

Annual Report 2013
The Graduate School





Master of Community Planning student and Yates Scholar Read more on page 6





Shining Examples

CGS/ProQuest Distinguished Dissertation Award Nominees

Nimita Dave, Pharmaceutical Sciences, PhD

Allison Sterrett-Krause, Classics, PhD



Nimita Dave and her advisor, Dr. Pankaj Desai.

Every year, the Council of Graduate Schools accepts hundreds of dissertations from over 500 of its member institutions in Canada, the U.S., and around the world for an international competition. Dissertations are selected from two out of four broad categories: Biological/Life Sciences, Humanities/Fine Arts, Mathematics/Physical Sciences/Engineering, and Social Sciences. Nominated works vie for the chance to be named the best dissertation, one which not only presents original work, but also makes "an unusually significant contribution to the discipline."

For the 2013 competition, the UC Graduate School selection committee chose dissertations by Nimita Dave and Allison Sterrett-Krause, two newly minted doctors doing exciting research within their respective fields. Both Nimita and Allison presented dissertations full of innovative research,

meticulous attention to detail, and well-written prose. We sat down with the two gracious (and patient) nominees as they discussed their ground-breaking research in terms that even the uninitiated lay person could understand.

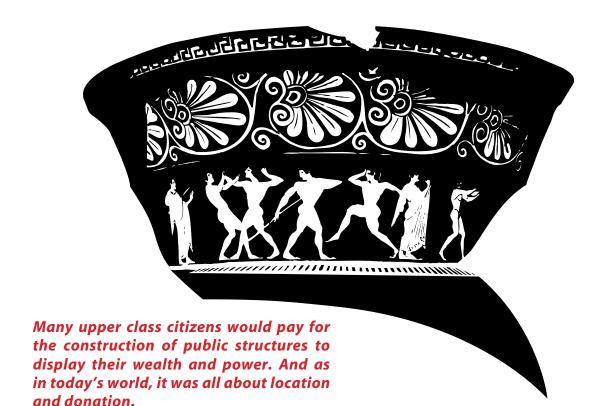
"It's a very pleasant surprise to be nominated," says Nimita, a graduate of the James L. Winkle College of Pharmacy. "And it's pretty exciting!"

In her dissertation, Brain/Brain Tumor Pharmacokinetics and Pharmacodynamics of Letrozole, Nimita explores a novel therapy for brain tumors. These tumors are notoriously difficult to treat, due in part to the blood-brain barrier, a protective layer in the brain that hinders chemicals—including many cancer drugs—from reaching brain tissue. Nimita's research first focused on the passage of Letrozole into the brain. She used a technique called "intracerebral microdialysis" to collect samples of brain fluid, then tested them to see what levels of the drug had reached the brain. Her tests revealed that a suitable amount of the drug had breached the blood-brain barrier.

Once she'd discovered that the drug was making its way into the brain, Nimita then had to test the effectiveness of Letrozole for brain tumor treatment. She did this using a rat model and tracking the progress with the Vontz Core Imaging Laboratory's micro PET-CT scanner (the same imaging technology used on people to locate cancer cells). Nimita tracked the tumor size throughout the course of the treatment, and as the days went by, she saw the tumor shrink.

This exciting result came from dissertation research that took Nimita beyond her familiar experimentation procedures. "It was a lot of learning because in my lab, we don't

Nimita tracked the tumor size throughout the course of treatment, and as the days went by, she saw the tumor shrink.



use microdialysis technique and we don't do micro PET-CT scanning," she says. "I think it was great I found all these people around here. UC has great resources. It's about time for people to come together and collaborate more, which happened in this project!"

Now a postdoctoral fellow in Dr. Pankaj Desai's lab, Nimita spent the summer of 2013 working with departments and offices across UC to write the protocol for her clinical trial. She's not sure how long she'll stay, but she says, "At the very least, I want to see the trial start off."

While the idea for Nimita's research came out of something happening right now, Allison Sterrett-Krause's inspiration was rooted more in the past. Allison's dissertation, *The Impacts of Private Donations on the Civic Landscapes of Roman Africa Proconsularis*, focuses on the Roman province of Africa Proconsularis (what is now Tunisia and Libya). She told us about her research, but not before she glowingly complimented her colleagues. "This department is full of brilliant people," says Allison Sterrett-Krause, graduate of the Department of Classics, "So I was really honored to receive the departmental nomination and absolutely floored to get the call





from the university."

The majority of Allison's archeological research comes from the ruins of Thugga, a site in Tunisia, and covers the 1st to 5th centuries C.E. Many upper-class citizens would pay for the construction of public structures such as theaters, water systems and temples to display their wealth and power. And as in today's world, it was all about location and donation. Where the sites were located and how they were donated revealed a great deal about the identity of the donors. "I was looking at the way that donors express themselves in their buildings and the words that they used on the building," she says.

North Africa may seem like a strange place to analyze a Roman tradition of donating public buildings, but that is part of the appeal. "To be a Roman or to be participating in Roman customs in North Africa was a really different thing

than to be a Roman in Italy," she says. "These donors, particularly in the first and early second century at Thugga, were very focused on their African-ness as well as their Romanness."

With her dissertation complete and graduation behind her, Allison has moved on to new challenges. In summer 2013, she relocated to South Carolina to take a position at the College of Charleston in the classics department. "I'm really looking forward to teaching, and I'm really looking forward to working one-on-one with students."

Both Nimita Dave and Allison Sterrett-Krause have been a part of and will continue in the UC tradition of academic excellence. Their displays of rigorous research and high levels of scholarship will serve as models of scholastic excellence for current and future graduate students.



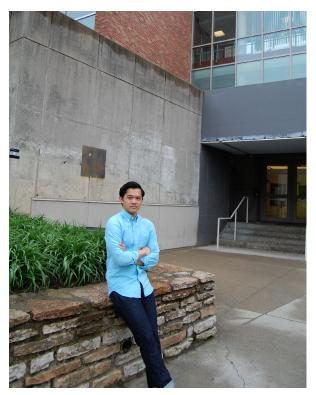


Yates Scholar Jaren Abedania

Community Planning, MCP

Community planning student Jaren Abedania aims to create a more equitable and sustainable model for the distribution of and access to healthy and affordable foods, one zoning law at a time.

After graduating with a bachelor's in architecture from the Georgia Institute of Technology, Jaren returned home to San Francisco, unsure of what to do next. So he set out to reconnect with a few of his favorite pastimes, including preparing healthy and delicious food.



He began touring his hometown streets while working on a Filipino food truck, Hapa SF. As they set up shop around the city, Jaren watched neighborhoods come alive as residents from all walks of life lined up for Hapa fare. "We would go to back alleys and public parks and see hundreds of people come out to lunch, and it made me realize that food trucks are a really useful thing for getting people out on the street."

It was here—in the migratory food truck moored to the mission of delivering delicious cuisine to the residents of San Francisco—that Jaren's passions for food and vibrant cities converged into a path for the future.

The interconnected pieces of the food system, from growing and processing to marketing and consumption, are numerous and complex, and inequities abound, according to Jaren. He warned that the lack of access to healthy and affordable food is a critical problem for cities across the nation. Quoting the arguments of "Hungry City" by Carolyn Steel, Jaren states that "the food system and lack of food access and food in general is the biggest problem facing our cities." He further argues, "The whole food system needs to become more sustainable. It affects the ecosystem, the animals and the waterways."

Jaren acknowledges that creating a new model presents a big challenge. Yet the traditional model is outmoded, he says, citing Cincinnati's numerous food deserts, so-called because they are locations that lack access to nutritious and sustainable foods.

Jaren is concerned about food deserts and environmental pollution caused by the transportation and disposal of food products. However, his primary reason for earning a



master's degree in community planning is his goal to maximize the potential of food as a social force.

"My interest is not only in providing food to underserved communities, it's also about generating social culture." And, according to Jaren, "the best way to understand another's culture is through their food."

Via a series of case studies in cities such as Portland and San Francisco, the focus of Jaren's research is on studying the efficiencies, if any, of food production and food access found in three current food models including food retail (i.e., supermarkets), farmers markets and urban agriculture. However, equally important to Jaren is learning the ways that these models use food to invigorate social spaces and spark community-building processes.

"I want to analyze how food can activate physical spaces in the city," he says. "I'm interested in the utility of food as a generative tool in rediscovering public spaces and in so doing, re-establishing social conversations."

Part of Jaren's research will be to determine which zoning policies support both food-centered activities that promote bringing people together in public spaces and allow for the sale of fresh, healthy foods in urban neighborhoods.

Current zoning laws are restrictive and are therefore part of the problem, he says. As these laws are crafted to determine whether certain stores can sell fresh vegetables, they can impact an entire neighborhood's access to healthy food.

Although Jaren is not certain what the new sustainable food model will look like, he acknowledged that the "goals of community planning are long-term" but that something

needs to be done now. "Food is something that affects everyone, obviously, and there is severe inequity in the way that food is currently distributed and accessed."

The Yates Scholars Program

Every year, UC graduate programs—from history to immunobiology and chemistry to business management—nominate incoming students for the prestigious Yates Scholars Program. The award supports the recruitment and retention of underrepresented ethnic minorities who demonstrate great potential for graduate school success.

In fall 2013, the Graduate School welcomed thirteen new Yates Scholars. New and continuing scholars receive a stipend and a tuition scholarship. In addition, each student is paired with a faculty member from his/her program who will act as a guide through the program and the university.

The Yates Scholars Program is named in honor of Dr. Albert C. Yates, twelfth president of Colorado State University and the first African-American person to serve as vice president and university dean for Graduate Studies and Research at the University of Cincinnati. Jaren Abedania, master's student in the College of Design, Architecture, Art, and Planning, is one of the many scholars who upholds and exemplifies Dr. Yates' vision of academic excellence.



The Art and Science of Communication

Communication touches every aspect of our lives. It's no surprise, then, that University of Cincinnati graduate students from disparate programs have tackled communication research questions, with each student leveraging the principles of his or her discipline.

Mike Urick, Katie Nemeth, and research partners Casey Keck and Kathryn Davidson examine communication issues through the lenses of business, art and medicine, respectively. Yet all seek to expand our knowledge on this activity which binds all humans together.







Challenging Corporate's Take on Intergenerational Communications

Mike Urick

Business Administration, PhD



Mike Urick has participated in quite a bit of corporate training: before entering the Carl H. Lindner College of Business as a doctoral student, he worked first as an auditor and then as a program manager for a corporate training program. As such, he knows a thing or two about the way businesses train employees on generational communication. "You always hear about generational differences," he says. "There are a lot of stereotypes out there surrounding generations, but the experience that I had was these stereotypes aren't really true."

While working with his advisor, Elaine Hollensbe, to assess a leadership development program, Mike noted that many of the young professionals in the program said that one of the biggest challenges they faced in the workforce was communicating with people from other generations. To his surprise, Mike found there was very little academic research in this subject, especially in the business field, despite the abundance of advice books and training materials. He wanted to address this gap in research in a practical way.

Mike interviewed the aforementioned group of young professionals as well as a group of seasoned business consultants (ages 48-84) about their experiences dealing with other generations in the workplace. "I wanted to explore what these intergenerational interactions were like," he says. Mike's research revealed, "Tensions arise in the workforce

between generations that I hadn't thought of before: things as simple as a tension between types of education. So, were you trained on the job or do you have a degree?"

Another tension was the differences between communication styles. Mike's research participants reported that members of the younger generations have a very different communication style from members of the older generations. Specifically, participants noted that younger workers preferred to communicate with their coworkers via email and text. "That was really challenging, I think, for some of the older folks in the sample," says Mike, "Because they expect to have these face to face meetings where they're communicating ideas, and often times, they would get frustrated whenever the younger generation would not be able to communicate well."

Mike's next step is to create training programs based on this research. He argues that workers need to re-focus their attention, putting more energy into resolving specific tensions that arise between generations rather than the generational stereotypes themselves. After all, the benefits that arise out of intergenerational interactions far outweigh any tensions: "You do see biases and conflict, but you also see learning when people finally break down their misconceptions and realize, 'I can learn from somebody,' regardless of that person's age or generation."

A "Ruin Porn" Photo is Worth a Thousand Words

Katie Nemeth

Communication, MA



Arnold Nursing Home, 7 Mile Road," originally published in Detroit Disassembled. Courtesy of Andrew Moore.

Does "ruin porn" seek to exploit or aid a city plagued by urban decay? That was the question at the forefront of Katie Nemeth's mind when she analyzed the visual rhetoric of art book Detroit Disassembled.

Photographer Andrew Moore captured abandoned buildings and urban decay across the Detroit metro area for his Detroit Disassembled traveling exhibit and art book. A Detroit native, Katie confesses to being "haunted" by these

photos. "To go into a city with the intention to capture that decay is bothersome to me," she says. "But I think these photos are beautiful at the same time."

Moore's photos reside within the burgeoning "ruin porn" movement, which captures the deterioration and destruction of modern structures. As Katie describes, "It's almost voyeuristic: you're looking at something you shouldn't be seeing. And oftentimes, you'll see that photographers will

have to break into these abandoned buildings to take these photographs."

Moore's exhibit and book generated a lot of attention. Supporters argued that the photos help to open up discussion about the need for change in troubled urban settings, while critics maintained that Moore's photos, and "ruin porn" in general, exploit these communities and distract people from addressing the issues and consequences of urban decay. In analyzing Moore's photos, Katie hoped to identify the social implications of Detroit Disassembled.

As with "Arnold Nursing Home, 7 Mile Road" (facing page), the photos in Detroit Disassembled are carefully composed to use color and framing for maximum impact. Katie also noted that people are conspicuously missing from the majority of his photos, which contributes to the postapocalyptic feel of the collection. "When you strip people out of those photographs," she says, "it changes the nature of them." These photos, Katie argues, are clearly composed by an artistic eye using artistic principles. Yet, as Kate points out, urban decay is a very real and widespread problem in the city. And as any native of the Detroit metro region will tell you, the extent of the problem is one that has to be seen to be believed. "At the bottom of it, what is so jarring and interesting about the photographs is that Moore very delicately balances on the line between documentary and art," Katie says.

Katie completed her analysis by examining some of the responses to Detroit Disassembled. Some of the native Detroiters used the controversy surrounding Moore's work to show other facets of the city. One notable response Katie found was "The People of Detroit," a website devoted to capturing the faces and stories of city residents. In a clear nod to Moore's work, the website sports the tagline "because not everyone in Detroit is an abandoned building."

In the end, Katie concludes, "he's sparking projects where people are focusing on the people's stories and a little bit of a richer history." Katie argues that the social implications of Moore's work are generally positive: Detroit Disassembled work has re-energized the ongoing dialogue on urban decay—and urban revival movements—within Detroit.



Treatment via Telecommunication

Casey Keck and Kathryn Davidson

Communication Sciences and Disorders, PhD



The concept of telehealth is a simple one: using telecommunication technology (such as phone calls, email, websites and video conferencing) rather than in-person meetings, to deliver health and services information. But doctoral students Casey Keck and Kathryn Davidson see telehealth as the future of speech and voice therapy for children—a future that will allow more children to receive prolonged treatment for speech and voice disorders.

Currently, to receive therapy from a specialized pediatrics speech and voice treatment center, children and their families have to travel long distances or go without appropriate services. This is especially difficult for school age

children who have undergone complicated airway surgeries and have subsequent voice concerns.

Casey and Kathryn are part of a UC and CCHMC research team that is using telehealth in the form of web conferencing and a web portal in order to provide kids with at-home voice therapy. Children need voice therapy for a variety of reasons, including vocal fold nodules, paralysis of the vocal folds, injury from excessive use (such as screaming), and recovering from prolonged intubation or airway surgery. In between online, real-time visits with the clinicians, children will do voice therapy "homework," guided by lessons through the web portal. The purpose of this research is to

How does telehealth work? Thanks to telehealth, Abby Brettschneider (right) receives speech therapy services from the comfort of her home, saving her mother the time and money it would take to drive Abby to and from the Department of Communication and Science Disorders Clinic, located on the University of Cincinnati's medical campus. Oncethe described pediatric voice study enrolls participants, Kathryn Davis (left) and Casey Keck (center) will be involved in supporting the web conferencing in a similar manner to provide Ohio and Kentucky children with voice therapy.



show that telehealth is a viable method for treating children with voice disorders.

Providing treatment via telehealth that is effective and of the same quality as in-person treatment is one of the primary goals of this research, but certainly not the only one. The research team behind this project—Casey and Kathryn included—hope to show that that internet service in local and rural areas is strong and stable enough to allow for uninterrupted treatment sessions via web conferencing and their tailor-made web portal. The research team also hopes to provide evidence that telehealth treatment is costeffective.

As of summer 2013, the research project, funded by the Agency for Healthcare Research and Quality, was still in the recruitment phase as clinicians identified potential participants. However, waiting for the study to begin does not hamper Kathryn or Casey's spirits. Kathryn says, "I am very happy to have the opportunity to work on this research team." She adds, "This experience has been invaluable to my education here at UC." Casey chimes in, "At this point in the project I'm most excited about going live with the web portal. The research team has put a lot of work into the development and testing phases, so I'm anxious to see the results."



GSUM/SUMR-UC Program

Brent Stoffer, Biological Sciences, PhD **Maggie Williams**, Biological Sciences, BS

Each summer, UC graduate student mentors pair with undergraduate researchers from UC and other universities to collaborate on intensive projects. Known as the Graduate Summer Undergraduate Mentoring/Summer Undergraduate Mentored Research at the University of Cincinnati (GSUM/SUMR-UC), this program awards graduate mentors a stipend of \$3,000 and undergraduate researchers a stipend of \$4,000. Selection for these awards is competitive: of the many graduates and undergraduates who apply, only a small number are chosen to participate. In the summer of 2012, Brent Stoffer and Maggie Williams worked together on Maggie's research project, a study of the courtship behavior of wolf spiders.

GSUM/SUMR-UC allows undergraduate students to benefit from the experience of their graduate mentors while also taking responsibility for their own research projects. Brent says working with Maggie was rewarding, and he also benefited from interacting with students from across the university: "We met with the other researchers weekly. Sometimes it was both undergraduate researchers and their graduate student mentors and sometimes only their mentors with our faculty advisor Michael Baldwin. We [graduate students] tend to stay within our area of research or within our own departments and rarely get the chance to share ideas with people from other disciplines. Without a doubt, it was an unlooked for, but great, advantage."

Brent Stoffer, a doctoral student in biological sciences, studies the ways in which previous experience imprints upon the behavior of spiders and affects how they make decisions later. As most spiders only have one opportunity to mate in a lifetime, mate selection is an especially important decision. Brent says that working with Maggie on a research question related to, but outside of, his dissertation project allowed him to see the work he has been immersed in for



years from a fresh perspective.

Maggie Williams, who received her bachelor's in biological sciences in April 2013, developed a research project that examined the factors that influence the decision making process in the courtship of wolf spiders. The male wolf spider initiates courtship by performing a kind of dance that involves a number of complex multi-modal signals comprised of visual (waving of tufted legs) and seismic (sending vibrations through the loose leaf ground cover) cues. Maggie's research focuses on the phenomenon of eavesdropping—when a second male spider begins the courtship dance in an attempt to draw the female away from the first. The female ultimately selects which of these will be her mate. In her research, Maggie set out to identify the factors that determine preference in this situation.

Using an approach pioneered by Dr. George Uetz in the 1980s, Maggie conducted experiments that involve simulated eavesdropping. In these experiments, a female spider is placed in an arena and two iPod Touches play video footage of the male spiders in a way that mimics the practice of eavesdropping. The trick to this is that the two videos are



actually the same spider performing the same courtship dance, but the video has been digitally altered to isolate certain physical characteristics. Is the female more likely to choose the spider that first begins the courtship dance? Or instead is she more likely to select the one with larger tufts? According to Maggie's findings, it does seem that the first male has an advantage by virtue of his timing, but there are qualifications. The first spider must have adequately sized tufts or the eavesdropper has a better chance of being selected, and in the case of an eavesdropper with especially large tufts the second male's chances of being selected are also markedly increased.

Describing the experience of presenting her research at GSUM/SUMR-UC, Maggie said, "This was the first time my part of the research had been presented. It's a long process. It's a lot of hard work and this was a brand new experience. To stand up and see that people were genuinely interested in what I had found was the reward. All the hard work paid off, and I was proud of myself at that moment."

Maggie has presented her research several times since then. She made her first poster to present her work at the American Arachnological Society, and she won first place for undergraduate presentation at the Ohio Valley Entomological Society's 2012 Annual Forum. In addition, Dr. Uetz will include her work in an upcoming Animal Behavior Society conference.

During his time as a student, Brent says that he has benefitted many times over from teachers and professors who took the time to guide his research and advise him in academic matters. GSUM/SUMR-UC gave Brent—whose longterm goal is to be a professor at a research university much like UC—the opportunity to mentor a promising undergraduate student.

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Dr. George Uetz displays the largest genus of spider in the world. The Goliath birdeater (Theraphosa blondi), which is indigenous to South America, emits a hissing noise (a mechanism Dr. Uetz has previously studied) and earned its name due to the fact that it has known to prey on small birds. And yet, it's not the Goliath birdeater that interests these researchers the most. The wolf spider (Schizocosa ocreata), a much smaller specimen and one common to the Cincinnati area, is the object of a number of studies currently under way in Dr. Uetz's lab that analyze these spiders' decision making processes.





Van Wormer Hall, UC's only remaining 19th-century building, is the home of the Graduate School.

The glass dome was restored in 2006.



Graduate School Dean's Fellows

Dissertation completion fellowships support outstanding students during the last stage of their research. Finding a means of support can be difficult for doctoral students who are close to finishing their dissertations, especially during tough economic times.

The Graduate School established the Dean's Fellowship to make their search for funding a little easier. The fellowship provides students with \$20,000 and a full tuition scholarship to help them complete their dissertations by the end of the 2013-2014 academic year.













Christian Cloke

Classics, PhD





When UC classics professor Dr. Jack Davis introduced Chrisian Cloke to the practice of survey archaeology, Christian began considering what an analysis of artifacts collected during a survey of the Nemea Valley (in the northeast Peloponnese peninsula, in Greece) might reveal. Rather than plumbing the villas and tombs of wealthy and powerful individuals for extraordinary artifacts, survey archaeology takes a much broader approach that typically musters large teams of people walking parallel transects through fields in order to discover artifacts on the surface of the ground.

Christian earned a bachelor's degree in classics and old world archaeology and art at Brown University, and a master of philosophy in museum studies and cultural heritage management at the University of Cambridge. In 2005, he came to the University of Cincinnati to continue his research on the ways in which Roman rule shaped life in the Mediterranean region during antiquity.

Archaeologists like Christian are interested in what the more mundane objects, such as cooking pots and grindstones, say about the everyday, rural lives of the area's inhabitants. The appeal of this approach, says Christian, is that it provides great explanatory power by covering vast time

scales and larger regions, while broadening the historical picture in terms of socioeconomic class.

For his dissertation project, Christian is making use of artifacts collected by survey archaeologists in the area around ancient Nemea, a rural valley community just outside the territory of the powerful and prosperous city of Corinth. These artifacts provide a kind of economic barometer indicating whether the people living in Nemea were in contact with other parts of the Mediterranean. By assessing the rarity of imported goods from places such as Italy and North Africa, both large exporters of ceramics, Christian is able to show that, in certain periods, the valley's economy was almost exclusively regionally or locally focused. Ceramics and other finds also provide chronological evidence to challenge some of the more cohesive storylines about the region's history, from the formation of the Greek city-state to the impact of the dissolution of the Roman Empire.

These storylines, like so much of history, tend be linear, teleological narratives about communities with fixed, if not seemingly inevitable, cultural identities. Studies like Christian's, however, reveal just how fragmented the actual stories borne out by archaeological evidence are. As Christian



points out, his emphasis on the agricultural and religious practices of rural communities necessitates grappling with aspects of life that standard written histories have largely ignored.

Ultimately, Christian's study of the Nemea Valley over the course of roughly 1,400 years will encompass a detailed catalogue of religious and agricultural sites and a deconstruction of how their users shaped the landscape and archaeological record. The area has a rich religious and mythical history. This is, after all, the locale where Hercules is said to have slain the Nemean lion, and it was once the seat of Panhellenic games in honor of Zeus. Many of the sites in the vicinity of the sanctuary where these games were held—including mountain-top "peak" sanctuaries, and smaller rural shrines—show evidence of repeated ritual activity. In time, however, such places were typically forgotten or repurposed. Other types of sites, such as fortified outposts of the Classical or Hellenistic period, often had long afterlives due to their sturdy construction, which made them prime candidates for occupation by later farmers. Christian's study will create a better overview of trends in the region's agricultural and economic practices by incorporating climatological, palaeobotanical and geological evidence, as well as microscopic analysis of the raw materials used to manufacture the pottery used in the area. In the end, Christian hopes his work will provide a glimpse into the everyday lives that are so often eclipsed by larger historical narratives.



Maria E. Fields

Immunobiology, PhD



Infectious diseases pose significant problems for any number of communities worldwide, but these problems become even more pronounced in developing countries. Even though her research is often demanding, the reward for Maria Fields is knowing that the work might lead to treatments to help those infected. Maria began her research in her native Colombia, when she joined a lab that was developing a phenotype of the immune systems of children born to HIVpositive mothers. This research made it necessary for Maria to interact directly with these mothers and their children. It was this experience—one that put Maria in contact with people directly affected by HIV—that solidified her desire to continue researching the disease. Maria fulfilled this desire by first working in a lab at Cincinnati Children's Hospital Medical Center and eventually by enrolling as a student in the College of Medicine's immunobiology program.

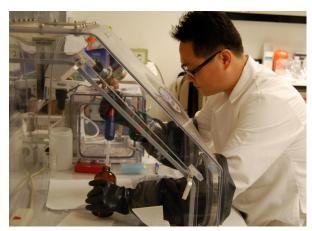
For her dissertation, Maria is examining the role of regulatory T cells (T_{regs}) in HIV infection. T_{regs} are cells responsible for suppressing specific immune responses after invading organisms are effectively dealt with and help prevent the destruction of healthy cells. They are likely responsible for the inefficient immune responses typical of certain stages of HIV infection. Thus, the predominant theory regarding the role of T_{regs} is that they hinder the immune system's ability to fight HIV. However, Maria says that her research suggests this view is not entirely accurate because it does not take into account the role T_{regs} play over the entire course of the disease.

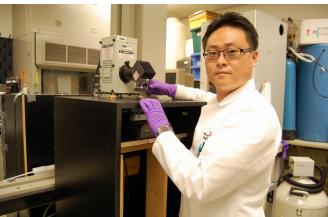
Maria found that T_{regs} are actually helpful in the early stages. HIV targets certain cells, such as the dendritic cell clusters that process antigen materials and presents them to other cells of the immune system to be destroyed, then uses those same cells as a means of transportation throughout the body. It is in this way that T_{regs} can be useful: by limiting the immune system's response, T_{regs} also limit HIV cells' ability to spread throughout the body in the early stages of the disease. In later stages, however, this same mechanism will limit the HIV-specific responses that would be necessary to halt the disease's progress. Still, Maria says, "it is important for us to understand the role of T_{regs} at every stage of the disease, because a better understanding will lead to better treatments."

Naturally, the research Maria does in the lab is the most important part of work, but as she points out, what happens outside of the lab also matters. Being part of the community of scholars, researchers and scientists who comprise the program is an important aspect too. When she first arrived in Cincinnati, she was concerned about how she would be received and how she would fit into the community. But she found that "UC embraces its international students. The program felt more like a family from the very beginning." That acceptance made all the difference at the time. Since then, she has married and is currently raising her daughter here. Nowadays, Cincinnati feels like Maria's home.

Changseok Han

Environmental Engineering and Science, PhD





As a master's student at Yeungnam University in South Korea, Changseok Han knew that he wanted to study in the U.S., and he was looking for excellent environmental engineering programs. His advisor at the time had studied environmental engineering at UC twenty years ago and suggested the program to Changseok.

Initially, he planned to study air pollution, but because of recent advances in water treatment and the cutting-edge work being done at UC, Changseok decided to focus on issues related to drinking water instead. One of the most serious problems in water treatment today is the presence of cyanotoxins, produced by harmful cyanobacteria known as blue-green algae, in potential sources of drinking water. These toxins produce harmful effects in humans if ingested, ranging from skin irritation to liver and kidney damage. Under the guidance of his current advisor, Dr. Dionysios Dionysiou, Changseok explored various approaches to water treatment, including advanced oxidation processes, environmental nanotechnologies and environmental chemistry.

The advanced oxidation process, which uses no chemicals but relies fully on photocatalysis to treat the water, is effective but limited by the fact that the materials used in this process can only be activated by ultraviolet light. So far, Changseok's work has focused on ways of modifying these light-sensitive materials so that they would be activated by visible light as well. Increasing the spectrum of light that can activate this process will not only improve its effectiveness but also greatly reduce its expense.

For his dissertation project, Changseok has shifted his focus from treating water to developing a biosensor that can detect the presence of cyanotoxins in water. This sensor uses antibodies specific to the cyanotoxin microcystin-LR from the harmful blue-green algae. Because the antibodies in these sensors are highly sensitive to certain toxins, their use allows for a great deal of selectivity. This is a promising step forward in developing an emerging technology for which very little literature currently exists. Yet Changseok has joined that conversation. In addition to an already impressive list of publications—he is the author or co-author of twelve peer-reviewed journal articles—he recently published an article detailing his microcystin-LR biosensor research in Advanced Functional Materials.

After he finishes his doctorate, Changseok plans to return to South Korea where he will teach and continue his research. With future research in mind, he has already begun exploring how the modified materials used for photocatalysis in water treatment might also serve as a basis for improving solar cell technology. Changseok says that his time here at UC has been invaluable to him: "There are many great resources for someone in environmental engineering on campus and in the Cincinnati area as well, especially with the EPA's facility literally across the street from the university." But support comes in many forms. Changseok says that above all else, he has counted on the support of his wife, Eun-Joung Kim, whom he met here in Cincinnati while she earned her doctorate in musical arts in UC's College-Conservatory of Music.

Parastu Kasaie Sharifi

Operations and Business Analytics, PhD & Biostatistics, MS



While studying industrial engineering in Iran, Parastu Kasaie used an agent-based simulation to model the course of an infectious disease for her bachelor's thesis project. Agent-based simulations of epidemics allow users to program communities of intelligent entities in a virtual world where infectious diseases can transmit from one person to another. Because these computer simulations accurately imitate the ways in which people in the real world would interact, they can be used to predict the course of an epidemic through time and space while determining the best control strategies. Applying computer simulations to the study of epidemics can offer insights into issues that would likely be overlooked, if not for this interdisciplinary approach.

When Parastu first arrived at UC, her advisor in the Carl H. Lindner College of Business, Dr. David Kelton, gave her complete support to pursue her interests outside of business. After taking classes in epidemiology and biology, Parastu made contact with a tuberculosis control research group at Johns Hopkins University, prompting her to look more closely at the benefits of applying computer analysis to problems related to infectious disease. One such problem involves TB. Specifically, in places such as India, Brazil and South Africa, TB may occur in conjunction with HIV/AIDS, triggering an especially grave need to understand transmission dynamics and disease evolution so as to tailor public health policy accordingly.

For her dissertation project, Parastu is developing a detailed agent-based simulation using data provided by a case study conducted in South Africa. The details of this study are so precise that they allow for the mapping of each individual household down to parameters of age and gender. Parastu will use the completed simulation to study the effectiveness of various control interventions for a coepidemic of TB and HIV. This will aid health officials in developing the best responses, given the available resources.

After she finishes both of her degree programs at UC, Parastu plans to complete a post-doctorate that will allow her to develop her background in biology further and continue to apply computer analysis to the study of epidemics. These agent-based simulations are a novel approach and have been rising in popularity. The epidemic agent-based simulation models have been previously applied to a number of different diseases such as influenza, smallpox and HIV, but the applications are still limited in the case of TB.

For Parastu, the reward of using computer simulations in this way is that "it allows you to pursue work that is useful. You can contribute something valuable to an area that hasn't yet been discovered by ten thousand people!" Naturally, such novel areas of study also present novel challenges, and Parastu has found the greatest challenge to be translating her findings for the different types of audiences that she works with. To be useful, the results must be understood by people with different backgrounds whose disciplines tend to have their own particular jargon. This means researchers such as Parastu must find a common language in which to express their ideas and discoveries.

Jay Kennedy

Criminal Justice, PhD & Management, MBA



According to the U.S. Chamber of Commerce, one third of all small business bankruptcies are the result of employee theft. Jay Kennedy says that "most people call this white collar crime, but that term is too broad because it includes crimes such as embezzlement and antitrust violations, which are theoretically very different than employee theft." Small businesses are crucial to the economy, and according to the U.S. Small Business Administration, small businesses have been responsible for over 65% of new jobs over the past seventeen years.

Yet surprisingly literature exists on the subject of employee theft, and what literature there is tends to focus on motivation. Drawing on his background in management and criminal justice, Jay is taking a new approach by examining employee theft in terms of opportunity. What is stolen and by whom? And above all else, how (not why) is it stolen?

Often when people think of employee theft, they think about theft on a small scale, such as employees in a restaurant taking food or workers stealing a few products from a manufacturer. Jay has found, however, that much of the theft is fraud occurring over years and often totaling in the thousands or millions. For example, Jay was talking with a former employer—the president of an automotive parts supplier in Detroit—who related an alarming anecdote. The employer said he had just found out that his accountant had stolen over \$250,000 from the business over the course of several years. As shocking as this is, it is not uncommon. Jay's hypothesis is that the higher the dollar amount, the

more trusted the employee is. If this is in fact the case, managers need to reevaluate their approach to employee theft prevention.

For his dissertation project, Jay is using a combination of surveys and in-person interviews to collect both quantitative and qualitative data. He will use this data to determine how perceptions of the opportunity for employee theft differ from managers to employees and how managers handle instances of employee theft. Ultimately, Jay found that the problem seems to be one of misperception, clinging to inaccurate stereotypes of the "employee thief." Most people believe that employees who steal are doing it because they are poor, underpaid or in desperate need of the money for a medical treatment or a similarly dire circumstance. Instead, surprising as it is, Jay says that the fraud examiners and attorneys he has talked to have said these crimes tend to be a matter of lifestyle enhancement and that those who are convicted of fraud often cannot account for how they spent the money.

It is important to Jay that he implements the findings as soon as the results are in, so he is working with UC's Goering Center for Family and Private Business to develop ways to reduce the opportunity for employee theft in Cincinnati small businesses. With most of these crimes tallied in the thousands or even hundreds of thousands, their prevention may determine whether small businesses survive.

Michael Schumacher

Systems Biology & Physiology, PhD



While working on a master's degree in nutrition at UC, Michael Schumacher had the opportunity to conduct research related to obesity in one of UC's labs. Although his current research as a doctoral student in systems biology and physiology is very different, Michael says that initial hands-on experience in a lab inspired him to pursue a doctoral degree that would allow him to conduct more research.

Now, Michael works in Dr. Yana Zavros's lab where his work explores the link between Helicobacter infection and related medical conditions. Helicobacter species are resilient organisms—they can survive and even thrive in the acidic conditions of the human stomach—that affect nearly 50% of the world's population. These organisms are responsible for stomach ulcers and are also associated with the development of gastric cancer, which may result from the chronic inflammation and abnormal gene regulation elicited by Helicobacter.

For his dissertation project, Michael is looking more closely at the role that the protein Sonic hedgehog (Shh) plays during the gastric immune response to Helicobacter. When a person becomes infected with Helicobacter, the immune response typically causes inflammation, a protective response by the body to clear an infection. Unfortunately, in the case of Helicobacter, it is not sufficient to rid the stomach of bacteria and the persistent inflammation can lead to disease.

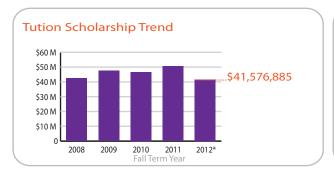
Shh is crucial to this inflammatory response. It is secreted into the immune system in order to recruit immune cells to the site of the injury or infection caused by Helicobacter. In the lab, Michael has developed a model that eliminates secreted Shh specifically in the stomach, which allows him to identify more precisely than before the role Shh plays in this gastric immune response.

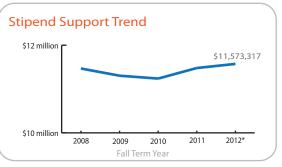
Gaining a better understanding of the role of Shh gives researchers a target that can mediate these immune responses and directly impact related diseases. For instance, the existing treatments for many diseases of chronic inflammation involve use of steroids, but steroids have many off-target effects and are not tolerated well long term. Michael's work with Shh promises something more specific and more effective.

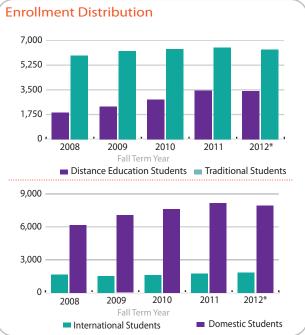
As for the future, Michael wants to continue conducting related research. After he finishes his doctorate, Michael will complete a post-doctorate fellowship and then look for a faculty position at a medical research institution where he can serve as primary investigator in his own lab. "I love what I'm doing," Michael says. "Some people find [research] repetitive, and sometimes it is. But one out of a hundred times, you find something that may only look like a few extra dots on a graph, but those dots can lead to something that can truly help someone."

UC Graduate School Growth



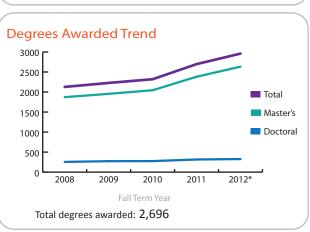


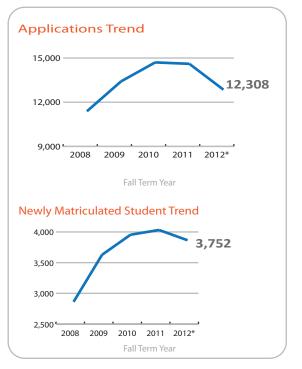




Ethnicity Distribution of	of Enrolled Students, 2012-13
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American Indian/ Alaska Native	16(0.2%)
Asian	293(3.0%)
Black	762 (7.8%)
Hispanic	274 (2.8%)
Native Hawaii/ Pacific Islander	16 (0.2%)
Two or more Races	129 (1.3%)
Other/ Unknown	603 (6.1%)
International	1,833 (18.7%)
White	5,964(60.9%)
Enrolled Minority Students (US Citizens)	1,361 (13.9%)
Total	9,794





^{*}In fall 2012, UC transitioned from quarters to semesters. This leads to a significant inequality in the reporting period used for our 2012 reports and it affected some numbers given here.







Excellence in Teaching Award

Natashia Pierce, Geology, MS

Natashia Pierce, a master's student in the Department of Geology, studies the metamorphic and igneous rocks associated with mountains and tectonics. She uses geochemistry to analyze elements, element ratios and isotopes in order to recreate the tectonic past. With this in mind, it comes as no surprise that she must remind herself that her level of knowledge is not the same as her undergraduate students. "I know that learning more about geology will enrich their lives," Natashia says, "but it's difficult because geology is not widely taught in high schools." Natashia can, however, simply sum up her approach to teaching: "Students should learn for a lifetime, not learn for a test." Teaching this way takes enthusiasm and a lot of hard work. And sometimes it takes more than a little ingenuity too.

A student once asked her the question every teacher eventually hears: "Why does this subject matter to me?" Natashia says that she wanted to find a way to help her students better understand why geology matters and has very real consequences. She knew that if her students reached that conclusion on their own, they would see not only the greater impact of geology, but also why they need to study it in the first place. So she decided to design a new assignment for the next class meeting. She asked her students to make a list of ways that geology affected their everyday lives. The students then collaborated on a mural showing all of these interactions. Natashia says that after that day's class, the student who had initially asked why they needed to study geology said that she understood that "geology really is everywhere."

While Natashia strives to create a friendly, enthusiastic environment in the classroom, she demands that "everyone brings something to class." To make sure each student contributes, Natashia takes a discussion-based approach to her teaching. She provides articles that students must connect to the work they do in the lab. This guides students toward an active participation in the learning process that asks them to synthesize the information for themselves. She believes

that all students deserve respect, but part of paying them the respect they deserve means involving them directly. Natashia says, "I'll never give the answer to a question twice. I will walk students through the process of finding the answer as many times as it takes, but I'll only give the answer once."

But that does not mean that the classroom cannot also be a place for fun. Among the many assignments Natashia gives her students is one she calls UC's Treasure Trove, which requires students to find and identify rocks in the area to create their own treasure map. Naturally, the directions are all written in what Natashia refers to as "pirate speech." Most days, though, Natashia's students leave the "arrrs" and "ahoys" at home. For the current events assignment, students form groups and debate relevant topics in geology in front of a number of guests—including graduate students and faculty members—who then ask follow-up questions about the students' ideas and the research that supports them.

It should come as no surprise that Natashia often hears from former students who contact her with questions related to what they learned in her class. On occasion, she's even been able to arrange for some of these students to participate in research projects. This, Natashia says, is the real reward—when learning continues after the class is over.



Excellence in Doctoral Mentoring Award

Dr. Jerry Kasting, Pharmaceutical Sciences

The Excellence in Doctoral Mentoring Award is given annually to a member of the UC faculty who demonstrates outstanding and sustained guidance of doctoral students. Recipients are selected because they build meaningful and rewarding relationships with their students and because their students, in turn, achieve a high level of professional success.

After receiving his doctorate in physical chemistry from MIT, Dr. Kasting worked for more than 20 years at Proctor & Gamble. He then joined the James L. Winkle College of Pharmacy where he currently serves as the chair of Pharmaceutical Sciences. He has published more than seventy papers and holds eight patents associated with his work. Dr. Kasting's current research uses improved computer models to identify and quantify skin allergens in cosmetic products and the work environment. While the traditional method for identifying dermal allergens involves animal testing, Dr. Kasting's model offers a method that is faster, cheaper and animal-friendly. This research is something Dr. Kasting involves his students in at every level.

For the Excellence in Doctoral Mentoring Award, many current and former students wrote letters to support Dr. Kasting's nomination. These letters describe in glowing



terms the impact he has had on their professional and personal lives. His students say that he asks them to be precise and diligent in their work, and he maintains a personal connection with each one of them. It is difficult to choose only one or two representative quotes from these letters because each one makes its own unique case for Dr. Kasting. However, it is important to hear at least some small part of that praise in the words of the people whose lives he has impacted.

Rania Ibrahim, now clinical director at BioScreen Testing Services, says, "Besides the basics needed in the laboratory, he has also taught me how to trouble shoot, analyze and critique not only our data, but also the data of others. Those skills are imperative in the field of research, and without his extraordinary ability to teach and mentor others I would have taken a much longer time to attain those skills."

Doctoral candidate Terri La Count says Dr. Kasting takes a "genuine interest on both a personal and academic level, giving unlimited support in terms of resources, knowledge and accessibility. His dedication and professional ethics are truly examples to which one should aspire."

Penpan Saiyasombati, now senior scientist at Olay Skin Care R&D, says "Sometimes he would simply drop by the lab to casually chat with me or other graduate students to see how we were doing. He was incredibly patient with me, even when I made mistakes. His positive attitude and optimistic approach encouraged me never to give up."

The picture that emerges from these testimonials and from Dr. Kasting's own accomplishments is one of a mentor who helps his students realize their full potential and who goes to great lengths to see that they succeed in their careers. It is an honor to present someone who works so hard to support his students in their personal and professional lives with the 2013 Excellence in Doctoral Mentoring Award.



The Graduate Poster Forum

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Every year, graduate students gather from the university's 300+ degree programs to share their research and hone their presentation skills. The Graduate Poster Forum serves as a "dress rehearsal" for many students who are preparing to present at a regional or national conference.

As a professional development opportunity hosted by the UC Graduate School, the Graduate Poster Forum rewards exceptional poster design and outstanding oral communication. UC faculty members volunteer to evaluate posters within their area of expertise, providing valuable feedback and a numerical score.

This year, over 130 students entered posters or, in the case of the Master's of Fine Arts gallery, showed works of art. Award-winning posters covered a wide range of topics, from nanomachining to acting and ideology in Nazi Germany to Neandertal anatomy.



2013 Award Winners

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Matthew Bauman, German Studies, MA

Life Sciences & Medicine

Zirong Gu, Molecular & Developmental Biology, PhD

Haley Titus-Mitchell, Neuroscience/Medical Science Scholars Interdisciplinary, PhD

Physical Sciences & Engineering

H. Dushanee Sriyarathne, Chemistry, PhD

Matthew Coombs, *Mechanical Engineering*, *PhD*

Sagil James, *Mechanical Engineering, PhD*

Kelly Theisen, Chemistry, PhD

Qiusheng Wu, Geography, PhD

Social & Behavioral Sciences

Jennifer Killham, Educational Studies, PhD &

R. Alan Wight, Educational Studies, PhD

Master of Fine Arts Gallery

Michelle Walker, Fine Arts, MFA

Sangwoo Chung, Physics, PhD

Sam Tonddast-Navaei, Chemistry, PhD

Vikram Kapoor, Environmental Engineering, PhD &

Ranjani Ravi, Environmental Engineering, MS

Maria Fox, Anthropology, MA

Graduate Poster Forum

Physical Science and Engineering Winners

Vikram Kapoor, PhD

Ranjani Ravi, MS

Environmental Engineering



In 2010 when Vikram Kapoor entered the doctoral program in environmental engineering, he almost immediately began working with his advisor Dr. David Wendell on a novel method for the bioelimination of antibiotics in surface waters. In 2011, Ranjani Ravi entered the master's program in environmental engineering and collaborated on the later stages of the project. For the 2013 Graduate Poster Forum, Vikram and Ranjani jointly presented a poster detailing their research and their impressive results.

Antibiotics in surface water pose several serious problems. For one thing, these antibiotics breed resistant bacteria that can destroy microorganisms essential to the ecosystem. For another, they can be especially harmful to the digestive and endocrine systems of animals that drink the contaminated water.

Until now, the best technology for dealing with contamination has been activated carbon water filters. But as Vikram points out, this method is less than ideal. Activated carbon is a catch-all system and tends to capture compounds that exist in higher concentrations, which is often not the case with antibiotics in surface water. As a result, activated carbon only absorbs approximately 40% of the antibiotic compounds in these waters. In addition, activated carbon must be heated to eliminate the contaminants it collects, a process that is both energy intensive and expensive.



By contrast, the new method that Vikram and Ranjani's poster describes is energy efficient and highly selective. The protein pump AcrB is used by bacteria to remove antibiotics from their cellular systems. But by manipulating the design in order to reverse the effect, this ingenious new nano filter pumps the compounds into a proteovesicle system. Vikram says, "We took this naturally occurring system and reversed it to our own advantage."

The filter they have engineered involves not only reversing this naturally occurring pumping mechanism but linking it to another protein that acts as the pump's energy source. The result is a solar-powered bioelimination system smaller than the diameter of a human hair that can filter 64% of antibiotics out of surface waters. Even more impressive is that the system can simply be dropped into contaminated waters and allowed to float downstream, effectively filtering the water as they go.

This bioelimination system works smoothly now, but it was not that way from its inception. Because of the system they were developing, they could not rely on computer sim-

ulations but had to link the proteins and photograph them to check the vesicle for antibiotics. Ranjani says, "Testing this way was very repetitive. After a while you begin to question yourself. But you realize every time you don't get it right, you learn something more. You're improving your knowledge until you can get it right."

The bioelimination system project marks an exciting innovation in water treatment and has the potential to be tailored to filter many types of contaminants, such as hormones, heavy metals and other carcinogenic compounds. Their hard work has already garnered some much-deserved attention. Vikram and Ranjani have co-presented their work at the poster forum and at conferences. Vikram has co-authored a journal article with Dr. Wendell forthcoming in Nano Letters. But for Vikram and Ranjani, the most rewarding part of developing such an effective system for decontaminating water is the impact it will have back home. "We both come from India," Vikram says, "and water treatment is a major problem in rural areas there. So we wanted to help improve the water in our own country as well as others around the world."

UC Graduate Student Satisfaction



2012-13	Master's	Doctoral	
Overall Satisfaction	90.60%	87.70%	
Curriculum	92.10%	92.90%	
Career Development	76.50 %	80.10%	
Faculty Satisfaction	92.30%	93.70%	
Graduate Aid	83.50%	85.10%	
Thesis/ Dissertation Advising	92.50%	94.30%	



National Science Foundation

Graduate Research Fellowship Program

Ryan Makinson, Neuroscience, PhD



Doctoral student Ryan Makinson has been interested in neuroscience since high school in part because of his mother, who is a counselor. "The way she talked about her work when she was at home fascinated me from very early on," Ryan says. That interest—and a lot of hard work—is now paying off: the National Science Foundation awarded Ryan three years of scholarship and stipend funding through the Graduate Research Fellowship Program. The NSF GRFP award allows graduate students in science, engineering and mathematics programs to focus on their research projects.

Ryan's first foray into research was as an undergraduate at Emory University, investigating stress and psychiatric disorders. Following graduation, he worked as a research assistant for the Depression Treatment and Research Program studying the cognitive and motivational processes in adult depression at University of North Carolina at Greensboro.

During his first year lab rotation as a doctoral student at UC, Ryan became interested in the work Dr. James Herman had done sequencing microRNA ("miRNA") and peptides in rats. One miRNA in particular drew Ryan's attention because he noticed a correlation between it and a certain neural peptide that serves as an important growth hormone for neurons. It is also related to a number of psychiatric disorders. For example, those who are diagnosed with schizophrenia and depression often have low levels of this peptide.

Through this research project, Ryan hopes to determine exactly what the connection is between this miRNA and the peptide by looking more closely at the effects of chronic stress on gene expression (the process by which information from a gene is used to create a protein or other molecule). While it is common in mainstream culture to discuss genetics as ultimate determinants in health and behavior, the fact of the matter is that how people feel can significantly impact gene expression. His hypothesis is that stress regulates

the miRNA, which in turn inhibits the expression of certain genes. "I hope to determine the precise mechanism behind this and its behavioral consequences," says Ryan.

Depending on his initial findings, Ryan's research could take a number of paths over the course of the next three years. If the connection between the miRNA and the peptide bears out, then Ryan will conduct over- and under-expression studies. If the results, however, do not indicate such a connection, Ryan will possibly move on to study another of the miRNAs mapped by Dr. Herman's research or approach the same miRNA from a different perspective, possibly working with a larger sample or conducting in vitro studies.

Regardless, the implications are great. Even though Ryan is in the early stages of his research project, the clear connection of the peptide to learning and memory as well as psychiatric disorders means that the findings could potentially be extremely useful for gene therapy. "While I might aspire to make groundbreaking discoveries," Ryan says, "I realize that advancing scientific knowledge in smaller ways can help set the groundwork that can have a significant impact on the world."



Photo courtesy of the Office of Nationally Competitive Awards.

Letter from the Dean



Dear Friends and Colleagues,

Research by graduate students and faculty expanded in scope and purpose this year, providing impetus for enhancing the quality and innovative methodologies employed. Traditional bench science leading to clinical trials and potential translation is exemplified by doctoral pharmaceutical sciences student Nimita Dave, profiled on page 2. Nimita will use her postdoc to extend research on this promising treatment for brain tumors. High-quality humanities research is evident in doctoral classics student Allison Sterrett-Krause's dissertation that investigates an archeological site in North Africa. Allison will publish and continue research from her new faculty position at the College of Charleston. Ever more interdisciplinary collaborative degree and certificate programs, including Biomedical Informatics and Film and Media Studies respectively, involve several colleges and academic units, as does the in-progress PhD in Sustainability. The variety of exemplary research conducted by Graduate School Dean's Fellows described in this report illustrates our commitment to identifying and solving important problems.

Looking ahead to 2013-14, enrollment in our graduate and professional programs is the highest ever, approaching 11,000. This increase is consistent with the trend over the last decade, which saw a 30% increase due to addition of distance-learning courses and programs or certificates as well as new graduate programs and expansions of some of those already existing in face-to-face mode. One current enrollment focus is on optimum enrollment in doctoral programs deriving from the doctoral strategy review completed last year; another is formalizing the increasing number of collaborative research initiatives existing and planned on campus and off, domestic and international.

Follow our activities and accomplishments on these social media sites as we engage opportunities for graduate students and faculty.

Like us on Facebook at http://on.fb.me/GradSchool_UC.

Follow us on Twitter at http://twitter.com/GradSchool_UC.

Best wishes to all involved in graduate education and research at home and abroad.

Sincerely,

Robert Zierolf, PhD



2013 Dissertation Listing

The Graduate School is proud of the diverse academic endeavors completed by its master's and doctoral students during the 2012-2013 academic year. All University of Cincinnati master's theses and doctoral dissertations can be found online at

http://etd.ohiolink.edu.

The following listing of doctoral dissertations represents the quality, vitality and diversity of graduate research and scholarship at UC.



College of Allied Health Sciences

Centeno, Maria

PhD, Spring 2013
Factors Related to Early Writing Development
Advisor: Nancy Creaghead, PhD

Davis, Tanya

PhD, Spring 2013

The Ohio Achievement Assessment and Deaf / Hearing Impaired Students: Have They Been Left Behind?

Advisor: Jo-Anne Prendeville, EdD

Elledge, Deborah

PhD, Spring 2013 Improving Reading Comprehension through Explicit Summarization Instruction Advisor: Nancy Creaghead, PhD

Makepeace, Shawn

PhD, Spring 2013
Using Bioacoustical Methodologies to Evaluate
Equine Hearing Capabilities and Cognition
Advisor: Peter Scheifele, PhD

McMicken College of Arts & Sciences

Abeykoon, Sumeda

PhD, Fall 2012

Quantification of Myocardial Perfusion Based on Signal Intensity of Flow Sensitized MRI Advisor: Janaka Wansapura, PhD and Robert Endorf, PhD

Achille, Etienne

PhD, Spring 2013

Jambé dlo... et Après? Participation de la Diaspora Antillaise à L'Écriture de la Nation Française

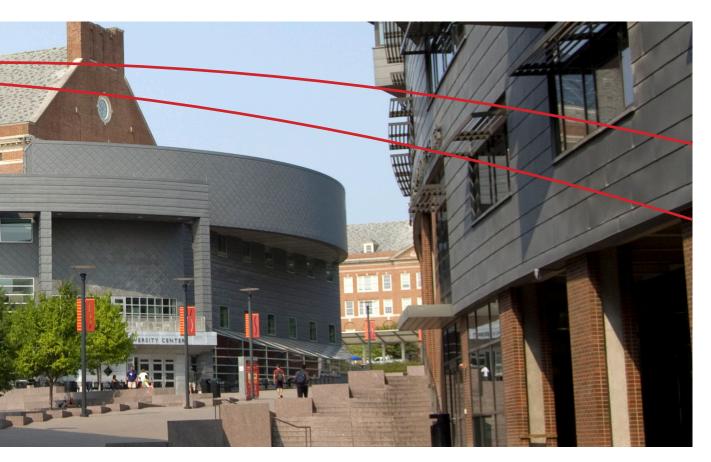
Advisor: Patricia Valladares-Ruiz, PhD

Alvarado, Estela

PhD, Fall 2012

Los Campos Literario y de Poder en el Virreinato del Perú: Los Escritos de Juan del Valle y Caviedes (1645-1697)

Advisor: Carlos Gutierrez, PhD



Ampleman, Lisa

PhD, Spring 2013 The Rules of Courtly Love Advisor: John Drury, MFA

Arellano-Neri, Olimpia

PhD, Spring 2013
Cinematographic and Literary Representations
of the Femicides in Ciudad Juarez
Advisor: Nicasio Urbina, PhD

Bachawala, Praveen

PhD, Spring 2013

Design, Synthesis and Properties of Corannulene Based Blue Emitters and Carcerands

Advisor: James Mack, PhD

Baker, Christopher

PhD, Fall 2012

The Effects of Smoking on Neuropsychological Functioning Among Patients with Temporal Lobe Epilepsy

Advisor: Paula Shear, PhD

Baum, Katherine

PhD, Summer 2012 Measurement of Intelligence in Children and Adolescents with Autism Spectrum Disorder: Factors Affecting Performance Advisor: Paula Shear, PhD

Bell, Joshua

PhD, Spring 2013 The Vinciad and Other Poems Advisor: John Drury, MFA

Black, Leah

PhD, Fall 2012

The Roles of Executive Dysfunction, Language Deficits, and Family Environment: How Are They Related to Behavior Problems After Childhood Traumatic Brain Injury?
Advisor: Paula Shear, PhD

Bliman, Eric

PhD, Summer 2012

By Underground Light

Advisor: Donald Bogen, PhD

Brown, Andrew

PhD, Fall 2012

Civility, Job Satisfaction, and Intentions to Quit Advisor: Steven Howe, PhD

Burciaga, Joaquin

PhD, Fall 2012

The Effect of Marijuana Craving on Brain Activation and Recognition Memory in Healthy and Bipolar Adolescents Advisor: Paula Shear, PhD

Chakraborty, Sumit

PhD, Summer 2012

Homogeneous Catalysis of Nickel Hydride Complexes Bearing a Bis(phosphinite) Pincer Ligand

Advisor: Hairong Guan, PhD

Chitta, Karnakar

PhD, Spring 2013 Selenium Mediated Arsenic Toxicity Modifies Cytotoxicity, Reactive Oxygen Species and Phosphorylated Proteins Advisor: Joseph Caruso, PhD

Coleman, Feay

PhD, Spring 2013

"The Palmy Days of Trade": Anglo-American Culture in Savannah, 1735-1835 Advisor: David Stradling, PhD

Deibel, Maria

PhD, Spring 2013 El extraño mundo de Silvina Ocampo

Advisor: Enrique Giordano, PhD

DeLong, Joseph

PhD, Spring 2013 **Excuses for Emotion**

Advisor: Lisa Hogeland, PhD

Gomez-Sobrino, Isabel

PhD, Spring 2013

Poesía Hecha Canción: Adaptaciones Musicales de Textos Poéticos en España desde 1960 hasta el 2010

Advisor: Maria Moreno, PhD

Grace, Andrew

PhD, Spring 2013

Centralia

Advisor: James Cummins, MFA

Gresham, Lori

PhD, Spring 2013

Children's Core Knowledge About Physics: An Attention-Based Account

Advisor: Adelheid Kloos, PhD

Guo, Xuefei

PhD, Summer 2012

Development of Electrochemical Sensors for Biodegradable Metallic Implants and Development of a Label-free Biosensor for Bacteria Advisor: William Heineman, PhD

Gwon, Misook

PhD, Fall 2012

Measuring and Understanding Public Opinion on Human Evolution

Advisor: Stephen Mockabee, PhD

Hart, Evan

PhD, Summer 2012

Building a More Inclusive Women's Health Movement: Byllye Avery and the Development of the National Black Women's Health Project, 1981-1990

Advisor: Wendy Kline Paula, PhD

Haynes, Rebecca

PhD, Spring 2013

The Year of Perfect Happiness: Stories Advisor: Leah Stewart, MFA

Hemingway, Bryan

PhD, Fall 2012

Magnetoconductance and Dynamic Phenomena in Single-Electron Transistors Advisor: Andrei Kogan, PhD

Hines, Janelle

PhD, Fall 2012

Examining Barriers to Care, Adherence, Quality of Life and Health Outcomes in Pediatric Sickle Cell Disease

Advisor: Monica Mitchell, PhD

Huard, Zachary

PhD, Summer 2012

Precision Measurement of the D*(2010)+ Natural Line Width and D*(2010)+, D0 Mass

Advisors: Michael Sokoloff, PhD and Brian Meadows, PhD

Julian, Poranee

PhD, Fall 2012

Geometric Properties of the Ferrand Metric Advisor: David Herron, PhD

Liu, Sheng

PhD, Fall 2012

NMR Studies of RNA Binding Domains of Human Lysyl Aminoacyl tRNA Synthetase Advisor: Pearl Tsang, PhD

Kauffman, Rudi

PhD, Summer 2012

The Outcomes of Just War: An Empirical Study of the Outcomes Associated with Adherence to Just War Theory, 1960-2000 Advisor: Dinshaw Mistry, PhD

Kodali, Phanichand

PhD, Spring 2013

Identification of Possible Potential Protein Biomarkers for Stroke Using Different Chromatographic and Mass Spectrometric Methods

Advisor: Joseph Caruso, PhD

Kolbe, Sarah

PhD, Fall 2012

Forest Ecosystem Response to Environmental Pressures Along an Urban-to-Wildland Gradient in Southwestern Ohio Advisor: Arnold Miller, PhD

Kulkarni, Saurabh

PhD, Summer 2012

Endocrine Mechanisms Underlying Phenotypic **Evolution in Frogs**

Advisor: Daniel Buchholz, PhD

Kvapil, Lynne

PhD, Summer 2012

The Agricultural Terraces of Korphos-Kalamianos: A Case Study of the Dynamic Relationship Between Land Use and Socio-Political Organization in Prehistoric Greece Advisor: Jack Davis, PhD

Jacola, Lisa

PhD, Summer 2012

The Relationship Between Executive Function and Maladaptive Behavior in Adolescents with Down Syndrome

Advisor: Paula Shear, PhD

Li, Qian

PhD, Fall 2012

Characterizing Triplet Azo Biradical and Corannulene-Halogen Complexes by Laser Flash Photolysis

Advisor: Anna Gudmundsdottir, PhD

Long, Elizabeth

PhD, Fall 2012

Facial Affect Recognition and Interpretation in Adolescents at Risk for Developing Bipolar Disorder

Advisor: Paula Shear, PhD

Longla, Martial

PhD, Spring 2013

Modeling Dependence and Limit Theorems for Copula-Based Markov Chains

Advisor: Magda Peligrad, PhD

Madore, Michelle

PhD, Fall 2012

Functional Role of the Cerebellar Vermis in Emotional Processing in Bipolar Disorder Advisor: Stephen Strakowski, MD

Mao, Dominic

PhD, Summer 2012

Genetic Fidelity and Genome Stability in the Hyperthermophilic Archaeon Sulfolobus acidocaldarius

Advisor: Dennis Grogan, PhD

McBride, Matthew

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City of Incandescent Light Bulbs Advisor: Donald Bogen, PhD

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McLaughlin, Neely

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Pride, Shame, and Guilt: Christian Discourse in American Literature

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Mellas, Tessa

PhD, Spring 2013

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Montazeri Najafabadi, Mohammad

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Strain Engineering of the Band Structure and Picosecond Carrier Dynamics of Single Semiconductor Nanowires Probed by Modulated Rayleigh Scattering Microscopy Advisor: Leigh Smith, PhD

Montgomery, LaTrice

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Nemec, Jason

PhD, Spring 2013

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Patnaik, Sasmita

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*Ideals and Commutators of Operators*Advisor: Gary Weiss, PhD

Perera, Saranga

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Poznyak, Dmytro

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Advisor: John Layne, PhD

Reeder, Rebecca

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Advisor: David Maume, PhD

Rohlfs, Rebecca

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Mass Spectrometry Analysis of Methylated Ribosomal RNA

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Russell, Susan

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Cho, Hongkwan

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The Endoplasmic Reticulum Chaperone ERdj4 Is Required for Survival, Glucose Metabolism and B Cell Development

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Characterization of Pathogens for Potential Diagnostic Tests

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The Role of High Density Lipoprotein Compositional and Functional Heterogeneity in

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