still with us in Philadelphia, courtesy of a 19th-century taxidermist. The goal is to draw people to this fascinating and crucial period of history by whatever hook catches their interest,” Steen said.

The 2-disc CD, Drexel University Presents the Civil War as it Came to Philadelphia, can be purchased from the Drexel University Bookstore and through Amazon.com.

Track Listing

01. Battle Hymn of the Republic
02. On Freedom’s Altar Glows a Fire
03. We are Coming Father Abraham
04. Hell on the Wabash
05. Battle Cry of Freedom
06. Battle Hymn Quickstep
07. Camp Song of the Irish Brigade
08. Children of the Battlefield
09. Battle of Gettysburg
10. Oh, Freedom
11. Star Spangled Banner
12. Satterlee Polka
13. Weeping, Sad, & Lonely
14. When Johnny Comes Marching Home

TO PREVIEW the classic and modern versions of “When Johnny Comes Marching Home,” scan the code with your smart phone or visit www.drexel.edu/civilwar/projects.html.
Never Let Them See You Cry

by MAIA LIVENGOOD ’12

Casey Swegman has listened as refugees recount tales of rape and slavery. She has stood at hospital bedsides, has watched her clients crumble as they learn for the first time they have AIDS. As a special needs care coordinator working with U.S.-bound refugees, Swegman has seen and heard things that would bring most to tears and make some of the toughest want to curl up in a ball and draw the curtains. Miraculously, Swegman’s impulse is the opposite; she’s resolute, energetic, hopeful—a rare individual who understands that a drop in the bucket is sometimes just enough.
ALUMNA CASEY SWEGMAN ’07 wasn’t quite sure what she wanted out of her undergraduate education. She began her time at Drexel as a psychology major, not yet aware of her professional intentions and, she noted, with a bit of a bumpy start.

“Drexel and I weren’t always the perfect match,” she said. “I wasn’t always motivated. Math class in particular was devastating and I was convinced I didn’t belong in college, that I should drop out and come back in a year or two. You can start out really struggling freshman year—not even knowing if you’re in the right program.”

In fact, shortly after arriving at Drexel, Swegman became a film major hopeful. But the University—in “its eminent wisdom,” as she kindly put it—would not allow her to switch.

“I was possibly the worst screenwriter that Professor [John] Kaufhold had ever come across. My screenplay was never anything better than crap, and I maintain that it was probably the worst that he had ever read—many, many pages of drivel. But it made me brave, and challenged me in a different way. You become less frightened after acknowledging that you’re never going to be the Coen brothers. Your dreams can sometimes just be dreams.”

Liberated in a sense, and able to happily maintain the film minor as a personal interest, Swegman soon became involved in numerous psychology-related activities that formed the foundation of her Drexel experience. Danielle Arigo, her assigned mentor for the psychology program, was acting president of Psi Chi, the international honor society in psychology—of which Swegman would later become president. Swegman also served on Dr. Jacqueline Kloss’ laboratory research team and helped to create Drexel’s non-exclusionary Psychology Club.

“I fell in love with psychology! [Kloss] pushed me to work harder and to never settle for something that was mediocre just because it was good enough to get an “A.” She also never looked at undergrads as people who were incapable of graduate work; she expected as much from us and gave us as much respect.”

But it was late in her Drexel years that Swegman discovered a surprising interest in what she thought might be an unrelated field: international humanitarian work. In her junior year, she ventured to South Africa for a study abroad program with a focus on displaced peoples, strongly emphasizing the first-hand effects of diaspora and examining conflict resolution tactics.

“At the time, everyone thought I was insane: ‘How can you go from this to that?’ When something presents itself you just have to go with it. In my junior year I was talking about applying to [psychology] doctoral programs but after I returned from summer break, I completely changed my mind. The study abroad professor, Mr. Tyrone Savage, changed all of our lives by showing “Cry Freetown,” a documentary about the war in Sierra Leone. The film opens your mind and gives you those ‘No one’s doing anything!’ moments. At that time, I decided that I can’t change everything but I can do something small.”

Swegman’s practical side was at work too, as she reasoned that there was much to be done before jumping from psychology to the intensely multifaceted area of humanitarian aid. Feeling mildly overwhelmed by the vast amount of international area

“...I decided that I can’t change everything but I can do something small.”
studies courses she had yet to be exposed to, Swegman applied to the master’s program in conflict resolution at Georgetown University.

The summer between her first and second year at Georgetown, Swegman traveled to the Anglophone region of Cameroon. This southwestern portion of the country suffers from pervasive discrimination from the majority Francophone group. Swegman worked with the Global Conscience Initiative, a small, local NGO whose main project is centered on legal reform and prisoners’ rights. But the most taxing, eye-opening experience was still to come: a 15-month stay in Kenya as a regional caseworker with the Joint Voluntary Agency (JVA).

Immediately after completing graduate school in 2009, Swegman began applying to hundreds of positions with little to no success due to the crashing economy and dismal job market. With the support of a brave friend also willing to travel, Swegman applied for and was accepted to a fieldwork program to gain on-the-ground experience abroad. The pair moved to Nairobi and shared an apartment, though they rarely saw one another. Many of the locations in Kenya were camp locations, or “quasi run-down dormitories,” says Swegman. A camp located in Dadaab, Kenya—a small disputed town on the border of Somalia—was overcrowded with both refugees and caseworkers. Staff often resided in tents while on assignment and, at what felt like 130 degrees with scorpions and camel spiders, it challenged Swegman and her coworkers to push comfort boundaries physically and emotionally.

“Four to five times per day refugees would tell you their persecution story—the worst day of their life: rape, witnessing the death of their children, their infants, sexual slavery, forced conscription into the army,” said Swegman. “As a caseworker processing refugees abroad, you can’t offer them any emotional support. If you’re shown to be ‘fraternizing,’ it reflects very poorly upon you—in fact, it’s not allowed. You learn to suppress your emotional reality. You all have that first time with a truly heartbreaking refugee story. But it’s not helpful for them to see you cry. It’s their emotional reaction to have, not yours; you’re there to support them. I became comfortable sitting across from
Someone who was crying. Your client is going to cry and go through hard things and you have to learn how to be comfortable and not immerse yourself in that emotional reaction."

Most caseworkers stay one to three years—maximum. Burnout and disconnect are the less talked about but very real side effects of the work.

Swegman reflects, “For me, personally, it’s important to get down into the trenches and never arrogantly think I can understand, but to immerse myself to get a perspective.”

At the end of her stay, however, she knew it was time to move on.

After returning to the U.S., Swegman accepted her dream job with the International Rescue Committee (IRC), where she had interned during her time at Georgetown and where, in her own words, she had developed a mutual loyalty. The position enabled her to skip several rungs in the NGO employment ladder.

“I got to go from caseworker to coordinator,” she said, “and now I supervise an intern and nursing student. [Having] people who report to me is shaping my managerial style early on, but it’s still pretty bizarre.”

As a special needs care coordinator in Baltimore, Swegman refers U.S.-bound refugees into her health program prior to arrival, beginning with a health screening. Shortly after entering the U.S., refugees are assisted by Swegman in obtaining quick access to a general physical exam, easing them into the process, which often results in specialized care. The goal, says Swegman, is for the patients to manage their own healthcare after eight months, including setting up appointments and accessing interpreters so that they are medically self-sufficient.

Of the emotionally-racking experience of accompanying patients to those first screenings, Swegman reflects that she has had both positive and genuinely trying moments. Particularly difficult is

SWEGMAN uses a telephonic interpretation service to speak to Eritrean clients in Tigrinya, their native language.

“For me, personally, it’s important to get down into the trenches and never arrogantly think I can understand, but to immerse myself to get a perspective.”
being present when a patient learns they’ve tested HIV/AIDS positive, as the overseas program no longer screens for HIV/AIDS while the refugees are residing abroad. The practice was stopped in 2010 when the disease was legally removed as an exclusionary condition to resettlement. Refugee advocates also didn’t want the status on file due to the bias it often created in the placement community. Swegman believes, however, that this is a huge disservice and a danger to the refugee and to the community in which they live.

“Everyone should know his or her HIV status,” she said. “One particular patient of mine was not aware, and when he finally did get screened, he had to go to an HIV clinic immediately—he had full blown AIDS and could have died very quickly. He had no idea. He broke down because, in Africa, HIV is a death sentence. [Telling him he could get treatment was] like someone trying to make you believe in magic.”

After just three months of treatment, her patient was brought down to HIV status with almost undetectable counts.

“He still can’t really believe it! That’s where the psych comes into play, because his psychological reaction to this news and to the fast-paced whirlwind experience—finding out that he had AIDS—it was a huge shock to the system on top of all the other things he was trying to adjust to.”

In fact, Swegman says her undergraduate foundation in psychology comes into play often in her current field of work—in a way that her conflicted junior-year self had trouble imagining. She recently finished supervising the design of three modules for IRC staff members who work with refugees battling mental illness. The modules ran nine hours for each individual staffer, ranging widely in topic.

Of the clinical psychologist she worked with on the project, Swegman says, “Having her around…getting to talk about research and therapeutic techniques, made me fall in love with psychology again, and [realize] how much I enjoy it and how much it is necessary. I had put the idea of a Ph.D. on the backburner until she came into my life.”

Swegman’s position is funded by a grant, which expires in 2013, and at that point she hopes to once again travel abroad.

“It’s much harder [to work abroad] as you get older, get married, have children. So at this age, I would love to go to Asia—Pakistan—the [IRC clinical psychologist] fellow really inspired me; I was very hesitant in terms of the security there, but after speaking with her and getting local insight into how vital this sort of work is in a place like Pakistan, I think I owe it to my

“In Africa, HIV is a death sentence. [Telling him he could get treatment] was like someone trying to make you believe in magic.”
SWEGMAN in front of the International Organization for Migration compound in Kibondo, Tanzania where many Congolese refugees lived in camps.
clients to get as diverse an experience in fieldwork as possible. It’s one thing to understand one population quite well, but it’s another to have a fairly good understanding of a majority of populations.”

As a source of this energy, this drive to learn more and more, Swegman credits many of her mentors, particularly Dr. James Herbert, professor of psychology and associate dean of the College of Arts and Sciences. Swegman met Herbert in his Pseudo-Science in Psychology course, where he challenged every assumption she held and encouraged critical analysis.

“He doesn’t take any bullsh-t, and he’ll call you out if you make grandiose claims based on logical fallacies. [But] if you get something absolutely right, he’ll make you feel like the greatest person in the room. He has teaching down to a science and is an endless source of inspiration. He is what a professor is supposed to be.”

Swegman ended with some advice for those struggling to reconcile their dreams with the pressures of real-life practicality.

“All other photos taken from Swegman’s travels across East and West Africa.

“Don’t be afraid to totally change course. I had no idea what I wanted to do. I started doing psychology thinking I would be a therapist—the thing people do with a psych degree—and found that as long as you push hard enough, the right doors will open.”

“As long as you push hard enough, the right doors will open.”

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A VISION
FOR CHANGE
Since his notably well-received convocation speech, it’s been no secret that President John Fry has a clear, ambitious vision for the future of Drexel and its surrounding community. In that speech on October 5, 2010, the President challenged those in attendance to reflect on the role of the urban university. He addressed a new chapter of revitalization centered on the importance of community ties and service. He outlined a series of specific and detailed initiatives such as increased policing and public-safety spending, a home-purchase assistance program for employees, and assistance for a neighborhood elementary school.

But when Fry relocated from his post at Franklin & Marshall College in mid-2010, he came with a much larger goal in mind: to create a University City similar in nature to Center City, with mixed-use offices, retail, restaurants and residences in abundance. He took similar steps towards community development while serving as Vice President at the University of Pennsylvania; under his guidance, the University was able to achieve new standards for safety and a complete neighborhood facelift. He involved every large-scale institution in University City, as well as local political and social figures to form what would later become the governing board of the newly named district. Since his return to Philadelphia, Fry has established the University City Innovation Collaborative with the aim of further improving the area.

And while the community orientation is to be applauded, celebrated even, equally important to the Drexel student body are Fry’s significant plans to improve the campus and the University systems themselves. I was fortunate enough to steal a half hour amidst the President’s busy schedule to discuss his many university-specific plans.

Given Drexel’s reputation in the fields of business and engineering, I was interested in whether the President had any plans for increasing the visibility of the humanities. He replied by stressing the need to “round-out” Drexel to make it a truly comprehensive university.
“While our humanities departments are strong,” he said, “I think that there's a lot more that we can do. I actually have examples of the Painted Bride Quarterly (see inset)—these are beautifully done—and I would say how do we promote this or highlight it and increase it in scale to make publications like this more visible and available? I think it’s a real surprise given people’s expectations of Drexel.”

In reflecting on the misperception of the Drexel identity, he noted: “I was surprised and delighted to find that we have this creative capacity at the institution. If I’m the President and I’m surprised, then I’m sure a lot of other people will be surprised as well. We can make it better known that Drexel has a great number of students and faculty with terrific talents in these areas and publications to showcase them.

We should further our position and leverage that interest and expertise across the campus.”

One of the surprising challenges in generating this interest in the humanities is Drexel’s foundation in cooperative education. Over the years, many humanities and social science students have voiced concerns about finding paid co-ops—or any co-ops—within the Steinbright Career Development Center (SCDC) database; the vast majority of postings are for business and engineering students, they argue. However, in his first year on campus, Fry is already in the process of resolving the disparity. In meetings with Senior Vice President for Career Education Peter Franks, Fry affirmed the need for new opportunities and is currently working to establish ties to local government agencies, specifically in the nonprofit sector, for potential co-op partnerships.

“There are really rich possibilities for students in these sectors,” said Fry. “And we know that those are the sectors that need a lot of expertise and help right now—which our students are capable of providing.”

Additionally, the President and Franks have been developing a rolling list of companies that do not currently offer co-ops. Fry’s main goal is to establish and expand those relationships. Soon, he said, he’ll have a physical list that would ideally be orientated towards students in the humanities who possess vital writing and critical-thinking skills.

Painted Bride Quarterly

PAINTED BRIDE QUARTERLY is one of the longest running literary magazines in the U.S., established in Philadelphia in 1973 and housed in Drexel University’s College of Arts and Sciences since 2005. As a community-based, independent, non-profit literary magazine published quarterly online and annually in print, PBQ’s main agenda is to maintain and grow a venue for the highest quality literature that best represents the individual voice. PBQ publishes both emerging authors and Pulitzer Prize winners from the region and from around the world. The combination of PBQ’s editorial tables in NYC and Philadelphia and the ever-changing student staff keeps its published voice unique and evolving.

PBQ hosts two events each month, offering live performances of poetry, fiction, music, and their own interactive literary experience, “Slam, Bam,” to standing-room-only audiences. PBQ hosts special events as well, such as Literary Death Match’s first Philadelphia show, An Evening with Roseanne Cash, Rick Moody, and more.

To learn more visit PBQ online at pbq.drexel.edu.
“Hopefully we can broaden the array of choices to offer some very good options,” he said. “We have some outstanding museums in this city with very complex needs.”

According to Fry, the Barnes Museum, for instance, is looking to enrich the visitor experience through smartphone applications.

“I think there could be at least two co-op students working on that project at the Barnes—which is interesting and not just for engineering or IT majors. We need to alter our preconceptions of what a co-op should and could be.”

Concurrently, the President is addressing some university-wide concerns, particularly those related to Drexel’s growing student body. Concerns were raised across campus earlier this year when enrollment yielded more students than projections had anticipated. Because of the increasingly competitive nature of college applications, as well as the increased volume of applications, Fry noted that it’s harder to be as precise about the yield on offers, not just for Drexel but for all universities. The positive aspect of the freshman influx is that Drexel was substantially more popular than the analysts expected (several other institutions weren’t quite so lucky and experienced large budget issues as a result).

In light of the physical stress on facilities this fall, the administration has implemented new strategies in case of a repeat scenario: Fry is in the process of leasing new residential spaces and will announce plans for the construction of an additional residence hall.
"We need to have more beds on this campus; we don’t have enough residential capacity and we haven’t caught up with our own growth. We really must have residence options for all four years that a student remains on campus, so that’s going to be a priority for me. We’re way too tight given the enrollment we currently carry, and that has a ripple effect that is much more profound."

With so many competing demands across Drexel’s campus, Fry said his greatest challenge is finding balance.

“It seems that when a new President comes in, there’s this sort of mad rush to put all these things on the table. What I’m trying to do is understand and digest everything people are expressing and put them into a reasonable priority order, ensuring that we don’t get ahead of ourselves financially, that we do it within a financial budget, and that we do it with good stewardship. I can tell you that there will always be more needs than there is money.”

Fry has come up with some creative short-term solutions that don’t necessarily require huge financial investments, as well as some large, long-term projects to meet capacity requirements. But there’s still much more to be done.

“The good news,” said Fry, “is good news that’s wrapped in bad news. The Papadakis Integrated Sciences Building opened in September, which is a great injection for us in terms of classrooms, seminar rooms and large lecture halls. We’re breaking ground on the new building for the LeBow College of Business, which will also bring us incredible space for the
disciplines using the building. The complicated news, of course, is the transition: closing down Matheson [Hall], demolishing it, and strategically figuring out how to do that. For the next couple years we’ll be tight, but after that we’ll have significant breathing room.”

The President further discussed plans to renovate and repurpose older buildings to provide more classroom space with upgraded quality, particularly in the laboratories.

“All of that is being planned as we speak,” he said.

In a move that further demonstrates his openness, Fry has introduced office hours for students. Since rolling out the platform, he has heard a few recurring themes, including increased financial pressures, as well as concerns about the complexity of the administrative systems at Drexel, particularly in terms of course registration.

He believes the University must remain focused on the student experience and work to simplify administrative processes—“especially when students have to make changes to courses or co-op cycles and they find themselves having to jump through hoops to do so.”

At the mention of the final theme of his office hours, Fry’s voice lightens.

“What’s great is that Drexel students are thinking about how they can enrich the environment here both for themselves and their community—and there have been a ton of interesting conversations. For instance, in the environmental stewardship and sustainability area, I’ve had students talk to me about a variety of ways to further our efforts. This is very gratifying because it shows that our students have taken real ownership over their experiences.”

In closing, Fry reflected, “It wasn’t a surprise but rather a confirmation of what a wonderful honor and joy it is to be here. Students, staff, and faculty are hardworking and ambitious, both for themselves and for Drexel, and it’s a very good community that I’m proud to be part of.”
For the kind of research Dr. Jacob Russell does, you need a really good pair of glasses. Ask gets down to the nitty-gritty with the scientist who still plays with bugs.

by JASMIN SOSA '13
UNLESS you’re a frustrated farmer or a homeowner with a cupboard infestation, you’ve probably never given much thought to the world of ants and aphids. But Dr. Jacob Russell, assistant professor in the Department of Biology, believes these insects may provide important insight into a number of biological issues, from dietary evolution to pest control. Turns out, the National Science Foundation (NSF) thinks Russell may be on to something; in 2010, the institution awarded him two grants totaling $850,000—“an amazing accomplishment,” says Dr. Jeffery Twiss, head of biology at Drexel.

Russell, along with Corrie Moreau of the Field Museum of Natural History, was awarded $450,000 for his ant research on the project “Population and Community Ecology” and $394,119 for his aphid project “Symbiosis, Defense and Self-Recognition” with the University of Georgia’s Kerry Oliver.

“With the ever-increasing competition for federal funding, most new faculty struggle for several years to get their first grant,” says Twiss. “[The fact] that Dr. Russell was awarded two NSF grants in one cycle is exceptionally unusual and almost unheard of these days—this clearly shows that experts from around the country recognize the promise and innovation of his research.”

Indeed, Russell’s research has great transformative potential and will likely open up new avenues for future research. In a 2009 paper published in the Proceedings of the National Academy of Sciences (PNAS), Russell and Moreau provided indirect evidence that bacterial symbionts supply nutrients in the nitrogen-poor diet of ants. The two researchers surveyed over 283 ant species from 18 subfamilies using molecular, phylogenetic and experimental techniques. The investigation provided evidence that bacteria have assisted the dietary evolution of herbivorous ants. Their recent NSF grant will allow Russell and Moreau to continue researching the role played by symbiotic microbes as residents in the ant’s gut.

“Studies on the gut communities of ants provide a nice parallel for studies in mammals, which appear to have evolved symbiotic interactions with different gut bacteria upon (or before) switching diets,” says Russell. “In essence, our work on ants could provide a model for understanding how microbes facilitate dietary evolution.”

Russell and Moreau’s research could also help in the control of destructive pest ants, which cause significant agricultural, economic, and ecological damage.

“Some of these ants have achieved pest status by shifting their diets to be comprised of more nutrient-poor food sources such as honeydew, the waste secreted by sap-feeding insects,” says Russell. “Our work on the roles of microbes in dietary shifts of ants could shed light on the role of symbiosis in the origins of destructive pests. Identifying important members of gut communities could also identify candidate bacteria for genetic engineering aimed at biological control of these ants.”
Russell’s work with Kerry Oliver may help to solve a similar problem. The two are examining close and long-term host-enemy interactions between aphids, or plant lice, and their natural enemies. At the heart of the project is an investigation into defensive symbiosis, a protective relationship between two different species. Several high-profile articles in publications such as *PNAS* and *The Annual Review of Entomology* helped demonstrate the merit of Russell and Oliver’s work. These articles were authored primarily by Oliver, University of Arizona entomologist Molly Hunter, and evolutionary biologist Nancy Moran of Yale University.

One article in particular, “Facultative Bacterial Symbionts in Aphids Confer Resistance to Parasitic Wasps,” laid the groundwork for their aphid research. Oliver and colleagues suggested that bacteria and the viruses they harbor might serve as immune systems within aphids, ultimately allowing the insect to relinquish control of these functions.

Russell points out that some aphids, much like some ants, are destructive pests that can damage both trees and crops.

“While efforts have been made to use biological control to contain them,” he says, “it appears that aphids may utilize symbionts to defend against the parasites used in these efforts. Understanding which symbionts do this, how they do it, and under what circumstances, will shed light on a possible solution for the management of these insects.”

WITH THE MANY DEMANDS OF HIS SCHEDULE—from teaching to writing for a variety of publications—Russell is often left with little time to perform the tasks vital to his experiments. With the help of his graduate and undergraduate research teams, however, he is able to make progress while also creating valuable cooperative education and research opportunities for Drexel students.

“Jake has been a great mentor because he’s passionate about science and teaching, which comes across during his lab meetings and in all of my interactions with him,” says graduate student Karen Sullam, a recent Fulbright award-winner. “He really pushes his...
students to think critically about their projects and to become better scientists.”

Sullam and fellow graduate students Drew Smith and Yi Hu have not only played a role in carrying out much of Russell’s research, but have also contributed new ideas to the project. Similarly, Russell has worked with 14 undergraduate students who have all made significant contributions.

Undergraduate Matt Novin commends the freedom he’s received under Russell’s mentorship, which he says, “allows for flexible projects that better align with students’ interests.” As someone “fascinated with technology and its applications across disciplines,” Novin had the opportunity to explore these interests and even to pioneer new techniques for the lab.

“In all of this work, Matt was the hands and often the brains,” says Russell. “I gave him a list of goals, put him in touch with people who had good advice and expertise, and met with him on a regular basis to provide guidance.”

As a young professor, Russell is eager to teach as well as to learn from his students. His ultimate goal, he says, is to “both discover and illuminate for others.”

“I love putting the pieces of the puzzle together, though it often takes a long time to see what the big picture looks like. But fortunately, I also love the day-to-day ‘grind’ of writing, thinking, advising students, and analyzing data as our group tries to make a contribution to understanding how nature works. Whether it’s talking about my research, working with my students to improve their work, or teaching about something a bit different, like physiological ecology, I get a lot of satisfaction from shaping the minds of our students.”

Russell joined Drexel’s Department of Biology in 2007. His research into aphid species bacteria began in 1999 while he was working on his Ph.D. in evolutionary biology at the University of Arizona. It was there that he met his collaborator Kerry Oliver and first developed a hypothesis on defensive symbiosis. His later investigations of ants and symbiotic microbes, which he pursued with Corrie Moreau, developed during his postdoctoral work at Harvard University.

To learn more about Russell’s work, please visit his lab website at www.drexel.edu/biology/russell_lab.

The Living Biowall

Russell is also involved in researching the centerpiece of Drexel’s new Papadakis Integrated Sciences Building—the 22-foot wide, 80-foot tall living biowall, a beautiful and functional wall of plants that purifies indoor air.

**Previous Research** has shown that the microbial communities found on the plants’ roots are crucial to the wall’s function as a biofilter. In essence, bacteria and fungi utilize harmful airborne pollutants as food, breaking down volatile organic compounds (VOCs) such as benzene, toluene, methyl-ethyl ketone, and formaldehyde. These compounds are delivered to the microbes by actively drawing air through the biowall via the HVAC system. Once the air passes through the first layer of the rooting material, many of the VOCs dissolve in the recirculating water, delivering a source of carbon to the root-associated microbes. These pollutants can then be broken down into more benign molecules, namely carbon dioxide and water. By removing these harmful chemicals, this process generates purified air, which is redistributed throughout the building using the HVAC system. It has been estimated that biowall systems similar to that in Drexel’s PISB are capable of removing 60-90% of pollutants with a single pass while reducing overall airborne pollutant concentrations by more than 25% (Nedlaw).

To better understand the benefits provided by this green technology, **Dr. Russell and Dr. Shivanthi Anandan from the Department of Biology** have teamed up with **Dr. Michael Warin** from Drexel’s civil, architectural, and environmental Engineering Department. Together, these three researchers will study how well the biowall works, how different plant types (and their root microbes) vary in their abilities to purify VOCs, and which of the root-associated microbes are involved in VOC degradation. Their work involves Drexel students, in particular STAR Scholars and Co-op students. Financial support has been provided by the Office of the Provost and the College of Arts and Sciences at Drexel, as well as by a GRID grant from the Commonwealth of Pennsylvania, Department of Health.

For more information on how you can support the living biowall, or the other unique features of the PISB, please contact CoAS Director of Development Rebecca Boudwin at rgb38@drexel.edu or 215-895-6481.
I SOLD MY SOUL to Particle PHYSICS

by MAIA LIVENGOOD ’12
As a business student, particularly at a co-op university, I’ve always had a twisted appreciation for (and perhaps fascination of) those who excel in interviews. We’re taught to interview as if it were an art form—which for a long period of time, I believed it was. Likability, we’re taught, is achieved by knowing the STAR method, preparing lengthy answers (given in groups of three is advised), and a variety of other preconceived tricks. In essence, we slowly mold a persona, toying with different levels of ambiguity, talkativeness, and professionalism. During my two years of writing and interviewing for Ask, though, I’ve been afforded the unique opportunity to have the proverbial shoe on the other foot, which has somewhat altered my perception of what makes a good impression.

Every interview experience is unique; there are those in which the questions flow naturally and those in which they feel forced—times when you can see your own rehearsed methods put to use. On rare occasion, though, you come across someone so genuinely interesting that it simply takes no effort at all, for to cast the subject in a good light merely becomes a reflection of the very real conversation. It’s in their comfort level with both you and the subject matter that you know you have found the person, not the persona.

I was fortunate enough to have such an experience when profiling James Monahan, a senior physics major with an outstanding academic record and a strong background in neutrino physics. His research and co-op experiences—which include a stint in Germany and Japan—surpass the CVs of many graduate students. But somewhat more importantly, it was James’ relaxed, self-assured, and genuinely funny nature that demonstrated exactly why he had been selected for these prestigious positions.

-Maia Livengood

Ask: I understand you participated in the STAR research program as a freshman at Drexel and went to Japan for the KamLAND project. What was that experience like?

Monahan: Oh it was exciting—it was the first time I had left the country, a nice 13-hour flight. It was my first exposure to neutrino physics and I was involved in a photomultiplier tube (PMT) testing calibration, creating a profile of each tube and its responsive cross-labeling, building circuits to correct for certain idiosyncrasies. I did the majority of that work here in Philadelphia, building a dark box to conduct the testing. We went to Japan to actually install the project, in the town of Mozumi outside of Toyama, and the detector was in the Kaminokande mine. The mine has been active for something like 600 years—something ridiculously crazy—so they just hollow out the mountain and rent the extra space to people who need it, mainly for physics experiments (it’s a good cosmic ray shield). We all got in this special car to be driven deep down into the tunnel, kind of like James Bond.

Ask: Did you get to do any traveling within Japan?

Monahan: Yes. I was there for two weeks and during that time there was a period of four days when they were blasting in the mine so I wasn’t allowed in and Dr. Lane was doing lab work that was far over my head. He said, “I’ll tell you what. I’ll drop you off at the train station and will pick you back up in four days.” So I hopped on a train to Kyoto, found a hotel room, and perused the city for a few days. I also went out to Nara, which is just outside of Kyoto, a former capital of Japan...According to Shinto tradition, the species of deer there, called Sika, are messengers to God. This town was notoriously pious so the deer had the run of the city, in essence, and could wander in and out of shops. The strangest thing: the deer there have actually picked up the custom of bowing. I suppose it’s the combination of seeing it a lot and always expecting a biscuit!

Ask: It sounds like Dr. Lane allowed you to be fairly autonomous. What has his mentorship been like?

Monahan: He was very present in the beginning of our relationship because I had no experience in a laboratory or in neutrino physics, so it was great that he gave me some good primers to read and really guided me to get started. Once I had a good foundation he just gave me assignments, was more than willing to help me if I needed further assistance along the way, but really let me figure things out at my own pace.
Ask: Are you interested in pursuing a career in neutrino physics?
Monahan: That’s what I’m trying to figure out. Right now it’s reaching a point that’s very theoretical. If all my time were in the lab, I would be incredibly happy. But theory and sitting in a classroom are somewhat less interesting to me.

Ask: So you must have really enjoyed co-op then, since it offered the full-time lab experience of applied theory?
Monahan: It kept me excited about physics. If I had to stay in a classroom all day I may have actually switched majors; it’s hard to see where things are coming from at the ground level. Certain classes—like statistical mechanics—were great because the topics came up in co-op all the time. Applying it made it much more real and exciting.

Ask: You have some pretty impressive co-op experiences on your resume. Can we talk about each of those, beginning with the first one in Germany?
Monahan: In Germany, I was assisting Dr. Lane, Dr. Maricic and Erica Caden [doctoral candidate under Dr. Lane], on the Double Chooz collaboration. I worked at the University of Tübingen, and there again it was photomultiplier tube testing characterization—primarily building encapsulations for them.

Ask: Do you still keep in touch with anyone you met?
Monahan: I do keep in touch with some of my coworkers. They were great people; they took it upon themselves to show me around… My coworkers were also very sensitive to the fact that I had never been to Germany—to Europe—before and I was there for six months, so they allowed me to work out a flexible
schedule to sightsee. I always had to work a specified number of hours but it didn’t have to be at particular times, as long as I finished what I needed to get done. Thanks to that, the other co-op student, Carlos, and I got to travel all over Europe. I visited a friend in Rome…went to Amsterdam, Brussels…Barcelona, Prague, Budapest, and made a stop-off on night trains to Austria… We [met] up with everyone in the Double Chooz collaboration at the powerplant in Chooz, France. We actually stayed across the river in Dinant, Belgium in the Meuse River Valley, which is the birthplace of Adolphe Sax, the inventor of the saxophone (fun history fact). We had our meetings at the power plant and in a chateau that the city owns. It was exciting and we met collaborators from all over the world: British, Spanish, German, Russian and Japanese collaborators and they all had some great stories.

MONAHAN gets a photo for his parents after being interviewed for the Kyoto Evening News.

Ask: That sounds wonderful. Should we move on to your co-op in Maryland?

Monahan: Sure, but I’ll warn you, it’s not nearly as exciting. I worked for the Army Research Lab in Adelphi, Maryland. I grew up in Northern Virginia, so it was closer to home, which was nice. I had access to the metro to head to DC and was close enough to visit friends from home. That was my first experience in a government lab, which was different. I really enjoyed it because they let us explore the other projects before we settled into our own.

Ask: How was the government lab culture different than the university lab setting?

Monahan: Working in the university labs was naturally much more—how do I put this—I don’t want to say unstructured, but I [could] play with my schedule and could talk to others and collaborate, so long as I finished my work. You also got to try more things that interested you, play with new ideas. In the government labs there’s a protocol for everything. We had hours and hours of security and counterintelligence training—I’m assuming to see if someone was trying to steal something from me? (They didn’t like my travel history between Germany and Japan.)… There’s definitely more of a focus on detail—but that being said, when you work in government labs, you do get some really neat toys. And the workers are incredibly intelligent.

Ask: Let’s talk about your most recent co-op in California.

Monahan: Well, at this point I’d sold my soul to particle physics. I found the co-op at Sandia [National Laboratories] by asking some of the professors in the department to keep their ears open. Dr. Lane had attended a conference with one of the researchers out at Sandia, Dr. Dave Reyna, who happened to be looking for some student researchers. Dr. Lane passed along his contact information, we talked, and I got the job. I was very lucky.
**Ask:** Is there anyone that really stands out to you as a mentor in San Francisco?

**Monahan:** Dr. Scott Kiff was a nuclear engineer on the project who guided me through my work. It was still very bureaucratic because it was a Department of Energy lab, but Dr. Reyna was very involved and proactive in recommending readings (papers)—which is important, because as a budding scientist, if you read a bad paper, you may wind up more confused than if you jumped in feet first. Scott was with me in the lab and showed me how to operate machinery. I worked with other staffers on the computational aspect, and I got to help design the prototype for the detector, and helped design and build the first prototype cells and the first data acquisition system. So I was able to build the Linux box to process all of that, which came out great. That was cool.

**Ask:** You’re making me feel very unaccomplished!

**Monahan:** Well, I had very strong guidance and never had to go far to get help—but they also knew when to step back, which is very important to the [co-op] experience. They had a good “spirit” of research in the group. ...An important side note: every Tuesday was Taco Tuesday. Why can’t we have those here? Must be a California thing...

**Ask:** So where do you go from here? Do you want to take time off from school after graduation? Would you like to work in a lab, or is graduate school your first choice for Fall 2011?

**Monahan:** My time on co-op has definitely taught me that I’m a lab person, not an academic. I don’t want to spend all of my time in front of a chalkboard. But with that in mind, I’m applying to three schools: University of Pittsburgh for physics, William and Mary for their plasma program, (it would be nice to go home to Virginia), and I just interviewed with the University of Virginia for their biophysics program. Biophysics just came out of left field because honestly, I’ve never had an interest in biology. My biology teacher in high school was fantastic though—one of the people that got me interested in science and tried to get me to think like a scientist instead of like all of the rednecks (kidding, kidding). The industry is moving towards biophysics because particle physics requires a huge international collaboration to get anything of scale accomplished. That means that there’s limited funding, or at least funding that would be challenging for me to access—an unfortunate reality.

Additionally, both my mother and my grandmother battled cancers when I was young, so it would be nice to use biophysics to be able to give back, and I’m looking into that. In my interview, of course, they asked a lot of questions about why I was interested in switching, since it is a pretty big jump from what I’ve been doing, and it’s really made me realize that I would like to help in some way. The nice thing is that it’s a broad interdisciplinary program including genomics, imaging, and molecular chemistry, among other areas, which means a chance to explore the field—truly branching out.

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**ANNUAL STOCKERKAHNNEN** race in Tubingen, Germany, where the local fraternities don costumes and race up and down the river.
THOUGH BORN IN DC, Spiliotis was raised in Greece from age three through secondary education. As a high school student, he was interested in music, underground films and politics, and grew up wanting to be a movie director. He was also an active political youth, engaged in political philosophy and theory.

“Growing up in the 80s in Greece, I was exposed to a lot of different socioeconomic backgrounds,” he says, “and it was very interesting to experience the spectrum of extreme right all the way to the extreme left.”

He relates with dry irony his path to cellular biology, a series of failures that brought him back to the U.S. and to a successful career in an unexpected field.

“Basically, I wanted to study philosophy and my dad said ‘Forget it.’ Based on the national exams—the ones I failed—I was already on the biomedical track. I knew I didn’t want to be a doctor, so [my dad] said ‘You’d better stick with biology.’ It was not something that I had wanted to do originally—I guess I didn’t have the passion for it at that point in my life. But to go the political science track, you had to do a lot of memorizing—Greek, Latin, history. By process of elimination, I wound up in biology.”

His transition from a Greek public education to undergraduate lab work at Boston College was both exciting and challenging—he excelled in his freshman and sophomore classes but had missed out on some of the basic lab experiences afforded to students in the U.S.

According to Spiliotis, his time in Boston didn’t involve much of a social life. The freedom of critical and intellectual

With his broad frame, thick Greek accent, and professional success that could rival a senior researcher, Dr. Elias Spiliotis should cast an aura of intimidation. But to box and label the cell biologist would be a mistake—successful and driven, clearly, but contained by the boundaries of a typecast he is not. In fact, sitting down to discuss his research, I found myself caught off-guard by conversational tangents ranging from political philosophy to 60s garage rock. Combine that eclecticism with his openness and a wry sense of humor that could put Curb Your Enthusiasm to shame, and I was instantly put at ease.

by MAIA LIVENGOOD ’12
creativity found in a liberal arts education pushed him to take a heavy but well-balanced course load—landing him in the library for much of his undergraduate career.

“For me, it was a very intense period of scholarship. I was incredibly busy, but having a good time.”

Spiliotis’ only research experience at BC was in the chemistry department, working with achaebacteria that thrive in near-boiling volcanic water. It was here, in a lab environment “full of stimuli,” that he discovered the creative capacity of the scientific method—much to the credit of his professor.

“I had a mentor, Dr. Mary Roberts, and it wasn’t as if she did anything extraordinary but she treated me as this independent scientist. She said ‘Okay, this is what your project will be and you’ll be working with a grad student’ (who was never in the lab because she had just finished her thesis). And I had to figure it out myself. That really appealed to my personality. I spent that summer—the summer of my junior year—figuring out how to purify this compound. It consumed me.”

Had it not been for the positive experience late in his undergraduate education, Spiliotis said he’s not sure where he would have ended up. He wasn't interested in medical school and had strongly disliked most of his previous lab courses, thinking early on that he was incapable of the work—a frustrating inability “of the hands.”

Because his own early experiences in the lab were tenuous at best, and were successfully redirected with the mentorship of a single professor, Spiliotis is highly conscious of his own efforts in student-researcher development. In just three years at Drexel he has welcomed 12 students into his lab.

“I think college is a time when people should explore many things to find themselves. You need to experience it to figure out if this is something for you. Often you get undergraduates whose ‘idea’ of research
is very different from what it is in practice. That being said, I’ve had some students that have been really, really good.”

Two such undergraduates, Dheeraj Roy and Daniel Hwang, have been with Spiliotis since the beginning of his professorship, and were recently co-authors on a paper featured in *The Journal of Cell Biology*—and on the journal’s cover. Research technician Jonathan Bowen and biology doctoral candidate Xiaobo Bai were also co-authors.

And while Spiliotis says he’s more hands-on than his own mentor, he believes the degree of involvement largely depends on the mentee.

“Some people are very good at figuring things out for themselves with little guidance, while others tend to be a little bit diffuse; even if they’re very bright, their minds drift in many directions like a kid in a candy store. In that case, someone needs to come in and direct their focus to achieve the end goal.”

With those students who are clear on the process and goals, Spiliotis says he naturally gives them freedom to find their own way. “Mentorship is not unconditional; it is highly contingent on the commitment of the student.”

Spiliotis’ research, in broad terms, deals with the behavior and organization of cells. He focuses on how filaments that comprise the cell’s skeleton (cytoskeletal filaments) are regulated. Specifically, Spiliotis and his team are concerned with a group of proteins called septins, which are believed to be “master regulators.” Their aim is to understand how these proteins work at the cellular and molecular level and how they can be manipulated to design therapies against cancer and neurodegenerative diseases such as Alzheimer’s and Parkinson’s.

“Mere curiosity led me to research septins,” Spiliotis points out, unsurprisingly. “I was doing some reading that I came across at work and it clicked.”
Coincidentally, there was a symposium on septins set to take place shortly after I discovered the material. I went and was fascinated.

At that time, septins weren’t known to contribute to cancer—this cutting-edge research, on which Spiliotis is a leading authority, has only surfaced in the last 10 years.

For his contributions in the area, Spiliotis has received well-deserved recognition. He was the co-investigator on a one-year, $385,000 grant and is the primary investigator on a recently-awarded five-year grant of $1.4 million, both from the National Institutes of Health (NIH). He was named the Scientist to Watch in the December 2010 issue of The Scientist, and a paper he co-authored with Qicong Hu of Stanford University was ranked second in the top five biology papers of 2010 by the Faculty of 1000 (the paper appeared in the July 2010 issue of Science). Spiliotis was also honored by Drexel with the 2011 Antelo Devereux Award for Young Faculty for demonstrating exceptional potential in research.

What’s most impressive about all of this? He did it all in the last year.

While his research is clearly attracting attention, Spiliotis notes that his time in the classroom keeps his modesty in check.

“Sharing your research findings with students regularly is like going on a date and talking about yourself, trying to show off. I avoid it—it seems a bit biased. But I use a lot of my knowledge of what’s going on in the field and share that with my students. Because I have such an intimate experience with research in cell biology, I think I have a pretty broad view. Different fields have evolved because of this knowledge. And my students have benefitted as well, and have been...
able to experience the field from the point of view of someone who knows the culture and discipline from the inside out."

Spiliotis says he enjoys teaching and sees it as a performing art with a distinct performer-audience relationship. He enjoys the challenge of communicating a subject to the audience with live feedback—“hopefully not boring them to tears,” he says with a deep laugh. (Having spent just short of an hour in our interview, I can’t imagine that would ever be a problem.)

As a doctoral student at Stanford University, Spiliotis also had the opportunity to explore his passion for performance—and his musical talents—while working as an on-air DJ and radio host and performing in a band.

“Stanford was a really unique time for me. I got to do all that ‘outside stuff’ that I didn’t do in college or graduate school.”

At the Stanford radio station, he met a medical student who was also a musician and interested in forming a band. The pair soon began commuting to San Francisco to write music, rehearse, and perform as the still-popular punk rock group, The F*cking Ocean (a unique name derived from the misheard Lou Reed song title, “My Foggy Notion”).

Though he eventually left the group to pursue a faculty position in biology, Spiliotis’ deep love of art and music clearly remains a prominent part of his character. Nestled alongside “Research” and “Publications” on his lab website is a section on “Music & Art,” where visitors can find links to suggested readings, radio stations, Philadelphia cultural spots, and more.

Spiliotis says he included this section for two reasons: “First, because music and art are just as stimulating and interesting to me as science. And second, because for people who are interested in my lab, Drexel, and Philadelphia, I want them to know that this is a happening place where you can have fun and be yourself in and out of the lab.”

While Spiliotis spends more time working than playing, listing the responsibilities of running a research lab while managing the demands of teaching, he notes that Drexel is an exciting environment perfectly suited for change and upward mobility. “There’s potential here. My colleagues in biology have good energy and spirit; the department is in a great position, moving into the new [Papadakis Integrated Sciences Building], and soon to be joined by two additional faculty members. I’ve come to a place where I can leave my mark. This is not a stagnant culture—you evolve with it, influence it, and contribute to the change.”

Change and evolution: two concepts Spiliotis has learned to embrace on his life’s journey. With a flourishing career that began with a failed exam and a rather serendipitous decree from his father, there’s no telling what lies ahead for this right-brained scientist—in academia or in music. Even as we wrap up our interview, he hints at a possible future with Drexel’s own radio station.

“I have my eye on WKDU,” he declares. “They will be hearing from me.”

Like I said, he’s not your average cell biologist.

To learn more about Dr. Spiliotis’ work, visit his lab website at www.drexel.edu/biology/spiliotis_lab.
The College of Arts and Sciences has had an incredible year, marked by its 20th anniversary celebration. In the past two decades, students and faculty have received an increasing number of national awards—a trend that is sure to continue. Congratulations to our most recent awardees!

**KAREN SULLAM**, Ph.D. environmental science ’13, will travel to Switzerland to conduct research at the Swiss Federal Institute of Aquatic Science and Technology, one of the world’s leading aquatic ecology research institutes.

**DANIEL TEDESCO**, B.A. international areas studies ’11, will study the Chinese government’s Student Village Officials (SVOs) program, a youth leadership program that places recent graduates into rural villages as assistants to local officials. Tedesco was also named president of Global China Connection, a leading organization for promoting cooperation between premier students in China and the international community.

**CAITLIN COSTELLO**, B.A. international areas studies ’10, will spend a year in Senegal and conduct research on domestic rice production in one of the most food-import-dependent countries in Sub-Saharan Africa.
**2011 COOPERATIVE EDUCATION STUDENT OF THE YEAR**

**KRISTOPHER RUTH**, B.S. history ’11, was named the 2011 Cooperative Education Student of the Year for the College of Arts and Sciences by the Steinbright Career Development Center. While at Drexel, Ruth served as President of the Omega Rho chapter of Phi Alpha Theta, the National History Honor Society. He completed his last co-op at the U.S. Army Heritage and Education Center in Carlisle, Pennsylvania. He was nominated by his supervisor, Michael Lynch, who was amazed at Ruth’s ability to work independently, “He was on time and dependable; if he said he could do it, we considered it done.”

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**JACK KENT COOKE GRADUATE ARTS AWARD**

**RACHEL SEMIGRAN**, B.A. English ’10, was one of only ten students in the nation selected to receive the Jack Kent Cooke Graduate Arts Award for 2011. This generous award supports students of exceptional promise and financial need who wish to attend graduate school in the creative or performing arts. Rachel will pursue a master’s in community-based theater from the Central School of Drama at the University of London.

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**GOLDWATER SCHOLARSHIP**

**SAJJAN SINGH MEHTA**, B.S./M.S. physics and mathematics ’12, received the Goldwater Scholarship, which is awarded to outstanding undergraduates in science, technology, engineering and mathematics. Mehta is the fourth CoAS student to receive this award in the last three years (and the third physics student). He plans to pursue a Ph.D. in theoretical physics, conducting research in particle cosmology and mathematical physics while teaching at the university level.

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**THOMAS R. PICKERING UNDERGRADUATE FOREIGN AFFAIRS FELLOWSHIP**

**TETYANA IVANISHENA**, B.A. international area studies ’12, was awarded the prestigious Thomas R. Pickering Undergraduate Foreign Affairs Fellowship provided by the Department of State through the Woodrow Wilson Foundation. The fellowship provides financial support of $40,000 annually for the senior year of college and the first year of graduate study, and two internship stipends of $10,000 each. Fellows commit to four and a half years of foreign service.
FULBRIGHT SCHOLAR

JOEL OESTREICH, Ph.D., associate professor and director of the international area studies program, was named a 2011-2012 Fulbright Scholar. Oestreich will conduct research in India on “Human Rights and Development in the Indian Context.”

ANTELO DEVEREUX RESEARCH AWARD FOR YOUNG FACULTY

ELIAS SPILIOTIS, Ph.D., assistant professor of biology, neurobiology and anatomy, director of the Cell Imaging Center
KEVIN SHUFORD, Ph.D., assistant professor of chemistry

PENNONI HONORS COLLEGE OUTSTANDING TEACHING AWARD

DON RIGGS, Ph.D., associate teaching professor of English

2011-2012 LOUIS AND BESSIE STEIN FAMILY FELLOWSHIP

EVAN FORMAN, Ph.D., associate professor of psychology, director of clinical training, and MEGHAN BUTRYN, Ph.D., research assistant professor of psychology, for their proposal “The Neuropsychology of Eating Behavior: A Proposed Ben Gurion-Drexel Collaboration.”

DREXEL UNIVERSITY CAREER DEVELOPMENT AWARD

BRIAN DALY, Ph.D., assistant professor of psychology, will be mentored by Dr. Mark Weist, professor of psychology at the University of South Carolina and internationally recognized expert in the field of evidence-based practices and school mental health. As part of this award, Dr. Weist will deliver a symposium on providing evidence-based mental health services in school-based settings to Drexel faculty in the Fall of 2011.
THE CHRISTIAN R. AND MARY F. LINDBACK AWARD FOR TEACHING EXCELLENCE
SHIVANTHI ANANDAN, Ph.D., associate professor of biology

CO-OP FACULTY OF THE YEAR
JEFFERY TWISS, M.D., Ph.D., professor and head of biology, was named Faculty of the Year by the Steinbright Career Development Center for his dedication to improving and growing the co-op program for biology majors. Twiss, who came to Drexel in 2009, received a four-year, $600,000 grant from the National Science Foundation in 2010. The award includes funding for at least one co-op position each year and potentially additional positions during the second and third years of research.

COLLEGE OF ARTS AND SCIENCES OUTSTANDING TEACHING AWARDS
DAVID DEMATTEO, J.D., Ph.D., assistant professor of psychology, co-director of the J.D./Ph.D program in psychology
ROSE CORRIGAN, Ph.D., assistant professor of politics, assistant professor of law, director of the women’s studies program

GRADUATE STUDENT ASSOCIATION FACULTY MENTOR OF THE YEAR
GREGORY L. NABER, D.A. teaching professor of mathematics

DR. MARK L. GREENBERG DISTINGUISHED FACULTY AWARD FOR COMMUNITY-BASED EXPERIENTIAL LEARNING
ALEXANDER FRIEDLANDER, Ph.D., associate professor of communication and associate dean for undergraduate education in the College of Arts and Sciences

GRADUATE STUDENT ASSOCIATION HIGHLY COMMENDED FACULTY MENTOR
REINHARD SCHWEITZER-STENNER, Sc.D. professor of chemistry
JAMES HERBERT, Ph.D., professor of psychology, associate dean for graduate education & research in the College of Arts and Sciences
The Future of History and Politics

On September 1, 2011, the College of Arts and Sciences welcomed Dr. Scott Barclay as the new head of the Department of History and Politics.

DR. BARCLAY was previously the program director for the Law and Social Sciences Program in the Directorate for Social, Behavioral and Economic Sciences of the National Science Foundation. He was also an associate professor in the Departments of Political Science, Public Administration and Policy, and Women's Studies at the University at Albany, State University of New York.

Barclay received his B.A. from the Department of Government at the University of Queensland, Australia and his Ph.D. in political science from Northwestern University. His research interests are in law and society, law and public policy, lesbian and gay rights, state politics and policy, and methodology.

“I focus on the signals that individuals receive in their interactions with courts, as well as the way the courts respond to social movements, cause lawyers and the media,” explained Barclay. “For the last decade, I have examined the political, legal and social factors that influence the introduction or rejection of lesbian and gay rights by courts and legislatures at the state level.”

Over the last 15 years, Barclay has authored and co-authored articles and books chapters in publications such as Studies in Law, Politics and Society, Law and Policy, Policy Studies Journal, Oxford Handbook of Law and Politics, and Clinical Law Review. He is the author of An Appealing Act: Why People Appeal in Civil Cases (Northwestern University Press, 1999) and co-editor of Queer Mobilizations: LGBT Activists Confront the Law (NYU Press, 2009). He is currently completing two books: Activist Judges and Same Sex Marriage: Dispelling the Myth; and Mass Media, Public Opinion, and State Policy over Same Sex Marriage.

“At heart, I am a scholar rather than simply a political scientist,” said Barclay. “I look forward to better connections with the students and my colleagues in other departments in CoAS who can teach me new ways to see the world from their perspective.”

In addition to his authored work, Barclay served as the book review editor of Law & Society Review and on the editorial board of SUNY Press, as well as on numerous committees including the American Political Science Association's Committee on the Status of Lesbians, Gays, Bisexuals and Transgendered in the Profession; and the Committee for the Lifetime Achievement Award—Law and Courts Section.

“Dr. Barclay’s clear vision for the future of the department and for interdisciplinary collaboration across the University was most impressive, as was his scholarly work,” said Dean Donna Murasko. “With his experience at the NSF, he will be a rich resource as we work to strengthen research funding in the humanities and social sciences.”

As we welcome Dr. Barclay to the College, we thank Dr. Donald Stevens for his service as head of the Department of History and Politics for the last ten years. Under his leadership, the Department grew to include 13 new full-time faculty members and acquired one of the leading English-language journals of Latin American history, The Americas, for which Stevens serves as managing editor. Dr. Barclay will surely continue this momentum, taking the Department and the College in exciting new directions.
Major League Educator Hangs Up His Spikes

A mentor and inspiration to students and colleagues alike, Dr. Richard L. Rosen, professor in the Department of History and Politics, will retire this year after more than four decades of service at Drexel University.

by FURRAH QURESHI ’12

DURING HIS TENURE, Dr. Rosen made a tremendous impact on the College and University communities. His humble intellect, gift for instruction, and renowned encyclopedic knowledge of baseball will be fondly remembered.

“I’ve been inspired by watching him interact with students,” praised history and politics colleague, Dr. Scott Knowles. “He is one of the rare academics… self-confident enough to be himself, to be a stellar scholar, teacher and colleague, and all the while to be generous with his advice and praise.”

Dr. Rosen carried out many roles during his time here at Drexel, including director of the College of Engineering’s Appropriate Technology Program, University ombudsman and dean of the College of Arts and Sciences. He was the recipient of a Fulbright Commission Grant, the Lindback Award for Distinguished Teaching, and a NASA Summer Faculty Fellowship. He currently serves as Vice Chairman and Vice President of History and Research at the Philadelphia Athletics Historical Society—just another feather in his (baseball) cap of notable accomplishments.

We would like to thank Dr. Rosen for his 42 years of dedication and commitment to the College and University. His vast knowledge, unwavering support, and passion for teaching (not to mention the Phillies) will truly be missed. As we wish him much happiness and success outside of Drexel, we can only hope that his next classroom seats 40,000 with a clear view of home plate.

Remembering Those We Lost

The College of Arts and Sciences community mourned the loss of two exceptional faculty members this year. We celebrate and fondly remember their dedication to research and teaching.

DR. F. ELAINE DELANCEY, associate professor of English and founding editor of BMa: The Sonia Sanchez Literary Review, died in her home on July 18, 2011.

In her 33 years at Drexel, Dr. DeLancey served not only as a faculty member in the Department of English, but also as the director of the African American Studies and Women’s Studies programs for a number of years. She taught courses in American and African American literature, with a distinct focus on the interplay between science, technology and literature. The Drexel community and the world at large benefitted from Dr. DeLancey’s early appreciation for the work of African American poet Sonia Sanchez. As the foremost scholar on Sanchez, DeLancey championed her importance to the literary community long before most people, making Drexel one of the first universities to honor and teach Sanchez’s work.

DR. GUOLIANG YANG, associate professor of physics, passed away on August 14, 2011 after a brief but intense bout with liver cancer.

Dr. Yang was a respected researcher, a dedicated teacher, and a warm and humble colleague. Advanced courses that he developed and taught, such as Nanoscience and Single Molecule Methods, were well received by both students and faculty.

Dr. Yang worked in the cutting-edge field of atomic-force single molecule spectroscopy, studying the central problem of protein folding and stability. He developed a novel, temperature-control device for the Atomic Force Microscopy. More recently he was interested in experimentally understanding the effect of crowding in protein properties and in understanding the basic science of the interaction between DNA and proteins in cellular reproduction. He worked collaboratively with other Drexel faculty on projects that employed his research techniques.
Research Rewarded

In the 2010-2011 fiscal year, faculty in the College of Arts and Sciences were awarded over $8.8 million in new research grants. A sampling of those awards is listed below.

**BIOLOGY**

**WALT BIEN, Ph.D.**, research professor of biology, received an 18-month grant of $99,917 from the Air National Guard Environmental Division for his project “Proposal in Support of Integrated Natural Resources Management Plan: Northern Pine Snake Density and Hibernaculum Translocation Study.”

**GAIL HEARN, Ph.D.**, research professor of biology, received a one-year, $300,000 grant from ExxonMobil Foundation for “Bioko Island Biodiversity Conservation through a Capacity-Building Program of Research, Education, and Outreach with the National University of Equatorial Guinea.”

**DONNA MURASKO, Ph.D.**, professor of biology and dean of the College of Arts and Sciences, and **JIU JIANG, M.D., Ph.D.**, research associate professor of biology, were awarded a two-year grant from the National Institutes of Health (NIH) in the amount of $424,875 for the project “Immunity of Aged Mice after Lifelong Repeated Live or Killed Influenza Vaccines.”

**JACOB RUSSELL, Ph.D.**, assistant professor of biology, received a three-year National Science Foundation (NSF) grant in the amount of $450,000 for a collaborative project with the Field Museum of Natural History titled “Inferring Bacterial Roles in the Evolution of Trophic Levels Across the Ants.” Russell received a second three-year NSF grant in the amount of $394,119 for his collaborative project with researchers from the University of Georgia titled “Factors Shaping the Maintenance of Variation in a Symbiont-Mediated Host-Enemy Interaction.”

**ELIAS SPILIOTIS, Ph.D.**, assistant professor of biology, received a five-year grant from the NIH in the amount of $1,460,000 for his project titled “Regulation of Micro-tubule-based Membrane Traffic by Septin GTPases.”

**JEFFERY TWISS, M.D., Ph.D.**, department head of biology, received a two-year, $680,514 grant from the NSF for his project “Localized Synthesis of Ribosome Components.” He also received a $653,804 grant from the NIH for the project “Molecular Determinants of Axonal RNA Translation.”

**CHEMISTRY**

**DANIEL KING, Ph.D.**, assistant professor of chemistry, received a three-year grant from the NSF in the amount of $133,307 for his project “Climate Change Concepts and POGIL,” which is a collaboration with researchers at the University of South Florida.

**LYNN PENN, Ph.D.**, professor and department head of chemistry, and Patrick Loll, Ph.D., professor of biochemistry and molecular biology, DUCOM, were awarded a 12-month, $84,700 grant for their project “Collaborative Analysis of Nuclear Pores: Protein Trafficking and Recognition.” The grant is funded by the DUCOM Commonwealth Universal Research Enhancement Awards 2011, Commonwealth of Pennsylvania.

**SALLY DYM SOLOMON, Ph.D.**, professor of chemistry, received a one-year, $118,491 grant from the Commonwealth of Pennsylvania for the project “Science in Motion FY11.”
**CULTURE AND COMMUNICATION**

**ROBERT D’OVIDIO, Ph.D.,** associate professor of criminal justice, received an 18-month, $150,000 grant from East Stroudsburg University for the project “Addressing Identity Theft with Mandatory Data Breach Notification: Research and Education.”

**MIMI SHELLER, Ph.D.,** professor of sociology and director of the Center for Mobilities Research and Policy, was awarded a two-year, $45,000 research award from the Danish Council for Strategic Research to join a consortium project “Analyses of Activity-based Travel Chains and Sustainable Mobility (ACTUM),” led by the Department of Transport at the Technical University of Denmark (DTU Transport).

**ENGLISH LANGUAGE CENTER**

**BARBARA HOEKJE, Ph.D.,** associate professor of communication and director of the English Language Center (ELC), and **MARA BLAKE-WARD,** ELC associate director for special programs, received the following three-month grants funded by the U.S. Department of State: $151,216 for the Institute of European Student Leaders; $366,155 for the “Intensive English Language Program/Community-Based Social Marketing for Health & Environmental Behaviors”; and $116,639 for the Fulbright Pre-Academic Program, administered through the Institute for International Education.

**MATHEMATICS**

**DAVID AMBROSE, Ph.D.,** assistant professor of mathematics, received a three-year, $159,000 grant from the NSF for the project “Dispersive PDE and Interfacial Fluid Dynamics.”

**SIMON FOUCART, Ph.D.,** assistant professor of mathematics, Dr. Gail Rosen, Ph.D., assistant professor, College of Engineering, and Dr. Loni Philip Tabb, Ph.D., assistant professor, School of Public Health, received a three-year NSF grant in the amount of $666,000 for the project titled “ATD: Improving Analysis of Microbial Mixtures through Sparse Reconstruction Algorithms and Statistical Inference.”

**GEORGI MEDVEDEV, Ph.D.,** associate professor of mathematics, received a three-year, $140,000 NSF grant for his project titled “Mathematical Analysis of Synchronization in Complex Networks.”

**JENNIFER MORSE, Ph.D.,** associate professor of mathematics, received a three-year NSF grant in the amount of $150,000 for the project “Combinatorics of Affine Schubert Calculus, K-theory, and Macdonald Polynomials.”

**SHARI MOSKOW, Ph.D.,** professor of mathematics, received a three-year grant of $239,997 from the NSF for the collaborative project “Direct Reconstruction Methods for Optical Tomography and Related Inverse Problems.”

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**RESEARCH EXPENDITURES**

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**art + science = knowledge**
J. DOUGLAS WRIGHT, Ph.D., assistant professor of mathematics, received a three-year, $202,837 grant from the NSF for his project titled “Degenerate Dispersive Effects in Partial and Lattice Differential Equations.”

THOMAS YU, Ph.D., associate professor of mathematics, received a three-year research grant of $230,825 for his research on “Topics in Geometric and Multiscale Numerical Methods” from the National Science Foundation.

PHYSICS

ROBERT GILMORE, Ph.D., professor of physics, received a three-year, $207,000 grant from the NSF for the project “Strange Attractors: Description and Visualization.”

CHARLES LANE, Ph.D., professor of physics, received a one-year grant award for $245,000 from the NSF to support his collaborative research project “Systems for Precise Neutrino Detection with the Double Chooz Detectors.”

GORDON RICHARDS, Ph.D., associate professor of physics, received a two-year grant award of $168,310 from the NSF for his project “Radio-Loud Quasars: What, When, Where, Why and How.”

SOMDEV TYAGI, Ph.D., professor of physics, and Kambiz Pourrezaei, Ph.D., professor, School of Biomedical Engineering, Science & Health Systems, received a six-month grant of $60,000 for their proposal “Surface-enhanced Raman Scattering (SERS) Substrate Filters for Detection of Airborne Toxins” from the Nanotechnology Institute.

ENRICO VESPERINI, Ph.D., research associate professor of physics, was awarded a one-year, $86,298 grant by the Space Telescope Science Institute for his project “Dynamical Evolution of Multiple Populations in Globular Clusters.”

PSYCHOLOGY

BRIAN P. DALY, Ph.D., assistant professor of psychology, was awarded a $440,000, three-year grant by the Pew Charitable Trusts for his project titled “Teaching Children to Succeed.”

DAVID DEMATTEO, J.D., Ph.D., assistant professor of psychology, received an 18-month grant for $399,592 from the Pennsylvania Commission on Crime and Delinquency for his project “Statewide Forensic Peer Support.”

KIRK HEILBRUN, Ph.D., professor and head of psychology, was awarded an 18-month, $484,000 grant by the Pennsylvania Commission on Crime and Delinquency and Pennsylvania Department of Human Welfare to develop a curriculum promoting more uniform use and interpretation of the Mental Health Procedures Act in the Commonwealth.

JOHN KOUNIOS, Ph.D., professor of psychology, was awarded a three-year NSF grant in the amount of $288,436 for the project “Insight and Resting-State Brain Activity.”

MARTA SCHULTHEIS, Ph.D., associate professor of psychology, received a two-year, $77,040 grant from the NIH’s American Recovery & Reinvestment Act (ARRA) for the project “Examining Impact of Concussions on Driving Ability.”

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*call for the exact rates that apply for your age(s).

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